



# Actuator Torque Ratings

## Morin A / B / C / S / HP Series

### Spring Return and Double Acting Actuators

### Canted And Symmetrical Yoke Designs

### Output Torques to 130000 lb. in.

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#### Morin A, B and C Series

A Series -Cast Steel/ Steel Quarter-turn  
B Series -Ductile Iron/Stainless Steel Quarter-turn  
C Series -Ductile Iron/Steel Quarter-turn  
Spring Return and Double Acting Actuators  
B/C/S Low Pressure to 160 psig  
A Series to 175 psig.



#### Morin S Series

Stainless Steel  
Spring Return and Double Acting Actuators  
B/C/S Low Pressure to 160 psig



#### Morin HP Series

Ductile Iron/Stainless Steel Quarter-turn  
Direct Gas / Hydraulic Actuators  
Spring Return and Double Acting Actuators  
High Pressure to 1500 psig





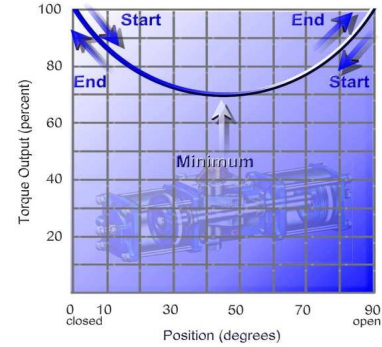
**Series A/ B/ C/ S: Models 003 - 7114**  
**Double Acting**  
**Symmetrical Yoke Design**

The chart to the right shows the torque curve of the Morin symmetrical yoke double acting actuator.

The start and end indications show how to interpret the following torque chart for correct sizing.

Proper selection of the actuator is critical to the successful operation of your automated package.

Air Start Clockwise = Air Start Counterclockwise  
 Air End Clockwise = Air End Counterclockwise



| Model Number                    | Torque at | Output torques lb. in. |       |       |        |        |        |       |        |                                     |   |        |        |        |
|---------------------------------|-----------|------------------------|-------|-------|--------|--------|--------|-------|--------|-------------------------------------|---|--------|--------|--------|
|                                 |           | Supply Pressure psig   |       |       |        |        |        |       |        |                                     |   |        |        |        |
|                                 |           | 40                     | 50    | 60    | 70     | 80     | 90     | 100   | 110    | 120                                 | 130   | 140    | 150    | 160    |
| 003U-D000<br>Series S only      | Start/End | 173                    | 219   | 259   | 305    | 345    | 391    | 431   | 472    | 518                                 | -   | -      | -      | -      |
|                                 | Minimum   | 110                    | 140   | 165   | 190    | 220    | 250    | 280   | 310    | 330                                 | -   | -      | -      | -      |
| 006U-D000<br>Series A/B/S only  | Start/End | 300                    | 375   | 450   | 525    | 600    | 675    | 750   | 825    | 900                                 | 975   | 1050   | 1125   | 1200   |
|                                 | Minimum   | 235                    | 290   | 350   | 405    | 460    | 520    | 575   | 640    | 690                                 | 750   | 810    | 870    | 940    |
| 012U-D000<br>Series A/S only    | Start/End | 690                    | 863   | 1035  | 1208   | 1380   | 1553   | 1725  | 1898   | 2070                                | -   | -      | -      | -      |
|                                 | Minimum   | 470                    | 580   | 700   | 810    | 940    | 1050   | 1170  | 1275   | 1405                                | -   | -      | -      | -      |
| 015U-D000<br>Series B only      | Start/End | 750                    | 935   | 1125  | 1310   | 1500   | 1685   | 1875  | -      | -                                   | -   | -      | -      | -      |
|                                 | Minimum   | 590                    | 735   | 885   | 1030   | 1180   | 1325   | 1475  | -      | -                                   | -   | -      | -      | -      |
| 023U-D000<br>Series A/B/S only  | Start/End | 1150                   | 1450  | 1725  | 2010   | 2300   | 2585   | 2875  | 3160   | 3450                                | 3740  | 4020   | 4300   | 4600   |
|                                 | Minimum   | 855                    | 1070  | 1285  | 1500   | 1710   | 1925   | 2140  | 2350   | 2570                                | 2780  | 3000   | 3210   | 3420   |
| 036U-D000<br>Series A/B/S only  | Start/End | 1980                   | 2475  | 2970  | 3465   | 3960   | 4455   | 4950  | 5445   | 5940                                | 6435  | 6930   | 7425   | 7920   |
|                                 | Minimum   | 1370                   | 1710  | 2055  | 2400   | 2740   | 3080   | 3425  | 3770   | 4110                                | 4450  | 4800   | 5140   | 5480   |
| 050U-D000<br>Series A/B/S only  | Start/End | 2500                   | 3125  | 3750  | 4375   | 5000   | 5630   | 6250  | 6875   | 7500                                | 8125  | 8750   | 9375   | 10000  |
|                                 | Minimum   | 1840                   | 2300  | 2760  | 3220   | 3680   | 4140   | 4600  | 5060   | 5520                                | 5980  | 6440   | 6900   | 7380   |
| 059U-D000<br>Series A/B/S       | Start/End | 2950                   | 3688  | 4425  | 5163   | 5900   | 6638   | 7375  | 8113   | 8850                                | 9587  | -      | -      | -      |
|                                 | Minimum   | 2210                   | 2763  | 3315  | 3868   | 4420   | 4973   | 5525  | 6078   | 6630                                | 7183  | -      | -      | -      |
| 072U-D000<br>Series A/B/S only  | Start/End | 3960                   | 4950  | 5940  | 6930   | 7920   | 8910   | 9900  | 10780  | -                                   | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |        |        |        |
|                                 | Minimum   | 2740                   | 3425  | 4110  | 4790   | 5480   | 6160   | 6850  | 7540   | -                                   |   |        |        |        |
| 100U-D000<br>Series B/S only    | Start/End | 5000                   | 6250  | 7500  | 8750   | 10000  | -      | -     | -      | Maximum Operating Pressure 100 psig |   |        |        |        |
|                                 | Minimum   | 3680                   | 4600  | 5520  | 6440   | 7360   | -      | -     | -      |                                     |   |        |        |        |
| 135U-D000                       | Start/End | 7088                   | 8862  | 10631 | 12406  | 14175  | 15950  | 17724 | 19488  | 21263                               | 23037   | 24812  | 26576  | 28350  |
|                                 | Minimum   | 5250                   | 6565  | 7875  | 9185   | 10500  | 11810  | 13125 | 14440  | 15750                               | 17060   | 18375  | 19690  | 21000  |
| 210U-D000                       | Start/End | 11550                  | 14438 | 17325 | 20213  | 23100  | 25988  | 28875 | 31763  | 34650                               | 37538   | 40425  | 43313  | 46200  |
|                                 | Minimum   | 8160                   | 10200 | 12240 | 14280  | 16320  | 18360  | 20400 | 22440  | 24480                               | 26520   | 28560  | 30600  | 32640  |
| 270U-D000                       | Start/End | 14175                  | 17719 | 21263 | 24806  | 28350  | 31894  | 35438 | 38981  | 42525                               | -   | -      | -      | -      |
|                                 | Minimum   | 10500                  | 13125 | 15750 | 18375  | 21000  | 23625  | 26250 | 28875  | 31500                               | -   | -      | -      | -      |
| 345U-D000                       | Start/End | 18113                  | 22641 | 27169 | 31697  | 36225  | 40754  | 45281 | -      | -                                   | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |        |        |        |
|                                 | Minimum   | 13415                  | 16769 | 20123 | 23476  | 26830  | 30184  | 33538 | -      | -                                   |   |        |        |        |
| 370U-D000<br>Series B/C/S only  | Start/End | 19795                  | 24744 | 29693 | 34641  | 37000  | 44539  | 49488 | 54436  | 59385                               | 64334   | 69283  | 74231  | 79180  |
|                                 | Minimum   | 13080                  | 16350 | 19620 | 22890  | 26160  | 29430  | 32700 | 35970  | 39240                               | 42510   | 45780  | 49050  | 52320  |
| 420U-D000                       | Start/End | 21000                  | 26250 | 31500 | 36750  | 42000  | -      | -     | -      | -                                   | -   | -      | -      | -      |
|                                 | Minimum   | 16320                  | 20400 | 24480 | 28560  | 32640  | -      | -     | -      | -                                   | -   | -      | -      | -      |
| 575U-D000<br>Series B/C/S only  | Start/End | 31913                  | 39849 | 47869 | 55833  | 63825  | 71806  | 79781 | 87757  | 95738                               | 103718  | 111694 | 119669 | 127650 |
|                                 | Minimum   | 22440                  | 28050 | 33660 | 39270  | 44880  | 50490  | 56100 | 61710  | 67320                               | 72930   | 78540  | 84150  | 89760  |
| 740U-D000<br>Series B/C/S only  | Start/End | 38850                  | 48563 | 58275 | 67988  | 77700  | 87413  | 97125 | 106838 | 116550                              | Maximum Operating Pressure 120 psig   |        |        |        |
|                                 | Minimum   | 26160                  | 32700 | 39240 | 45780  | 52320  | 58860  | 65400 | 71940  | 78480                               |   |        |        |        |
| 945U-D000<br>Series B/C/S only  | Start/End | 50558                  | 63197 | 75836 | 88476  | 101115 | 113755 | -     | -      | -                                   | Maximum Operating Pressure 120 psig   |        |        |        |
|                                 | Minimum   | 36390                  | 45488 | 54585 | 63683  | 72780  | 81878  | -     | -      | -                                   |   |        |        |        |
| 1150U-D000<br>Series B/C/S only | Start/End | 60375                  | 75469 | 90563 | 105656 | 120750 | -      | -     | -      | -                                   | Maximum Operating Pressure 120 psig<br>(Series S / Max Shell Pressure 120 psig) |        |        |        |
|                                 | Minimum   | 44880                  | 56100 | 67320 | 78540  | 89760  | -      | -     | -      | -                                   |   |        |        |        |



**Series A/ B/ C/ S: Models 003 - 7114**  
**Double Acting**  
**Symmetrical Yoke Design**

| Model Number                         | Torque at | Output torques lb. in. |        |        |        |        |        |        |         |         |  |     |     |     |  |
|--------------------------------------|-----------|------------------------|--------|--------|--------|--------|--------|--------|---------|---------|--|-----|-----|-----|--|
|                                      |           | 40                     | 50     | 60     | 70     | 80     | 90     | 100    | 110     | 120     | 130                                      | 140 | 150 | 160 |  |
| <b>1480U-D000</b><br>Series S only   | Start/End | 74000                  | 92500  | 111000 | 129500 | 148000 | 166500 | 185000 | 203500  | 222000  | Maximum Operating Pressure               |     |     |     |  |
|                                      | Minimum   | 46621                  | 58276  | 69931  | 81586  | 93242  | 104897 | 116552 | 128207  | 139862  | 120 psig                                 |     |     |     |  |
| <b>1485U-D000</b><br>Series B/C only | Start/End | 84761                  | 105952 | 127142 | 148332 | 169523 | 190713 | 211903 | 233094  | 254284  | Maximum Operating Pressure               |     |     |     |  |
|                                      | Minimum   | 46619                  | 58273  | 69928  | 81583  | 93237  | 104892 | 116547 | 128201  | 139856  | 120 psig                                 |     |     |     |  |
| <b>1935U-D000</b><br>Series B/C only | Start/End | 110573                 | 138216 | 165859 | 193502 | 221145 | 248788 | 276431 | 304074  | 331718  | Maximum Operating Pressure               |     |     |     |  |
|                                      | Minimum   | 60815                  | 76019  | 91222  | 106426 | 121630 | 136833 | 152037 | 167241  | 182445  | 120 psig                                 |     |     |     |  |
| <b>2380U-D000</b><br>Series S only   | Start/End | 119000                 | 148750 | 178500 | 208250 | 238000 | -      | -      | -       | -       | Maximum Operating Pressure 120 psig      |     |     |     |  |
|                                      | Minimum   | 75506                  | 94383  | 113259 | 132136 | 151013 | -      | -      | -       | -       | (Series S / Max Shell Pressure 120 psig) |     |     |     |  |
| <b>2385U-D000</b><br>Series B/C only | Start/End | 136384                 | 170480 | 204576 | 238671 | 272767 | 306863 | 340959 | 375055  | 409151  | Maximum Operating Pressure               |     |     |     |  |
|                                      | Minimum   | 75011                  | 93764  | 112517 | 131269 | 150022 | 168775 | 187528 | 206280  | 225033  | 120 psig                                 |     |     |     |  |
| <b>3071U-D000</b><br>Series C Only   | Start/End | 173642                 | 217053 | 260463 | 303874 | 347284 | 390695 | 434106 | 477516  | 520927  | Maximum Operating Pressure               |     |     |     |  |
|                                      | Minimum   | 95503                  | 119379 | 143255 | 167131 | 191006 | 214882 | 238758 | 262634  | 286510  | 120 psig                                 |     |     |     |  |
| <b>3731U-D000</b><br>Series C Only   | Start/End | 210937                 | 263671 | 316406 | 369140 | 421874 | 474609 | 527343 | 580077  | -       | Maximum Operating Pressure               |     |     |     |  |
|                                      | Minimum   | 116015                 | 145019 | 174023 | 203027 | 232031 | 261035 | 290039 | 319043  | -       | 120 psig                                 |     |     |     |  |
| <b>4534U-D000</b><br>Series C Only   | Start/End | 256289                 | 320361 | 384434 | 448506 | 512578 | 576650 | -      | -       | -       | Maximum Operating Pressure               |     |     |     |  |
|                                      | Minimum   | 140959                 | 176199 | 211438 | 246678 | 281918 | 317158 | -      | -       | -       | 120 psig                                 |     |     |     |  |
| <b>5336U-D000</b><br>Series C only   | Start/End | 301641                 | 377051 | 452461 | 527872 | 603282 | -      | -      | -       | -       | Maximum Operating Pressure               |     |     |     |  |
|                                      | Minimum   | 165903                 | 207378 | 248854 | 290329 | 331805 | -      | -      | -       | -       | 120 psig                                 |     |     |     |  |
| <b>7114U-D000</b><br>Series C only   | Start/End | 396795                 | 495993 | 595192 | 694390 | 793589 | 892788 | 991986 | 1091185 | 1190384 | Maximum Operating Pressure               |     |     |     |  |
|                                      | Minimum   | 218237                 | 272796 | 327356 | 381915 | 436474 | 491033 | 545593 | 600152  | 654711  | 120 psig                                 |     |     |     |  |

| Model Number           | Torque at | 40                   | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|------------------------|-----------|----------------------|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
|                        |           | Supply Pressure psig |    |    |    |    |    |     |     |     |     |     |     |     |
| Output torques lb. in. |           |                      |    |    |    |    |    |     |     |     |     |     |     |     |



**Series A/ B/ C/ S : Models 023 - 7114**

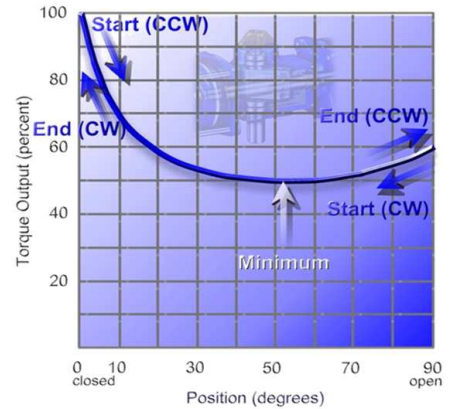
**Double Acting  
Canted Yoke Design**

The chart to the right shows the torque curve of the Morin canted yoke design double acting actuator.

The indications of Start (CCW), End (CCW), Start (CW), End (CW), and Minimum show how to interpret the following torque chart for correct sizing. The canted yoke design generates higher torques at the 0 degree position and less torque at the 90 degree position when compared to the symmetrical yoke.

Proper selection of the actuator is critical to the successful operation of your automated package.

CCW = Counterclockwise (usually opens valve)  
CW = Clockwise (usually closes valve)



| Model Number                    | Torque at   | Output torques lb. in. |       |       |       |       |       |       |       |       |       |       |       |       |
|---------------------------------|-------------|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                                 |             | Supply Pressure psig   |       |       |       |       |       |       |       |       |       |       |       |       |
|                                 |             | 40                     | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
| 023UC-D000<br>Series A/B/S Only | Start (CCW) | 1553                   | 1958  | 2329  | 2713  | 3105  | 3490  | 3881  | 4266  | 4658  | 5049  | 5427  | 5805  | 6210  |
|                                 | End (CCW)   | 920                    | 1160  | 1380  | 1608  | 1840  | 2068  | 2300  | 2582  | 2760  | 2992  | 3216  | 3440  | 3680  |
|                                 | Start (CW)  | 943                    | 1189  | 1415  | 1650  | 1886  | 2122  | 2358  | 2593  | 2829  | 3065  | 3301  | 3526  | 3772  |
|                                 | End (CW)    | 1495                   | 1885  | 2243  | 2616  | 2990  | 3364  | 3738  | 4111  | 4485  | 4859  | 5233  | 5590  | 5980  |
|                                 | Minimum     | 856                    | 1070  | 1284  | 1498  | 1712  | 1926  | 2140  | 2354  | 2568  | 2782  | 2996  | 3210  | 3424  |
| 036UC-D000<br>Series A/B/S Only | Start (CCW) | 2673                   | 3341  | 4010  | 4678  | 5346  | 6014  | 6683  | 7351  | 8019  | 8687  | 9356  | 10024 | —     |
|                                 | End (CCW)   | 1584                   | 1980  | 2376  | 2772  | 3168  | 3564  | 3960  | 4356  | 4752  | 5148  | 5544  | 5940  | —     |
|                                 | Start (CW)  | 1624                   | 2030  | 2435  | 2841  | 3247  | 3653  | 4059  | 4465  | 4871  | 5277  | 5683  | 6089  | —     |
|                                 | End (CW)    | 2574                   | 3218  | 3861  | 4505  | 5148  | 5792  | 6435  | 7079  | 7722  | 8366  | 9009  | 9653  | —     |
|                                 | Minimum     | 1370                   | 1713  | 2055  | 2398  | 2740  | 3083  | 3425  | 3768  | 4110  | 4453  | 4795  | 5138  | —     |
| 050UC-D000<br>Series A/B/S Only | Start (CCW) | 3375                   | 4219  | 5063  | 5906  | 6750  | 7594  | 8438  | 9281  | 10125 | —     | —     | —     | —     |
|                                 | End (CCW)   | 2000                   | 2500  | 3000  | 3500  | 4000  | 4500  | 5000  | 5500  | 6000  | —     | —     | —     | —     |
|                                 | Start (CW)  | 2050                   | 2563  | 3075  | 3588  | 4100  | 4613  | 5125  | 5638  | 6150  | —     | —     | —     | —     |
|                                 | End (CW)    | 3250                   | 4063  | 4875  | 5688  | 6500  | 7313  | 8125  | 8938  | 9750  | —     | —     | —     | —     |
|                                 | Minimum     | 1840                   | 2300  | 2760  | 3220  | 3680  | 4140  | 4600  | 5060  | 5520  | —     | —     | —     | —     |
| 059UC-D000<br>Series A/B/S Only | Start (CCW) | 3983                   | 4978  | 5974  | 6969  | 7965  | 8961  | 9956  | —     | —     | —     | —     | —     | —     |
|                                 | End (CCW)   | 2360                   | 2950  | 3540  | 4130  | 4720  | 5310  | 5900  | —     | —     | —     | —     | —     | —     |
|                                 | Start (CW)  | 2419                   | 3024  | 3629  | 4233  | 4838  | 5443  | 6048  | —     | —     | —     | —     | —     | —     |
|                                 | End (CW)    | 3835                   | 4794  | 5753  | 6711  | 7670  | 8629  | 9588  | —     | —     | —     | —     | —     | —     |
|                                 | Minimum     | 2210                   | 2763  | 3315  | 3868  | 4420  | 4973  | 5525  | —     | —     | —     | —     | —     | —     |
| 072UC-D000<br>Series A/B/S Only | Start (CCW) | 5346                   | 6683  | 8019  | 9356  | —     | —     | —     | —     | —     | —     | —     | —     | —     |
|                                 | End (CCW)   | 3168                   | 3960  | 4752  | 5544  | —     | —     | —     | —     | —     | —     | —     | —     | —     |
|                                 | Start (CW)  | 3247                   | 4059  | 4871  | 5683  | —     | —     | —     | —     | —     | —     | —     | —     | —     |
|                                 | End (CW)    | 5148                   | 6435  | 7722  | 9009  | —     | —     | —     | —     | —     | —     | —     | —     | —     |
|                                 | Minimum     | 2740                   | 3425  | 4110  | 4790  | —     | —     | —     | —     | —     | —     | —     | —     | —     |
| 100UC-D000<br>Series B/S Only   | Start (CCW) | 6750                   | 8438  | 10125 | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
|                                 | End (CCW)   | 4000                   | 5000  | 6000  | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
|                                 | Start (CW)  | 4100                   | 5125  | 6150  | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
|                                 | End (CW)    | 6500                   | 8125  | 9750  | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
|                                 | Minimum     | 3680                   | 4600  | 5520  | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
| 135UC-D000                      | Start (CCW) | 9569                   | 11964 | 14352 | 16748 | 19136 | 21533 | 23927 | 26309 | 28705 | 31100 | 33496 | 35878 | 38273 |
|                                 | End (CCW)   | 5670                   | 7090  | 8505  | 9925  | 11340 | 12760 | 14179 | 15590 | 17010 | 18430 | 19850 | 21261 | 22680 |
|                                 | Start (CW)  | 5812                   | 7267  | 8717  | 10173 | 11624 | 13079 | 14534 | 15980 | 17436 | 18890 | 20346 | 21792 | 23247 |
|                                 | End (CW)    | 9214                   | 11521 | 13820 | 16128 | 18428 | 20735 | 23041 | 25334 | 27642 | 29948 | 32256 | 34549 | 36855 |
|                                 | Minimum     | 5250                   | 6565  | 7875  | 9185  | 10500 | 11810 | 13125 | 14440 | 15750 | 17060 | 18375 | 19690 | 21000 |
| 210UC-D000                      | Start (CCW) | 15593                  | 19491 | 23389 | 27288 | 31185 | 35084 | 38981 | 42880 | —     | —     | —     | —     | —     |
|                                 | End (CCW)   | 9240                   | 11550 | 13860 | 16170 | 18480 | 20790 | 23100 | 25410 | —     | —     | —     | —     | —     |
|                                 | Start (CW)  | 9471                   | 11839 | 14207 | 16575 | 18942 | 21310 | 23678 | 26046 | —     | —     | —     | —     | —     |
|                                 | End (CW)    | 15015                  | 18769 | 22523 | 26277 | 30030 | 33784 | 37538 | 41292 | —     | —     | —     | —     | —     |
|                                 | Minimum     | 8160                   | 10200 | 12240 | 14280 | 16320 | 18360 | 20400 | 22440 | —     | —     | —     | —     | —     |
| 270UC-D000                      | Start (CCW) | 19136                  | 23921 | 28705 | 33488 | 38273 | 43057 | —     | —     | —     | —     | —     | —     | —     |
|                                 | End (CCW)   | 11340                  | 14175 | 17010 | 19845 | 22680 | 25515 | —     | —     | —     | —     | —     | —     | —     |
|                                 | Start (CW)  | 11624                  | 14530 | 17436 | 20341 | 23247 | 26153 | —     | —     | —     | —     | —     | —     | —     |
|                                 | End (CW)    | 18428                  | 23035 | 27642 | 32248 | 36855 | 41462 | —     | —     | —     | —     | —     | —     | —     |
|                                 | Minimum     | 10500                  | 13125 | 15750 | 18375 | 21000 | 23625 | —     | —     | —     | —     | —     | —     | —     |



**Series A/ B/ C/ S : Models 023 - 7114**

**Double Acting  
Canted Yoke Design**

| Model Number                            | Torque at   | Output torques lb. in. |        |        |        |        |        |        |        |        |       |       |        |        |
|---|-------------|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|--------|--------|
|   |             | Supply Pressure psig   |        |        |        |        |        |        |        |        |       |       |        |        |
|   |             | 40                     | 50     | 60     | 70     | 80     | 90     | 100    | 110    | 120    | 130   | 140   | 150    | 160    |
| <b>345UC-D000</b>                       | Start (CCW) | 24453                  | 30565  | 36678  | 42791  | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | End (CCW)   | 14490                  | 18113  | 21735  | 25358  | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | Start (CW)  | 14853                  | 18566  | 22279  | 25992  | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | End (CW)    | 23547                  | 29433  | 35320  | 41206  | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | Minimum     | 13415                  | 16769  | 20123  | 23476  | —      | —      | —      | —      | —      | —     | —     | —      | —      |
| <b>370UC-D000</b><br>Series B/C/S Only  | Start (CCW) | 26723                  | 33404  | 40086  | 46768  | 53450  | 60132  | 66814  | 73496  | 80178  | 86860 | 93542 | 100224 | 106906 |
|   | End (CCW)   | 15836                  | 19795  | 23754  | 27713  | 31672  | 35631  | 39590  | 43549  | 47508  | 51467 | 55426 | 59385  | 63344  |
|   | Start (CW)  | 16232                  | 20290  | 24348  | 28406  | 32464  | 36522  | 40580  | 44638  | 48696  | 52754 | 56812 | 60870  | 64928  |
|   | End (CW)    | 25734                  | 32167  | 38601  | 45035  | 51469  | 57903  | 64337  | 70771  | 77205  | 83639 | 90073 | 96507  | 102941 |
|   | Minimum     | 13080                  | 16350  | 19620  | 22890  | 26160  | 29430  | 32700  | 35970  | 39240  | 42510 | 45780 | 49050  | 52320  |
| <b>420UC-D000</b>                       | Start (CCW) | 28350                  | 35438  | 42525  | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | End (CCW)   | 16800                  | 21000  | 25200  | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | Start (CW)  | 17220                  | 21525  | 25830  | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | End (CW)    | 27300                  | 34125  | 40950  | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | Minimum     | 16320                  | 20400  | 24480  | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
| <b>575UC-D000</b><br>Series B/C/S Only  | Start (CCW) | 43083                  | 53796  | 64623  | 75375  | 86164  | 96938  | 107704 | 118472 | —      | —     | —     | —      | —      |
|   | End (CCW)   | 25530                  | 31879  | 38295  | 44666  | 51060  | 57445  | 63825  | 70206  | —      | —     | —     | —      | —      |
|   | Start (CW)  | 26169                  | 32676  | 39253  | 45783  | 52337  | 58881  | 65420  | 71961  | —      | —     | —     | —      | —      |
|   | End (CW)    | 41487                  | 51804  | 62230  | 72583  | 82973  | 93348  | 103715 | 114084 | —      | —     | —     | —      | —      |
|   | Minimum     | 22440                  | 28050  | 33660  | 39270  | 44880  | 50490  | 56100  | 61710  | —      | —     | —     | —      | —      |
| <b>740UC-D000</b><br>Series B/C/S Only  | Start (CCW) | 52448                  | 65560  | 78671  | 91784  | 104895 | 118008 | —      | —      | —      | —     | —     | —      | —      |
|   | End (CCW)   | 31080                  | 38850  | 46620  | 54390  | 62160  | 69930  | —      | —      | —      | —     | —     | —      | —      |
|   | Start (CW)  | 31857                  | 39822  | 47786  | 55750  | 63714  | 71679  | —      | —      | —      | —     | —     | —      | —      |
|   | End (CW)    | 50505                  | 63132  | 75758  | 88384  | 101010 | 113637 | —      | —      | —      | —     | —     | —      | —      |
|   | Minimum     | 26160                  | 32700  | 39240  | 45780  | 52320  | 58860  | —      | —      | —      | —     | —     | —      | —      |
| <b>945UC-D000</b><br>Series B/C/S Only  | Start (CCW) | 68253                  | 85316  | 102379 | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | End (CCW)   | 40446                  | 50558  | 60669  | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | Start (CW)  | 41458                  | 51822  | 62186  | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | End (CW)    | 65725                  | 82156  | 98587  | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | Minimum     | 36390                  | 45488  | 54585  | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
| <b>1150UC-D000</b><br>Series B/C/S Only | Start (CCW) | 81506                  | 101883 | —      | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | End (CCW)   | 48300                  | 60375  | —      | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | Start (CW)  | 49508                  | 61885  | —      | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | End (CW)    | 78488                  | 98110  | —      | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | Minimum     | 44880                  | 56100  | —      | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
| <b>1480UC-D000</b><br>Series S Only     | Start (CCW) | 99900                  | 124875 | 149850 | 174825 | 199800 | 224775 | —      | —      | —      | —     | —     | —      | —      |
|   | End (CCW)   | 59200                  | 74000  | 88800  | 103600 | 118400 | 133200 | —      | —      | —      | —     | —     | —      | —      |
|   | Start (CW)  | 60680                  | 75850  | 91020  | 106190 | 121360 | 136530 | —      | —      | —      | —     | —     | —      | —      |
|   | End (CW)    | 96200                  | 120250 | 144300 | 168350 | 192400 | 216450 | —      | —      | —      | —     | —     | —      | —      |
|   | Minimum     | 46621                  | 58276  | 69931  | 81586  | 93242  | 104897 | —      | —      | —      | —     | —     | —      | —      |
| <b>1485UC-D000</b><br>Series B/C Only   | Start (CCW) | 123781                 | 154727 | 185672 | 216617 | 247563 | 278508 | 309453 | 340399 | 371344 | —     | —     | —      | —      |
|   | End (CCW)   | 66841                  | 83552  | 100262 | 116972 | 133683 | 150393 | 167103 | 183814 | 200524 | —     | —     | —      | —      |
|   | Start (CW)  | 66841                  | 83552  | 100262 | 116972 | 133683 | 150393 | 167103 | 183814 | 200524 | —     | —     | —      | —      |
|   | End (CW)    | 123781                 | 154727 | 185672 | 216617 | 247563 | 278508 | 309453 | 340399 | 371344 | —     | —     | —      | —      |
|   | Minimum     | 42086                  | 52607  | 63128  | 73650  | 84171  | 94693  | 105214 | 115736 | 126257 | —     | —     | —      | —      |
| <b>1935UC-D000</b><br>Series B/C Only   | Start (CCW) | 161475                 | 201843 | 242212 | 282581 | 322950 | 363318 | 403687 | 444056 | 484424 | —     | —     | —      | —      |
|   | End (CCW)   | 87196                  | 108994 | 130793 | 152592 | 174391 | 196190 | 217989 | 239788 | 261587 | —     | —     | —      | —      |
|   | Start (CW)  | 87196                  | 108994 | 130793 | 152592 | 174391 | 196190 | 217989 | 239788 | 261587 | —     | —     | —      | —      |
|   | End (CW)    | 161475                 | 201843 | 242212 | 282581 | 322950 | 363318 | 403687 | 444056 | 484424 | —     | —     | —      | —      |
|   | Minimum     | 54901                  | 68627  | 82352  | 96077  | 109803 | 123528 | 137254 | 150979 | 164704 | —     | —     | —      | —      |
| <b>2380UC-D000</b><br>Series S Only     | Start (CCW) | 160650                 | 200813 | 240975 | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | End (CCW)   | 95200                  | 119000 | 142800 | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | Start (CW)  | 97580                  | 121975 | 146370 | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | End (CW)    | 154700                 | 193375 | 232050 | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
|   | Minimum     | 75506                  | 94383  | 113259 | —      | —      | —      | —      | —      | —      | —     | —     | —      | —      |
| <b>2385UC-D000</b><br>Series B/C Only   | Start (CCW) | 199168                 | 248960 | 298752 | 348544 | 398336 | 448128 | 497920 | 547712 | 597505 | —     | —     | —      | —      |
|   | End (CCW)   | 107550                 | 134437 | 161325 | 188212 | 215100 | 241987 | 268874 | 295762 | 322649 | —     | —     | —      | —      |
|   | Start (CW)  | 107550                 | 134437 | 161325 | 188212 | 215100 | 241987 | 268874 | 295762 | 322649 | —     | —     | —      | —      |
|   | End (CW)    | 199168                 | 248960 | 298752 | 348544 | 398336 | 448128 | 497920 | 547712 | 597505 | —     | —     | —      | —      |
|   | Minimum     | 67717                  | 84646  | 101576 | 118505 | 135434 | 152364 | 169293 | 186222 | 203152 | —     | —     | —      | —      |
| <b>3071UC-D000</b><br>Series C Only     | Start (CCW) | 253579                 | 316973 | 380368 | 443763 | 507157 | 570552 | —      | —      | —      | —     | —     | —      | —      |
|   | End (CCW)   | 136931                 | 171164 | 205397 | 239630 | 273862 | 308095 | —      | —      | —      | —     | —     | —      | —      |
|   | Start (CW)  | 136931                 | 171164 | 205397 | 239630 | 273862 | 308095 | —      | —      | —      | —     | —     | —      | —      |
|   | End (CW)    | 253579                 | 316973 | 380368 | 443763 | 507157 | 570552 | —      | —      | —      | —     | —     | —      | —      |
|   | Minimum     | 86217                  | 107771 | 129325 | 150879 | 172434 | 193988 | —      | —      | —      | —     | —     | —      | —      |
| <b>3731UC-D000</b><br>Series C Only     | Start (CCW) | 308043                 | 385053 | 462064 | 539074 | 616085 | —      | —      | —      | —      | —     | —     | —      | —      |
|   | End (CCW)   | 166341                 | 207927 | 249512 | 291097 | 332683 | —      | —      | —      | —      | —     | —     | —      | —      |
|   | Start (CW)  | 166341                 | 207927 | 249512 | 291097 | 332683 | —      | —      | —      | —      | —     | —     | —      | —      |
|   | End (CW)    | 308043                 | 385053 | 462064 | 539074 | 616085 | —      | —      | —      | —      | —     | —     | —      | —      |
|   | Minimum     | 104734                 | 130918 | 157102 | 183285 | 209469 | —      | —      | —      | —      | —     | —     | —      | —      |



**Series A/ B/ C/ S : Models 023 - 7114**

**Double Acting  
Canted Yoke Design**

| Model Number                        | Torque at   | Output torques lb. in. |        |        |        |         |                      |         |   |     |     |     |     |     |   |   |
|-------------------------------------|-------------|------------------------|--------|--------|--------|---------|----------------------|---------|---|-----|-----|-----|-----|-----|---|---|
|                                     |             | 40                     | 50     | 60     | 70     | 80      | Supply Pressure psig |         |   | 120 | 130 | 140 | 150 | 160 |   |   |
| <b>4534UC-D000</b><br>Series C Only | Start (CCW) | 374272                 | 467840 | 561408 | -      | -       | -                    | -       | - | -   | -   | -   | -   | -   | - | - |
|                                     | End (CCW)   | 202105                 | 252631 | 303158 | -      | -       | -                    | -       | - | -   | -   | -   | -   | -   | - | - |
|                                     | Start (CW)  | 202105                 | 252631 | 303158 | -      | -       | -                    | -       | - | -   | -   | -   | -   | -   | - | - |
|                                     | End (CW)    | 374272                 | 467840 | 561408 | -      | -       | -                    | -       | - | -   | -   | -   | -   | -   | - | - |
|                                     | Minimum     | 127253                 | 159066 | 190879 | -      | -       | -                    | -       | - | -   | -   | -   | -   | -   | - | - |
| <b>5336UC-D000</b><br>Series C Only | Start (CCW) | 440502                 | 550627 | -      | -      | -       | -                    | -       | - | -   | -   | -   | -   | -   | - | - |
|                                     | End (CCW)   | 237869                 | 297336 | -      | -      | -       | -                    | -       | - | -   | -   | -   | -   | -   | - | - |
|                                     | Start (CW)  | 237869                 | 297336 | -      | -      | -       | -                    | -       | - | -   | -   | -   | -   | -   | - | - |
|                                     | End (CW)    | 440502                 | 550627 | -      | -      | -       | -                    | -       | - | -   | -   | -   | -   | -   | - | - |
|                                     | Minimum     | 149771                 | 187213 | -      | -      | -       | -                    | -       | - | -   | -   | -   | -   | -   | - | - |
| <b>7114UC-D000</b><br>Series C Only | Start (CCW) | 549880                 | 687350 | 824820 | 962290 | 1099760 | 1237230              | 1374701 | - | -   | -   | -   | -   | -   | - | - |
|                                     | End (CCW)   | 310970                 | 388712 | 466455 | 544197 | 621940  | 699682               | 777425  | - | -   | -   | -   | -   | -   | - | - |
|                                     | Start (CW)  | 310970                 | 388712 | 466455 | 544197 | 621940  | 699682               | 777425  | - | -   | -   | -   | -   | -   | - | - |
|                                     | End (CW)    | 549880                 | 687350 | 824820 | 962290 | 1099760 | 1237230              | 1374701 | - | -   | -   | -   | -   | -   | - | - |
|                                     | Minimum     | 225451                 | 281814 | 338176 | 394539 | 450902  | 507265               | 563627  | - | -   | -   | -   | -   | -   | - | - |

| Model Number | Torque at | Output torques lb. in. |    |    |    |    |                      |  |  |     |     |     |
|--------------|-----------|------------------------|----|----|----|----|----------------------|--|--|-----|-----|-----|
|              |           | 40                     | 50 | 60 | 70 | 80 | Supply Pressure psig |  |  | 120 | 130 | 140 |

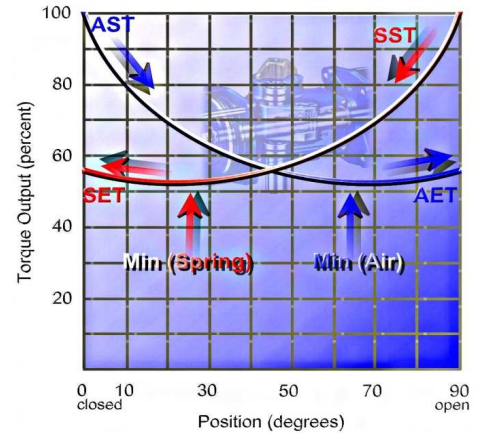


**Series A/ B/ C/ S: Models 003 - 7114**  
**Spring Return Fail Closed and Fail Open**  
**Symmetrical Yoke Design**

The chart to the right shows the torque curve of the Morin symmetrical yoke spring return fail clockwise (Closed). This section of the torque charts is to be used for selection of both fail closed and fail open actuators. The fail open curve is identical to the fail closed curve, but the air curve and spring curves are reversed. (For fail open, SST is 100% at the 0 degree position and AST is at 100% at the 90 degree position).

Note: Air torque curve shown is with air pressure equal to spring code, i.e. -S060 at 60 psig. Curve will vary for pressures used not equal to spring code.

AST = Air Start Torque                      SST = Spring Start Torque  
 AET = Air End Torque                      SET = Spring End Torque  
 Min = Minimum Torque during the spring stroke or during the air stroke



Fail Closed (CW) Chart shown for clarity

| Model Number                      | Spring torques lb. in. | Torque at | Air torques lb. in.  |     |     |     |     |      |      |      |      |      |      |      |      |      |
|-----------------------------------|------------------------|-----------|----------------------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
|                                   |                        |           | Supply Pressure psig |     |     |     |     |      |      |      |      |      |      |      |      |      |
|                                   |                        |           | 40                   | 50  | 60  | 70  | 80  | 90   | 100  | 110  | 120  | 130  | 140  | 150  | 160  |      |
| 003U-S040<br>Series S Only        | Start                  | 110       | Start                | 110 | 153 | 196 | 239 | 282  | 326  | 369  | 412  | 455  | 498  | -    | -    | -    |
|                                   | Min                    | 50        | Min                  | 50  | 93  | 136 | 179 | 222  | 266  | 309  | 352  | 395  | 438  | -    | -    | -    |
|                                   | End                    | 55        | End                  | 55  | 98  | 141 | 184 | 227  | 271  | 314  | 357  | 400  | 443  | -    | -    | -    |
| 003U-S050<br>Series S Only        | Start                  | 135       | Start                | -   | 135 | 178 | 221 | 264  | 307  | 351  | 394  | 437  | 480  | -    | -    | -    |
|                                   | Min                    | 63        | Min                  | -   | 63  | 106 | 149 | 192  | 235  | 279  | 322  | 365  | 408  | -    | -    | -    |
|                                   | End                    | 70        | End                  | -   | 70  | 113 | 156 | 199  | 242  | 286  | 329  | 372  | 415  | -    | -    | -    |
| 003U-S060<br>Series S Only        | Start                  | 160       | Start                | -   | -   | 160 | 203 | 246  | 289  | 332  | 376  | 419  | 462  | 505  | -    | -    |
|                                   | Min                    | 72        | Min                  | -   | -   | 72  | 115 | 158  | 201  | 244  | 288  | 331  | 374  | 417  | -    | -    |
|                                   | End                    | 80        | End                  | -   | -   | 80  | 123 | 166  | 209  | 252  | 296  | 339  | 382  | 425  | -    | -    |
| 003U-S070<br>Series S Only        | Start                  | 185       | Start                | -   | -   | 142 | 185 | 228  | 271  | 314  | 357  | 401  | 444  | 487  | -    | -    |
|                                   | Min                    | 86        | Min                  | -   | -   | 43  | 86  | 129  | 172  | 215  | 258  | 302  | 345  | 388  | -    | -    |
|                                   | End                    | 95        | End                  | -   | -   | 52  | 95  | 138  | 181  | 224  | 267  | 311  | 354  | 397  | -    | -    |
| 003U-S080<br>Series S Only        | Start                  | 210       | Start                | -   | -   | -   | 167 | 210  | 253  | 296  | 339  | 382  | 426  | 469  | -    | -    |
|                                   | Min                    | 95        | Min                  | -   | -   | -   | 52  | 95   | 138  | 181  | 224  | 267  | 311  | 354  | -    | -    |
|                                   | End                    | 105       | End                  | -   | -   | -   | 62  | 105  | 148  | 191  | 234  | 277  | 321  | 364  | -    | -    |
| 006U-S040<br>Series A/B/S<br>Only | Start                  | 195       | Start                | 195 | 270 | 345 | 420 | 495  | 570  | 645  | 720  | 795  | 870  | 945  | 1020 | 1095 |
|                                   | Min                    | 99        | Min                  | 99  | 174 | 249 | 324 | 399  | 474  | 549  | 624  | 699  | 774  | 849  | 924  | 999  |
|                                   | End                    | 110       | End                  | 110 | 185 | 260 | 335 | 410  | 485  | 560  | 635  | 710  | 785  | 860  | 935  | 1010 |
| 006U-S050<br>Series A/B/S<br>Only | Start                  | 245       | Start                | -   | 245 | 320 | 395 | 470  | 545  | 620  | 695  | 770  | 845  | 920  | 995  | 1070 |
|                                   | Min                    | 123       | Min                  | -   | 123 | 198 | 273 | 348  | 423  | 498  | 573  | 648  | 723  | 798  | 873  | 948  |
|                                   | End                    | 137       | End                  | -   | 137 | 212 | 287 | 362  | 437  | 512  | 587  | 662  | 737  | 812  | 887  | 962  |
| 006U-S060<br>Series A/B/S<br>Only | Start                  | 290       | Start                | -   | -   | 290 | 365 | 440  | 515  | 590  | 665  | 740  | 815  | 890  | 965  | 1040 |
|                                   | Min                    | 151       | Min                  | -   | -   | 151 | 226 | 301  | 376  | 451  | 526  | 601  | 676  | 751  | 826  | 901  |
|                                   | End                    | 168       | End                  | -   | -   | 168 | 243 | 318  | 393  | 468  | 543  | 618  | 693  | 768  | 843  | 918  |
| 006U-S070<br>Series A/B/S<br>Only | Start                  | 340       | Start                | -   | -   | 265 | 340 | 415  | 490  | 565  | 640  | 715  | 790  | 865  | 940  | 1015 |
|                                   | Min                    | 175       | Min                  | -   | -   | 100 | 175 | 250  | 325  | 400  | 475  | 550  | 625  | 700  | 775  | 850  |
|                                   | End                    | 194       | End                  | -   | -   | 119 | 194 | 269  | 344  | 419  | 494  | 569  | 644  | 719  | 794  | 869  |
| 006U-S080<br>Series A/B/S<br>Only | Start                  | 390       | Start                | -   | -   | -   | 315 | 390  | 465  | 540  | 615  | 690  | 765  | 840  | 915  | 990  |
|                                   | Min                    | 169       | Min                  | -   | -   | -   | 94  | 169  | 244  | 319  | 394  | 469  | 544  | 619  | 694  | 769  |
|                                   | End                    | 221       | End                  | -   | -   | -   | 146 | 221  | 296  | 371  | 446  | 521  | 596  | 671  | 746  | 821  |
| 012U-S040<br>Series A/S Only      | Start                  | 390       | Start                | 390 | 563 | 735 | 908 | 1080 | 1253 | 1425 | 1598 | 1770 | 1943 | -    | -    | -    |
|                                   | Min                    | 208       | Min                  | 208 | 381 | 553 | 726 | 898  | 1071 | 1243 | 1416 | 1588 | 1761 | -    | -    | -    |
|                                   | End                    | 231       | End                  | 231 | 404 | 576 | 749 | 921  | 1094 | 1266 | 1439 | 1611 | 1784 | -    | -    | -    |
| 012U-S050<br>Series A/S Only      | Start                  | 485       | Start                | -   | 485 | 658 | 830 | 1003 | 1175 | 1348 | 1520 | 1693 | 1865 | -    | -    | -    |
|                                   | Min                    | 263       | Min                  | -   | 263 | 436 | 608 | 781  | 953  | 1126 | 1298 | 1471 | 1643 | -    | -    | -    |
|                                   | End                    | 292       | End                  | -   | 292 | 465 | 637 | 810  | 982  | 1155 | 1327 | 1500 | 1672 | -    | -    | -    |
| 012U-S060<br>Series A/S Only      | Start                  | 585       | Start                | -   | -   | 585 | 758 | 930  | 1103 | 1275 | 1448 | 1620 | 1793 | 1965 | -    | -    |
|                                   | Min                    | 312       | Min                  | -   | -   | 312 | 485 | 657  | 830  | 1002 | 1175 | 1347 | 1520 | 1692 | -    | -    |
|                                   | End                    | 347       | End                  | -   | -   | 347 | 520 | 692  | 865  | 1037 | 1210 | 1382 | 1555 | 1727 | -    | -    |
| 012U-S070<br>Series A/S Only      | Start                  | 680       | Start                | -   | -   | 508 | 680 | 853  | 1025 | 1198 | 1370 | 1543 | 1715 | 1888 | -    | -    |
|                                   | Min                    | 366       | Min                  | -   | -   | 194 | 366 | 539  | 711  | 884  | 1056 | 1229 | 1401 | 1574 | -    | -    |
|                                   | End                    | 407       | End                  | -   | -   | 235 | 407 | 580  | 752  | 925  | 1097 | 1270 | 1442 | 1615 | -    | -    |

Note: For Fail Open operation replace last "0" of spring code with "1" (i.e. -S040 becomes S041)



**Series A/ B/ C/ S: Models 003 - 7114**  
**Spring Return Fail Closed and Fail Open**  
**Symmetrical Yoke Design**

| Model Number                          | Spring torques lb. in. | Torque at | Air torques lb. in.  |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------------------------------|------------------------|-----------|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|                                       |                        |           | Supply Pressure psig |      |      |      |      |      |      |      |      |      |      |      |      |
|                                       |                        |           | 40                   | 50   | 60   | 70   | 80   | 90   | 100  | 110  | 120  | 130  | 140  | 150  | 160  |
| <b>012U-S080</b><br>Series A/S Only   | Start                  | 780       | -                    | -    | -    | 608  | 780  | 953  | 1125 | 1298 | 1470 | 1643 | 1815 | -    | -    |
|                                       | Min                    | 416       | -                    | -    | -    | 244  | 416  | 589  | 761  | 934  | 1106 | 1279 | 1451 | -    | -    |
|                                       | End                    | 462       | -                    | -    | -    | 290  | 462  | 635  | 807  | 980  | 1152 | 1325 | 1497 | -    | -    |
| <b>015U-S040</b><br>Series B Only     | Start                  | 485       | 485                  | 673  | 860  | 1048 | 1235 | 1423 | 1610 | 1798 | -    | -    | -    | -    | -    |
|                                       | Min                    | 234       | 234                  | 422  | 609  | 797  | 984  | 1172 | 1359 | 1547 | -    | -    | -    | -    | -    |
|                                       | End                    | 260       | 260                  | 448  | 635  | 823  | 1010 | 1198 | 1385 | 1573 | -    | -    | -    | -    | -    |
| <b>015U-S050</b><br>Series B Only     | Start                  | 605       | -                    | 605  | 793  | 980  | 1168 | 1355 | 1543 | 1730 | -    | -    | -    | -    | -    |
|                                       | Min                    | 293       | -                    | 293  | 481  | 668  | 856  | 1043 | 1231 | 1418 | -    | -    | -    | -    | -    |
|                                       | End                    | 325       | -                    | 325  | 513  | 700  | 888  | 1075 | 1263 | 1450 | -    | -    | -    | -    | -    |
| <b>015U-S060</b><br>Series B Only     | Start                  | 730       | -                    | -    | 730  | 918  | 1105 | 1293 | 1480 | 1668 | 1855 | -    | -    | -    | -    |
|                                       | Min                    | 351       | -                    | -    | 351  | 539  | 726  | 914  | 1101 | 1289 | 1476 | -    | -    | -    | -    |
|                                       | End                    | 390       | -                    | -    | 390  | 578  | 765  | 953  | 1140 | 1328 | 1515 | -    | -    | -    | -    |
| <b>015U-S070</b><br>Series B Only     | Start                  | 850       | -                    | -    | 663  | 850  | 1038 | 1225 | 1413 | 1600 | 1788 | -    | -    | -    | -    |
|                                       | Min                    | 410       | -                    | -    | 223  | 410  | 598  | 785  | 973  | 1160 | 1348 | -    | -    | -    | -    |
|                                       | End                    | 455       | -                    | -    | 268  | 455  | 643  | 830  | 1018 | 1205 | 1393 | -    | -    | -    | -    |
| <b>015U-S080</b><br>Series B Only     | Start                  | 970       | -                    | -    | -    | 783  | 970  | 1158 | 1345 | 1533 | 1720 | -    | -    | -    | -    |
|                                       | Min                    | 473       | -                    | -    | -    | 286  | 473  | 661  | 848  | 1036 | 1223 | -    | -    | -    | -    |
|                                       | End                    | 525       | -                    | -    | -    | 338  | 525  | 713  | 900  | 1088 | 1275 | -    | -    | -    | -    |
| <b>023U-S040</b><br>Series A/B/S Only | Start                  | 750       | 750                  | 1038 | 1325 | 1613 | 1900 | 2188 | 2475 | 2763 | 3050 | 3338 | 3625 | 3913 | 4200 |
|                                       | Min                    | 360       | 360                  | 648  | 935  | 1223 | 1510 | 1798 | 2085 | 2373 | 2660 | 2948 | 3235 | 3523 | 3810 |
|                                       | End                    | 400       | 400                  | 688  | 975  | 1263 | 1550 | 1838 | 2125 | 2413 | 2700 | 2988 | 3275 | 3563 | 3850 |
| <b>023U-S050</b><br>Series A/B/S Only | Start                  | 945       | -                    | 945  | 1233 | 1520 | 1808 | 2095 | 2383 | 2670 | 2958 | 3245 | 3533 | 3820 | 4108 |
|                                       | Min                    | 459       | -                    | 459  | 747  | 1034 | 1322 | 1609 | 1897 | 2184 | 2472 | 2759 | 3047 | 3334 | 3622 |
|                                       | End                    | 510       | -                    | 510  | 798  | 1085 | 1373 | 1660 | 1948 | 2235 | 2523 | 2810 | 3098 | 3385 | 3673 |
| <b>023U-S060</b><br>Series A/B/S Only | Start                  | 1125      | -                    | -    | 1125 | 1413 | 1700 | 1988 | 2275 | 2563 | 2850 | 3138 | 3425 | 3713 | 4000 |
|                                       | Min                    | 540       | -                    | -    | 540  | 828  | 1115 | 1403 | 1690 | 1978 | 2265 | 2553 | 2840 | 3128 | 3415 |
|                                       | End                    | 600       | -                    | -    | 600  | 888  | 1175 | 1463 | 1750 | 2038 | 2325 | 2613 | 2900 | 3188 | 3475 |
| <b>023U-S070</b><br>Series A/B/S Only | Start                  | 1305      | -                    | -    | 1018 | 1305 | 1593 | 1880 | 2168 | 2455 | 2743 | 3030 | 3318 | 3605 | 3893 |
|                                       | Min                    | 635       | -                    | -    | 348  | 635  | 923  | 1210 | 1498 | 1785 | 2073 | 2360 | 2648 | 2935 | 3223 |
|                                       | End                    | 705       | -                    | -    | 418  | 705  | 993  | 1280 | 1568 | 1855 | 2143 | 2430 | 2718 | 3005 | 3293 |
| <b>023U-S080</b><br>Series A/B/S Only | Start                  | 1500      | -                    | -    | -    | 1213 | 1500 | 1788 | 2075 | 2363 | 2650 | 2938 | 3225 | 3513 | 3800 |
|                                       | Min                    | 720       | -                    | -    | -    | 433  | 720  | 1008 | 1295 | 1583 | 1870 | 2158 | 2445 | 2733 | 3020 |
|                                       | End                    | 800       | -                    | -    | -    | 513  | 800  | 1088 | 1375 | 1663 | 1950 | 2238 | 2525 | 2813 | 3100 |
| <b>023U-S090</b><br>Series A/B/S Only | Start                  | 1680      | -                    | -    | -    | -    | 1393 | 1680 | 1968 | 2255 | 2543 | 2830 | 3118 | 3405 | 3693 |
|                                       | Min                    | 815       | -                    | -    | -    | -    | 528  | 815  | 1103 | 1390 | 1678 | 1965 | 2253 | 2540 | 2828 |
|                                       | End                    | 905       | -                    | -    | -    | -    | 618  | 905  | 1193 | 1480 | 1768 | 2055 | 2343 | 2630 | 2918 |
| <b>023U-S100</b><br>Series A/B/S Only | Start                  | 1870      | -                    | -    | -    | -    | -    | 1583 | 1870 | 2158 | 2445 | 2733 | 3020 | 3308 | 3595 |
|                                       | Min                    | 905       | -                    | -    | -    | -    | -    | 618  | 905  | 1193 | 1480 | 1768 | 2055 | 2343 | 2630 |
|                                       | End                    | 1005      | -                    | -    | -    | -    | -    | 718  | 1005 | 1293 | 1580 | 1868 | 2155 | 2443 | 2730 |
| <b>023U-S120</b><br>Series A/B/S Only | Start                  | 2250      | -                    | -    | -    | -    | -    | -    | -    | 1963 | 2250 | 2538 | 2825 | 3113 | 3400 |
|                                       | Min                    | 1080      | -                    | -    | -    | -    | -    | -    | -    | 793  | 1080 | 1368 | 1655 | 1943 | 2230 |
|                                       | End                    | 1200      | -                    | -    | -    | -    | -    | -    | -    | 913  | 1200 | 1488 | 1775 | 2063 | 2350 |
| <b>023U-S140</b><br>Series A/B/S Only | Start                  | 2615      | -                    | -    | -    | -    | -    | -    | -    | -    | -    | 2328 | 2615 | 2903 | 3190 |
|                                       | Min                    | 1269      | -                    | -    | -    | -    | -    | -    | -    | -    | -    | 982  | 1269 | 1557 | 1844 |
|                                       | End                    | 1410      | -                    | -    | -    | -    | -    | -    | -    | -    | -    | 1123 | 1410 | 1698 | 1985 |
| <b>023U-S160</b><br>Series A/B/S Only | Start                  | 3000      | -                    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 2713 | 3000 |
|                                       | Min                    | 1440      | -                    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1153 | 1440 |
|                                       | End                    | 1600      | -                    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1313 | 1600 |
| <b>036U-S040</b><br>Series A/B/S Only | Start                  | 1170      | 1170                 | 1665 | 2160 | 2655 | 3150 | 3645 | 4140 | 4635 | 5130 | 5625 | 6120 | 6615 | 7110 |
|                                       | Min                    | 567       | 567                  | 1062 | 1557 | 2052 | 2547 | 3042 | 3537 | 4032 | 4527 | 5022 | 5517 | 6012 | 6507 |
|                                       | End                    | 630       | 630                  | 1125 | 1620 | 2115 | 2610 | 3105 | 3600 | 4095 | 4590 | 5085 | 5580 | 6075 | 6570 |
| <b>036U-S050</b><br>Series A/B/S Only | Start                  | 1460      | -                    | 1460 | 1955 | 2450 | 2945 | 3440 | 3935 | 4430 | 4925 | 5420 | 5915 | 6410 | 6905 |
|                                       | Min                    | 711       | -                    | 711  | 1206 | 1701 | 2196 | 2691 | 3186 | 3681 | 4176 | 4671 | 5166 | 5661 | 6156 |
|                                       | End                    | 790       | -                    | 790  | 1285 | 1780 | 2275 | 2770 | 3265 | 3760 | 4255 | 4750 | 5245 | 5740 | 6235 |
| <b>036U-S060</b><br>Series A/B/S Only | Start                  | 1755      | -                    | -    | 1755 | 2250 | 2745 | 3240 | 3735 | 4230 | 4725 | 5220 | 5715 | 6210 | 6705 |
|                                       | Min                    | 855       | -                    | -    | 855  | 1350 | 1845 | 2340 | 2835 | 3330 | 3825 | 4320 | 4815 | 5310 | 5805 |
|                                       | End                    | 950       | -                    | -    | 950  | 1445 | 1940 | 2435 | 2930 | 3425 | 3920 | 4415 | 4910 | 5405 | 5900 |
| <b>036U-S070</b><br>Series A/B/S Only | Start                  | 2050      | -                    | -    | 1555 | 2050 | 2545 | 3040 | 3535 | 4030 | 4525 | 5020 | 5515 | 6010 | 6505 |
|                                       | Min                    | 990       | -                    | -    | 495  | 990  | 1485 | 1980 | 2475 | 2970 | 3465 | 3960 | 4455 | 4950 | 5445 |
|                                       | End                    | 1100      | -                    | -    | 605  | 1100 | 1595 | 2090 | 2585 | 3080 | 3575 | 4070 | 4565 | 5060 | 5555 |

Note: For Fail Open operation replace last "0" of spring code with "1" (i.e. -S040 becomes S041)





**Series A/ B/ C/ S: Models 003 - 7114**  
**Spring Return Fail Closed and Fail Open**  
**Symmetrical Yoke Design**

| Model Number                             | Spring torques lb. in. | Torque at | Air torques lb. in.  |      |      |      |      |      |      |      |      |      |      |   |      |      |      |
|--|------------------------|-----------|----------------------|------|------|------|------|------|------|------|------|------|------|---|------|------|------|
|  |                        |           | Supply Pressure psig |      |      |      |      |      |      |      |      |      |      |   |      |      |      |
|  |                        |           | 40                   | 50   | 60   | 70   | 80   | 90   | 100  | 110  | 120  | 130  | 140  | 150   | 160  |      |      |
| <b>036U-S080</b><br>Series A/B/S<br>Only | Start                  | 2340      | Start                | -    | -    | -    | 1845 | 2340 | 2835 | 3330 | 3825 | 4320 | 4815 | 5310  | 5805 | 6300 |      |
|  | Min                    | 1134      | Min                  | -    | -    | -    | 639  | 1134 | 1629 | 2124 | 2619 | 3114 | 3609 | 4104  | 4599 | 5094 |      |
|  | End                    | 1260      | End                  | -    | -    | -    | 765  | 1260 | 1755 | 2250 | 2745 | 3240 | 3735 | 4230  | 4725 | 5220 |      |
| <b>036U-S090</b><br>Series A/B/S<br>Only | Start                  | 2630      | Start                | -    | -    | -    | -    | 2135 | 2630 | 3125 | 3620 | 4115 | 4610 | 5105  | 5600 | 6095 |      |
|  | Min                    | 1274      | Min                  | -    | -    | -    | -    | 779  | 1274 | 1769 | 2264 | 2759 | 3254 | 3749  | 4244 | 4739 |      |
|  | End                    | 1415      | End                  | -    | -    | -    | -    | 920  | 1415 | 1910 | 2405 | 2900 | 3395 | 3890  | 4385 | 4880 |      |
| <b>036U-S100</b><br>Series A/B/S<br>Only | Start                  | 2925      | Start                | -    | -    | -    | -    | -    | 2430 | 2925 | 3420 | 3915 | 4410 | 4905  | 5400 | 5895 |      |
|  | Min                    | 1418      | Min                  | -    | -    | -    | -    | -    | 923  | 1418 | 1913 | 2408 | 2903 | 3398  | 3893 | 4388 |      |
|  | End                    | 1575      | End                  | -    | -    | -    | -    | -    | 1080 | 1575 | 2070 | 2565 | 3060 | 3555  | 4050 | 4545 |      |
| <b>036U-S120</b><br>Series A/B/S<br>Only | Start                  | 3510      | Start                | -    | -    | -    | -    | -    | -    | -    | 3015 | 3510 | 4005 | 4500  | 4995 | 5490 |      |
|  | Min                    | 1701      | Min                  | -    | -    | -    | -    | -    | -    | -    | 1206 | 1701 | 2196 | 2691  | 3186 | 3681 |      |
|  | End                    | 1890      | End                  | -    | -    | -    | -    | -    | -    | -    | 1395 | 1890 | 2385 | 2880  | 3375 | 3870 |      |
| <b>036U-S140</b><br>Series A/B/S<br>Only | Start                  | 4095      | Start                | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 3600  | 4095 | 4590 | 5085 |
|  | Min                    | 1985      | Min                  | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1490  | 1985 | 2480 | 2975 |
|  | End                    | 2205      | End                  | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1710  | 2205 | 2700 | 3195 |
| <b>036U-S160</b><br>Series A/B/S<br>Only | Start                  | 4700      | Start                | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -   | -    | 4205 | 4700 |
|  | Min                    | 2250      | Min                  | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -   | -    | 1755 | 2250 |
|  | End                    | 2500      | End                  | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -   | -    | 2005 | 2500 |
| <b>046U-S040</b><br>Series A/B/S<br>Only | Start                  | 1500      | Start                | 1500 | 2075 | 2650 | 3225 | 3800 | 4375 | 4950 | 5525 | 6100 | -    | -   | -    | -    | -    |
|  | Min                    | 720       | Min                  | 720  | 1295 | 1870 | 2445 | 3020 | 3595 | 4170 | 4745 | 5320 | -    | -   | -    | -    | -    |
|  | End                    | 800       | End                  | 800  | 1375 | 1950 | 2525 | 3100 | 3675 | 4250 | 4825 | 5400 | -    | -   | -    | -    | -    |
| <b>046U-S050</b><br>Series A/B/S<br>Only | Start                  | 1870      | Start                | -    | 1870 | 2445 | 3020 | 3595 | 4170 | 4745 | 5320 | 5895 | -    | -   | -    | -    | -    |
|  | Min                    | 905       | Min                  | -    | 905  | 1480 | 2055 | 2630 | 3205 | 3780 | 4355 | 4930 | -    | -   | -    | -    | -    |
|  | End                    | 1005      | End                  | -    | 1005 | 1580 | 2155 | 2730 | 3305 | 3880 | 4455 | 5030 | -    | -   | -    | -    | -    |
| <b>046U-S060</b><br>Series A/B/S<br>Only | Start                  | 2250      | Start                | -    | -    | 2250 | 2825 | 3400 | 3975 | 4550 | 5125 | 5700 | -    | -   | -    | -    | -    |
|  | Min                    | 1080      | Min                  | -    | -    | 1080 | 1655 | 2230 | 2805 | 3380 | 3955 | 4530 | -    | -   | -    | -    | -    |
|  | End                    | 1200      | End                  | -    | -    | 1200 | 1775 | 2350 | 2925 | 3500 | 4075 | 4650 | -    | -   | -    | -    | -    |
| <b>046U-S070</b><br>Series A/B/S<br>Only | Start                  | 2615      | Start                | -    | -    | 2040 | 2615 | 3190 | 3765 | 4340 | 4915 | 5490 | -    | -   | -    | -    | -    |
|  | Min                    | 1269      | Min                  | -    | -    | 694  | 1269 | 1844 | 2419 | 2994 | 3569 | 4144 | -    | -   | -    | -    | -    |
|  | End                    | 1410      | End                  | -    | -    | 835  | 1410 | 1985 | 2560 | 3135 | 3710 | 4285 | -    | -   | -    | -    | -    |
| <b>046U-S080</b><br>Series A/B/S<br>Only | Start                  | 3000      | Start                | -    | -    | -    | 2425 | 3000 | 3575 | 4150 | 4725 | 5300 | -    | -   | -    | -    | -    |
|  | Min                    | 1440      | Min                  | -    | -    | -    | 865  | 1440 | 2015 | 2590 | 3165 | 3740 | -    | -   | -    | -    | -    |
|  | End                    | 1600      | End                  | -    | -    | -    | 1025 | 1600 | 2175 | 2750 | 3325 | 3900 | -    | -   | -    | -    | -    |
| <b>058U-S040</b><br>Series A/B/S<br>Only | Start                  | 1870      | Start                | 1870 | 2608 | 3345 | 4083 | -    | -    | -    | -    | -    | -    | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |      |
|  | Min                    | 905       | Min                  | 905  | 1643 | 2380 | 3118 | -    | -    | -    | -    | -    | -    |   |      |      |      |
|  | End                    | 1005      | End                  | 1005 | 1743 | 2480 | 3218 | -    | -    | -    | -    | -    | -    |   |      |      |      |
| <b>058U-S050</b><br>Series A/B/S<br>Only | Start                  | 2250      | Start                | -    | 2250 | 2988 | 3725 | 4463 | -    | -    | -    | -    | -    | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |      |
|  | Min                    | 1080      | Min                  | -    | 1080 | 1818 | 2555 | 3293 | -    | -    | -    | -    | -    |   |      |      |      |
|  | End                    | 1200      | End                  | -    | 1200 | 1938 | 2675 | 3413 | -    | -    | -    | -    | -    |   |      |      |      |
| <b>058U-S060</b><br>Series A/B/S<br>Only | Start                  | 2615      | Start                | -    | -    | 2615 | 3353 | 4090 | 4828 | -    | -    | -    | -    | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |      |
|  | Min                    | 1269      | Min                  | -    | -    | 1269 | 2007 | 2744 | 3482 | -    | -    | -    | -    |   |      |      |      |
|  | End                    | 1410      | End                  | -    | -    | 1410 | 2148 | 2885 | 3623 | -    | -    | -    | -    |   |      |      |      |
| <b>058U-S070</b><br>Series A/B/S<br>Only | Start                  | 3000      | Start                | -    | -    | 2263 | 3000 | 3738 | 4475 | -    | -    | -    | -    | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |      |
|  | Min                    | 1440      | Min                  | -    | -    | 703  | 1440 | 2178 | 2915 | -    | -    | -    | -    |   |      |      |      |
|  | End                    | 1600      | End                  | -    | -    | 863  | 1600 | 2338 | 3075 | -    | -    | -    | -    |   |      |      |      |
| <b>059U-S080</b><br>Series A/B/S<br>Only | Start                  | 3510      | Start                | -    | -    | -    | -    | 3510 | 4248 | 4985 | 5723 | 6460 | -    | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |      |
|  | Min                    | 1701      | Min                  | -    | -    | -    | -    | 1701 | 2439 | 3176 | 3914 | 4651 | -    |   |      |      |      |
|  | End                    | 1890      | End                  | -    | -    | -    | -    | 1890 | 2628 | 3365 | 4103 | 4840 | -    |   |      |      |      |
| <b>059U-S090</b><br>Series A/B/S<br>Only | Start                  | 4095      | Start                | -    | -    | -    | -    | -    | 4095 | 4833 | 5570 | 6308 | -    | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |      |
|  | Min                    | 1985      | Min                  | -    | -    | -    | -    | -    | 1985 | 2723 | 3460 | 4198 | -    |   |      |      |      |
|  | End                    | 2205      | End                  | -    | -    | -    | -    | -    | 2205 | 2943 | 3680 | 4418 | -    |   |      |      |      |
| <b>059U-S100</b><br>Series A/B/S<br>Only | Start                  | 4700      | Start                | -    | -    | -    | -    | -    | -    | 4700 | 5438 | 6175 | -    | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |      |
|  | Min                    | 2250      | Min                  | -    | -    | -    | -    | -    | -    | 2250 | 2988 | 3725 | -    |   |      |      |      |
|  | End                    | 2500      | End                  | -    | -    | -    | -    | -    | -    | 2500 | 3238 | 3975 | -    |   |      |      |      |
| <b>072U-S040</b><br>Series A/B/S<br>Only | Start                  | 2340      | Start                | 2340 | 3330 | 4320 | 5310 | 6300 | 7290 | 8280 | -    | -    | -    | Maximum Operating Pressure 100 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |      |
|  | Min                    | 1134      | Min                  | 1134 | 2124 | 3114 | 4104 | 5094 | 6084 | 7074 | -    | -    | -    |   |      |      |      |
|  | End                    | 1260      | End                  | 1260 | 2250 | 3240 | 4230 | 5220 | 6210 | 7200 | -    | -    | -    |   |      |      |      |
| <b>072U-S050</b><br>Series A/B/S<br>Only | Start                  | 2925      | Start                | -    | 2925 | 3915 | 4905 | 5895 | 6885 | 7875 | -    | -    | -    | Maximum Operating Pressure 100 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |      |
|  | Min                    | 1418      | Min                  | -    | 1418 | 2408 | 3398 | 4388 | 5378 | 6368 | -    | -    | -    |   |      |      |      |
|  | End                    | 1575      | End                  | -    | 1575 | 2565 | 3555 | 4545 | 5535 | 6525 | -    | -    | -    |   |      |      |      |

Note: For Fail Open operation replace last "0" of spring code with "1" (i.e. -S040 becomes S041)



**Series A/ B/ C/ S: Models 003 - 7114**  
**Spring Return Fail Closed and Fail Open**  
**Symmetrical Yoke Design**

| Model Number                          | Spring torques lb. in. | Torque at | Air torques lb. in.  |      |      |       |       |       |       |   |                                     |       |       |       |       |       |
|---------------------------------------|------------------------|-----------|----------------------|------|------|-------|-------|-------|-------|---|-------------------------------------|-------|-------|-------|-------|-------|
|                                       |                        |           | Supply Pressure psig |      |      |       |       |       |       |   |                                     |       |       |       |       |       |
|                                       |                        |           | 40                   | 50   | 60   | 70    | 80    | 90    | 100   | 110   | 120                                 | 130   | 140   | 150   | 160   |       |
| <b>072U-S060</b><br>Series A/B/S Only | Start                  | 3510      | -                    | -    | 3510 | 4500  | 5490  | 6480  | 7470  | Maximum Operating Pressure 100 psig<br>(Series A / Max Shell Pressure 175 psig) |                                     |       |       |       |       |       |
|                                       | Min                    | 1701      | -                    | -    | 1701 | 2691  | 3681  | 4671  | 5661  |   |                                     |       |       |       |       |       |
|                                       | End                    | 1890      | -                    | -    | 1890 | 2880  | 3870  | 4860  | 5850  |   |                                     |       |       |       |       |       |
| <b>072U-S070</b><br>Series A/B/S Only | Start                  | 4095      | -                    | -    | 3105 | 4095  | 5085  | 6075  | 7065  | Maximum Operating Pressure 100 psig<br>(Series A / Max Shell Pressure 175 psig) |                                     |       |       |       |       |       |
|                                       | Min                    | 1985      | -                    | -    | 995  | 1985  | 2975  | 3965  | 4955  |   |                                     |       |       |       |       |       |
|                                       | End                    | 2205      | -                    | -    | 1215 | 2205  | 3195  | 4185  | 5175  |   |                                     |       |       |       |       |       |
| <b>072U-S080</b><br>Series A/B/S Only | Start                  | 4700      | -                    | -    | -    | 3710  | 4700  | 5690  | 6680  | Maximum Operating Pressure 100 psig<br>(Series A / Max Shell Pressure 175 psig) |                                     |       |       |       |       |       |
|                                       | Min                    | 2250      | -                    | -    | -    | 1260  | 2250  | 3240  | 4230  |   |                                     |       |       |       |       |       |
|                                       | End                    | 2500      | -                    | -    | -    | 1510  | 2500  | 3490  | 4480  |   |                                     |       |       |       |       |       |
| <b>100U-S040</b><br>Series B/S Only   | Start                  | 3250      | Start                | 3250 | 4500 | 5750  | 7000  | 8250  | 9500  | 10750   | Maximum Operating Pressure 100 psig |       |       |       |       |       |
|                                       | Min                    | 1575      | Min                  | 1575 | 2825 | 4075  | 5325  | 6575  | 7825  | 9075  |                                     |       |       |       |       |       |
|                                       | End                    | 1750      | End                  | 1750 | 3000 | 4250  | 5500  | 6750  | 8000  | 9250  |                                     |       |       |       |       |       |
| <b>100U-S050</b><br>Series B/S Only   | Start                  | 4060      | Start                | -    | 4060 | 5310  | 6560  | 7810  | 9060  | 10310   | Maximum Operating Pressure 100 psig |       |       |       |       |       |
|                                       | Min                    | 1971      | Min                  | -    | 1971 | 3221  | 4471  | 5721  | 6971  | 8221  |                                     |       |       |       |       |       |
|                                       | End                    | 2190      | End                  | -    | 2190 | 3440  | 4690  | 5940  | 7190  | 8440  |                                     |       |       |       |       |       |
| <b>100U-S060</b><br>Series B/S Only   | Start                  | 4880      | Start                | -    | -    | 4880  | 6130  | 7380  | 8630  | 9880  | Maximum Operating Pressure 100 psig |       |       |       |       |       |
|                                       | Min                    | 2358      | Min                  | -    | -    | 2358  | 3608  | 4858  | 6108  | 7358  |                                     |       |       |       |       |       |
|                                       | End                    | 2620      | End                  | -    | -    | 2620  | 3870  | 5120  | 6370  | 7620  |                                     |       |       |       |       |       |
| <b>100U-S070</b><br>Series B/S Only   | Start                  | 5690      | Start                | -    | -    | 4440  | 5690  | 6940  | 8190  | 9440  | Maximum Operating Pressure 100 psig |       |       |       |       |       |
|                                       | Min                    | 2754      | Min                  | -    | -    | 1504  | 2754  | 4004  | 5254  | 6504  |                                     |       |       |       |       |       |
|                                       | End                    | 3060      | End                  | -    | -    | 1810  | 3060  | 4310  | 5560  | 6810  |                                     |       |       |       |       |       |
| <b>100U-S080</b><br>Series B/S Only   | Start                  | 6500      | Start                | -    | -    | -     | 5250  | 6500  | 7750  | 9000  | Maximum Operating Pressure 100 psig |       |       |       |       |       |
|                                       | Min                    | 3150      | Min                  | -    | -    | -     | 1900  | 3150  | 4400  | 5650  |                                     |       |       |       |       |       |
|                                       | End                    | 3500      | End                  | -    | -    | -     | 2250  | 3500  | 4750  | 6000  |                                     |       |       |       |       |       |
| <b>135U-S040</b>                      | Start                  | 4390      | Start                | 4390 | 6162 | 7935  | 9707  | 11480 | 13252 | 15024   | 16797                               | 18569 | 20342 | 22114 | 23886 | 25659 |
|                                       | Min                    | 2554      | Min                  | 2554 | 4326 | 6099  | 7871  | 9644  | 11416 | 13188   | 14961                               | 16733 | 18506 | 20278 | 22050 | 23823 |
|                                       | End                    | 2838      | End                  | 2838 | 4610 | 6383  | 8155  | 9928  | 11700 | 13472   | 15245                               | 17017 | 18790 | 20562 | 22334 | 24107 |
| <b>135U-S050</b>                      | Start                  | 5485      | Start                | -    | 5485 | 7257  | 9030  | 10802 | 12575 | 14347   | 16119                               | 17892 | 19664 | 21437 | 23209 | 24981 |
|                                       | Min                    | 3186      | Min                  | -    | 3186 | 4958  | 6731  | 8503  | 10276 | 12048   | 13820                               | 15593 | 17365 | 19138 | 20910 | 22682 |
|                                       | End                    | 3540      | End                  | -    | 3540 | 5312  | 7085  | 8857  | 10630 | 12402   | 14174                               | 15947 | 17719 | 19492 | 21264 | 23036 |
| <b>135U-S060</b>                      | Start                  | 6580      | Start                | -    | -    | 6580  | 8352  | 10125 | 11897 | 13670   | 15442                               | 17214 | 18987 | 20759 | 22532 | 24304 |
|                                       | Min                    | 3829      | Min                  | -    | -    | 3829  | 5601  | 7374  | 9146  | 10919   | 12691                               | 14463 | 16236 | 18008 | 19781 | 21553 |
|                                       | End                    | 4254      | End                  | -    | -    | 4254  | 6026  | 7799  | 9571  | 11344   | 13116                               | 14888 | 16661 | 18433 | 20206 | 21978 |
| <b>135U-S070</b>                      | Start                  | 7680      | Start                | -    | -    | 5908  | 7680  | 9452  | 11225 | 12997   | 14770                               | 16542 | 18314 | 20087 | 21859 | 23632 |
|                                       | Min                    | 4466      | Min                  | -    | -    | 2694  | 4466  | 6238  | 8011  | 9783  | 11556                               | 13328 | 15100 | 16873 | 18645 | 20418 |
|                                       | End                    | 4962      | End                  | -    | -    | 3190  | 4962  | 6734  | 8507  | 10279   | 12052                               | 13824 | 15596 | 17369 | 19141 | 20914 |
| <b>135U-S080</b>                      | Start                  | 8775      | Start                | -    | -    | -     | 7003  | 8775  | 10547 | 12320   | 14092                               | 15865 | 17637 | 19409 | 21182 | 22954 |
|                                       | Min                    | 5103      | Min                  | -    | -    | -     | 3331  | 5103  | 6875  | 8648  | 10420                               | 12193 | 13965 | 15737 | 17510 | 19282 |
|                                       | End                    | 5670      | End                  | -    | -    | -     | 3898  | 5670  | 7442  | 9215  | 10987                               | 12760 | 14532 | 16304 | 18077 | 19849 |
| <b>135U-S090</b>                      | Start                  | 9875      | Start                | -    | -    | -     | -     | 8103  | 9875  | 11647   | 13420                               | 15192 | 16965 | 18737 | 20509 | 22282 |
|                                       | Min                    | 5740      | Min                  | -    | -    | -     | -     | 3968  | 5740  | 7512  | 9285                                | 11057 | 12830 | 14602 | 16374 | 18147 |
|                                       | End                    | 6378      | End                  | -    | -    | -     | -     | 4606  | 6378  | 8150  | 9923                                | 11695 | 13468 | 15240 | 17012 | 18785 |
| <b>135U-S100</b>                      | Start                  | 10970     | Start                | -    | -    | -     | -     | -     | 9198  | 10970   | 12742                               | 14515 | 16287 | 18060 | 19832 | 21604 |
|                                       | Min                    | 6377      | Min                  | -    | -    | -     | -     | -     | 4605  | 6377  | 8149                                | 9922  | 11694 | 13467 | 15239 | 17011 |
|                                       | End                    | 7086      | End                  | -    | -    | -     | -     | -     | 5314  | 7086  | 8858                                | 10631 | 12403 | 14176 | 15948 | 17720 |
| <b>135U-S120</b>                      | Start                  | 13160     | Start                | -    | -    | -     | -     | -     | -     | -   | 11388                               | 13160 | 14932 | 16705 | 18477 | 20250 |
|                                       | Min                    | 7657      | Min                  | -    | -    | -     | -     | -     | -     | -   | 5903                                | 7675  | 9447  | 11220 | 12992 | 14765 |
|                                       | End                    | 8508      | End                  | -    | -    | -     | -     | -     | -     | -   | 6736                                | 8508  | 10280 | 12053 | 13825 | 15598 |
| <b>135U-S140</b>                      | Start                  | 15355     | Start                | -    | -    | -     | -     | -     | -     | -   | -                                   | -     | 13583 | 15355 | 17127 | 18900 |
|                                       | Min                    | 8932      | Min                  | -    | -    | -     | -     | -     | -     | -   | -                                   | -     | 7160  | 8932  | 10704 | 12477 |
|                                       | End                    | 9924      | End                  | -    | -    | -     | -     | -     | -     | -   | -                                   | -     | 8152  | 9924  | 11696 | 13469 |
| <b>135U-S160</b>                      | Start                  | 17550     | Start                | -    | -    | -     | -     | -     | -     | -   | -                                   | -     | -     | -     | 15778 | 17550 |
|                                       | Min                    | 10206     | Min                  | -    | -    | -     | -     | -     | -     | -   | -                                   | -     | -     | -     | 8434  | 10206 |
|                                       | End                    | 11340     | End                  | -    | -    | -     | -     | -     | -     | -   | -                                   | -     | -     | -     | 9568  | 11340 |
| <b>210U-S040</b>                      | Start                  | 6825      | Start                | 6825 | 9713 | 12600 | 15488 | 18375 | 21263 | 24150   | 27038                               | 29925 | 32813 | 35700 | 38588 | 41475 |
|                                       | Min                    | 3639      | Min                  | 3639 | 6527 | 9414  | 12302 | 15189 | 18077 | 20964   | 23852                               | 26739 | 29627 | 32514 | 35402 | 38289 |
|                                       | End                    | 4043      | End                  | 4043 | 6931 | 9818  | 12706 | 15593 | 18481 | 21368   | 24256                               | 27143 | 30031 | 32918 | 35806 | 38693 |
| <b>210U-S050</b>                      | Start                  | 8530      | Start                | -    | 8530 | 11418 | 14305 | 17193 | 20080 | 22968   | 25855                               | 28743 | 31630 | 34518 | 37405 | 40293 |
|                                       | Min                    | 4544      | Min                  | -    | 4544 | 7432  | 10319 | 13207 | 16094 | 18982   | 21869                               | 24757 | 27644 | 30532 | 33419 | 36307 |
|                                       | End                    | 5049      | End                  | -    | 5049 | 7937  | 10824 | 13712 | 16599 | 19487   | 22374                               | 25262 | 28149 | 31037 | 33924 | 36812 |

Note: For Fail Open operation replace last "0" of spring code with "1" (i.e. -S040 becomes S041)



**Series A/ B/ C/ S: Models 003 - 7114**  
**Spring Return Fail Closed and Fail Open**  
**Symmetrical Yoke Design**

| Model Number | Spring torques lb. in. | Torque at | Air torques lb. in.  |       |       |       |       |       |       |       |       |       |  |       |       |       |
|--------------|------------------------|-----------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|-------|-------|-------|
|              |                        |           | Supply Pressure psig |       |       |       |       |       |       |       |       |       |  |       |       |       |
|              |                        |           | 40                   | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140                                      | 150   | 160   |       |
| 210U-S060    | Start                  | 10240     | Start                | -     | -     | 10240 | 13128 | 16015 | 18903 | 21790 | 24678 | 27565 | 30453                                    | 33340 | 36228 | 39115 |
|              | Min                    | 5455      | Min                  | -     | -     | 5455  | 8343  | 11230 | 14118 | 17005 | 19893 | 22780 | 25668                                    | 28555 | 31443 | 34330 |
|              | End                    | 6061      | End                  | -     | -     | 6061  | 8949  | 11836 | 14724 | 17611 | 20499 | 23386 | 26274                                    | 29161 | 32049 | 34936 |
| 210U-S070    | Start                  | 11940     | Start                | -     | -     | 9053  | 11940 | 14828 | 17715 | 20603 | 23490 | 26378 | 29265                                    | 32153 | 35040 | 37928 |
|              | Min                    | 6366      | Min                  | -     | -     | 3479  | 6366  | 9254  | 12141 | 15029 | 17916 | 20804 | 23691                                    | 26579 | 29466 | 32354 |
|              | End                    | 7073      | End                  | -     | -     | 4186  | 7073  | 9961  | 12848 | 15736 | 18623 | 21511 | 24398                                    | 27286 | 30173 | 33061 |
| 210U-S080    | Start                  | 13650     | Start                | -     | -     | -     | 10763 | 13650 | 16538 | 19425 | 22313 | 25200 | 28088                                    | 30975 | 33863 | 36750 |
|              | Min                    | 6185      | Min                  | -     | -     | -     | 3298  | 6185  | 9072  | 11959 | 14846 | 17733 | 20620                                    | 23507 | 26394 | 29281 |
|              | End                    | 8085      | End                  | -     | -     | -     | 5198  | 8085  | 10973 | 13860 | 16748 | 19635 | 22523                                    | 25410 | 28298 | 31185 |
| 210U-S090    | Start                  | 15350     | Start                | -     | -     | -     | -     | 12463 | 15350 | 18238 | 21125 | 24013 | 26900                                    | 29788 | 32675 | 35563 |
|              | Min                    | 8187      | Min                  | -     | -     | -     | -     | 5300  | 8187  | 11075 | 13962 | 16850 | 19737                                    | 22625 | 25512 | 28400 |
|              | End                    | 9097      | End                  | -     | -     | -     | -     | 6210  | 9097  | 11985 | 14872 | 17760 | 20647                                    | 23535 | 26422 | 29310 |
| 210U-S100    | Start                  | 17060     | Start                | -     | -     | -     | -     | -     | 14173 | 17060 | 19948 | 22835 | 25723                                    | 28610 | 31498 | 34385 |
|              | Min                    | 9098      | Min                  | -     | -     | -     | -     | -     | 6211  | 9098  | 11986 | 14873 | 17761                                    | 20648 | 23536 | 26423 |
|              | End                    | 10109     | End                  | -     | -     | -     | -     | -     | 7222  | 10109 | 12997 | 15884 | 18772                                    | 21659 | 24547 | 27434 |
| 210U-S120    | Start                  | 20475     | Start                | -     | -     | -     | -     | -     | -     | -     | 17588 | 20475 | 23363                                    | 26250 | 29138 | 32025 |
|              | Min                    | 10915     | Min                  | -     | -     | -     | -     | -     | -     | -     | 8028  | 10915 | 13803                                    | 16690 | 19578 | 22465 |
|              | End                    | 12128     | End                  | -     | -     | -     | -     | -     | -     | -     | 9241  | 12128 | 15016                                    | 17903 | 20791 | 23678 |
| 210U-S140    | Start                  | 23890     | Start                | -     | -     | -     | -     | -     | -     | -     | -     | -     | 21003                                    | 23890 | 26778 | 29665 |
|              | Min                    | 12731     | Min                  | -     | -     | -     | -     | -     | -     | -     | -     | -     | 9844                                     | 12731 | 15619 | 18506 |
|              | End                    | 14146     | End                  | -     | -     | -     | -     | -     | -     | -     | -     | -     | 11259                                    | 14146 | 17034 | 19921 |
| 210U-S160    | Start                  | 27300     | Start                | -     | -     | -     | -     | -     | -     | -     | -     | -     | -  | -     | 24413 | 27300 |
|              | Min                    | 14553     | Min                  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -  | -     | 11666 | 14553 |
|              | End                    | 16170     | End                  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -  | -     | 13283 | 16170 |
| 270U-S040    | Start                  | 8780      | Start                | 8780  | 12324 | 15868 | 19411 | 22955 | 26499 | 30043 | 33587 | 37130 | Maximum Operating Pressure 160 psig      |       |       |       |
|              | Min                    | 4683      | Min                  | 4683  | 8227  | 11771 | 15314 | 18858 | 22402 | 25946 | 29490 | 33033 | (Series S / Max Shell Pressure 120 psig) |       |       |       |
|              | End                    | 5203      | End                  | 5203  | 8747  | 12291 | 15834 | 19378 | 22922 | 26466 | 30010 | 33553 | (Series A / Max Shell Pressure 175 psig) |       |       |       |
| 270U-S050    | Start                  | 10970     | Start                | -     | 10970 | 14514 | 18058 | 21601 | 25145 | 28689 | 32233 | 35777 | Maximum Operating Pressure 160 psig      |       |       |       |
|              | Min                    | 5846      | Min                  | -     | 5846  | 9390  | 12934 | 16477 | 20021 | 23565 | 27109 | 30653 | (Series S / Max Shell Pressure 120 psig) |       |       |       |
|              | End                    | 6496      | End                  | -     | 6496  | 10040 | 13584 | 17127 | 20671 | 24215 | 27759 | 31303 | (Series A / Max Shell Pressure 175 psig) |       |       |       |
| 270U-S060    | Start                  | 13160     | Start                | -     | -     | 13160 | 16704 | 20248 | 23791 | 27335 | 30879 | 34423 | Maximum Operating Pressure 160 psig      |       |       |       |
|              | Min                    | 7019      | Min                  | -     | -     | 7019  | 10563 | 14107 | 17650 | 21194 | 24738 | 28282 | (Series S / Max Shell Pressure 120 psig) |       |       |       |
|              | End                    | 7799      | End                  | -     | -     | 7799  | 11343 | 14887 | 18430 | 21974 | 25518 | 29062 | (Series A / Max Shell Pressure 175 psig) |       |       |       |
| 270U-S070    | Start                  | 15355     | Start                | -     | -     | 11811 | 15355 | 18899 | 22443 | 25986 | 29530 | 33074 | Maximum Operating Pressure 160 psig      |       |       |       |
|              | Min                    | 8187      | Min                  | -     | -     | 4643  | 8187  | 11731 | 15275 | 18818 | 22362 | 25906 | (Series S / Max Shell Pressure 120 psig) |       |       |       |
|              | End                    | 9097      | End                  | -     | -     | 5553  | 9097  | 12641 | 16185 | 19728 | 23272 | 26816 | (Series A / Max Shell Pressure 175 psig) |       |       |       |
| 270U-S080    | Start                  | 17550     | Start                | -     | -     | -     | 14006 | 17550 | 21094 | 24638 | 28181 | 31725 | Maximum Operating Pressure 160 psig      |       |       |       |
|              | Min                    | 9356      | Min                  | -     | -     | -     | 5812  | 9356  | 12900 | 16444 | 19987 | 23531 | (Series S / Max Shell Pressure 120 psig) |       |       |       |
|              | End                    | 10395     | End                  | -     | -     | -     | 6851  | 10395 | 13939 | 17483 | 21026 | 24570 | (Series A / Max Shell Pressure 175 psig) |       |       |       |
| 270U-S090    | Start                  | 19746     | Start                | -     | -     | -     | -     | 16202 | 19746 | 23290 | 26834 | 30377 | Maximum Operating Pressure 160 psig      |       |       |       |
|              | Min                    | 10524     | Min                  | -     | -     | -     | -     | 6980  | 10524 | 14068 | 17612 | 21155 | (Series S / Max Shell Pressure 120 psig) |       |       |       |
|              | End                    | 11693     | End                  | -     | -     | -     | -     | 8149  | 11693 | 15237 | 18781 | 22324 | (Series A / Max Shell Pressure 175 psig) |       |       |       |
| 270U-S100    | Start                  | 21940     | Start                | -     | -     | -     | -     | -     | 18396 | 21940 | 25484 | 29028 | Maximum Operating Pressure 160 psig      |       |       |       |
|              | Min                    | 11693     | Min                  | -     | -     | -     | -     | -     | 8149  | 11693 | 15237 | 18781 | (Series S / Max Shell Pressure 120 psig) |       |       |       |
|              | End                    | 12992     | End                  | -     | -     | -     | -     | -     | 9448  | 12992 | 16536 | 20080 | (Series A / Max Shell Pressure 175 psig) |       |       |       |
| 344U-S040    | Start                  | 10970     | Start                | 10970 | 15498 | 20026 | 24554 | 29082 | 33611 | 38139 | 42667 | 47195 | Maximum Operating Pressure 120 psig      |       |       |       |
|              | Min                    | 5686      | Min                  | 5686  | 10214 | 14742 | 19270 | 23798 | 28327 | 32855 | 37383 | 41911 | (Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | End                    | 6318      | End                  | 6318  | 10846 | 15374 | 19902 | 24430 | 28959 | 33487 | 38015 | 42543 |  |       |       |       |
| 344U-S050    | Start                  | 13160     | Start                | -     | 13160 | 17688 | 22216 | 26744 | 31272 | 35801 | 40329 | 44857 | Maximum Operating Pressure 120 psig      |       |       |       |
|              | Min                    | 6827      | Min                  | -     | 6827  | 11355 | 15883 | 20411 | 24939 | 29468 | 33996 | 38524 | (Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | End                    | 7586      | End                  | -     | 7586  | 12114 | 16642 | 21170 | 25698 | 30227 | 34755 | 39283 |  |       |       |       |
| 344U-S060    | Start                  | 15355     | Start                | -     | -     | 15355 | 19883 | 24411 | 28939 | 33467 | 37996 | 42524 | Maximum Operating Pressure 120 psig      |       |       |       |
|              | Min                    | 7964      | Min                  | -     | -     | 7964  | 12492 | 17020 | 21548 | 26076 | 30605 | 35133 | (Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | End                    | 8849      | End                  | -     | -     | 8849  | 13377 | 17905 | 22433 | 26961 | 31490 | 36018 |  |       |       |       |
| 344U-S070    | Start                  | 19746     | Start                | -     | -     | 15218 | 19746 | 24274 | 28802 | 33330 | 37858 | 42387 | Maximum Operating Pressure 120 psig      |       |       |       |
|              | Min                    | 10236     | Min                  | -     | -     | 5708  | 10236 | 14764 | 19292 | 23820 | 28348 | 32877 | (Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | End                    | 11373     | End                  | -     | -     | 6845  | 11373 | 15901 | 20429 | 24957 | 29485 | 34014 |  |       |       |       |
| 344U-S080    | Start                  | 21940     | Start                | -     | -     | -     | 17412 | 21940 | 26468 | 30996 | 35524 | 40052 | Maximum Operating Pressure 120 psig      |       |       |       |
|              | Min                    | 11373     | Min                  | -     | -     | -     | 6845  | 11373 | 15901 | 20429 | 24957 | 29485 | (Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | End                    | 12637     | End                  | -     | -     | -     | 8109  | 12637 | 17165 | 21693 | 26221 | 30749 |  |       |       |       |

Note: For Fail Open operation replace last "0" of spring code with "1" (i.e. -S040 becomes S041)



**Series A/ B/ C/ S: Models 003 - 7114**  
**Spring Return Fail Closed and Fail Open**  
**Symmetrical Yoke Design**

| Model Number                      | Spring torques lb. in. | Torque at | Air torques lb. in.  |       |       |       |       |       |       |       |       |  |       |       |       |
|-----------------------------------|------------------------|-----------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|--|-------|-------|-------|
|                                   |                        |           | Supply Pressure psig |       |       |       |       |       |       |       |       |  |       |       |       |
|                                   |                        |           | 40                   | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130                                      | 140   | 150   | 160   |
| 345U-S090                         | Start                  | 23890     | -                    | -     | -     | -     | 19362 | 23890 | 28418 | 32946 | 37474 | Maximum Operating Pressure 120 psig      |       |       |       |
|                                   | Min                    | 12384     | -                    | -     | -     | -     | 7856  | 12384 | 16912 | 21440 | 25968 | (Series A / Max Shell Pressure 175 psig) |       |       |       |
|                                   | End                    | 13760     | -                    | -     | -     | -     | 9232  | 13760 | 18288 | 22816 | 27344 |  |       |       |       |
| 345U-S100                         | Start                  | 27300     | -                    | -     | -     | -     | -     | 22772 | 27300 | 31828 | 36356 | Maximum Operating Pressure 120 psig      |       |       |       |
|                                   | Min                    | 14156     | -                    | -     | -     | -     | -     | 9628  | 14156 | 18684 | 23212 | (Series A / Max Shell Pressure 175 psig) |       |       |       |
|                                   | End                    | 15729     | -                    | -     | -     | -     | -     | 11201 | 15729 | 20257 | 24785 |  |       |       |       |
| 345U-S110                         | Start                  | 30705     | -                    | -     | -     | -     | -     | -     | 26177 | 30705 | 35233 | Maximum Operating Pressure 120 psig      |       |       |       |
|                                   | Min                    | 15928     | -                    | -     | -     | -     | -     | -     | 11400 | 15928 | 20456 | (Series A / Max Shell Pressure 175 psig) |       |       |       |
|                                   | End                    | 17698     | -                    | -     | -     | -     | -     | -     | 13170 | 17698 | 22226 |  |       |       |       |
| 345U-S120                         | Start                  | 30705     | -                    | -     | -     | -     | -     | -     | 26177 | 30705 | 35233 | Maximum Operating Pressure 120 psig      |       |       |       |
|                                   | Min                    | 15928     | -                    | -     | -     | -     | -     | -     | 11400 | 15928 | 20456 | (Series A / Max Shell Pressure 175 psig) |       |       |       |
|                                   | End                    | 17698     | -                    | -     | -     | -     | -     | -     | 13170 | 17698 | 22226 |  |       |       |       |
| 345U-S130                         | Start                  | 34120     | -                    | -     | -     | -     | -     | -     | -     | -     | 29592 | Maximum Operating Pressure 120 psig      |       |       |       |
|                                   | Min                    | 17700     | -                    | -     | -     | -     | -     | -     | -     | -     | 13172 | (Series A / Max Shell Pressure 175 psig) |       |       |       |
|                                   | End                    | 19667     | -                    | -     | -     | -     | -     | -     | -     | -     | 15139 |  |       |       |       |
| 370U-S040<br>Series B/C/S<br>Only | Start                  | 12025     | 12025                | 16974 | 21923 | 26871 | 31820 | 36769 | 41718 | 46667 | 51615 | 56564                                    | 61513 | 66462 | 71411 |
|                                   | Min                    | 6701      | 6701                 | 11650 | 16599 | 21547 | 26496 | 31445 | 36394 | 41343 | 46291 | 51240                                    | 56189 | 61138 | 66087 |
|                                   | End                    | 7446      | 7446                 | 12395 | 17344 | 22292 | 27241 | 32190 | 37139 | 42088 | 47036 | 51985                                    | 56934 | 61883 | 66832 |
| 370U-S050<br>Series B/C/S<br>Only | Start                  | 15030     | -                    | 15030 | 19979 | 24928 | 29876 | 34825 | 39774 | 44723 | 49672 | 54620                                    | 59569 | 64518 | 69467 |
|                                   | Min                    | 9403      | -                    | 9403  | 14352 | 19301 | 24249 | 29198 | 34147 | 39096 | 44045 | 48993                                    | 53942 | 58891 | 63840 |
|                                   | End                    | 10448     | -                    | 10448 | 15397 | 20346 | 25294 | 30243 | 35192 | 40141 | 45090 | 50038                                    | 54987 | 59936 | 64885 |
| 370U-S060<br>Series B/C/S<br>Only | Start                  | 18040     | -                    | -     | 18040 | 22989 | 27938 | 32886 | 37835 | 42784 | 47733 | 52682                                    | 57630 | 62579 | 67528 |
|                                   | Min                    | 10050     | -                    | -     | 10050 | 14999 | 19948 | 24896 | 29845 | 34794 | 39743 | 44692                                    | 49640 | 54589 | 59538 |
|                                   | End                    | 11167     | -                    | -     | 11167 | 16116 | 21065 | 26013 | 30962 | 35911 | 40860 | 45809                                    | 50757 | 55706 | 60655 |
| 370U-S070<br>Series B/C/S<br>Only | Start                  | 21045     | -                    | -     | 16096 | 21045 | 25994 | 30943 | 35891 | 40840 | 45789 | 50738                                    | 55687 | 60635 | 65584 |
|                                   | Min                    | 11727     | -                    | -     | 6778  | 11727 | 16676 | 21625 | 26573 | 31522 | 36471 | 41420                                    | 46369 | 51317 | 56266 |
|                                   | End                    | 13030     | -                    | -     | 8081  | 13030 | 17979 | 22928 | 27876 | 32825 | 37774 | 42723                                    | 47672 | 52620 | 57569 |
| 370U-S080<br>Series B/C/S<br>Only | Start                  | 24050     | -                    | -     | -     | 19101 | 24050 | 28999 | 33948 | 38896 | 43845 | 48794                                    | 53743 | 58692 | 63640 |
|                                   | Min                    | 13404     | -                    | -     | -     | 8455  | 13404 | 18353 | 23302 | 28250 | 33199 | 38148                                    | 43097 | 48046 | 52994 |
|                                   | End                    | 14893     | -                    | -     | -     | 9944  | 14893 | 19842 | 24791 | 29739 | 34688 | 39637                                    | 44586 | 49535 | 54483 |
| 370U-S090<br>Series B/C/S<br>Only | Start                  | 27055     | -                    | -     | -     | -     | 22106 | 27055 | 32004 | 36953 | 41901 | 46850                                    | 51799 | 56748 | 61697 |
|                                   | Min                    | 15080     | -                    | -     | -     | -     | 10131 | 15080 | 20029 | 24978 | 29926 | 34875                                    | 39824 | 44773 | 49722 |
|                                   | End                    | 16756     | -                    | -     | -     | -     | 11807 | 16756 | 21705 | 26654 | 31602 | 36551                                    | 41500 | 46449 | 51398 |
| 370U-S100<br>Series B/C/S<br>Only | Start                  | 30060     | -                    | -     | -     | -     | -     | 25111 | 30060 | 35009 | 39958 | 44906                                    | 49855 | 54804 | 59753 |
|                                   | Min                    | 16757     | -                    | -     | -     | -     | -     | 11808 | 16757 | 21706 | 26655 | 31603                                    | 36552 | 41501 | 46450 |
|                                   | End                    | 18619     | -                    | -     | -     | -     | -     | 13670 | 18619 | 23568 | 28517 | 33465                                    | 38414 | 43363 | 48312 |
| 370U-S120<br>Series B/C/S<br>Only | Start                  | 36075     | -                    | -     | -     | -     | -     | -     | 31126 | 36075 | 41024 | 45973                                    | 50921 | 55870 |       |
|                                   | Min                    | 20105     | -                    | -     | -     | -     | -     | -     | 15156 | 20105 | 25054 | 30003                                    | 34951 | 39900 |       |
|                                   | End                    | 22339     | -                    | -     | -     | -     | -     | -     | 17390 | 22339 | 27288 | 32237                                    | 37185 | 42134 |       |
| 370U-S140<br>Series B/C/S<br>Only | Start                  | 42090     | -                    | -     | -     | -     | -     | -     | -     | -     | 37141 | 42090                                    | 47039 | 51988 |       |
|                                   | Min                    | 23453     | -                    | -     | -     | -     | -     | -     | -     | -     | 18504 | 23453                                    | 28402 | 33351 |       |
|                                   | End                    | 26059     | -                    | -     | -     | -     | -     | -     | -     | -     | 21110 | 26059                                    | 31008 | 35957 |       |
| 370U-S160<br>Series B/C/S<br>Only | Start                  | 48100     | -                    | -     | -     | -     | -     | -     | -     | -     | -     | -  | -     | 43151 | 48100 |
|                                   | Min                    | 26807     | -                    | -     | -     | -     | -     | -     | -     | -     | -     | -  | -     | 21858 | 26807 |
|                                   | End                    | 29785     | -                    | -     | -     | -     | -     | -     | -     | -     | -     | -  | -     | 24836 | 29785 |
| 420U-S040                         | Start                  | 13650     | 13650                | 19425 | 25200 | 30975 | 36750 | 42525 | -     | -     | -     | -  | -     | -     | -     |
|                                   | Min                    | 6946      | 6946                 | 12721 | 18496 | 24271 | 30046 | 35821 | -     | -     | -     | -  | -     | -     | -     |
|                                   | End                    | 7718      | 7718                 | 13493 | 19268 | 25043 | 30818 | 36593 | -     | -     | -     | -  | -     | -     | -     |
| 420U-S050                         | Start                  | 17060     | -                    | 17060 | 22835 | 28610 | 34385 | 40160 | -     | -     | -     | -  | -     | -     | -     |
|                                   | Min                    | 8685      | -                    | 8685  | 14460 | 20235 | 26010 | 31785 | -     | -     | -     | -  | -     | -     | -     |
|                                   | End                    | 9650      | -                    | 9650  | 15425 | 21200 | 26975 | 32750 | -     | -     | -     | -  | -     | -     | -     |
| 420U-S060                         | Start                  | 20475     | -                    | -     | 20475 | 26250 | 32025 | 37800 | 43575 | -     | -     | -  | -     | -     | -     |
|                                   | Min                    | 10418     | -                    | -     | 10418 | 16193 | 21968 | 27743 | 33518 | -     | -     | -  | -     | -     | -     |
|                                   | End                    | 11576     | -                    | -     | 11576 | 17351 | 23126 | 28901 | 34676 | -     | -     | -  | -     | -     | -     |
| 420U-S070                         | Start                  | 23890     | -                    | -     | 18115 | 23890 | 29665 | 35440 | 41215 | -     | -     | -  | -     | -     | -     |
|                                   | Min                    | 12153     | -                    | -     | 6378  | 12153 | 17928 | 23703 | 29478 | -     | -     | -  | -     | -     | -     |
|                                   | End                    | 13503     | -                    | -     | 7728  | 13503 | 19278 | 25053 | 30828 | -     | -     | -  | -     | -     | -     |
| 420U-S080                         | Start                  | 27300     | -                    | -     | -     | 21525 | 27300 | 33075 | 38850 | -     | -     | -  | -     | -     | -     |
|                                   | Min                    | 13892     | -                    | -     | -     | 8117  | 13892 | 19667 | 25442 | -     | -     | -  | -     | -     | -     |
|                                   | End                    | 15435     | -                    | -     | -     | 9660  | 15435 | 21210 | 26985 | -     | -     | -  | -     | -     | -     |

Note: For Fail Open operation replace last "0" of spring code with "1" (i.e. -S040 becomes S041)



**Series A/ B/ C/ S: Models 003 - 7114**  
**Spring Return Fail Closed and Fail Open**  
**Symmetrical Yoke Design**

| Model Number                      | Spring torques lb. in. | Torque at | Air torques lb. in.  |       |       |       |       |       |        |        |        |  |       |        |        |       |
|-----------------------------------|------------------------|-----------|----------------------|-------|-------|-------|-------|-------|--------|--------|--------|--|-------|--------|--------|-------|
|                                   |                        |           | Supply Pressure psig |       |       |       |       |       |        |        |        |  |       |        |        |       |
|                                   |                        |           | 40                   | 50    | 60    | 70    | 80    | 90    | 100    | 110    | 120    | 130                                    | 140   | 150    | 160    |       |
| 420U-S090                         | Start                  | 30705     | -                    | -     | -     | -     | 24930 | 30705 | 36480  | 42255  | -      | -                                      | -     | -      | -      |       |
|                                   | Min                    | 15630     | -                    | -     | -     | -     | 9855  | 15630 | 21405  | 27180  | -      | -                                      | -     | -      | -      |       |
|                                   | End                    | 17367     | -                    | -     | -     | -     | 11592 | 17367 | 23142  | 28917  | -      | -                                      | -     | -      | -      |       |
| 420U-S100                         | Start                  | 34120     | -                    | -     | -     | -     | -     | 28345 | 34120  | 39895  | -      | -                                      | -     | -      | -      |       |
|                                   | Min                    | 17369     | -                    | -     | -     | -     | -     | 11594 | 17369  | 23144  | -      | -                                      | -     | -      | -      |       |
|                                   | End                    | 19299     | -                    | -     | -     | -     | -     | 13524 | 19299  | 25074  | -      | -                                      | -     | -      | -      |       |
| 575U-S040<br>Series B/C/S<br>Only | Start                  | 18690     | 18690                | 26668 | 34646 | 42624 | 50602 | 58581 | 66559  | 74537  | 82515  | 90493                                  | 98471 | 106449 | 114427 |       |
|                                   | Min                    | 9507      | 9507                 | 17485 | 25463 | 33441 | 41419 | 49398 | 57376  | 65354  | 73332  | 81310                                  | 89288 | 97266  | 105244 |       |
|                                   | End                    | 10563     | 10563                | 18541 | 26519 | 34497 | 42475 | 50454 | 58432  | 66410  | 74388  | 82366                                  | 90344 | 98322  | 106300 |       |
| 575U-S050<br>Series B/C/S<br>Only | Start                  | 23360     | -                    | 23360 | 31338 | 39316 | 47294 | 55272 | 63251  | 71229  | 79207  | 87185                                  | 95163 | 103141 | 111119 |       |
|                                   | Min                    | 11888     | -                    | 11888 | 19866 | 27844 | 35822 | 43800 | 51779  | 59757  | 67735  | 75713                                  | 83691 | 91669  | 99647  |       |
|                                   | End                    | 13209     | -                    | 13209 | 21187 | 29165 | 37143 | 45121 | 53100  | 61078  | 69056  | 77034                                  | 85012 | 92990  | 100968 |       |
| 575U-S060<br>Series B/C/S<br>Only | Start                  | 28030     | -                    | -     | 28030 | 36008 | 43986 | 51964 | 59942  | 67921  | 75899  | 83877                                  | 91855 | 99833  | 107811 |       |
|                                   | Min                    | 14261     | -                    | -     | 14261 | 22239 | 30217 | 38195 | 46173  | 54152  | 62130  | 70108                                  | 78086 | 86064  | 94042  |       |
|                                   | End                    | 15845     | -                    | -     | 15845 | 23823 | 31801 | 39779 | 47757  | 55736  | 63714  | 71692                                  | 79670 | 87648  | 95626  |       |
| 575U-S070<br>Series B/C/S<br>Only | Start                  | 32700     | -                    | -     | 24722 | 32700 | 40678 | 48656 | 56634  | 64612  | 72591  | 80569                                  | 88547 | 96525  | 104503 |       |
|                                   | Min                    | 16642     | -                    | -     | 8664  | 16642 | 24620 | 32598 | 40576  | 48554  | 56533  | 64511                                  | 72489 | 80467  | 88445  |       |
|                                   | End                    | 18491     | -                    | -     | 10513 | 18491 | 26469 | 34447 | 42425  | 50403  | 58382  | 66360                                  | 74338 | 82316  | 90294  |       |
| 575U-S080<br>Series B/C/S<br>Only | Start                  | 37375     | -                    | -     | -     | 29397 | 37375 | 45353 | 53331  | 61309  | 69287  | 77266                                  | 85244 | 93222  | 101200 |       |
|                                   | Min                    | 19018     | -                    | -     | -     | 11040 | 19018 | 26996 | 34974  | 42952  | 50930  | 58909                                  | 66887 | 74865  | 82843  |       |
|                                   | End                    | 21131     | -                    | -     | -     | 13153 | 21131 | 29109 | 37087  | 45065  | 53043  | 61022                                  | 69000 | 76978  | 84956  |       |
| 575U-S090<br>Series B/C/S<br>Only | Start                  | 42045     | -                    | -     | -     | -     | 34067 | 42045 | 50023  | 58001  | 65979  | 73957                                  | 81936 | 89914  | 97892  |       |
|                                   | Min                    | 21390     | -                    | -     | -     | -     | 13412 | 21390 | 29368  | 37346  | 45324  | 53302                                  | 61281 | 69259  | 77237  |       |
|                                   | End                    | 23767     | -                    | -     | -     | -     | 15789 | 23767 | 31745  | 39723  | 47701  | 55679                                  | 63658 | 71636  | 79614  |       |
| 575U-S100<br>Series B/C/S<br>Only | Start                  | 46720     | -                    | -     | -     | -     | -     | 38742 | 46720  | 54698  | 62676  | 70654                                  | 78632 | 86611  | 94589  |       |
|                                   | Min                    | 23767     | -                    | -     | -     | -     | -     | 15789 | 23767  | 31745  | 39723  | 47701                                  | 55679 | 63658  | 71636  |       |
|                                   | End                    | 26408     | -                    | -     | -     | -     | -     | 18430 | 26408  | 34386  | 42364  | 50342                                  | 58320 | 66299  | 74277  |       |
| 575U-S120<br>Series B/S<br>Only   | Start                  | 56060     | -                    | -     | -     | -     | -     | -     | -      | 48082  | 56060  | 64038                                  | 72016 | 79994  | 87972  |       |
|                                   | Min                    | 28530     | -                    | -     | -     | -     | -     | -     | -      | 20552  | 28530  | 36508                                  | 44486 | 52464  | 60442  |       |
|                                   | End                    | 31700     | -                    | -     | -     | -     | -     | -     | -      | 23722  | 31700  | 39678                                  | 47656 | 55634  | 63612  |       |
| 575U-S140<br>Series B/C/S<br>Only | Start                  | 65400     | -                    | -     | -     | -     | -     | -     | -      | -      | -      | -                                      | 57422 | 65400  | 73378  | 81356 |
|                                   | Min                    | 33283     | -                    | -     | -     | -     | -     | -     | -      | -      | -      | -                                      | 25305 | 33283  | 41261  | 49239 |
|                                   | End                    | 36981     | -                    | -     | -     | -     | -     | -     | -      | -      | -      | -                                      | 29003 | 36981  | 44959  | 52937 |
| 575U-S160<br>Series B/C/S<br>Only | Start                  | 74750     | -                    | -     | -     | -     | -     | -     | -      | -      | -      | -                                      | -     | 66772  | 74750  |       |
|                                   | Min                    | 38037     | -                    | -     | -     | -     | -     | -     | -      | -      | -      | -                                      | -     | 30059  | 38037  |       |
|                                   | End                    | 42263     | -                    | -     | -     | -     | -     | -     | -      | -      | -      | -                                      | -     | 34285  | 42263  |       |
| 740U-S040<br>Series B/C/S<br>Only | Start                  | 24050     | 24050                | 33763 | 43475 | 53188 | 62900 | 72613 | 82325  | 92038  | 101750 | Maximum Operating Pressure<br>120 psig |       |        |        |       |
|                                   | Min                    | 13404     | 13404                | 23117 | 32829 | 42542 | 52254 | 61967 | 71679  | 81392  | 91104  |  |       |        |        |       |
|                                   | End                    | 14893     | 14893                | 24606 | 34318 | 44031 | 53743 | 63456 | 73168  | 82881  | 92593  |  |       |        |        |       |
| 740U-S050<br>Series B/C/S<br>Only | Start                  | 30060     | -                    | 30060 | 39773 | 49485 | 59198 | 68910 | 78623  | 88335  | 98048  | Maximum Operating Pressure<br>120 psig |       |        |        |       |
|                                   | Min                    | 16757     | -                    | 16757 | 26470 | 36182 | 45895 | 55607 | 65320  | 75032  | 84745  |  |       |        |        |       |
|                                   | End                    | 18619     | -                    | 18619 | 28332 | 38044 | 47757 | 57469 | 67182  | 76894  | 86607  |  |       |        |        |       |
| 740U-S060<br>Series B/C/S<br>Only | Start                  | 36075     | -                    | -     | 36075 | 45788 | 55500 | 65213 | 74925  | 84638  | 94350  | Maximum Operating Pressure<br>120 psig |       |        |        |       |
|                                   | Min                    | 20105     | -                    | -     | 20105 | 29818 | 39530 | 49243 | 58955  | 68668  | 78380  |  |       |        |        |       |
|                                   | End                    | 22339     | -                    | -     | 22339 | 32052 | 41764 | 51477 | 61189  | 70902  | 80614  |  |       |        |        |       |
| 740U-S070<br>Series B/C/S<br>Only | Start                  | 42090     | -                    | -     | 32378 | 42090 | 51803 | 61515 | 71228  | 80940  | 90653  | Maximum Operating Pressure<br>120 psig |       |        |        |       |
|                                   | Min                    | 23453     | -                    | -     | 13741 | 23453 | 33166 | 42878 | 52591  | 62303  | 72016  |  |       |        |        |       |
|                                   | End                    | 26059     | -                    | -     | 16347 | 26059 | 35772 | 45484 | 55197  | 64909  | 74622  |  |       |        |        |       |
| 740U-S080<br>Series B/C/S<br>Only | Start                  | 48100     | -                    | -     | -     | 38388 | 48100 | 57813 | 67525  | 77238  | 86950  | Maximum Operating Pressure<br>120 psig |       |        |        |       |
|                                   | Min                    | 26807     | -                    | -     | -     | 17095 | 26807 | 36520 | 46232  | 55945  | 65657  |  |       |        |        |       |
|                                   | End                    | 29785     | -                    | -     | -     | 20073 | 29785 | 39498 | 49210  | 58923  | 68635  |  |       |        |        |       |
| 740U-S090<br>Series B/C/S<br>Only | Start                  | 54108     | -                    | -     | -     | -     | 44396 | 54108 | 63821  | 73533  | 83246  | Maximum Operating Pressure<br>120 psig |       |        |        |       |
|                                   | Min                    | 30163     | -                    | -     | -     | -     | 20451 | 30163 | 39876  | 49588  | 59301  |  |       |        |        |       |
|                                   | End                    | 33514     | -                    | -     | -     | -     | 23802 | 33514 | 43227  | 52939  | 62652  |  |       |        |        |       |
| 740U-S100<br>Series B/C/S<br>Only | Start                  | 60120     | -                    | -     | -     | -     | -     | 50408 | 60120  | 69833  | 79545  | Maximum Operating Pressure<br>120 psig |       |        |        |       |
|                                   | Min                    | 33514     | -                    | -     | -     | -     | -     | 23802 | 33514  | 43227  | 52939  |  |       |        |        |       |
|                                   | End                    | 37238     | -                    | -     | -     | -     | -     | 27526 | 37238  | 46951  | 56663  |  |       |        |        |       |
| 944U-S040<br>Series B/C/S<br>Only | Start                  | 30060     | 30060                | 42699 | 55339 | 67978 | 80618 | 93257 | 105896 | 118536 | -      | Maximum Operating Pressure<br>120 psig |       |        |        |       |
|                                   | Min                    | 15591     | 15591                | 28230 | 40869 | 53508 | 66147 | 78786 | 91425  | 104064 | -      |  |       |        |        |       |
|                                   | End                    | 17323     | 17323                | 29962 | 42602 | 55241 | 67881 | 80520 | 93159  | 105799 | -      |  |       |        |        |       |

Note: For Fail Open operation replace last "0" of spring code with "1" (i.e. -S040 becomes S041)



**Series A/ B/ C/ S: Models 003 - 7114**  
**Spring Return Fail Closed and Fail Open**  
**Symmetrical Yoke Design**

| Model Number                       | Spring torques lb. in. | Torque at | Air torques lb. in.  |       |       |       |        |        |        |        |        |        |                            |     |     |
|------------------------------------|------------------------|-----------|----------------------|-------|-------|-------|--------|--------|--------|--------|--------|--------|----------------------------|-----|-----|
|                                    |                        |           | Supply Pressure psig |       |       |       |        |        |        |        |        |        |                            |     |     |
|                                    |                        |           | 40                   | 50    | 60    | 70    | 80     | 90     | 100    | 110    | 120    | 130    | 140                        | 150 | 160 |
| 944U-S050<br>Series B/C/S<br>Only  | Start                  | 36075     | Start                | -     | 36075 | 48714 | 61354  | 73993  | 86633  | 99272  | 111911 | -      | Maximum Operating Pressure |     |     |
|                                    | Min                    | 18707     | Min                  | -     | 18707 | 31346 | 43985  | 56624  | 69263  | 81902  | 94541  | -      | 120 psig                   |     |     |
|                                    | End                    | 20785     | End                  | -     | 20785 | 33424 | 46064  | 58703  | 71343  | 83982  | 96621  | -      |                            |     |     |
| 944U-S060<br>Series B/C/S<br>Only  | Start                  | 42090     | Start                | -     | -     | 42090 | 54729  | 67369  | 80008  | 92648  | 105287 | 117926 | Maximum Operating Pressure |     |     |
|                                    | Min                    | 21821     | Min                  | -     | -     | 21821 | 34460  | 47099  | 59738  | 72377  | 85016  | 97655  | 120 psig                   |     |     |
|                                    | End                    | 24246     | End                  | -     | -     | 24246 | 36885  | 49525  | 62164  | 74804  | 87443  | 100082 |                            |     |     |
| 944U-S070<br>Series B/C/S<br>Only  | Start                  | 48100     | Start                | -     | -     | 35461 | 48100  | 60739  | 73379  | 86018  | 98658  | 111297 | Maximum Operating Pressure |     |     |
|                                    | Min                    | 24942     | Min                  | -     | -     | 12303 | 24942  | 37581  | 50220  | 62859  | 75498  | 88137  | 120 psig                   |     |     |
|                                    | End                    | 27713     | End                  | -     | -     | 15074 | 27713  | 40352  | 52992  | 65631  | 78271  | 90910  |                            |     |     |
| 945U-S080<br>Series B/C/S<br>Only  | Start                  | 56060     | Start                | -     | -     | -     | 43421  | 56060  | 68699  | 81339  | 93978  | 106618 | Maximum Operating Pressure |     |     |
|                                    | Min                    | 29073     | Min                  | -     | -     | -     | 17698  | 29073  | 41712  | 54352  | 66991  | 79631  | 120 psig                   |     |     |
|                                    | End                    | 32303     | End                  | -     | -     | -     | 19664  | 32303  | 44942  | 57582  | 70221  | 82861  |                            |     |     |
| 945U-S090<br>Series B/C/S<br>Only  | Start                  | 65400     | Start                | -     | -     | -     | -      | 52761  | 65400  | 78039  | 90679  | 103318 | Maximum Operating Pressure |     |     |
|                                    | Min                    | 33917     | Min                  | -     | -     | -     | -      | 21278  | 33917  | 46556  | 59196  | 71835  | 120 psig                   |     |     |
|                                    | End                    | 37685     | End                  | -     | -     | -     | -      | 25046  | 37685  | 50324  | 62964  | 75603  |                            |     |     |
| 945U-S100<br>Series B/C/S<br>Only  | Start                  | 74750     | Start                | -     | -     | -     | -      | -      | 62111  | 74750  | 87389  | 100029 | Maximum Operating Pressure |     |     |
|                                    | Min                    | 38761     | Min                  | -     | -     | -     | -      | -      | 26122  | 38761  | 51400  | 64040  | 120 psig                   |     |     |
|                                    | End                    | 43068     | End                  | -     | -     | -     | -      | -      | 30429  | 43068  | 55707  | 68347  |                            |     |     |
| 945U-S110<br>Series B/C/S<br>Only  | Start                  | 84090     | Start                | -     | -     | -     | -      | -      | -      | 71451  | 84090  | 96729  | Maximum Operating Pressure |     |     |
|                                    | Min                    | 43605     | Min                  | -     | -     | -     | -      | -      | -      | 30966  | 43605  | 56244  | 120 psig                   |     |     |
|                                    | End                    | 48450     | End                  | -     | -     | -     | -      | -      | -      | 35811  | 48450  | 61089  |                            |     |     |
| 945U-S120<br>Series B/C/S<br>Only  | Start                  | 84090     | Start                | -     | -     | -     | -      | -      | -      | 71451  | 84090  | 96729  | Maximum Operating Pressure |     |     |
|                                    | Min                    | 43605     | Min                  | -     | -     | -     | -      | -      | -      | 30966  | 43605  | 56244  | 120 psig                   |     |     |
|                                    | End                    | 48450     | End                  | -     | -     | -     | -      | -      | -      | 35811  | 48450  | 61089  |                            |     |     |
| 945U-S130<br>Series B/C/S<br>Only  | Start                  | 93440     | Start                | -     | -     | -     | -      | -      | -      | -      | -      | 80801  | Maximum Operating Pressure |     |     |
|                                    | Min                    | 51130     | Min                  | -     | -     | -     | -      | -      | -      | -      | -      | 38491  | 120 psig                   |     |     |
|                                    | End                    | 53821     | End                  | -     | -     | -     | -      | -      | -      | -      | -      | 41182  |                            |     |     |
| 1150U-S040<br>Series B/C/S<br>Only | Start                  | 37375     | Start                | 37375 | 53331 | 69287 | 85244  | 101200 | 117156 | -      | -      | -      | Maximum Operating Pressure |     |     |
|                                    | Min                    | 19018     | Min                  | 19018 | 34974 | 50930 | 66887  | 82843  | 98799  | -      | -      | -      | 120 psig                   |     |     |
|                                    | End                    | 21131     | End                  | 21131 | 37087 | 53043 | 69000  | 84956  | 100912 | -      | -      | -      |                            |     |     |
| 1150U-S050<br>Series B/C/S<br>Only | Start                  | 46720     | Start                | -     | 46720 | 62676 | 78632  | 94589  | 110545 | -      | -      | -      | Maximum Operating Pressure |     |     |
|                                    | Min                    | 23767     | Min                  | -     | 23767 | 39723 | 55679  | 71636  | 87592  | -      | -      | -      | 120 psig                   |     |     |
|                                    | End                    | 26408     | End                  | -     | 26408 | 42364 | 58320  | 74277  | 90233  | -      | -      | -      |                            |     |     |
| 1150U-S060<br>Series B/C/S<br>Only | Start                  | 56060     | Start                | -     | -     | 56060 | 72016  | 87972  | 103929 | 119885 | -      | -      | Maximum Operating Pressure |     |     |
|                                    | Min                    | 28530     | Min                  | -     | -     | 28530 | 44486  | 60442  | 76399  | 92355  | -      | -      | 120 psig                   |     |     |
|                                    | End                    | 31700     | End                  | -     | -     | 31700 | 47656  | 63612  | 79569  | 95525  | -      | -      |                            |     |     |
| 1150U-S070<br>Series B/C/S<br>Only | Start                  | 65400     | Start                | -     | -     | 49444 | 65400  | 81356  | 97312  | 113269 | -      | -      | Maximum Operating Pressure |     |     |
|                                    | Min                    | 33283     | Min                  | -     | -     | 17327 | 33283  | 49239  | 65195  | 81152  | -      | -      | 120 psig                   |     |     |
|                                    | End                    | 36981     | End                  | -     | -     | 21025 | 36981  | 52937  | 68893  | 84850  | -      | -      |                            |     |     |
| 1150U-S080<br>Series B/C/S<br>Only | Start                  | 74750     | Start                | -     | -     | -     | 58794  | 74750  | 90706  | 106662 | -      | -      | Maximum Operating Pressure |     |     |
|                                    | Min                    | 38037     | Min                  | -     | -     | -     | 22081  | 38037  | 53993  | 69949  | -      | -      | 120 psig                   |     |     |
|                                    | End                    | 42263     | End                  | -     | -     | -     | 26307  | 42263  | 58219  | 74175  | -      | -      |                            |     |     |
| 1150U-S090<br>Series B/C/S<br>Only | Start                  | 84090     | Start                | -     | -     | -     | -      | 68134  | 84090  | 100046 | 116002 | -      | Maximum Operating Pressure |     |     |
|                                    | Min                    | 42790     | Min                  | -     | -     | -     | -      | 26834  | 42790  | 58746  | 74702  | -      | 120 psig                   |     |     |
|                                    | End                    | 47544     | End                  | -     | -     | -     | -      | 31588  | 47544  | 63500  | 79456  | -      |                            |     |     |
| 1150U-S100<br>Series B/C/S<br>Only | Start                  | 93440     | Start                | -     | -     | -     | -      | -      | 77484  | 93440  | 109396 | -      | Maximum Operating Pressure |     |     |
|                                    | Min                    | 47534     | Min                  | -     | -     | -     | -      | -      | 31578  | 47534  | 63490  | -      | 120 psig                   |     |     |
|                                    | End                    | 52815     | End                  | -     | -     | -     | -      | -      | 36859  | 52815  | 68771  | -      |                            |     |     |
| 1480U-S040<br>Series S Only        | Start                  | 48100     | Start                | 48100 | 66600 | 85100 | 103600 | 122100 | 140600 | 159100 | 177600 | 196100 | Maximum Operating Pressure |     |     |
|                                    | Min                    | 23310     | Min                  | 23310 | 41810 | 60310 | 78810  | 97310  | 115810 | 134310 | 152810 | 171310 | 120 psig                   |     |     |
|                                    | End                    | 25900     | End                  | 25900 | 44400 | 62900 | 81400  | 99900  | 118400 | 136900 | 155400 | 173900 |                            |     |     |
| 1480U-S050<br>Series S Only        | Start                  | 60125     | Start                | -     | 60125 | 78625 | 97125  | 115625 | 134125 | 152625 | 171125 | 189625 | Maximum Operating Pressure |     |     |
|                                    | Min                    | 29138     | Min                  | -     | 29138 | 47638 | 66138  | 84638  | 103138 | 121638 | 140138 | 158638 | 120 psig                   |     |     |
|                                    | End                    | 32375     | End                  | -     | 32375 | 50875 | 69375  | 87875  | 106375 | 124875 | 143375 | 161875 |                            |     |     |
| 1480U-S060<br>Series S Only        | Start                  | 72150     | Start                | -     | -     | 72150 | 90650  | 109150 | 127650 | 146150 | 164650 | 183150 | Maximum Operating Pressure |     |     |
|                                    | Min                    | 34965     | Min                  | -     | -     | 34965 | 53465  | 71965  | 90465  | 108965 | 127465 | 145965 | 120 psig                   |     |     |
|                                    | End                    | 38850     | End                  | -     | -     | 38850 | 57350  | 75850  | 94350  | 112850 | 131350 | 149850 |                            |     |     |
| 1480U-S070<br>Series S Only        | Start                  | 84175     | Start                | -     | -     | 65675 | 84175  | 102675 | 121175 | 139675 | 158175 | 176675 | Maximum Operating Pressure |     |     |
|                                    | Min                    | 40712     | Min                  | -     | -     | 22212 | 40712  | 59212  | 77712  | 96212  | 114712 | 133212 | 120 psig                   |     |     |
|                                    | End                    | 45235     | End                  | -     | -     | 26735 | 45235  | 63735  | 82235  | 100735 | 119235 | 137735 |                            |     |     |

Note: For Fail Open operation replace last "0" of spring code with "1" (i.e. -S040 becomes S041)



**Series A/ B/ C/ S: Models 003 - 7114**  
**Spring Return Fail Closed and Fail Open**  
**Symmetrical Yoke Design**

| Model Number                  | Spring torques lb. in. | Torque at | Air torques lb. in.  |       |        |        |        |        |        |        |        |        |                            |     |     |  |
|-------------------------------|------------------------|-----------|----------------------|-------|--------|--------|--------|--------|--------|--------|--------|--------|----------------------------|-----|-----|--|
|                               |                        |           | Supply Pressure psig |       |        |        |        |        |        |        |        |        |                            |     |     |  |
|                               |                        |           | 40                   | 50    | 60     | 70     | 80     | 90     | 100    | 110    | 120    | 130    | 140                        | 150 | 160 |  |
| 1480U-S080<br>Series S Only   | Start                  | 96200     | Start                | -     | -      | -      | 77700  | 96200  | 114700 | 133200 | 151700 | 170200 | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 46620     | Min                  | -     | -      | -      | 28120  | 46620  | 65120  | 83620  | 102120 | 120620 | 120 psig                   |     |     |  |
|                               | End                    | 51800     | End                  | -     | -      | -      | 33300  | 51800  | 70300  | 88800  | 107300 | 125800 |                            |     |     |  |
| 1480U-S090<br>Series S Only   | Start                  | 108225    | Start                | -     | -      | -      | -      | 89725  | 108225 | 126725 | 145225 | 163725 | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 52448     | Min                  | -     | -      | -      | -      | 33948  | 52448  | 70948  | 89448  | 107948 | 120 psig                   |     |     |  |
|                               | End                    | 58275     | End                  | -     | -      | -      | -      | 39775  | 58275  | 76775  | 95275  | 113775 |                            |     |     |  |
| 1480U-S100<br>Series S Only   | Start                  | 120250    | Start                | -     | -      | -      | -      | -      | 101750 | 120250 | 138750 | 157250 | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 60705     | Min                  | -     | -      | -      | -      | -      | 42205  | 60705  | 79205  | 97705  | 120 psig                   |     |     |  |
|                               | End                    | 67450     | End                  | -     | -      | -      | -      | -      | 48950  | 67450  | 85950  | 104450 |                            |     |     |  |
| 1485U-S040<br>Series B/C Only | Start                  | 54247     | Start                | 54247 | 75437  | 96627  | 117817 | 139007 | 160197 | 181387 | 202577 | 223767 | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 26700     | Min                  | 26700 | 47890  | 69080  | 90270  | 111460 | 132650 | 153840 | 175030 | 196220 | 120 psig                   |     |     |  |
|                               | End                    | 29666     | End                  | 29666 | 50856  | 72046  | 93236  | 114426 | 135616 | 156806 | 177996 | 199186 |                            |     |     |  |
| 1485U-S050<br>Series B/C Only | Start                  | 67809     | Start                | 46619 | 67809  | 88999  | 110189 | 131379 | 152569 | 173759 | 194949 | 216139 | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 33375     | Min                  | 12185 | 33375  | 54565  | 75755  | 96945  | 118135 | 139325 | 160515 | 181705 | 120 psig                   |     |     |  |
|                               | End                    | 37083     | End                  | 15893 | 37083  | 58273  | 79463  | 100653 | 121843 | 143033 | 164223 | 185413 |                            |     |     |  |
| 1485U-S060<br>Series B/C Only | Start                  | 81371     | Start                | -     | 60181  | 81371  | 102561 | 123751 | 144941 | 166131 | 187321 | 208511 | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 40050     | Min                  | -     | 18860  | 40050  | 61240  | 82430  | 103620 | 124810 | 146000 | 167190 | 120 psig                   |     |     |  |
|                               | End                    | 44500     | End                  | -     | 23310  | 44500  | 65690  | 86880  | 108070 | 129260 | 150450 | 171640 |                            |     |     |  |
| 1485U-S070<br>Series B/C Only | Start                  | 94933     | Start                | -     | -      | 73743  | 94933  | 116123 | 137313 | 158503 | 179693 | 200883 | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 46725     | Min                  | -     | -      | 25535  | 46725  | 67915  | 89105  | 110295 | 131485 | 152675 | 120 psig                   |     |     |  |
|                               | End                    | 51916     | End                  | -     | -      | 30726  | 51916  | 73106  | 94296  | 115486 | 136676 | 157866 |                            |     |     |  |
| 1485U-S080<br>Series B/C Only | Start                  | 108494    | Start                | -     | -      | -      | 87304  | 108494 | 129684 | 150874 | 172064 | 193254 | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 53400     | Min                  | -     | -      | -      | 32210  | 53400  | 74590  | 95780  | 116970 | 138160 | 120 psig                   |     |     |  |
|                               | End                    | 59333     | End                  | -     | -      | -      | 38143  | 59333  | 80523  | 101713 | 122903 | 144093 |                            |     |     |  |
| 1485U-S090<br>Series B/C Only | Start                  | 122056    | Start                | -     | -      | -      | -      | 100866 | 122056 | 143246 | 164436 | 185626 | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 60075     | Min                  | -     | -      | -      | -      | 38885  | 60075  | 81265  | 102455 | 123645 | 120 psig                   |     |     |  |
|                               | End                    | 66750     | End                  | -     | -      | -      | -      | 45560  | 66750  | 87940  | 109130 | 130320 |                            |     |     |  |
| 1485U-S100<br>Series B/C Only | Start                  | 135618    | Start                | -     | -      | -      | -      | -      | 114428 | 135618 | 156808 | 177998 | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 66750     | Min                  | -     | -      | -      | -      | -      | 45560  | 66750  | 87940  | 109130 | 120 psig                   |     |     |  |
|                               | End                    | 74166     | End                  | -     | -      | -      | -      | -      | 52976  | 74166  | 95356  | 116546 |                            |     |     |  |
| 1934U-S040<br>Series B/C Only | Start                  | 67809     | Start                | 67809 | 95452  | 123095 | 150738 | 178381 | 206024 | 233667 | 261310 | 288953 | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 33375     | Min                  | 33375 | 61018  | 88661  | 116304 | 143947 | 171590 | 199233 | 226876 | 254519 | 120 psig                   |     |     |  |
|                               | End                    | 37083     | End                  | 37083 | 64726  | 92369  | 120012 | 147655 | 175298 | 202941 | 230584 | 258227 |                            |     |     |  |
| 1934U-S050<br>Series B/C Only | Start                  | 81371     | Start                | 53728 | 81371  | 109014 | 136657 | 164300 | 191943 | 219586 | 247229 | 274872 | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 40050     | Min                  | 12407 | 40050  | 67693  | 95336  | 122979 | 150622 | 178265 | 205908 | 233551 | 120 psig                   |     |     |  |
|                               | End                    | 44500     | End                  | 16857 | 44500  | 72143  | 99786  | 127429 | 155072 | 182715 | 210358 | 238001 |                            |     |     |  |
| 1934U-S060<br>Series B/C Only | Start                  | 94933     | Start                | -     | 67290  | 94933  | 122576 | 150219 | 177862 | 205505 | 233148 | 260791 | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 46725     | Min                  | -     | 19082  | 46725  | 74368  | 102011 | 129654 | 157297 | 184940 | 212583 | 120 psig                   |     |     |  |
|                               | End                    | 51916     | End                  | -     | 24273  | 51916  | 79559  | 107202 | 134845 | 162488 | 190131 | 217774 |                            |     |     |  |
| 1934U-S070<br>Series B/C Only | Start                  | 122056    | Start                | -     | -      | 94413  | 122056 | 149699 | 177342 | 204985 | 232628 | 260271 | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 60075     | Min                  | -     | -      | 32432  | 60075  | 87718  | 115361 | 143004 | 170647 | 198290 | 120 psig                   |     |     |  |
|                               | End                    | 66750     | End                  | -     | -      | 39107  | 66750  | 94393  | 122036 | 149679 | 177322 | 204965 |                            |     |     |  |
| 1935U-S080<br>Series B/C Only | Start                  | 132974    | Start                | -     | -      | -      | 105331 | 132974 | 160617 | 188260 | 215903 | 243546 | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 64441     | Min                  | -     | -      | -      | 36798  | 64441  | 92084  | 119727 | 147370 | 175013 | 120 psig                   |     |     |  |
|                               | End                    | 71601     | End                  | -     | -      | -      | 43958  | 71601  | 99244  | 126887 | 154530 | 182173 |                            |     |     |  |
| 1935U-S090<br>Series B/C Only | Start                  | 155136    | Start                | -     | -      | -      | -      | 127493 | 155136 | 182779 | 210422 | 238065 | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 75182     | Min                  | -     | -      | -      | -      | 47539  | 75182  | 102825 | 130468 | 158111 | 120 psig                   |     |     |  |
|                               | End                    | 83535     | End                  | -     | -      | -      | -      | 55892  | 83535  | 111178 | 138821 | 166464 |                            |     |     |  |
| 1935U-S100<br>Series B/C Only | Start                  | 177299    | Start                | -     | -      | -      | -      | -      | 149656 | 177299 | 204942 | 232585 | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 85922     | Min                  | -     | -      | -      | -      | -      | 58279  | 85922  | 113565 | 141208 | 120 psig                   |     |     |  |
|                               | End                    | 95469     | End                  | -     | -      | -      | -      | -      | 67826  | 95469  | 123112 | 150755 |                            |     |     |  |
| 1935U-S110<br>Series B/C Only | Start                  | 199461    | Start                | -     | -      | -      | -      | -      | -      | 171818 | 199461 | 227104 | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 96662     | Min                  | -     | -      | -      | -      | -      | -      | 69019  | 96662  | 124305 | 120 psig                   |     |     |  |
|                               | End                    | 107402    | End                  | -     | -      | -      | -      | -      | -      | 79759  | 107402 | 135045 |                            |     |     |  |
| 1935U-S120<br>Series B/C Only | Start                  | 199461    | Start                | -     | -      | -      | -      | -      | -      | -      | 171818 | 199461 | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 96662     | Min                  | -     | -      | -      | -      | -      | -      | -      | 69019  | 96662  | 120 psig                   |     |     |  |
|                               | End                    | 107402    | End                  | -     | -      | -      | -      | -      | -      | -      | 79759  | 107402 |                            |     |     |  |
| 2380U-S040<br>Series S Only   | Start                  | 77350     | Start                | 77350 | 107100 | 136850 | 166600 | 196350 | 226100 | -      | -      | -      | Maximum Operating Pressure |     |     |  |
|                               | Min                    | 37485     | Min                  | 37485 | 67235  | 96985  | 126735 | 156485 | 186235 | -      | -      | -      | 120 psig                   |     |     |  |
|                               | End                    | 41650     | End                  | 41650 | 71400  | 101150 | 130900 | 160650 | 190400 | -      | -      | -      |                            |     |     |  |

Note: For Fail Open operation replace last "0" of spring code with "1" (i.e. -S040 becomes S041)



**Series A/ B/ C/ S: Models 003 - 7114**  
**Spring Return Fail Closed and Fail Open**  
**Symmetrical Yoke Design**

| Model Number                  | Spring torques lb. in. | Torque at | Air torques lb. in.  |        |        |        |        |        |        |        |        |                            |     |     |     |
|-------------------------------|------------------------|-----------|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|----------------------------|-----|-----|-----|
|                               |                        |           | Supply Pressure psig |        |        |        |        |        |        |        |        |                            |     |     |     |
|                               |                        |           | 40                   | 50     | 60     | 70     | 80     | 90     | 100    | 110    | 120    | 130                        | 140 | 150 | 160 |
| 2380U-S050<br>Series S Only   | Start                  | 96688     | -                    | 96688  | 126438 | 156188 | 185938 | 215688 | -      | -      | -      | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 46857     | -                    | 46857  | 76607  | 106357 | 136107 | 165857 | -      | -      | -      | 120 psig                   |     |     |     |
|                               | End                    | 52063     | -                    | 52063  | 81813  | 111563 | 141313 | 171063 | -      | -      | -      |                            |     |     |     |
| 2380U-S060<br>Series S Only   | Start                  | 116025    | -                    | -      | 116025 | 145775 | 175525 | 205275 | 235025 | -      | -      | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 56228     | -                    | -      | 56228  | 85978  | 115728 | 145478 | 175228 | -      | -      | 120 psig                   |     |     |     |
|                               | End                    | 62475     | -                    | -      | 62475  | 92225  | 121975 | 151725 | 181475 | -      | -      |                            |     |     |     |
| 2380U-S070<br>Series S Only   | Start                  | 135363    | -                    | -      | 105613 | 135363 | 165113 | 194863 | 224613 | -      | -      | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 65599     | -                    | -      | 35849  | 65599  | 95349  | 125099 | 154849 | -      | -      | 120 psig                   |     |     |     |
|                               | End                    | 72888     | -                    | -      | 43138  | 72888  | 102638 | 132388 | 162138 | -      | -      |                            |     |     |     |
| 2380U-S080<br>Series S Only   | Start                  | 154700    | -                    | -      | -      | 124950 | 154700 | 184450 | 214200 | -      | -      | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 74970     | -                    | -      | -      | 45220  | 74970  | 104720 | 134470 | -      | -      | 120 psig                   |     |     |     |
|                               | End                    | 83300     | -                    | -      | -      | 53550  | 83300  | 113050 | 142800 | -      | -      |                            |     |     |     |
| 2380U-S090<br>Series S Only   | Start                  | 174038    | -                    | -      | -      | -      | 144288 | 174038 | 203788 | 233538 | -      | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 84342     | -                    | -      | -      | -      | 54592  | 84342  | 114092 | 143842 | -      | 120 psig                   |     |     |     |
|                               | End                    | 93713     | -                    | -      | -      | -      | 63963  | 93713  | 123463 | 153213 | -      |                            |     |     |     |
| 2380U-S100<br>Series S Only   | Start                  | 193375    | -                    | -      | -      | -      | -      | 163625 | 193375 | 223125 | -      | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 93713     | -                    | -      | -      | -      | -      | 63963  | 93713  | 123463 | -      | 120 psig                   |     |     |     |
|                               | End                    | 104125    | -                    | -      | -      | -      | -      | 74375  | 104125 | 133875 | -      |                            |     |     |     |
| 2385U-S040<br>Series B/C Only | Start                  | 88649     | 88649                | 122745 | 156841 | 190937 | 225033 | 259129 | 293225 | 327321 | 361417 | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 42961     | 42961                | 77057  | 111153 | 145249 | 179345 | 213441 | 247537 | 281633 | 315729 | 120 psig                   |     |     |     |
|                               | End                    | 47734     | 47734                | 81830  | 115926 | 150022 | 184118 | 218214 | 252310 | 286406 | 320502 |                            |     |     |     |
| 2385U-S050<br>Series B/C Only | Start                  | 110812    | 76717                | 110812 | 144907 | 179002 | 213097 | 247192 | 281287 | 315382 | 349477 | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 53701     | 19606                | 53701  | 87796  | 121891 | 155986 | 190081 | 224176 | 258271 | 292366 | 120 psig                   |     |     |     |
|                               | End                    | 59668     | 25573                | 59668  | 93763  | 127858 | 161953 | 196048 | 230143 | 264238 | 298333 |                            |     |     |     |
| 2385U-S060<br>Series B/C Only | Start                  | 132974    | -                    | 98878  | 132974 | 167070 | 201166 | 235262 | 269358 | 303454 | 337550 | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 64441     | -                    | 30345  | 64441  | 98537  | 132633 | 166729 | 200825 | 234921 | 269017 | 120 psig                   |     |     |     |
|                               | End                    | 71601     | -                    | 37505  | 71601  | 105697 | 139793 | 173889 | 207985 | 242081 | 276177 |                            |     |     |     |
| 2385U-S070<br>Series B/C Only | Start                  | 155136    | -                    | -      | 121041 | 155136 | 189231 | 223326 | 257421 | 291516 | 325611 | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 75182     | -                    | -      | 41087  | 75182  | 109277 | 143372 | 177467 | 211562 | 245657 | 120 psig                   |     |     |     |
|                               | End                    | 83535     | -                    | -      | 49440  | 83535  | 117630 | 151725 | 185820 | 219915 | 254010 |                            |     |     |     |
| 2385U-S080<br>Series B/C Only | Start                  | 177299    | -                    | -      | -      | 143203 | 177299 | 211395 | 245491 | 279587 | 313683 | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 85922     | -                    | -      | -      | 51826  | 85922  | 120018 | 154114 | 188210 | 222306 | 120 psig                   |     |     |     |
|                               | End                    | 95469     | -                    | -      | -      | 61373  | 95469  | 129565 | 163661 | 197757 | 231853 |                            |     |     |     |
| 2385U-S090<br>Series B/C Only | Start                  | 199461    | -                    | -      | -      | -      | 165366 | 199461 | 233556 | 267651 | 301746 | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 96662     | -                    | -      | -      | -      | 62567  | 96662  | 130757 | 164852 | 198947 | 120 psig                   |     |     |     |
|                               | End                    | 107402    | -                    | -      | -      | -      | 73307  | 107402 | 141497 | 175592 | 209687 |                            |     |     |     |
| 2385U-S100<br>Series B/C Only | Start                  | 221623    | -                    | -      | -      | -      | -      | 187527 | 221623 | 255719 | 289815 | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 107402    | -                    | -      | -      | -      | -      | 73306  | 107402 | 141498 | 175594 | 120 psig                   |     |     |     |
|                               | End                    | 119336    | -                    | -      | -      | -      | -      | 85240  | 119336 | 153432 | 187528 |                            |     |     |     |
| 3071U-S040<br>Series C Only   | Start                  | 110812    | 110812               | 154223 | 197634 | 241045 | 284456 | 327867 | 371278 | 414689 | 458100 | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 53701     | 53701                | 97112  | 140523 | 183934 | 227345 | 270756 | 314167 | 357578 | 400989 | 120 psig                   |     |     |     |
|                               | End                    | 59668     | 59668                | 103079 | 146490 | 189901 | 233312 | 276723 | 320134 | 363545 | 406956 |                            |     |     |     |
| 3071U-S050<br>Series C Only   | Start                  | 132974    | 89563                | 132974 | 176385 | 219796 | 263207 | 306618 | 350029 | 393440 | 436851 | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 64441     | 21030                | 64441  | 107852 | 151263 | 194674 | 238085 | 281496 | 324907 | 368318 | 120 psig                   |     |     |     |
|                               | End                    | 71601     | 28190                | 71601  | 115012 | 158423 | 201834 | 245245 | 288656 | 332067 | 375478 |                            |     |     |     |
| 3071U-S060<br>Series C Only   | Start                  | 155136    | -                    | 111725 | 155136 | 198547 | 241958 | 285369 | 328780 | 372191 | 415602 | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 75182     | -                    | 31771  | 75182  | 118593 | 162004 | 205415 | 248826 | 292237 | 335648 | 120 psig                   |     |     |     |
|                               | End                    | 83535     | -                    | 40124  | 83535  | 126946 | 170357 | 213768 | 257179 | 300590 | 344001 |                            |     |     |     |
| 3071U-S070<br>Series C Only   | Start                  | 199461    | -                    | -      | 156050 | 199461 | 242872 | 286283 | 329694 | 373105 | 416516 | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 96662     | -                    | -      | 53251  | 96662  | 140073 | 183484 | 226895 | 270306 | 313717 | 120 psig                   |     |     |     |
|                               | End                    | 107402    | -                    | -      | 63991  | 107402 | 150813 | 194224 | 237635 | 281046 | 324457 |                            |     |     |     |
| 3071U-S080<br>Series C Only   | Start                  | 221623    | -                    | -      | -      | 178212 | 221623 | 265034 | 308445 | 351856 | 395267 | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 107402    | -                    | -      | -      | 63991  | 107402 | 150813 | 194224 | 237635 | 281046 | 120 psig                   |     |     |     |
|                               | End                    | 119336    | -                    | -      | -      | 75925  | 119336 | 162747 | 206158 | 249569 | 292980 |                            |     |     |     |
| 3072U-S090<br>Series C Only   | Start                  | 239941    | -                    | -      | -      | -      | 196530 | 239941 | 283352 | 326763 | 370174 | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 116279    | -                    | -      | -      | -      | 72868  | 116279 | 159690 | 203101 | 246512 | 120 psig                   |     |     |     |
|                               | End                    | 129199    | -                    | -      | -      | -      | 85788  | 129199 | 172610 | 216021 | 259432 |                            |     |     |     |
| 3072U-S100<br>Series C Only   | Start                  | 274218    | -                    | -      | -      | -      | -      | 230807 | 274218 | 317629 | 361040 | Maximum Operating Pressure |     |     |     |
|                               | Min                    | 132890    | -                    | -      | -      | -      | -      | 89479  | 132890 | 176301 | 219712 | 120 psig                   |     |     |     |
|                               | End                    | 147656    | -                    | -      | -      | -      | -      | 104245 | 147656 | 191067 | 234478 |                            |     |     |     |

Note: For Fail Open operation replace last "0" of spring code with "1" (i.e. -S040 becomes S041)





**Series A/ B/ C/ S: Models 003 - 7114**  
**Spring Return Fail Closed and Fail Open**  
**Symmetrical Yoke Design**

| Model Number                | Spring torques lb. in. | Torque at | Air torques lb. in.  |        |        |        |        |        |        |        |        |                            |     |     |     |
|-----------------------------|------------------------|-----------|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|----------------------------|-----|-----|-----|
|                             |                        |           | Supply Pressure psig |        |        |        |        |        |        |        |        |                            |     |     |     |
|                             |                        |           | 40                   | 50     | 60     | 70     | 80     | 90     | 100    | 110    | 120    | 130                        | 140 | 150 | 160 |
| 3072U-S110<br>Series C Only | Start                  | 308496    | -                    | -      | -      | -      | -      | -      | 265085 | 308496 | 351907 | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 149502    | -                    | -      | -      | -      | -      | -      | 106091 | 149502 | 192913 | 120 psig                   |     |     |     |
|                             | End                    | 166113    | -                    | -      | -      | -      | -      | -      | 122702 | 166113 | 209524 |                            |     |     |     |
| 3072U-S120<br>Series C Only | Start                  | 308496    | -                    | -      | -      | -      | -      | -      | -      | 265085 | 308496 | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 149502    | -                    | -      | -      | -      | -      | -      | -      | 106091 | 149502 | 120 psig                   |     |     |     |
|                             | End                    | 166113    | -                    | -      | -      | -      | -      | -      | -      | 122702 | 166113 |                            |     |     |     |
| 3731U-S040<br>Series C Only | Start                  | 137109    | 137109               | 189843 | 242577 | 295311 | 348045 | 400779 | 453513 | 506247 | 558981 | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 66445     | 66445                | 119179 | 171913 | 224647 | 277381 | 330115 | 382849 | 435583 | 488317 | 120 psig                   |     |     |     |
|                             | End                    | 73828     | 73828                | 126562 | 179296 | 232030 | 284764 | 337498 | 390232 | 442966 | 495700 |                            |     |     |     |
| 3731U-S050<br>Series C Only | Start                  | 171386    | 118652               | 171386 | 224120 | 276854 | 329588 | 382322 | 435056 | 487790 | 540524 | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 83057     | 30323                | 83057  | 135791 | 188525 | 241259 | 293993 | 346727 | 399461 | 452195 | 120 psig                   |     |     |     |
|                             | End                    | 92285     | 39551                | 92285  | 145019 | 197753 | 250487 | 303221 | 355955 | 408689 | 461423 |                            |     |     |     |
| 3731U-S060<br>Series C Only | Start                  | 205664    | -                    | 152930 | 205664 | 258398 | 311132 | 363866 | 416600 | 469334 | 522068 | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 99668     | -                    | 46934  | 99668  | 152402 | 205136 | 257870 | 310604 | 363338 | 416072 | 120 psig                   |     |     |     |
|                             | End                    | 110742    | -                    | 58008  | 110742 | 163476 | 216210 | 268944 | 321678 | 374412 | 427146 |                            |     |     |     |
| 3731U-S070<br>Series C Only | Start                  | 239941    | -                    | -      | 187207 | 239941 | 292675 | 345409 | 398143 | 450877 | 503611 | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 116279    | -                    | -      | 63545  | 116279 | 169013 | 221747 | 274481 | 327215 | 379949 | 120 psig                   |     |     |     |
|                             | End                    | 129199    | -                    | -      | 76465  | 129199 | 181933 | 234667 | 287401 | 340135 | 392869 |                            |     |     |     |
| 3731U-S080<br>Series C Only | Start                  | 274218    | -                    | -      | -      | 221484 | 274218 | 326952 | 379686 | 432420 | 485154 | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 132890    | -                    | -      | -      | 80156  | 132890 | 185624 | 238358 | 291092 | 343826 | 120 psig                   |     |     |     |
|                             | End                    | 147656    | -                    | -      | -      | 94922  | 147656 | 200390 | 253124 | 305858 | 358592 |                            |     |     |     |
| 3731U-S090<br>Series C Only | Start                  | 308496    | -                    | -      | -      | -      | 255762 | 308496 | 361230 | 413964 | 466698 | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 149502    | -                    | -      | -      | -      | 96768  | 149502 | 202236 | 254970 | 307704 | 120 psig                   |     |     |     |
|                             | End                    | 166113    | -                    | -      | -      | -      | 113379 | 166113 | 218847 | 271581 | 324315 |                            |     |     |     |
| 3731U-S100<br>Series C Only | Start                  | 342773    | -                    | -      | -      | -      | -      | 290039 | 342773 | 395507 | 448241 | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 166113    | -                    | -      | -      | -      | -      | 113379 | 166113 | 218847 | 271581 | 120 psig                   |     |     |     |
|                             | End                    | 184570    | -                    | -      | -      | -      | -      | 131836 | 184570 | 237304 | 290038 |                            |     |     |     |
| 4534U-S040<br>Series C Only | Start                  | 137109    | 137109               | 201181 | 265253 | 329325 | 393397 | 457469 | 521541 | 585613 | -      | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 66445     | 66445                | 130517 | 194589 | 258661 | 322733 | 386805 | 450877 | 514949 | -      | 120 psig                   |     |     |     |
|                             | End                    | 73828     | 73828                | 137900 | 201972 | 266044 | 330116 | 394188 | 458260 | 522332 | -      |                            |     |     |     |
| 4534U-S050<br>Series C Only | Start                  | 205664    | 141592               | 205664 | 269736 | 333808 | 397880 | 461952 | 526024 | 590096 | -      | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 99668     | 35596                | 99668  | 163740 | 227812 | 291884 | 355956 | 420028 | 484100 | -      | 120 psig                   |     |     |     |
|                             | End                    | 110742    | 46670                | 110742 | 174814 | 238886 | 302958 | 367030 | 431102 | 495174 | -      |                            |     |     |     |
| 4534U-S060<br>Series C Only | Start                  | 239941    | -                    | 175869 | 239941 | 304013 | 368085 | 432157 | 496229 | 560301 | -      | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 116279    | -                    | 52207  | 116279 | 180351 | 244423 | 308495 | 372567 | 436639 | -      | 120 psig                   |     |     |     |
|                             | End                    | 129199    | -                    | 65127  | 129199 | 193271 | 257343 | 321415 | 385487 | 449559 | -      |                            |     |     |     |
| 4534U-S070<br>Series C Only | Start                  | 274218    | -                    | -      | 210146 | 274218 | 338290 | 402362 | 466434 | 530506 | 594578 | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 132890    | -                    | -      | 68818  | 132890 | 196962 | 261034 | 325106 | 389178 | 453250 | 120 psig                   |     |     |     |
|                             | End                    | 147656    | -                    | -      | 83584  | 147656 | 211728 | 275800 | 339872 | 403944 | 468016 |                            |     |     |     |
| 4534U-S080<br>Series C Only | Start                  | 308496    | -                    | -      | -      | 244424 | 308496 | 372568 | 436640 | 500712 | 564784 | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 149502    | -                    | -      | -      | 85430  | 149502 | 213574 | 277646 | 341718 | 405790 | 120 psig                   |     |     |     |
|                             | End                    | 166113    | -                    | -      | -      | 102041 | 166113 | 230185 | 294257 | 358329 | 422401 |                            |     |     |     |
| 4534U-S090<br>Series C Only | Start                  | 342773    | -                    | -      | -      | -      | 278701 | 342773 | 406845 | 470917 | 534989 | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 166113    | -                    | -      | -      | -      | 102041 | 166113 | 230185 | 294257 | 358329 | 120 psig                   |     |     |     |
|                             | End                    | 184570    | -                    | -      | -      | -      | 120498 | 184570 | 248642 | 312714 | 376786 |                            |     |     |     |
| 5336U-S040<br>Series C Only | Start                  | 196067    | 196067               | 271477 | 346887 | 422297 | 497707 | 573117 | -      | -      | -      | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 95017     | 95017                | 170427 | 245837 | 321247 | 396657 | 472067 | -      | -      | -      | 120 psig                   |     |     |     |
|                             | End                    | 105574    | 105574               | 180984 | 256394 | 331804 | 407214 | 482624 | -      | -      | -      |                            |     |     |     |
| 5336U-S050<br>Series C Only | Start                  | 245083    | 169673               | 245083 | 320493 | 395903 | 471313 | 546723 | -      | -      | -      | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 118771    | 43361                | 118771 | 194181 | 269591 | 345001 | 420411 | -      | -      | -      | 120 psig                   |     |     |     |
|                             | End                    | 131968    | 56558                | 131968 | 207378 | 282788 | 358198 | 433608 | -      | -      | -      |                            |     |     |     |
| 5336U-S060<br>Series C Only | Start                  | 294100    | -                    | 218690 | 294100 | 369510 | 444920 | 520330 | 595740 | -      | -      | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 142525    | -                    | 67115  | 142525 | 217935 | 293345 | 368755 | 444165 | -      | -      | 120 psig                   |     |     |     |
|                             | End                    | 158361    | -                    | 82951  | 158361 | 233771 | 309181 | 384591 | 460001 | -      | -      |                            |     |     |     |
| 5336U-S070<br>Series C Only | Start                  | 343117    | -                    | -      | 267707 | 343117 | 418527 | 493937 | 569347 | -      | -      | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 166280    | -                    | -      | 90870  | 166280 | 241690 | 317100 | 392510 | -      | -      | 120 psig                   |     |     |     |
|                             | End                    | 184755    | -                    | -      | 109345 | 184755 | 260165 | 335575 | 410985 | -      | -      |                            |     |     |     |

Note: For Fail Open operation replace last "0" of spring code with "1" (i.e. -S040 becomes S041)



**Series A/ B/ C/ S: Models 003 - 7114**  
**Spring Return Fail Closed and Fail Open**  
**Symmetrical Yoke Design**

| Model Number                | Spring torques lb. in. | Torque at | Air torques lb. in.  |        |        |        |        |        |        |        |         |                            |     |     |     |
|-----------------------------|------------------------|-----------|----------------------|--------|--------|--------|--------|--------|--------|--------|---------|----------------------------|-----|-----|-----|
|                             |                        |           | Supply Pressure psig |        |        |        |        |        |        |        |         |                            |     |     |     |
|                             |                        |           | 40                   | 50     | 60     | 70     | 80     | 90     | 100    | 110    | 120     | 130                        | 140 | 150 | 160 |
| 5336U-S080<br>Series C Only | Start                  | 392133    | -                    | -      | -      | 316723 | 392133 | 467543 | 542953 | -      | -       | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 190034    | -                    | -      | -      | 114624 | 190034 | 265444 | 340854 | -      | -       | 120 psig                   |     |     |     |
|                             | End                    | 211149    | -                    | -      | -      | 135739 | 211149 | 286559 | 361969 | -      | -       |                            |     |     |     |
| 5336U-S090<br>Series C Only | Start                  | 441150    | -                    | -      | -      | -      | 365740 | 441150 | 516560 | 591970 | -       | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 213788    | -                    | -      | -      | -      | 138378 | 213788 | 289198 | 364608 | -       | 120 psig                   |     |     |     |
|                             | End                    | 237542    | -                    | -      | -      | -      | 162132 | 237542 | 312952 | 388362 | -       | POA, Consult Factory       |     |     |     |
| 5336U-S100<br>Series C Only | Start                  | 490166    | -                    | -      | -      | -      | -      | 414756 | 490166 | 565576 | -       | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 237542    | -                    | -      | -      | -      | -      | 162132 | 237542 | 312952 | -       | 120 psig                   |     |     |     |
|                             | End                    | 263936    | -                    | -      | -      | -      | -      | 188526 | 263936 | 339346 | -       | POA, Consult Factory       |     |     |     |
| 5336U-S110<br>Series C Only | Start                  | 539183    | -                    | -      | -      | -      | -      | -      | 463773 | 539183 | 614593  | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 261296    | -                    | -      | -      | -      | -      | -      | 185886 | 261296 | 336706  | 120 psig                   |     |     |     |
|                             | End                    | 290329    | -                    | -      | -      | -      | -      | -      | 214919 | 290329 | 365739  | POA, Consult Factory       |     |     |     |
| 5336U-S120<br>Series C Only | Start                  | 588200    | -                    | -      | -      | -      | -      | -      | -      | 512790 | 588200  | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 285051    | -                    | -      | -      | -      | -      | -      | -      | 209641 | 285051  | 120 psig                   |     |     |     |
|                             | End                    | 316723    | -                    | -      | -      | -      | -      | -      | -      | 241313 | 316723  | POA, Consult Factory       |     |     |     |
| 6044U-S040<br>Series C Only | Start                  | 219139    | 219139               | 303423 | 387707 | 471991 | 556275 | 640559 | 724843 | 809127 | 893411  | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 106198    | 106198               | 190482 | 274766 | 359050 | 443334 | 527618 | 611902 | 696186 | 780470  | 120 psig                   |     |     |     |
|                             | End                    | 117998    | 117998               | 202282 | 286566 | 370850 | 455134 | 539418 | 623702 | 707986 | 792270  |                            |     |     |     |
| 6044U-S050<br>Series C Only | Start                  | 273923    | 189639               | 273923 | 358207 | 442491 | 526775 | 611059 | 695343 | 779627 | 863911  | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 132747    | 48463                | 132747 | 217031 | 301315 | 385599 | 469883 | 554167 | 638451 | 722735  | 120 psig                   |     |     |     |
|                             | End                    | 147497    | 63213                | 147497 | 231781 | 316065 | 400349 | 484633 | 568917 | 653201 | 737485  |                            |     |     |     |
| 6044U-S060<br>Series C Only | Start                  | 328708    | -                    | 244424 | 328708 | 412992 | 497276 | 581560 | 665844 | 750128 | 834412  | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 159297    | -                    | 75013  | 159297 | 243581 | 327865 | 412149 | 496433 | 580717 | 665001  | 120 psig                   |     |     |     |
|                             | End                    | 176997    | -                    | 92713  | 176997 | 261281 | 345565 | 429849 | 514133 | 598417 | 682701  |                            |     |     |     |
| 6044U-S070<br>Series C Only | Start                  | 383493    | -                    | -      | 299209 | 383493 | 467777 | 552061 | 636345 | 720629 | 804913  | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 185846    | -                    | -      | 101562 | 185846 | 270130 | 354414 | 438698 | 522982 | 607266  | 120 psig                   |     |     |     |
|                             | End                    | 206496    | -                    | -      | 122212 | 206496 | 290780 | 375064 | 459348 | 543632 | 627916  |                            |     |     |     |
| 6044U-S080<br>Series C Only | Start                  | 438277    | -                    | -      | -      | 353993 | 438277 | 522561 | 606845 | 691129 | 775413  | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 212396    | -                    | -      | -      | 128112 | 212396 | 296680 | 380964 | 465248 | 549532  | 120 psig                   |     |     |     |
|                             | End                    | 235995    | -                    | -      | -      | 151711 | 235995 | 320279 | 404563 | 488847 | 573131  |                            |     |     |     |
| 7114U-S040<br>Series C Only | Start                  | 257916    | 257916               | 357114 | 456312 | 555510 | 654708 | 753906 | 853104 | 952302 | 1051501 | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 124990    | 124990               | 224188 | 323386 | 422584 | 521782 | 620980 | 720178 | 819376 | 918574  | 120 psig                   |     |     |     |
|                             | End                    | 138878    | 138878               | 238076 | 337274 | 436472 | 535670 | 634868 | 734066 | 833264 | 932463  |                            |     |     |     |
| 7114U-S050<br>Series C Only | Start                  | 322396    | 223197               | 322396 | 421595 | 520794 | 619993 | 719192 | 818391 | 917590 | 1016789 | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 156238    | 57039                | 156238 | 255437 | 354636 | 453835 | 553034 | 652233 | 751432 | 850631  | 120 psig                   |     |     |     |
|                             | End                    | 173588    | 74389                | 173588 | 272787 | 371986 | 471185 | 570384 | 669583 | 768782 | 867981  |                            |     |     |     |
| 7114U-S060<br>Series C Only | Start                  | 386875    | -                    | 287677 | 386875 | 486073 | 585271 | 684469 | 783667 | 882865 | 982063  | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 187485    | -                    | 88287  | 187485 | 286683 | 385881 | 485079 | 584277 | 683475 | 782673  | 120 psig                   |     |     |     |
|                             | End                    | 208317    | -                    | 109119 | 208317 | 307515 | 406713 | 505911 | 605109 | 704307 | 803505  |                            |     |     |     |
| 7114U-S070<br>Series C Only | Start                  | 451354    | -                    | -      | 352155 | 451354 | 550553 | 649752 | 748951 | 848150 | 947349  | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 218733    | -                    | -      | 119534 | 218733 | 317932 | 417131 | 516330 | 615529 | 714728  | 120 psig                   |     |     |     |
|                             | End                    | 243037    | -                    | -      | 143838 | 243037 | 342236 | 441435 | 540634 | 639833 | 739032  |                            |     |     |     |
| 7114U-S080<br>Series C Only | Start                  | 515833    | -                    | -      | -      | 416635 | 515833 | 615031 | 714229 | 813427 | 912625  | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 249981    | -                    | -      | -      | 150783 | 249981 | 349179 | 448377 | 547575 | 646773  | 120 psig                   |     |     |     |
|                             | End                    | 277756    | -                    | -      | -      | 178558 | 277756 | 376954 | 476152 | 575350 | 674548  |                            |     |     |     |
| 7114U-S090<br>Series C Only | Start                  | 580312    | -                    | -      | -      | -      | 481113 | 580312 | 679511 | 778710 | 877909  | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 281228    | -                    | -      | -      | -      | 182029 | 281228 | 380427 | 479626 | 578825  | 120 psig                   |     |     |     |
|                             | End                    | 312476    | -                    | -      | -      | -      | 213277 | 312476 | 411675 | 510874 | 610073  | POA, Consult Factory       |     |     |     |
| 7114U-S100<br>Series C Only | Start                  | 644791    | -                    | -      | -      | -      | -      | 545593 | 644791 | 743989 | 843187  | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 312476    | -                    | -      | -      | -      | -      | 213278 | 312476 | 411674 | 510872  | 120 psig                   |     |     |     |
|                             | End                    | 347195    | -                    | -      | -      | -      | -      | 247997 | 347195 | 446393 | 545591  | POA, Consult Factory       |     |     |     |
| 7114U-S110<br>Series C Only | Start                  | 709270    | -                    | -      | -      | -      | -      | -      | 610071 | 709270 | 808469  | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 343723    | -                    | -      | -      | -      | -      | -      | 244524 | 343723 | 442922  | 120 psig                   |     |     |     |
|                             | End                    | 381915    | -                    | -      | -      | -      | -      | -      | 282716 | 381915 | 481114  | POA, Consult Factory       |     |     |     |
| 7114U-S120<br>Series C Only | Start                  | 773749    | -                    | -      | -      | -      | -      | -      | -      | 674550 | 773749  | Maximum Operating Pressure |     |     |     |
|                             | Min                    | 374971    | -                    | -      | -      | -      | -      | -      | -      | 275772 | 374971  | 120 psig                   |     |     |     |
|                             | End                    | 416634    | -                    | -      | -      | -      | -      | -      | -      | 317435 | 416634  | POA, Consult Factory       |     |     |     |

Note: For Fail Open operation replace last "0" of spring code with "1" (i.e. -S040 becomes S041)



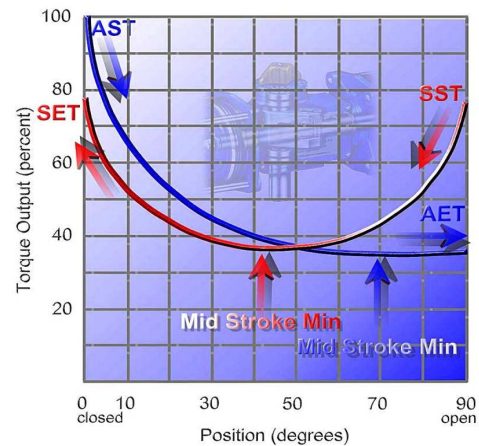
**Series A/B/C/S: Models 023 - 7114**  
 Spring Return - Fail Closed (CW)  
 Canted Yoke Design

The chart to the right shows the torque curve of the Morin canted yoke spring return for fail closed(fail clockwise) operation.

Proper selection of the actuator is critical to the successful operation of your automated package.

Note: Air torque curve shown is with air pressure equal to spring code, i.e. - S060 at 60 psig. Curve will vary for pressures used not equal to spring code.

AST = Air Start Torque                      SST = Spring Start Torque  
 AET = Air End Torque                      SET = Spring End Torque



| Model Number                    | Spring Torques<br>lb. in. | Torque at | Air torques lb. in.  |      |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------------------------|---------------------------|-----------|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|                                 |                           |           | Supply Pressure psig |      |      |      |      |      |      |      |      |      |      |      |      |      |
|                                 |                           |           | 40                   | 50   | 60   | 70   | 80   | 90   | 100  | 110  | 120  | 130  | 140  | 150  | 160  |      |
| 023UC-S040<br>Series A/B/S Only | SST                       | 687       | AST                  | 842  | 1230 | 1618 | 2006 | 2394 | 2783 | 3171 | 3559 | 3947 | 4335 | 4723 | 5111 | 5499 |
|                                 | Mid Stroke Min            | 276       | Mid Stroke Min       | 276  | 506  | 736  | 966  | 1196 | 1426 | 1656 | 1886 | 2116 | 2346 | 2576 | 2806 | 3036 |
|                                 | SET                       | 560       | AET                  | 276  | 506  | 736  | 966  | 1196 | 1426 | 1656 | 1886 | 2116 | 2346 | 2576 | 2806 | 3036 |
| 023UC-S050<br>Series A/B/S Only | SST                       | 866       | AST                  | -    | 1061 | 1449 | 1837 | 2225 | 2613 | 3002 | 3390 | 3778 | 4166 | 4554 | 4942 | 5330 |
|                                 | Mid Stroke Min            | 352       | Mid Stroke Min       | -    | 352  | 582  | 812  | 1042 | 1272 | 1502 | 1732 | 1962 | 2192 | 2422 | 2652 | 2882 |
|                                 | SET                       | 714       | AET                  | -    | 352  | 582  | 812  | 1042 | 1272 | 1502 | 1732 | 1962 | 2192 | 2422 | 2652 | 2882 |
| 023UC-S060<br>Series A/B/S Only | SST                       | 1031      | AST                  | -    | -    | 1263 | 1651 | 2039 | 2427 | 2815 | 3204 | 3592 | 3980 | 4368 | 4756 | 5144 |
|                                 | Mid Stroke Min            | 414       | Mid Stroke Min       | -    | -    | 414  | 644  | 874  | 1104 | 1334 | 1564 | 1794 | 2024 | 2254 | 2484 | 2714 |
|                                 | SET                       | 840       | AET                  | -    | -    | 414  | 644  | 874  | 1104 | 1334 | 1564 | 1794 | 2024 | 2254 | 2484 | 2714 |
| 023UC-S070<br>Series A/B/S Only | SST                       | 1195      | AST                  | -    | -    | -    | 1466 | 1854 | 2242 | 2630 | 3018 | 3407 | 3795 | 4183 | 4571 | 4959 |
|                                 | Mid Stroke Min            | 486       | Mid Stroke Min       | -    | -    | -    | 486  | 716  | 946  | 1176 | 1406 | 1636 | 1866 | 2096 | 2326 | 2556 |
|                                 | SET                       | 987       | AET                  | -    | -    | -    | 486  | 716  | 946  | 1176 | 1406 | 1636 | 1866 | 2096 | 2326 | 2556 |
| 023UC-S080<br>Series A/B/S Only | SST                       | 1374      | AST                  | -    | -    | -    | -    | 1685 | 2073 | 2461 | 2849 | 3237 | 3626 | 4014 | 4402 | 4790 |
|                                 | Mid Stroke Min            | 552       | Mid Stroke Min       | -    | -    | -    | -    | 552  | 782  | 1012 | 1242 | 1472 | 1702 | 1932 | 2162 | 2392 |
|                                 | SET                       | 1120      | AET                  | -    | -    | -    | -    | 552  | 782  | 1012 | 1242 | 1472 | 1702 | 1932 | 2162 | 2392 |
| 023UC-S090<br>Series A/B/S Only | SST                       | 1539      | AST                  | -    | -    | -    | -    | -    | 1887 | 2275 | 2663 | 3051 | 3439 | 3828 | 4216 | 4604 |
|                                 | Mid Stroke Min            | 624       | Mid Stroke Min       | -    | -    | -    | -    | -    | 624  | 854  | 1084 | 1314 | 1544 | 1774 | 2004 | 2234 |
|                                 | SET                       | 1267      | AET                  | -    | -    | -    | -    | -    | 624  | 854  | 1084 | 1314 | 1544 | 1774 | 2004 | 2234 |
| 023UC-S100<br>Series A/B/S Only | SST                       | 1713      | AST                  | -    | -    | -    | -    | -    | -    | 2100 | 2488 | 2876 | 3264 | 3652 | 4041 | 4429 |
|                                 | Mid Stroke Min            | 693       | Mid Stroke Min       | -    | -    | -    | -    | -    | -    | 693  | 923  | 1153 | 1383 | 1613 | 1843 | 2073 |
|                                 | SET                       | 1407      | AET                  | -    | -    | -    | -    | -    | -    | 693  | 923  | 1153 | 1383 | 1613 | 1843 | 2073 |
| 023UC-S120<br>Series A/B/S Only | SST                       | 2061      | AST                  | -    | -    | -    | -    | -    | -    | -    | 2527 | 2915 | 3303 | 3691 | 4079 |      |
|                                 | Mid Stroke Min            | 828       | Mid Stroke Min       | -    | -    | -    | -    | -    | -    | -    | 828  | 1058 | 1288 | 1518 | 1748 |      |
|                                 | SET                       | 1680      | AET                  | -    | -    | -    | -    | -    | -    | -    | 828  | 1058 | 1288 | 1518 | 1748 |      |
| 023UC-S140<br>Series A/B/S Only | SST                       | 2395      | AST                  | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 2937 | 3325 | 3713 |
|                                 | Mid Stroke Min            | 973       | Mid Stroke Min       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 973  | 1203 | 1433 |
|                                 | SET                       | 1974      | AET                  | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 973  | 1203 | 1433 |
| 023UC-S160<br>Series A/B/S Only | SST                       | 2748      | AST                  | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 3369 |
|                                 | Mid Stroke Min            | 1104      | Mid Stroke Min       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1104 |
|                                 | SET                       | 2240      | AET                  | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1104 |
| 036UC-S040<br>Series A/B/S Only | SST                       | 1072      | AST                  | 1314 | 1982 | 2651 | 3319 | 3987 | 4656 | 5324 | 5992 | 6660 | 7329 | 7997 | 8665 | 9334 |
|                                 | Mid Stroke Min            | 435       | Mid Stroke Min       | 435  | 831  | 1227 | 1623 | 2019 | 2415 | 2811 | 3207 | 3603 | 3999 | 4395 | 4791 | 5187 |
|                                 | SET                       | 883       | AET                  | 435  | 831  | 1227 | 1623 | 2019 | 2415 | 2811 | 3207 | 3603 | 3999 | 4395 | 4791 | 5187 |
| 036UC-S050<br>Series A/B/S Only | SST                       | 1337      | AST                  | -    | 1640 | 2308 | 2977 | 3645 | 4313 | 4982 | 5650 | 6318 | 6986 | 7655 | 8323 | 8991 |
|                                 | Mid Stroke Min            | 545       | Mid Stroke Min       | -    | 545  | 941  | 1337 | 1733 | 2129 | 2525 | 2921 | 3317 | 3713 | 4109 | 4505 | 4901 |
|                                 | SET                       | 1106      | AET                  | -    | 545  | 941  | 1337 | 1733 | 2129 | 2525 | 2921 | 3317 | 3713 | 4109 | 4505 | 4901 |
| 036UC-S060<br>Series A/B/S Only | SST                       | 1608      | AST                  | -    | -    | 1971 | 2639 | 3308 | 3976 | 4644 | 5313 | 5981 | 6649 | 7317 | 7986 | 8654 |
|                                 | Mid Stroke Min            | 656       | Mid Stroke Min       | -    | -    | 656  | 1052 | 1448 | 1844 | 2240 | 2636 | 3032 | 3428 | 3824 | 4220 | 4616 |
|                                 | SET                       | 1330      | AET                  | -    | -    | 656  | 1052 | 1448 | 1844 | 2240 | 2636 | 3032 | 3428 | 3824 | 4220 | 4616 |
| 036UC-S070<br>Series A/B/S Only | SST                       | 1878      | AST                  | -    | -    | -    | 2302 | 2970 | 3639 | 4307 | 4975 | 5644 | 6312 | 6980 | 7648 | 8317 |
|                                 | Mid Stroke Min            | 759       | Mid Stroke Min       | -    | -    | -    | 759  | 1155 | 1551 | 1947 | 2343 | 2739 | 3135 | 3531 | 3927 | 4323 |
|                                 | SET                       | 1540      | AET                  | -    | -    | -    | 759  | 1155 | 1551 | 1947 | 2343 | 2739 | 3135 | 3531 | 3927 | 4323 |
| 036UC-S080<br>Series A/B/S Only | SST                       | 2143      | AST                  | -    | -    | -    | -    | 2628 | 3296 | 3965 | 4633 | 5301 | 5970 | 6638 | 7306 | 7974 |
|                                 | Mid Stroke Min            | 869       | Mid Stroke Min       | -    | -    | -    | -    | 869  | 1265 | 1661 | 2057 | 2453 | 2849 | 3245 | 3641 | 4037 |
|                                 | SET                       | 1764      | AET                  | -    | -    | -    | -    | 869  | 1265 | 1661 | 2057 | 2453 | 2849 | 3245 | 3641 | 4037 |



**Series A/B/C/S: Models 023 - 7114**  
**Spring Return - Fail Closed (CW)**  
**Canted Yoke Design**

| Model Number                    | Spring Torques<br>lb. in. | Torque at | Air torques lb. in.  |      |      |      |      |      |      |      |      |  |   |      |       |       |
|---------------------------------|---------------------------|-----------|----------------------|------|------|------|------|------|------|------|------|--|---|------|-------|-------|
|                                 |                           |           | Supply Pressure psig |      |      |      |      |      |      |      |      |  |   |      |       |       |
|                                 |                           |           | 40                   | 50   | 60   | 70   | 80   | 90   | 100  | 110  | 120  | 130                                    | 140   | 150  | 160   |       |
| 036UC-S090<br>Series A/B/S Only | SST                       | 2409      | AST                  | -    | -    | -    | -    | -    | 2953 | 3621 | 4290 | 4958                                   | 5626  | 6295 | 6963  | 7631  |
|                                 | Mid Stroke Min            | 976       | Mid Stroke Min       | -    | -    | -    | -    | -    | 976  | 1372 | 1768 | 2164                                   | 2560  | 2956 | 3352  | 3748  |
|                                 | SET                       | 1981      | AET                  | -    | -    | -    | -    | -    | 976  | 1372 | 1768 | 2164                                   | 2560  | 2956 | 3352  | 3748  |
| 036UC-S100<br>Series A/B/S Only | SST                       | 2679      | AST                  | -    | -    | -    | -    | -    | -    | 3285 | 3953 | 4622                                   | 5290  | 5958 | 6627  | 7295  |
|                                 | Mid Stroke Min            | 1087      | Mid Stroke Min       | -    | -    | -    | -    | -    | -    | 1087 | 1483 | 1879                                   | 2275  | 2671 | 3067  | 3463  |
|                                 | SET                       | 2205      | AET                  | -    | -    | -    | -    | -    | -    | 1087 | 1483 | 1879                                   | 2275  | 2671 | 3067  | 3463  |
| 036UC-S120<br>Series A/B/S Only | SST                       | 3215      | AST                  | -    | -    | -    | -    | -    | -    | -    | -    | 3942                                   | 4610  | 5279 | 5947  | 6615  |
|                                 | Mid Stroke Min            | 1304      | Mid Stroke Min       | -    | -    | -    | -    | -    | -    | -    | -    | 1304                                   | 1700  | 2096 | 2492  | 2888  |
|                                 | SET                       | 2646      | AET                  | -    | -    | -    | -    | -    | -    | -    | -    | 1304                                   | 1700  | 2096 | 2492  | 2888  |
| 036UC-S140<br>Series A/B/S Only | SST                       | 3751      | AST                  | -    | -    | -    | -    | -    | -    | -    | -    | -                                      | -   | 4599 | 5267  | 5936  |
|                                 | Mid Stroke Min            | 1521      | Mid Stroke Min       | -    | -    | -    | -    | -    | -    | -    | -    | -                                      | -   | 1521 | 1917  | 2313  |
|                                 | SET                       | 3087      | AET                  | -    | -    | -    | -    | -    | -    | -    | -    | -                                      | -   | 1521 | 1917  | 2313  |
| 036UC-S160<br>Series A/B/S Only | SST                       | 4305      | AST                  | -    | -    | -    | -    | -    | -    | -    | -    | -                                      | -   | -    | -     | 5278  |
|                                 | Mid Stroke Min            | 1725      | Mid Stroke Min       | -    | -    | -    | -    | -    | -    | -    | -    | -                                      | -   | -    | -     | 1725  |
|                                 | SET                       | 3500      | AET                  | -    | -    | -    | -    | -    | -    | -    | -    | -                                      | -   | -    | -     | 1725  |
| 046UC-S040<br>Series A/B/S Only | SST                       | 1374      | AST                  | 1685 | 2461 | 3237 | 4013 | 4789 | 5565 | 6341 | 7117 | 7893                                   | 8669  | 9445 | 10221 | -     |
|                                 | Mid Stroke Min            | 552       | Mid Stroke Min       | 552  | 1012 | 1472 | 1932 | 2392 | 2852 | 3312 | 3772 | 4232                                   | 4692  | 5152 | 5612  | -     |
|                                 | SET                       | 1120      | AET                  | 552  | 1012 | 1472 | 1932 | 2392 | 2852 | 3312 | 3772 | 4232                                   | 4692  | 5152 | 5612  | -     |
| 046UC-S050<br>Series A/B/S Only | SST                       | 1713      | AST                  | -    | 2100 | 2876 | 3652 | 4428 | 5204 | 5980 | 6756 | 7532                                   | 8308  | 9084 | 9860  | -     |
|                                 | Mid Stroke Min            | 693       | Mid Stroke Min       | -    | 693  | 1153 | 1613 | 2073 | 2533 | 2993 | 3453 | 3913                                   | 4373  | 4833 | 5293  | -     |
|                                 | SET                       | 1407      | AET                  | -    | 693  | 1153 | 1613 | 2073 | 2533 | 2993 | 3453 | 3913                                   | 4373  | 4833 | 5293  | -     |
| 046UC-S060<br>Series A/B/S Only | SST                       | 2061      | AST                  | -    | -    | 2527 | 3303 | 4079 | 4855 | 5631 | 6407 | 7183                                   | 7959  | 8735 | 9511  | 10287 |
|                                 | Mid Stroke Min            | 828       | Mid Stroke Min       | -    | -    | 828  | 1288 | 1748 | 2208 | 2668 | 3128 | 3588                                   | 4048  | 4508 | 4968  | 5428  |
|                                 | SET                       | 1680      | AET                  | -    | -    | 828  | 1288 | 1748 | 2208 | 2668 | 3128 | 3588                                   | 4048  | 4508 | 4968  | 5428  |
| 046UC-S070<br>Series A/B/S Only | SST                       | 2395      | AST                  | -    | -    | -    | 2937 | 3713 | 4489 | 5265 | 6041 | 6817                                   | 7593  | 8369 | 9145  | 9921  |
|                                 | Mid Stroke Min            | 973       | Mid Stroke Min       | -    | -    | -    | 973  | 1433 | 1893 | 2353 | 2813 | 3273                                   | 3733  | 4193 | 4653  | 5113  |
|                                 | SET                       | 1974      | AET                  | -    | -    | -    | 973  | 1433 | 1893 | 2353 | 2813 | 3273                                   | 3733  | 4193 | 4653  | 5113  |
| 046UC-S080<br>Series A/B/S Only | SST                       | 2556      | AST                  | -    | -    | -    | -    | 3369 | 4145 | 4921 | 5697 | 6473                                   | 7249  | 8025 | 8801  | 9577  |
|                                 | Mid Stroke Min            | 1104      | Mid Stroke Min       | -    | -    | -    | -    | 1104 | 1564 | 2024 | 2484 | 2944                                   | 3404  | 3864 | 4324  | 4784  |
|                                 | SET                       | 2083      | AET                  | -    | -    | -    | -    | 1104 | 1564 | 2024 | 2484 | 2944                                   | 3404  | 3864 | 4324  | 4784  |
| 058UC-S040<br>Series A/B/S Only | SST                       | 1713      | AST                  | 2100 | 3096 | 4091 | 5087 | 6082 | 7078 | 8074 | 9069 | 10065                                  | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |       |       |
|                                 | Mid Stroke Min            | 693       | Mid Stroke Min       | 693  | 1283 | 1873 | 2463 | 3053 | 3643 | 4233 | 4823 | 5413                                   |   |      |       |       |
|                                 | SET                       | 1407      | AET                  | 693  | 1283 | 1873 | 2463 | 3053 | 3643 | 4233 | 4823 | 5413                                   |   |      |       |       |
| 058UC-S050<br>Series A/B/S Only | SST                       | 2061      | AST                  | -    | 2527 | 3523 | 4518 | 5514 | 6509 | 7505 | 8501 | 9496                                   | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |       |       |
|                                 | Mid Stroke Min            | 828       | Mid Stroke Min       | -    | 828  | 1418 | 2008 | 2598 | 3188 | 3778 | 4368 | 4958                                   |   |      |       |       |
|                                 | SET                       | 1680      | AET                  | -    | 828  | 1418 | 2008 | 2598 | 3188 | 3778 | 4368 | 4958                                   |   |      |       |       |
| 058UC-S060<br>Series A/B/S Only | SST                       | 2395      | AST                  | -    | -    | 2937 | 3933 | 4928 | 5924 | 6919 | 7915 | 8911                                   | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |       |       |
|                                 | Mid Stroke Min            | 973       | Mid Stroke Min       | -    | -    | 973  | 1563 | 2153 | 2743 | 3333 | 3923 | 4513                                   |   |      |       |       |
|                                 | SET                       | 1974      | AET                  | -    | -    | 973  | 1563 | 2153 | 2743 | 3333 | 3923 | 4513                                   |   |      |       |       |
| 058UC-S070<br>Series A/B/S Only | SST                       | 2748      | AST                  | -    | -    | -    | 3369 | 4365 | 5360 | 6356 | 7351 | 8347                                   | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |       |       |
|                                 | Mid Stroke Min            | 1104      | Mid Stroke Min       | -    | -    | -    | 1104 | 1694 | 2284 | 2874 | 3464 | 4054                                   |   |      |       |       |
|                                 | SET                       | 2240      | AET                  | -    | -    | -    | 1104 | 1694 | 2284 | 2874 | 3464 | 4054                                   |   |      |       |       |
| 059UC-S080<br>Series A/B/S Only | SST                       | 3215      | AST                  | -    | -    | -    | -    | 3942 | 4938 | 5933 | 6929 | 7924                                   | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |       |       |
|                                 | Mid Stroke Min            | 1304      | Mid Stroke Min       | -    | -    | -    | -    | 1304 | 1894 | 2484 | 3074 | 3664                                   |   |      |       |       |
|                                 | SET                       | 2646      | AET                  | -    | -    | -    | -    | 1304 | 1894 | 2484 | 3074 | 3664                                   |   |      |       |       |
| 059UC-S090<br>Series A/B/S Only | SST                       | 3751      | AST                  | -    | -    | -    | -    | -    | 4599 | 5595 | 6590 | 7586                                   | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |       |       |
|                                 | Mid Stroke Min            | 1521      | Mid Stroke Min       | -    | -    | -    | -    | -    | 1521 | 2111 | 2701 | 3291                                   |   |      |       |       |
|                                 | SET                       | 3087      | AET                  | -    | -    | -    | -    | -    | 1521 | 2111 | 2701 | 3291                                   |   |      |       |       |
| 059UC-S100<br>Series A/B/S Only | SST                       | 4305      | AST                  | -    | -    | -    | -    | -    | -    | 5278 | 6274 | 7269                                   | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |       |       |
|                                 | Mid Stroke Min            | 1725      | Mid Stroke Min       | -    | -    | -    | -    | -    | -    | 1725 | 2315 | 2905                                   |   |      |       |       |
|                                 | SET                       | 3500      | AET                  | -    | -    | -    | -    | -    | -    | 1725 | 2315 | 2905                                   |   |      |       |       |
| 072UC-S040<br>Series A/B/S Only | SST                       | 2143      | AST                  | 2628 | 3965 | 5301 | 6638 | 7974 | 9311 | -    | -    | -                                      | Maximum Operating Pressure 100 psig<br>(Series A / Max Shell Pressure 175 psig) |      |       |       |
|                                 | Mid Stroke Min            | 869       | Mid Stroke Min       | 869  | 1661 | 2453 | 3245 | 4037 | 4829 | -    | -    | -                                      |   |      |       |       |
|                                 | SET                       | 1764      | AET                  | 869  | 1661 | 2453 | 3245 | 4037 | 4829 | -    | -    | -                                      |   |      |       |       |
| 072UC-S050<br>Series A/B/S Only | SST                       | 2679      | AST                  | -    | 3285 | 4622 | 5958 | 7295 | 8631 | 9968 | -    | -                                      | Maximum Operating Pressure 100 psig<br>(Series A / Max Shell Pressure 175 psig) |      |       |       |
|                                 | Mid Stroke Min            | 1087      | Mid Stroke Min       | -    | 1087 | 1879 | 2671 | 3463 | 4255 | 5047 | -    | -                                      |   |      |       |       |
|                                 | SET                       | 2205      | AET                  | -    | 1087 | 1879 | 2671 | 3463 | 4255 | 5047 | -    | -                                      |   |      |       |       |
| 072UC-S060<br>Series A/B/S Only | SST                       | 3215      | AST                  | -    | -    | 3942 | 5279 | 6615 | 7952 | 9288 | -    | -                                      | Maximum Operating Pressure 100 psig<br>(Series A / Max Shell Pressure 175 psig) |      |       |       |
|                                 | Mid Stroke Min            | 1304      | Mid Stroke Min       | -    | -    | 1304 | 2096 | 2888 | 3680 | 4472 | -    | -                                      |   |      |       |       |
|                                 | SET                       | 2646      | AET                  | -    | -    | 1304 | 2096 | 2888 | 3680 | 4472 | -    | -                                      |   |      |       |       |
| 072UC-S070<br>Series A/B/S Only | SST                       | 3751      | AST                  | -    | -    | -    | 4599 | 5936 | 7272 | 8609 | -    | -                                      | Maximum Operating Pressure 100 psig<br>(Series A / Max Shell Pressure 175 psig) |      |       |       |
|                                 | Mid Stroke Min            | 1521      | Mid Stroke Min       | -    | -    | -    | 1521 | 2313 | 3105 | 3897 | -    | -                                      |   |      |       |       |
|                                 | SET                       | 3087      | AET                  | -    | -    | -    | 1521 | 2313 | 3105 | 3897 | -    | -                                      |   |      |       |       |
| 072UC-S080<br>Series A/B/S Only | SST                       | 4305      | AST                  | -    | -    | -    | -    | 5278 | 6615 | 7951 | -    | -                                      | Maximum Operating Pressure 100 psig<br>(Series A / Max Shell Pressure 175 psig) |      |       |       |
|                                 | Mid Stroke Min            | 1725      | Mid Stroke Min       | -    | -    | -    | -    | 1725 | 2517 | 3309 | -    | -                                      |   |      |       |       |
|                                 | SET                       | 3500      | AET                  | -    | -    | -    | -    | 1725 | 2517 | 3309 | -    | -                                      |   |      |       |       |
| 100UC-S040<br>Series B/S Only   | SST                       | 2977      | AST                  | 3650 | 5338 | 7025 | 8713 | -    | -    | -    | -    | Maximum Operating Pressure<br>100 psig |   |      |       |       |
|                                 | Mid Stroke Min            | 1208      | Mid Stroke Min       | 1208 | 2208 | 3208 | 4208 | -    | -    | -    | -    |  |   |      |       |       |
|                                 | SET                       | 2450      | AET                  | 1208 | 2208 | 3208 | 4208 | -    | -    | -    | -    |  |   |      |       |       |



**Series A/B/C/S: Models 023 - 7114**  
Spring Return - Fail Closed (CW)  
Canted Yoke Design

| Model Number                  | Spring Torques<br>lb. in. | Torque at | Air torques lb. in.  |      |       |       |       |       |       |       |       |                            |       |       |       |       |       |
|-------------------------------|---------------------------|-----------|----------------------|------|-------|-------|-------|-------|-------|-------|-------|----------------------------|-------|-------|-------|-------|-------|
|                               |                           |           | Supply Pressure psig |      |       |       |       |       |       |       |       |                            |       |       |       |       |       |
|                               |                           |           | 40                   | 50   | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130                        | 140   | 150   | 160   |       |       |
| 100UC-S050<br>Series B/S Only | SST                       | 3719      | AST                  | -    | 4559  | 6247  | 7934  | 9622  | -     | -     | -     | Maximum Operating Pressure |       |       |       |       |       |
|                               | Mid Stroke Min            | 1511      | Mid Stroke Min       | -    | 1511  | 2511  | 3511  | 4511  | -     | -     | -     | 100 psig                   |       |       |       |       |       |
|                               | SET                       | 3066      | AET                  | -    | 1511  | 2511  | 3511  | 4511  | -     | -     | -     |                            |       |       |       |       |       |
| 100UC-S060<br>Series B/S Only | SST                       | 4470      | AST                  | -    | -     | 5480  | 7168  | 8855  | -     | -     | -     | Maximum Operating Pressure |       |       |       |       |       |
|                               | Mid Stroke Min            | 1808      | Mid Stroke Min       | -    | -     | 1808  | 2808  | 3808  | -     | -     | -     | 100 psig                   |       |       |       |       |       |
|                               | SET                       | 3668      | AET                  | -    | -     | 1808  | 2808  | 3808  | -     | -     | -     |                            |       |       |       |       |       |
| 100UC-S070<br>Series B/S Only | SST                       | 5212      | AST                  | -    | -     | -     | 6390  | 8078  | 9765  | -     | -     | Maximum Operating Pressure |       |       |       |       |       |
|                               | Mid Stroke Min            | 2111      | Mid Stroke Min       | -    | -     | -     | 2111  | 3111  | 4111  | -     | -     | 100 psig                   |       |       |       |       |       |
|                               | SET                       | 4284      | AET                  | -    | -     | -     | 2111  | 3111  | 4111  | -     | -     |                            |       |       |       |       |       |
| 100UC-S080<br>Series B/S Only | SST                       | 5954      | AST                  | -    | -     | -     | -     | 7300  | 8988  | -     | -     | Maximum Operating Pressure |       |       |       |       |       |
|                               | Mid Stroke Min            | 2415      | Mid Stroke Min       | -    | -     | -     | -     | 2415  | 3415  | -     | -     | 100 psig                   |       |       |       |       |       |
|                               | SET                       | 4900      | AET                  | -    | -     | -     | -     | 2415  | 3415  | -     | -     |                            |       |       |       |       |       |
| 135UC-S040                    | SST                       | 4021      | AST                  | 4930 | 7323  | 9716  | 12109 | 14502 | 16895 | 19288 | 21681 | 24074                      | 26467 | 28860 | 31253 | 33646 |       |
|                               | Mid Stroke Min            | 1958      | Mid Stroke Min       | 1958 | 3376  | 4794  | 6212  | 7630  | 9048  | 10466 | 11884 | 13302                      | 14720 | 16138 | 17556 | 18974 |       |
|                               | SET                       | 3973      | AET                  | 1958 | 3376  | 4794  | 6212  | 7630  | 9048  | 10466 | 11884 | 13302                      | 14720 | 16138 | 17556 | 18974 |       |
| 135UC-S050                    | SST                       | 5024      | AST                  | -    | 6160  | 8553  | 10946 | 13339 | 15732 | 18125 | 20518 | 22911                      | 25304 | 27697 | 30090 | 32483 |       |
|                               | Mid Stroke Min            | 2443      | Mid Stroke Min       | -    | 2443  | 3861  | 5279  | 6697  | 8115  | 9533  | 10951 | 12369                      | 13787 | 15205 | 16623 | 18041 |       |
|                               | SET                       | 4956      | AET                  | -    | 2443  | 3861  | 5279  | 6697  | 8115  | 9533  | 10951 | 12369                      | 13787 | 15205 | 16623 | 18041 |       |
| 135UC-S060                    | SST                       | 6027      | AST                  | -    | -     | 7389  | 9782  | 12175 | 14568 | 16961 | 19354 | 21747                      | 24140 | 26533 | 28926 | 31319 |       |
|                               | Mid Stroke Min            | 2935      | Mid Stroke Min       | -    | -     | 2935  | 4353  | 5771  | 7189  | 8607  | 10025 | 11443                      | 12861 | 14279 | 15697 | 17115 |       |
|                               | SET                       | 5956      | AET                  | -    | -     | 2935  | 4353  | 5771  | 7189  | 8607  | 10025 | 11443                      | 12861 | 14279 | 15697 | 17115 |       |
| 135UC-S070                    | SST                       | 7035      | AST                  | -    | -     | 6232  | 8625  | 11018 | 13411 | 15804 | 18197 | 20590                      | 22983 | 25376 | 27769 | 30162 |       |
|                               | Mid Stroke Min            | 3424      | Mid Stroke Min       | -    | -     | 2006  | 3424  | 4842  | 6260  | 7678  | 9096  | 10514                      | 11932 | 13350 | 14768 | 16186 |       |
|                               | SET                       | 6947      | AET                  | -    | -     | 2006  | 3424  | 4842  | 6260  | 7678  | 9096  | 10514                      | 11932 | 13350 | 14768 | 16186 |       |
| 135UC-S080                    | SST                       | 8038      | AST                  | -    | -     | -     | 7461  | 9854  | 12247 | 14640 | 17033 | 19426                      | 21819 | 24212 | 26605 | 28998 |       |
|                               | Mid Stroke Min            | 3912      | Mid Stroke Min       | -    | -     | -     | 2494  | 3912  | 5330  | 6748  | 8166  | 9584                       | 11002 | 12420 | 13838 | 15256 |       |
|                               | SET                       | 7938      | AET                  | -    | -     | -     | 2494  | 3912  | 5330  | 6748  | 8166  | 9584                       | 11002 | 12420 | 13838 | 15256 |       |
| 135UC-S090                    | SST                       | 9046      | AST                  | -    | -     | -     | -     | 8697  | 11090 | 13483 | 15876 | 18269                      | 20662 | 23055 | 25448 | 27841 |       |
|                               | Mid Stroke Min            | 4401      | Mid Stroke Min       | -    | -     | -     | -     | 2983  | 4401  | 5819  | 7237  | 8655                       | 10073 | 11491 | 12909 | 14327 |       |
|                               | SET                       | 8929      | AET                  | -    | -     | -     | -     | 2983  | 4401  | 5819  | 7237  | 8655                       | 10073 | 11491 | 12909 | 14327 |       |
| 135UC-S100                    | SST                       | 10049     | AST                  | -    | -     | -     | -     | -     | 9926  | 12319 | 14712 | 17105                      | 19498 | 21891 | 24284 | 26677 |       |
|                               | Mid Stroke Min            | 4889      | Mid Stroke Min       | -    | -     | -     | -     | -     | 3471  | 4889  | 6307  | 7725                       | 9143  | 10561 | 11979 | 13397 |       |
|                               | SET                       | 9920      | AET                  | -    | -     | -     | -     | -     | 3471  | 4889  | 6307  | 7725                       | 9143  | 10561 | 11979 | 13397 |       |
| 135UC-S120                    | SST                       | 12055     | AST                  | -    | -     | -     | -     | -     | -     | -     | -     | 12386                      | 14779 | 17172 | 19565 | 21958 | 24351 |
|                               | Mid Stroke Min            | 5871      | Mid Stroke Min       | -    | -     | -     | -     | -     | -     | -     | -     | 4453                       | 5871  | 7289  | 8707  | 10125 | 11543 |
|                               | SET                       | 11911     | AET                  | -    | -     | -     | -     | -     | -     | -     | -     | 4453                       | 5871  | 7289  | 8707  | 10125 | 11543 |
| 135UC-S140                    | SST                       | 14065     | AST                  | -    | -     | -     | -     | -     | -     | -     | -     | -                          | -     | 14851 | 17244 | 19637 | 22030 |
|                               | Mid Stroke Min            | 6848      | Mid Stroke Min       | -    | -     | -     | -     | -     | -     | -     | -     | -                          | -     | 5430  | 6848  | 8266  | 9684  |
|                               | SET                       | 13894     | AET                  | -    | -     | -     | -     | -     | -     | -     | -     | -                          | -     | 5430  | 6848  | 8266  | 9684  |
| 135UC-S160                    | SST                       | 16076     | AST                  | -    | -     | -     | -     | -     | -     | -     | -     | -                          | -     | -     | -     | 17316 | 19709 |
|                               | Mid Stroke Min            | 7825      | Mid Stroke Min       | -    | -     | -     | -     | -     | -     | -     | -     | -                          | -     | -     | -     | 6407  | 7825  |
|                               | SET                       | 15876     | AET                  | -    | -     | -     | -     | -     | -     | -     | -     | -                          | -     | -     | -     | 6407  | 7825  |
| 210UC-S040                    | SST                       | 6252      | AST                  | 7664 | 11562 | 15460 | 19358 | 23256 | 27154 | 31052 | 34950 | 38848                      | 42746 | -     | -     | -     |       |
|                               | Mid Stroke Min            | 2790      | Mid Stroke Min       | 2790 | 5100  | 7410  | 9720  | 12030 | 14340 | 16650 | 18960 | 21270                      | 23580 | -     | -     | -     |       |
|                               | SET                       | 5660      | AET                  | 2790 | 5100  | 7410  | 9720  | 12030 | 14340 | 16650 | 18960 | 21270                      | 23580 | -     | -     | -     |       |
| 210UC-S050                    | SST                       | 7813      | AST                  | -    | 9579  | 13477 | 17375 | 21273 | 25171 | 29069 | 32967 | 36865                      | 40763 | -     | -     | -     |       |
|                               | Mid Stroke Min            | 3484      | Mid Stroke Min       | -    | 3484  | 5794  | 8104  | 10414 | 12724 | 15034 | 17344 | 19654                      | 21964 | -     | -     | -     |       |
|                               | SET                       | 7069      | AET                  | -    | 3484  | 5794  | 8104  | 10414 | 12724 | 15034 | 17344 | 19654                      | 21964 | -     | -     | -     |       |
| 210UC-S060                    | SST                       | 9380      | AST                  | -    | 11500 | 15398 | 19296 | 23194 | 27092 | 30990 | 34888 | 38786                      | 42684 | -     | -     | -     |       |
|                               | Mid Stroke Min            | 4182      | Mid Stroke Min       | -    | -     | 4182  | 6492  | 8802  | 11112 | 13422 | 15732 | 18042                      | 20352 | 22662 | -     | -     |       |
|                               | SET                       | 8485      | AET                  | -    | -     | 4182  | 6492  | 8802  | 11112 | 13422 | 15732 | 18042                      | 20352 | 22662 | -     | -     |       |
| 210UC-S070                    | SST                       | 10937     | AST                  | -    | -     | 9511  | 13409 | 17307 | 21205 | 25103 | 29001 | 32899                      | 36797 | 40695 | -     | -     |       |
|                               | Mid Stroke Min            | 4880      | Mid Stroke Min       | -    | -     | 2570  | 4880  | 7190  | 9500  | 11810 | 14120 | 16430                      | 18740 | 21050 | -     | -     |       |
|                               | SET                       | 9902      | AET                  | -    | -     | 2570  | 4880  | 7190  | 9500  | 11810 | 14120 | 16430                      | 18740 | 21050 | -     | -     |       |
| 210UC-S080                    | SST                       | 12503     | AST                  | -    | -     | -     | 11431 | 15329 | 19227 | 23125 | 27023 | 30921                      | 34819 | 38717 | 42615 | -     |       |
|                               | Mid Stroke Min            | 5579      | Mid Stroke Min       | -    | -     | -     | 3269  | 5579  | 7889  | 10199 | 12509 | 14819                      | 17129 | 19439 | 21749 | -     |       |
|                               | SET                       | 11319     | AET                  | -    | -     | -     | 3269  | 5579  | 7889  | 10199 | 12509 | 14819                      | 17129 | 19439 | 21749 | -     |       |
| 210UC-S090                    | SST                       | 14061     | AST                  | -    | -     | -     | -     | 13340 | 17238 | 21136 | 25034 | 28932                      | 32830 | 36728 | 40626 | -     |       |
|                               | Mid Stroke Min            | 6277      | Mid Stroke Min       | -    | -     | -     | -     | 3967  | 6277  | 8587  | 10897 | 13207                      | 15517 | 17827 | 20137 | -     |       |
|                               | SET                       | 12736     | AET                  | -    | -     | -     | -     | 3967  | 6277  | 8587  | 10897 | 13207                      | 15517 | 17827 | 20137 | -     |       |
| 210UC-S100                    | SST                       | 15627     | AST                  | -    | -     | -     | -     | -     | 15260 | 19158 | 23056 | 26954                      | 30852 | 34750 | 38648 | 42546 |       |
|                               | Mid Stroke Min            | 6975      | Mid Stroke Min       | -    | -     | -     | -     | -     | 4665  | 6975  | 9285  | 11595                      | 13905 | 16215 | 18525 | 20835 |       |
|                               | SET                       | 14153     | AET                  | -    | -     | -     | -     | -     | 4665  | 6975  | 9285  | 11595                      | 13905 | 16215 | 18525 | 20835 |       |
| 210UC-S120                    | SST                       | 18755     | AST                  | -    | -     | -     | -     | -     | -     | -     | 19095 | 22993                      | 26891 | 30789 | 34687 | 38585 |       |
|                               | Mid Stroke Min            | 8368      | Mid Stroke Min       | -    | -     | -     | -     | -     | -     | -     | 6058  | 8368                       | 10678 | 12988 | 15298 | 17608 |       |
|                               | SET                       | 16979     | AET                  | -    | -     | -     | -     | -     | -     | -     | 6058  | 8368                       | 10678 | 12988 | 15298 | 17608 |       |



**Series A/B/C/S: Models 023 - 7114**  
**Spring Return - Fail Closed (CW)**  
**Canted Yoke Design**

| Model Number | Spring Torques<br>lb. in. |       | Torque at      | Air torques lb. in.  |       |       |       |       |       |       |       |       |       |   |       |       |       |
|--------------|---------------------------|-------|----------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---|-------|-------|-------|
|              |                           |       |                | Supply Pressure psig |       |       |       |       |       |       |       |       |       |   |       |       |       |
|              |                           |       |                | 40                   | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |       |
| 210UC-S140   | SST                       | 21883 | AST            | -                    | -     | -     | -     | -     | -     | -     | -     | -     | -     | 22930   | 26828 | 30726 | 34624 |
|              | Mid Stroke Min            | 9761  | Mid Stroke Min | -                    | -     | -     | -     | -     | -     | -     | -     | -     | -     | 7451  | 9761  | 12071 | 14381 |
|              | SET                       | 19804 | AET            | -                    | -     | -     | -     | -     | -     | -     | -     | -     | -     | 7451  | 9761  | 12071 | 14381 |
| 210UC-S160   | SST                       | 25007 | AST            | -                    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -   | -     | 26760 | 30658 |
|              | Mid Stroke Min            | 11157 | Mid Stroke Min | -                    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -   | -     | 8847  | 11157 |
|              | SET                       | 22638 | AET            | -                    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -   | -     | 8847  | 11157 |
| 270UC-S040   | SST                       | 8042  | AST            | 9860                 | 14644 | 19428 | 24212 | 28996 | 33780 | 38564 | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | Mid Stroke Min            | 3590  | Mid Stroke Min | 3590                 | 6425  | 9260  | 12095 | 14930 | 17765 | 20600 | -     | -     | -     |   |       |       |       |
|              | SET                       | 7284  | AET            | 3590                 | 6425  | 9260  | 12095 | 14930 | 17765 | 20600 | -     | -     | -     |   |       |       |       |
| 270UC-S050   | SST                       | 10049 | AST            | -                    | 12319 | 17103 | 21887 | 26671 | 31455 | 36239 | 41023 | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | Mid Stroke Min            | 4482  | Mid Stroke Min | -                    | 4482  | 7317  | 10152 | 12987 | 15822 | 18657 | 21492 | -     | -     |   |       |       |       |
|              | SET                       | 9094  | AET            | -                    | 4482  | 7317  | 10152 | 12987 | 15822 | 18657 | 21492 | -     | -     |   |       |       |       |
| 270UC-S060   | SST                       | 12055 | AST            | -                    | -     | 14779 | 19563 | 24347 | 29131 | 33915 | 38699 | 43483 | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | Mid Stroke Min            | 5381  | Mid Stroke Min | -                    | -     | 5381  | 8216  | 11051 | 13886 | 16721 | 19556 | 22391 | -     |   |       |       |       |
|              | SET                       | 10919 | AET            | -                    | -     | 5381  | 8216  | 11051 | 13886 | 16721 | 19556 | 22391 | -     |   |       |       |       |
| 270UC-S070   | SST                       | 14065 | AST            | -                    | -     | 12460 | 17244 | 22028 | 26812 | 31596 | 36380 | 41164 | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | Mid Stroke Min            | 6277  | Mid Stroke Min | -                    | -     | 3442  | 6277  | 9112  | 11947 | 14782 | 17617 | 20452 | -     |   |       |       |       |
|              | SET                       | 12736 | AET            | -                    | -     | 3442  | 6277  | 9112  | 11947 | 14782 | 17617 | 20452 | -     |   |       |       |       |
| 270UC-S080   | SST                       | 16076 | AST            | -                    | -     | -     | 14925 | 19709 | 24493 | 29277 | 34061 | 38845 | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | Mid Stroke Min            | 7173  | Mid Stroke Min | -                    | -     | -     | 4338  | 7173  | 10008 | 12843 | 15678 | 18513 | -     |   |       |       |       |
|              | SET                       | 14553 | AET            | -                    | -     | -     | 4338  | 7173  | 10008 | 12843 | 15678 | 18513 | -     |   |       |       |       |
| 270UC-S090   | SST                       | 18087 | AST            | -                    | -     | -     | -     | 17391 | 22175 | 26959 | 31743 | 36527 | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | Mid Stroke Min            | 8068  | Mid Stroke Min | -                    | -     | -     | -     | 5233  | 8068  | 10903 | 13738 | 16573 | -     |   |       |       |       |
|              | SET                       | 16370 | AET            | -                    | -     | -     | -     | 5233  | 8068  | 10903 | 13738 | 16573 | -     |   |       |       |       |
| 270UC-S100   | SST                       | 20097 | AST            | -                    | -     | -     | -     | -     | 19855 | 24639 | 29423 | 34207 | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | Mid Stroke Min            | 8964  | Mid Stroke Min | -                    | -     | -     | -     | -     | 6129  | 8964  | 11799 | 14634 | -     |   |       |       |       |
|              | SET                       | 18189 | AET            | -                    | -     | -     | -     | -     | 6129  | 8964  | 11799 | 14634 | -     |   |       |       |       |
| 344UC-S040   | SST                       | 10049 | AST            | 12319                | 18432 | 24545 | 30658 | 36771 | 42884 | -     | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | Mid Stroke Min            | 4359  | Mid Stroke Min | 4359                 | 7982  | 11605 | 15228 | 18851 | 22474 | -     | -     | -     | -     |   |       |       |       |
|              | SET                       | 8845  | AET            | 4359                 | 7982  | 11605 | 15228 | 18851 | 22474 | -     | -     | -     | -     |   |       |       |       |
| 344UC-S050   | SST                       | 12055 | AST            | -                    | 14779 | 20892 | 27005 | 33118 | 39231 | -     | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | Mid Stroke Min            | 5234  | Mid Stroke Min | -                    | 5234  | 8857  | 12480 | 16103 | 19726 | -     | -     | -     | -     |   |       |       |       |
|              | SET                       | 10620 | AET            | -                    | 5234  | 8857  | 12480 | 16103 | 19726 | -     | -     | -     | -     |   |       |       |       |
| 344UC-S060   | SST                       | 14065 | AST            | -                    | -     | 17244 | 23357 | 29470 | 35583 | 41696 | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | Mid Stroke Min            | 6106  | Mid Stroke Min | -                    | -     | 6106  | 9729  | 13352 | 16975 | 20598 | -     | -     | -     |   |       |       |       |
|              | SET                       | 12389 | AET            | -                    | -     | 6106  | 9729  | 13352 | 16975 | 20598 | -     | -     | -     |   |       |       |       |
| 344UC-S070   | SST                       | 18087 | AST            | -                    | -     | 16062 | 22175 | 28288 | 34401 | 40514 | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | Mid Stroke Min            | 7847  | Mid Stroke Min | -                    | -     | 4224  | 7847  | 11470 | 15093 | 18716 | -     | -     | -     |   |       |       |       |
|              | SET                       | 15922 | AET            | -                    | -     | 4224  | 7847  | 11470 | 15093 | 18716 | -     | -     | -     |   |       |       |       |
| 344UC-S080   | SST                       | 20097 | AST            | -                    | -     | -     | 18526 | 24639 | 30752 | 36865 | 42978 | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | Mid Stroke Min            | 8720  | Mid Stroke Min | -                    | -     | -     | 5097  | 8720  | 12343 | 15966 | 19589 | -     | -     |   |       |       |       |
|              | SET                       | 17692 | AET            | -                    | -     | -     | 5097  | 8720  | 12343 | 15966 | 19589 | -     | -     |   |       |       |       |
| 345UC-S090   | SST                       | 21883 | AST            | -                    | -     | -     | -     | 20715 | 26828 | 32941 | 39054 | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | Mid Stroke Min            | 9494  | Mid Stroke Min | -                    | -     | -     | -     | 5871  | 9494  | 13117 | 16740 | -     | -     |   |       |       |       |
|              | SET                       | 19264 | AET            | -                    | -     | -     | -     | 5871  | 9494  | 13117 | 16740 | -     | -     |   |       |       |       |
| 345UC-S100   | SST                       | 25007 | AST            | -                    | -     | -     | -     | -     | 24545 | 30658 | 36771 | 42884 | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | Mid Stroke Min            | 10853 | Mid Stroke Min | -                    | -     | -     | -     | -     | 7230  | 10853 | 14476 | 18099 | -     |   |       |       |       |
|              | SET                       | 22021 | AET            | -                    | -     | -     | -     | -     | 7230  | 10853 | 14476 | 18099 | -     |   |       |       |       |
| 345UC-S110   | SST                       | 28126 | AST            | -                    | -     | -     | -     | -     | -     | 28369 | 34482 | 40595 | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | Mid Stroke Min            | 12212 | Mid Stroke Min | -                    | -     | -     | -     | -     | -     | 8589  | 12212 | 15835 | -     |   |       |       |       |
|              | SET                       | 24777 | AET            | -                    | -     | -     | -     | -     | -     | 8589  | 12212 | 15835 | -     |   |       |       |       |
| 345UC-S120   | SST                       | 28126 | AST            | -                    | -     | -     | -     | -     | -     | 28369 | 34482 | 40595 | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |       |
|              | Mid Stroke Min            | 12212 | Mid Stroke Min | -                    | -     | -     | -     | -     | -     | 8589  | 12212 | 15835 | -     |   |       |       |       |
|              | SET                       | 24777 | AET            | -                    | -     | -     | -     | -     | -     | 8589  | 12212 | 15835 | -     |   |       |       |       |
| 370UC-S040   | SST                       | 11015 | AST            | 13504                | 20185 | 26866 | 33547 | 40228 | 46909 | 53590 | 60271 | 66952 | 73633 | 80314   | 86995 | 93676 |       |
|              | Mid Stroke Min            | 5138  | Mid Stroke Min | 5138                 | 9097  | 13056 | 17015 | 20974 | 24933 | 28892 | 32851 | 36810 | 40769 | 44728   | 48687 | 52646 |       |
|              | SET                       | 10424 | AET            | 5138                 | 9097  | 13056 | 17015 | 20974 | 24933 | 28892 | 32851 | 36810 | 40769 | 44728   | 48687 | 52646 |       |
| 370UC-S050   | SST                       | 13767 | AST            | -                    | 16879 | 23560 | 30241 | 36922 | 43603 | 50284 | 56965 | 63646 | 70327 | 77008   | 83689 | 90370 |       |
|              | Mid Stroke Min            | 7209  | Mid Stroke Min | -                    | 7209  | 11168 | 15127 | 19086 | 23045 | 27004 | 30963 | 34922 | 38881 | 42840   | 46799 | 50758 |       |
|              | SET                       | 13033 | AET            | -                    | 7209  | 11168 | 15127 | 19086 | 23045 | 27004 | 30963 | 34922 | 38881 | 42840   | 46799 | 50758 |       |
| 370UC-S060   | SST                       | 16525 | AST            | -                    | -     | 20259 | 26940 | 33621 | 40302 | 46983 | 53664 | 60345 | 67026 | 73707   | 80388 | 87069 |       |
|              | Mid Stroke Min            | 7705  | Mid Stroke Min | -                    | -     | 7705  | 11664 | 15623 | 19582 | 23541 | 27500 | 31459 | 35418 | 39377   | 43336 | 47295 |       |
|              | SET                       | 15634 | AET            | -                    | -     | 7705  | 11664 | 15623 | 19582 | 23541 | 27500 | 31459 | 35418 | 39377   | 43336 | 47295 |       |



**Series A/B/C/S: Models 023 - 7114**  
**Spring Return - Fail Closed (CW)**  
**Canted Yoke Design**

| Model Number                    | Spring Torques<br>lb. in. | Torque at | Air torques lb. in.  |       |       |       |       |       |       |       |       |        |        |        |        |        |       |
|---------------------------------|---------------------------|-----------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|-------|
|                                 |                           |           | Supply Pressure psig |       |       |       |       |       |       |       |       |        |        |        |        |        |       |
|                                 |                           |           | 40                   | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130    | 140    | 150    | 160    |        |       |
| 370UC-S070<br>Series B/C/S only | SST                       | 19277     | AST                  | -     | -     | 16953 | 23634 | 30315 | 36996 | 43677 | 50358 | 57039  | 63720  | 70401  | 77082  | 83763  |       |
|                                 | Mid Stroke Min            | 8991      | Mid Stroke Min       | -     | -     | 5032  | 8991  | 12950 | 16909 | 20868 | 24827 | 28786  | 32745  | 36704  | 40663  | 44622  |       |
|                                 | SET                       | 18242     | AET                  | -     | -     | 5032  | 8991  | 12950 | 16909 | 20868 | 24827 | 28786  | 32745  | 36704  | 40663  | 44622  |       |
| 370UC-S080<br>Series B/C/S only | SST                       | 22030     | AST                  | -     | -     | -     | 20327 | 27008 | 33689 | 40370 | 47051 | 53732  | 60413  | 67094  | 73775  | 80456  |       |
|                                 | Mid Stroke Min            | 10276     | Mid Stroke Min       | -     | -     | -     | 6317  | 10276 | 14235 | 18194 | 22153 | 26112  | 30071  | 34030  | 37989  | 41948  |       |
|                                 | SET                       | 20850     | AET                  | -     | -     | -     | 6317  | 10276 | 14235 | 18194 | 22153 | 26112  | 30071  | 34030  | 37989  | 41948  |       |
| 370UC-S090<br>Series B/C/S only | SST                       | 24782     | AST                  | -     | -     | -     | -     | 23702 | 30383 | 37064 | 43745 | 50426  | 57107  | 63788  | 70469  | 77150  |       |
|                                 | Mid Stroke Min            | 11562     | Mid Stroke Min       | -     | -     | -     | -     | 7603  | 11562 | 15521 | 19480 | 23439  | 27398  | 31357  | 35316  | 39275  |       |
|                                 | SET                       | 23458     | AET                  | -     | -     | -     | -     | 7603  | 11562 | 15521 | 19480 | 23439  | 27398  | 31357  | 35316  | 39275  |       |
| 370UC-S100<br>Series B/C/S only | SST                       | 27535     | AST                  | -     | -     | -     | -     | -     | 27076 | 33757 | 40438 | 47119  | 53800  | 60481  | 67162  | 73843  |       |
|                                 | Mid Stroke Min            | 12847     | Mid Stroke Min       | -     | -     | -     | -     | -     | 8888  | 12847 | 16806 | 20765  | 24724  | 28683  | 32642  | 36601  |       |
|                                 | SET                       | 26067     | AET                  | -     | -     | -     | -     | -     | 8888  | 12847 | 16806 | 20765  | 24724  | 28683  | 32642  | 36601  |       |
| 370UC-S120<br>Series B/C/S only | SST                       | 33045     | AST                  | -     | -     | -     | -     | -     | -     | -     | 33831 | 40512  | 47193  | 53874  | 60555  | 67236  |       |
|                                 | Mid Stroke Min            | 15414     | Mid Stroke Min       | -     | -     | -     | -     | -     | -     | -     | 11455 | 15414  | 19373  | 23332  | 27291  | 31250  |       |
|                                 | SET                       | 31275     | AET                  | -     | -     | -     | -     | -     | -     | -     | 11455 | 15414  | 19373  | 23332  | 27291  | 31250  |       |
| 370UC-S140<br>Series B/C/S only | SST                       | 38554     | AST                  | -     | -     | -     | -     | -     | -     | -     | -     | -      | -      | 40586  | 47267  | 53948  | 60629 |
|                                 | Mid Stroke Min            | 17981     | Mid Stroke Min       | -     | -     | -     | -     | -     | -     | -     | -     | -      | -      | 14022  | 17981  | 21940  | 25899 |
|                                 | SET                       | 36483     | AET                  | -     | -     | -     | -     | -     | -     | -     | -     | -      | -      | 14022  | 17981  | 21940  | 25899 |
| 370UC-S160<br>Series B/C/S only | SST                       | 44060     | AST                  | -     | -     | -     | -     | -     | -     | -     | -     | -      | -      | -      | -      | 47335  | 54016 |
|                                 | Mid Stroke Min            | 20552     | Mid Stroke Min       | -     | -     | -     | -     | -     | -     | -     | -     | -      | -      | -      | -      | 16593  | 20552 |
|                                 | SET                       | 41699     | AET                  | -     | -     | -     | -     | -     | -     | -     | -     | -      | -      | -      | -      | 16593  | 20552 |
| 420UC-S040                      | SST                       | 12503     | AST                  | 15329 | 22417 | 29505 | 36593 | 43681 | -     | -     | -     | -      | -      | -      | -      | -      | -     |
|                                 | Mid Stroke Min            | 5325      | Mid Stroke Min       | 5325  | 9525  | 13725 | 17925 | 22125 | -     | -     | -     | -      | -      | -      | -      | -      | -     |
|                                 | SET                       | 10805     | AET                  | 5325  | 9525  | 13725 | 17925 | 22125 | -     | -     | -     | -      | -      | -      | -      | -      | -     |
| 420UC-S050                      | SST                       | 15627     | AST                  | -     | 19158 | 26246 | 33334 | 40422 | -     | -     | -     | -      | -      | -      | -      | -      | -     |
|                                 | Mid Stroke Min            | 6659      | Mid Stroke Min       | -     | 6659  | 10859 | 15059 | 19259 | -     | -     | -     | -      | -      | -      | -      | -      | -     |
|                                 | SET                       | 13510     | AET                  | -     | 6659  | 10859 | 15059 | 19259 | -     | -     | -     | -      | -      | -      | -      | -      | -     |
| 420UC-S060                      | SST                       | 18755     | AST                  | -     | -     | 22993 | 30081 | 37169 | 44257 | -     | -     | -      | -      | -      | -      | -      | -     |
|                                 | Mid Stroke Min            | 7987      | Mid Stroke Min       | -     | -     | 7987  | 12187 | 16387 | 20587 | -     | -     | -      | -      | -      | -      | -      | -     |
|                                 | SET                       | 16206     | AET                  | -     | -     | 7987  | 12187 | 16387 | 20587 | -     | -     | -      | -      | -      | -      | -      | -     |
| 420UC-S070                      | SST                       | 21883     | AST                  | -     | -     | 19740 | 26828 | 33916 | 41004 | -     | -     | -      | -      | -      | -      | -      | -     |
|                                 | Mid Stroke Min            | 9317      | Mid Stroke Min       | -     | -     | 5117  | 9317  | 13517 | 17717 | -     | -     | -      | -      | -      | -      | -      | -     |
|                                 | SET                       | 18904     | AET                  | -     | -     | 5117  | 9317  | 13517 | 17717 | -     | -     | -      | -      | -      | -      | -      | -     |
| 420UC-S080                      | SST                       | 25007     | AST                  | -     | -     | -     | 23570 | 30658 | 37746 | -     | -     | -      | -      | -      | -      | -      | -     |
|                                 | Mid Stroke Min            | 10650     | Mid Stroke Min       | -     | -     | -     | 6450  | 10650 | 14850 | -     | -     | -      | -      | -      | -      | -      | -     |
|                                 | SET                       | 21609     | AET                  | -     | -     | -     | 6450  | 10650 | 14850 | -     | -     | -      | -      | -      | -      | -      | -     |
| 420UC-S090                      | SST                       | 28126     | AST                  | -     | -     | -     | -     | 27394 | 34482 | 41570 | -     | -      | -      | -      | -      | -      | -     |
|                                 | Mid Stroke Min            | 11983     | Mid Stroke Min       | -     | -     | -     | -     | 7783  | 11983 | 16183 | -     | -      | -      | -      | -      | -      | -     |
|                                 | SET                       | 24314     | AET                  | -     | -     | -     | -     | 7783  | 11983 | 16183 | -     | -      | -      | -      | -      | -      | -     |
| 420UC-S100                      | SST                       | 31254     | AST                  | -     | -     | -     | -     | -     | 31229 | 38317 | 45405 | -      | -      | -      | -      | -      | -     |
|                                 | Mid Stroke Min            | 13316     | Mid Stroke Min       | -     | -     | -     | -     | -     | 9116  | 13316 | 17516 | -      | -      | -      | -      | -      | -     |
|                                 | SET                       | 27019     | AET                  | -     | -     | -     | -     | -     | 9116  | 13316 | 17516 | -      | -      | -      | -      | -      | -     |
| 575UC-S040<br>Series B/C/S only | SST                       | 17120     | AST                  | 20989 | 31759 | 42529 | 53299 | 64069 | 74839 | 85609 | 96379 | 107149 | 117919 | -      | -      | -      | -     |
|                                 | Mid Stroke Min            | 7288      | Mid Stroke Min       | 7288  | 13671 | 20054 | 26437 | 32820 | 39203 | 45586 | 51969 | 58352  | 64735  | -      | -      | -      | -     |
|                                 | SET                       | 14788     | AET                  | 7288  | 13671 | 20054 | 26437 | 32820 | 39203 | 45586 | 51969 | 58352  | 64735  | -      | -      | -      | -     |
| 575UC-S050<br>Series B/C/S only | SST                       | 21398     | AST                  | -     | 26233 | 37003 | 47773 | 58543 | 69313 | 80083 | 90853 | 101623 | 112393 | -      | -      | -      | -     |
|                                 | Mid Stroke Min            | 9114      | Mid Stroke Min       | -     | 9114  | 15497 | 21880 | 28263 | 34646 | 41029 | 47412 | 53795  | 60178  | -      | -      | -      | -     |
|                                 | SET                       | 18493     | AET                  | -     | 9114  | 15497 | 21880 | 28263 | 34646 | 41029 | 47412 | 53795  | 60178  | -      | -      | -      | -     |
| 575UC-S060<br>Series B/C/S only | SST                       | 25675     | AST                  | -     | -     | 31478 | 42248 | 53018 | 63788 | 74558 | 85328 | 96098  | 106868 | 117638 | -      | -      | -     |
|                                 | Mid Stroke Min            | 10933     | Mid Stroke Min       | -     | -     | 10933 | 17316 | 23699 | 30082 | 36465 | 42848 | 49231  | 55614  | 61997  | -      | -      | -     |
|                                 | SET                       | 22183     | AET                  | -     | -     | 10933 | 17316 | 23699 | 30082 | 36465 | 42848 | 49231  | 55614  | 61997  | -      | -      | -     |
| 575UC-S070<br>Series B/C/S only | SST                       | 29953     | AST                  | -     | -     | 25952 | 36722 | 47492 | 58262 | 69032 | 79802 | 90572  | 101342 | 112112 | -      | -      | -     |
|                                 | Mid Stroke Min            | 12759     | Mid Stroke Min       | -     | -     | 6376  | 12759 | 19142 | 25525 | 31908 | 38291 | 44674  | 51057  | 57440  | -      | -      | -     |
|                                 | SET                       | 25887     | AET                  | -     | -     | 6376  | 12759 | 19142 | 25525 | 31908 | 38291 | 44674  | 51057  | 57440  | -      | -      | -     |
| 575UC-S080<br>Series B/C/S only | SST                       | 31839     | AST                  | -     | -     | -     | 31202 | 41972 | 52742 | 63512 | 74282 | 85052  | 95822  | 106592 | 117362 | -      | -     |
|                                 | Mid Stroke Min            | 14580     | Mid Stroke Min       | -     | -     | -     | 8197  | 14580 | 20963 | 27346 | 33729 | 40112  | 46495  | 52878  | 59261  | -      | -     |
|                                 | SET                       | 27512     | AET                  | -     | -     | -     | 8197  | 14580 | 20963 | 27346 | 33729 | 40112  | 46495  | 52878  | 59261  | -      | -     |
| 575UC-S090<br>Series B/C/S only | SST                       | 38513     | AST                  | -     | -     | -     | -     | 36447 | 47217 | 57987 | 68757 | 79527  | 90297  | 101067 | 111837 | -      | -     |
|                                 | Mid Stroke Min            | 16399     | Mid Stroke Min       | -     | -     | -     | -     | 10016 | 16399 | 22782 | 29165 | 35548  | 41931  | 48314  | 54697  | -      | -     |
|                                 | SET                       | 33274     | AET                  | -     | -     | -     | -     | 10016 | 16399 | 22782 | 29165 | 35548  | 41931  | 48314  | 54697  | -      | -     |
| 575UC-S100<br>Series B/C/S only | SST                       | 42796     | AST                  | -     | -     | -     | -     | -     | 41697 | 52467 | 63237 | 74007  | 84777  | 95547  | 106317 | 117087 | -     |
|                                 | Mid Stroke Min            | 18222     | Mid Stroke Min       | -     | -     | -     | -     | -     | 11839 | 18222 | 24605 | 30988  | 37371  | 43754  | 50137  | 56520  | -     |
|                                 | SET                       | 36971     | AET                  | -     | -     | -     | -     | -     | 11839 | 18222 | 24605 | 30988  | 37371  | 43754  | 50137  | 56520  | -     |



**Series A/B/C/S: Models 023 - 7114**  
Spring Return - Fail Closed (CW)  
Canted Yoke Design

| Model Number                     | Spring Torques<br>lb. in. |       | Torque at      | Air torques lb. in.  |       |       |        |        |        |        |        |        |                            |       |       |       |        |
|----------------------------------|---------------------------|-------|----------------|----------------------|-------|-------|--------|--------|--------|--------|--------|--------|----------------------------|-------|-------|-------|--------|
|                                  |                           |       |                | Supply Pressure psig |       |       |        |        |        |        |        |        |                            |       |       |       |        |
|                                  |                           |       |                | 40                   | 50    | 60    | 70     | 80     | 90     | 100    | 110    | 120    | 130                        | 140   | 150   | 160   |        |
| 575UC-S120<br>Series B/C/S only  | SST                       | 51351 | AST            | -                    | -     | -     | -      | -      | -      | -      | -      | 52185  | 62955                      | 73725 | 84495 | 95265 | 106035 |
|                                  | Mid Stroke Min            | 21873 | Mid Stroke Min | -                    | -     | -     | -      | -      | -      | -      | -      | 15490  | 21873                      | 28256 | 34639 | 41022 | 47405  |
|                                  | SET                       | 44380 | AET            | -                    | -     | -     | -      | -      | -      | -      | -      | 15490  | 21873                      | 28256 | 34639 | 41022 | 47405  |
| 575UC-S140<br>Series B/C/S only  | SST                       | 59906 | AST            | -                    | -     | -     | -      | -      | -      | -      | -      | -      | -                          | 62674 | 73444 | 84214 | 94984  |
|                                  | Mid Stroke Min            | 25517 | Mid Stroke Min | -                    | -     | -     | -      | -      | -      | -      | -      | -      | -                          | 19134 | 25517 | 31900 | 38283  |
|                                  | SET                       | 51773 | AET            | -                    | -     | -     | -      | -      | -      | -      | -      | -      | -                          | 19134 | 25517 | 31900 | 38283  |
| 575UC-S160<br>Series B/C/S only  | SST                       | 68471 | AST            | -                    | -     | -     | -      | -      | -      | -      | -      | -      | -                          | -     | -     | 73174 | 83944  |
|                                  | Mid Stroke Min            | 29161 | Mid Stroke Min | -                    | -     | -     | -      | -      | -      | -      | -      | -      | -                          | -     | -     | 22778 | 29161  |
|                                  | SET                       | 59168 | AET            | -                    | -     | -     | -      | -      | -      | -      | -      | -      | -                          | -     | -     | 22778 | 29161  |
| 740UC-S040<br>Series B/C/S only  | SST                       | 22030 | AST            | 27008                | 40120 | 53232 | 66344  | 79456  | 92568  | 105680 | 118792 | -      | Maximum Operating Pressure |       |       |       |        |
|                                  | Mid Stroke Min            | 10276 | Mid Stroke Min | 10276                | 18046 | 25816 | 33586  | 41356  | 49126  | 56896  | 64666  | -      | 120 psig                   |       |       |       |        |
|                                  | SET                       | 20850 | AET            | 10276                | 18046 | 25816 | 33586  | 41356  | 49126  | 56896  | 64666  | -      |                            |       |       |       |        |
| 740UC-S050<br>Series B/C/S only  | SST                       | 27535 | AST            | -                    | 33757 | 46869 | 59981  | 73093  | 86205  | 99317  | 112429 | -      | Maximum Operating Pressure |       |       |       |        |
|                                  | Mid Stroke Min            | 12847 | Mid Stroke Min | -                    | 12847 | 20617 | 28387  | 36157  | 43927  | 51697  | 59467  | -      | 120 psig                   |       |       |       |        |
|                                  | SET                       | 26067 | AET            | -                    | 12847 | 20617 | 28387  | 36157  | 43927  | 51697  | 59467  | -      |                            |       |       |       |        |
| 740UC-S060<br>Series B/C/S only  | SST                       | 33045 | AST            | -                    | -     | 40512 | 53624  | 66736  | 79848  | 92960  | 106072 | -      | Maximum Operating Pressure |       |       |       |        |
|                                  | Mid Stroke Min            | 15414 | Mid Stroke Min | -                    | -     | 15414 | 23184  | 30954  | 38724  | 46494  | 54264  | -      | 120 psig                   |       |       |       |        |
|                                  | SET                       | 31275 | AET            | -                    | -     | 15414 | 23184  | 30954  | 38724  | 46494  | 54264  | -      |                            |       |       |       |        |
| 740UC-S070<br>Series B/C/S only  | SST                       | 38554 | AST            | -                    | -     | 34155 | 47267  | 60379  | 73491  | 86603  | 99715  | 112827 | Maximum Operating Pressure |       |       |       |        |
|                                  | Mid Stroke Min            | 17981 | Mid Stroke Min | -                    | -     | 10211 | 17981  | 25751  | 33521  | 41291  | 49061  | 56831  | 120 psig                   |       |       |       |        |
|                                  | SET                       | 36483 | AET            | -                    | -     | 10211 | 17981  | 25751  | 33521  | 41291  | 49061  | 56831  |                            |       |       |       |        |
| 740UC-S080<br>Series B/C/S only  | SST                       | 44060 | AST            | -                    | -     | -     | 40904  | 54016  | 67128  | 80240  | 93352  | 106464 | Maximum Operating Pressure |       |       |       |        |
|                                  | Mid Stroke Min            | 20552 | Mid Stroke Min | -                    | -     | -     | 12782  | 20552  | 28322  | 36092  | 43862  | 51632  | 120 psig                   |       |       |       |        |
|                                  | SET                       | 41699 | AET            | -                    | -     | -     | 12782  | 20552  | 28322  | 36092  | 43862  | 51632  |                            |       |       |       |        |
| 740UC-S090<br>Series B/C/S only  | SST                       | 49563 | AST            | -                    | -     | -     | -      | 47651  | 60763  | 73875  | 86987  | 100099 | Maximum Operating Pressure |       |       |       |        |
|                                  | Mid Stroke Min            | 23125 | Mid Stroke Min | -                    | -     | -     | -      | 15355  | 23125  | 30895  | 38665  | 46435  | 120 psig                   |       |       |       |        |
|                                  | SET                       | 46920 | AET            | -                    | -     | -     | -      | 15355  | 23125  | 30895  | 38665  | 46435  |                            |       |       |       |        |
| 740UC-S100<br>Series B/C/S only  | SST                       | 55070 | AST            | -                    | -     | -     | -      | -      | 54403  | 67515  | 80627  | 93739  | Maximum Operating Pressure |       |       |       |        |
|                                  | Mid Stroke Min            | 25694 | Mid Stroke Min | -                    | -     | -     | -      | -      | 17924  | 25694  | 33464  | 41234  | 120 psig                   |       |       |       |        |
|                                  | SET                       | 52133 | AET            | -                    | -     | -     | -      | -      | 17924  | 25694  | 33464  | 41234  |                            |       |       |       |        |
| 944UC-S040<br>Series B/C/S only  | SST                       | 27535 | AST            | 33757                | 50820 | 67883 | 84946  | 102009 | 119072 | -      | -      | -      | Maximum Operating Pressure |       |       |       |        |
|                                  | Mid Stroke Min            | 11953 | Mid Stroke Min | 11953                | 22065 | 32177 | 42289  | 52401  | 62513  | -      | -      | -      | 120 psig                   |       |       |       |        |
|                                  | SET                       | 24252 | AET            | 11953                | 22065 | 32177 | 42289  | 52401  | 62513  | -      | -      | -      |                            |       |       |       |        |
| 944UC-S050<br>Series B/C/S only  | SST                       | 33045 | AST            | -                    | 40512 | 57575 | 74638  | 91701  | 108764 | -      | -      | -      | Maximum Operating Pressure |       |       |       |        |
|                                  | Mid Stroke Min            | 14342 | Mid Stroke Min | -                    | 14342 | 24454 | 34566  | 44678  | 54790  | -      | -      | -      | 120 psig                   |       |       |       |        |
|                                  | SET                       | 29099 | AET            | -                    | 14342 | 24454 | 34566  | 44678  | 54790  | -      | -      | -      |                            |       |       |       |        |
| 944UC-S060<br>Series B/C/S only  | SST                       | 38554 | AST            | -                    | -     | 47267 | 64330  | 81393  | 98456  | 115519 | -      | -      | Maximum Operating Pressure |       |       |       |        |
|                                  | Mid Stroke Min            | 16730 | Mid Stroke Min | -                    | -     | 16730 | 26842  | 36954  | 47066  | 57178  | -      | -      | 120 psig                   |       |       |       |        |
|                                  | SET                       | 33944 | AET            | -                    | -     | 16730 | 26842  | 36954  | 47066  | 57178  | -      | -      |                            |       |       |       |        |
| 944UC-S070<br>Series B/C/S only  | SST                       | 44060 | AST            | -                    | -     | 36953 | 54016  | 71079  | 88142  | 105205 | -      | -      | Maximum Operating Pressure |       |       |       |        |
|                                  | Mid Stroke Min            | 19122 | Mid Stroke Min | -                    | -     | 9010  | 19122  | 29234  | 39346  | 49458  | -      | -      | 120 psig                   |       |       |       |        |
|                                  | SET                       | 38798 | AET            | -                    | -     | 9010  | 19122  | 29234  | 39346  | 49458  | -      | -      |                            |       |       |       |        |
| 945UC-S080<br>Series B/C/S only  | SST                       | 51351 | AST            | -                    | -     | -     | 45892  | 62955  | 80018  | 97081  | 114144 | -      | Maximum Operating Pressure |       |       |       |        |
|                                  | Mid Stroke Min            | 22289 | Mid Stroke Min | -                    | -     | -     | 12177  | 22289  | 32401  | 42513  | 52625  | -      | 120 psig                   |       |       |       |        |
|                                  | SET                       | 45224 | AET            | -                    | -     | -     | 12177  | 22289  | 32401  | 42513  | 52625  | -      |                            |       |       |       |        |
| 945UC-S090<br>Series B/C/S only  | SST                       | 59906 | AST            | -                    | -     | -     | -      | 56381  | 73444  | 90507  | 107570 | -      | Maximum Operating Pressure |       |       |       |        |
|                                  | Mid Stroke Min            | 26003 | Mid Stroke Min | -                    | -     | -     | -      | 15891  | 26003  | 36115  | 46227  | -      | 120 psig                   |       |       |       |        |
|                                  | SET                       | 52759 | AET            | -                    | -     | -     | -      | 15891  | 26003  | 36115  | 46227  | -      |                            |       |       |       |        |
| 945UC-S100<br>Series B/C/S only  | SST                       | 68471 | AST            | -                    | -     | -     | -      | -      | 66881  | 83944  | 101007 | -      | Maximum Operating Pressure |       |       |       |        |
|                                  | Mid Stroke Min            | 29717 | Mid Stroke Min | -                    | -     | -     | -      | -      | 19605  | 29717  | 39829  | -      | 120 psig                   |       |       |       |        |
|                                  | SET                       | 60295 | AET            | -                    | -     | -     | -      | -      | 19605  | 29717  | 39829  | -      |                            |       |       |       |        |
| 945UC-S110<br>Series B/C/S only  | SST                       | 77026 | AST            | -                    | -     | -     | -      | -      | -      | 77370  | 94433  | 111496 | Maximum Operating Pressure |       |       |       |        |
|                                  | Mid Stroke Min            | 33431 | Mid Stroke Min | -                    | -     | -     | -      | -      | -      | 23319  | 33431  | 43543  | 120 psig                   |       |       |       |        |
|                                  | SET                       | 67830 | AET            | -                    | -     | -     | -      | -      | -      | 23319  | 33431  | 43543  |                            |       |       |       |        |
| 945UC-S120<br>Series B/C/S only  | SST                       | 77026 | AST            | -                    | -     | -     | -      | -      | -      | 77370  | 94433  | 111496 | Maximum Operating Pressure |       |       |       |        |
|                                  | Mid Stroke Min            | 33431 | Mid Stroke Min | -                    | -     | -     | -      | -      | -      | 23319  | 33431  | 43543  | 120 psig                   |       |       |       |        |
|                                  | SET                       | 67830 | AET            | -                    | -     | -     | -      | -      | -      | 23319  | 33431  | 43543  |                            |       |       |       |        |
| 1150UC-S040<br>Series B/C/S only | SST                       | 34236 | AST            | 41972                | 62349 | 82726 | 103103 | -      | -      | -      | -      | -      | Maximum Operating Pressure |       |       |       |        |
|                                  | Mid Stroke Min            | 14580 | Mid Stroke Min | 14580                | 26655 | 38730 | 50805  | -      | -      | -      | -      | -      | 120 psig                   |       |       |       |        |
|                                  | SET                       | 29583 | AET            | 14580                | 26655 | 38730 | 50805  | -      | -      | -      | -      | -      |                            |       |       |       |        |
| 1150UC-S050<br>Series B/C/S only | SST                       | 42796 | AST            | -                    | 52467 | 72844 | 93221  | 113598 | -      | -      | -      | -      | Maximum Operating Pressure |       |       |       |        |
|                                  | Mid Stroke Min            | 18222 | Mid Stroke Min | -                    | 18222 | 30297 | 42372  | 54447  | -      | -      | -      | -      | 120 psig                   |       |       |       |        |
|                                  | SET                       | 36971 | AET            | -                    | 18222 | 30297 | 42372  | 54447  | -      | -      | -      | -      |                            |       |       |       |        |
| 1150UC-S060<br>Series B/C/S only | SST                       | 51351 | AST            | -                    | -     | 62955 | 83332  | 103709 | -      | -      | -      | -      | Maximum Operating Pressure |       |       |       |        |
|                                  | Mid Stroke Min            | 21873 | Mid Stroke Min | -                    | -     | 21873 | 33948  | 46023  | -      | -      | -      | -      | 120 psig                   |       |       |       |        |
|                                  | SET                       | 44380 | AET            | -                    | -     | 21873 | 33948  | 46023  | -      | -      | -      | -      |                            |       |       |       |        |





**Series A/B/C/S: Models 023 - 7114**  
**Spring Return - Fail Closed (CW)**  
**Canted Yoke Design**

| Model Number                     | Spring Torques<br>lb. in. |        | Torque at      | Air torques lb. in.  |        |        |        |        |        |        |        |        |     |     |     |     |                            |
|----------------------------------|---------------------------|--------|----------------|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|-----|-----|-----|-----|----------------------------|
|                                  |                           |        |                | Supply Pressure psig |        |        |        |        |        |        |        |        |     |     |     |     |                            |
|                                  |                           |        |                | 40                   | 50     | 60     | 70     | 80     | 90     | 100    | 110    | 120    | 130 | 140 | 150 | 160 |                            |
| 1150UC-S070<br>Series B/C/S only | SST                       | 59906  | AST            | -                    | -      | 53067  | 73444  | 93821  | 114198 | -      | -      | -      | -   | -   | -   | -   | Maximum Operating Pressure |
|                                  | Mid Stroke Min            | 25517  | Mid Stroke Min | -                    | -      | 13442  | 25517  | 37592  | 49667  | -      | -      | -      | -   | -   | -   | -   | 120 psig                   |
|                                  | SET                       | 51773  | AET            | -                    | -      | 13442  | 25517  | 37592  | 49667  | -      | -      | -      | -   | -   | -   | -   |                            |
| 1150UC-S080<br>Series B/C/S only | SST                       | 68471  | AST            | -                    | -      | -      | 63567  | 83944  | 104321 | -      | -      | -      | -   | -   | -   | -   | Maximum Operating Pressure |
|                                  | Mid Stroke Min            | 29161  | Mid Stroke Min | -                    | -      | -      | 17086  | 29161  | 41236  | -      | -      | -      | -   | -   | -   | -   | 120 psig                   |
|                                  | SET                       | 59168  | AET            | -                    | -      | -      | 17086  | 29161  | 41236  | -      | -      | -      | -   | -   | -   | -   |                            |
| 1150UC-S090<br>Series B/C/S only | SST                       | 77026  | AST            | -                    | -      | -      | -      | 74056  | 94433  | 114810 | -      | -      | -   | -   | -   | -   | Maximum Operating Pressure |
|                                  | Mid Stroke Min            | 32805  | Mid Stroke Min | -                    | -      | -      | -      | 20730  | 32805  | 44880  | -      | -      | -   | -   | -   | -   | 120 psig                   |
|                                  | SET                       | 66562  | AET            | -                    | -      | -      | -      | 20730  | 32805  | 44880  | -      | -      | -   | -   | -   | -   |                            |
| 1150UC-S100<br>Series B/C/S only | SST                       | 85591  | AST            | -                    | -      | -      | -      | -      | 84556  | 104933 | -      | -      | -   | -   | -   | -   | Maximum Operating Pressure |
|                                  | Mid Stroke Min            | 36442  | Mid Stroke Min | -                    | -      | -      | -      | -      | 24367  | 36442  | -      | -      | -   | -   | -   | -   | 120 psig                   |
|                                  | SET                       | 73941  | AET            | -                    | -      | -      | -      | -      | 24367  | 36442  | -      | -      | -   | -   | -   | -   |                            |
| 1480UC-S040<br>Series S Only     | SST                       | 44060  | AST            | 54016                | 78991  | 103966 | 128941 | 153916 | 178891 | 203866 | 228841 | -      | -   | -   | -   | -   | MAXIMUM OPERATING          |
|                                  | Mid Stroke Min            | 17871  | Mid Stroke Min | 17871                | 32671  | 47471  | 62271  | 77071  | 91871  | 106671 | 121471 | -      | -   | -   | -   | -   | PRESSURE = 120 PSI         |
|                                  | SET                       | 36260  | AET            | 17871                | 32671  | 47471  | 62271  | 77071  | 91871  | 106671 | 121471 | -      | -   | -   | -   | -   |                            |
| 1480UC-S050<br>Series S Only     | SST                       | 55075  | AST            | -                    | 67520  | 92495  | 117470 | 142445 | 167420 | 192395 | 217370 | -      | -   | -   | -   | -   | MAXIMUM OPERATING          |
|                                  | Mid Stroke Min            | 22339  | Mid Stroke Min | -                    | 22339  | 37139  | 51939  | 66739  | 81539  | 96339  | 111139 | -      | -   | -   | -   | -   | PRESSURE = 120 PSI         |
|                                  | SET                       | 45325  | AET            | -                    | 22339  | 37139  | 51939  | 66739  | 81539  | 96339  | 111139 | -      | -   | -   | -   | -   |                            |
| 1480UC-S060<br>Series S Only     | SST                       | 66089  | AST            | -                    | -      | 81024  | 105999 | 130974 | 155949 | 180924 | 205899 | 230874 | -   | -   | -   | -   | MAXIMUM OPERATING          |
|                                  | Mid Stroke Min            | 26807  | Mid Stroke Min | -                    | -      | 26807  | 41607  | 56407  | 71207  | 86007  | 100807 | 115607 | -   | -   | -   | -   | PRESSURE = 120 PSI         |
|                                  | SET                       | 54390  | AET            | -                    | -      | 26807  | 41607  | 56407  | 71207  | 86007  | 100807 | 115607 | -   | -   | -   | -   |                            |
| 1480UC-S070<br>Series S Only     | SST                       | 77104  | AST            | -                    | -      | 69554  | 94529  | 119504 | 144479 | 169454 | 194429 | 219404 | -   | -   | -   | -   | MAXIMUM OPERATING          |
|                                  | Mid Stroke Min            | 31212  | Mid Stroke Min | -                    | -      | 16412  | 31212  | 46012  | 60812  | 75612  | 90412  | 105212 | -   | -   | -   | -   | PRESSURE = 120 PSI         |
|                                  | SET                       | 63329  | AET            | -                    | -      | 16412  | 31212  | 46012  | 60812  | 75612  | 90412  | 105212 | -   | -   | -   | -   |                            |
| 1480UC-S080<br>Series S Only     | SST                       | 88119  | AST            | -                    | -      | -      | 83058  | 108033 | 133008 | 157983 | 182958 | 207933 | -   | -   | -   | -   | MAXIMUM OPERATING          |
|                                  | Mid Stroke Min            | 35742  | Mid Stroke Min | -                    | -      | -      | 20942  | 35742  | 50542  | 65342  | 80142  | 94942  | -   | -   | -   | -   | PRESSURE = 120 PSI         |
|                                  | SET                       | 72520  | AET            | -                    | -      | -      | 20942  | 35742  | 50542  | 65342  | 80142  | 94942  | -   | -   | -   | -   |                            |
| 1480UC-S090<br>Series S Only     | SST                       | 99134  | AST            | -                    | -      | -      | -      | 96562  | 121537 | 146512 | 171487 | 196462 | -   | -   | -   | -   | MAXIMUM OPERATING          |
|                                  | Mid Stroke Min            | 40210  | Mid Stroke Min | -                    | -      | -      | -      | 25410  | 40210  | 55010  | 69810  | 84610  | -   | -   | -   | -   | PRESSURE = 120 PSI         |
|                                  | SET                       | 81585  | AET            | -                    | -      | -      | -      | 25410  | 40210  | 55010  | 69810  | 84610  | -   | -   | -   | -   |                            |
| 1480UC-S100<br>Series S Only     | SST                       | 110149 | AST            | -                    | -      | -      | -      | -      | 110066 | 135041 | 160016 | 184991 | -   | -   | -   | -   | MAXIMUM OPERATING          |
|                                  | Mid Stroke Min            | 44678  | Mid Stroke Min | -                    | -      | -      | -      | -      | 29878  | 44678  | 59478  | 74278  | -   | -   | -   | -   | PRESSURE = 120 PSI         |
|                                  | SET                       | 90650  | AET            | -                    | -      | -      | -      | -      | 29878  | 44678  | 59478  | 74278  | -   | -   | -   | -   |                            |
| 1485UC-S040<br>Series B/C Only   | SST                       | 49690  | AST            | 60920                | 91865  | 122810 | 153755 | 184700 | 215645 | 246590 | 277535 | 308480 | -   | -   | -   | -   | Maximum Operating Pressure |
|                                  | Mid Stroke Min            | 20470  | Mid Stroke Min | 20470                | 37180  | 53890  | 70600  | 87310  | 104020 | 120730 | 137440 | 154150 | -   | -   | -   | -   | 120 psig                   |
|                                  | SET                       | 41533  | AET            | 20470                | 37180  | 53890  | 70600  | 87310  | 104020 | 120730 | 137440 | 154150 | -   | -   | -   | -   |                            |
| 1485UC-S050<br>Series B/C Only   | SST                       | 62113  | AST            | -                    | 76150  | 107095 | 138040 | 168985 | 199930 | 230875 | 261820 | 292765 | -   | -   | -   | -   | Maximum Operating Pressure |
|                                  | Mid Stroke Min            | 25587  | Mid Stroke Min | -                    | 25587  | 42297  | 59007  | 75717  | 92427  | 109137 | 125847 | 142557 | -   | -   | -   | -   | 120 psig                   |
|                                  | SET                       | 51916  | AET            | -                    | 25587  | 42297  | 59007  | 75717  | 92427  | 109137 | 125847 | 142557 | -   | -   | -   | -   |                            |
| 1485UC-S060<br>Series B/C Only   | SST                       | 74536  | AST            | -                    | 60434  | 91379  | 122324 | 153269 | 184214 | 215159 | 246104 | 277049 | -   | -   | -   | -   | Maximum Operating Pressure |
|                                  | Mid Stroke Min            | 30705  | Mid Stroke Min | -                    | 13995  | 30705  | 47415  | 64125  | 80835  | 97545  | 114255 | 130965 | -   | -   | -   | -   | 120 psig                   |
|                                  | SET                       | 62300  | AET            | -                    | 13995  | 30705  | 47415  | 64125  | 80835  | 97545  | 114255 | 130965 | -   | -   | -   | -   |                            |
| 1485UC-S070<br>Series B/C Only   | SST                       | 86958  | AST            | -                    | -      | 75664  | 106609 | 137554 | 168499 | 199444 | 230389 | 261334 | -   | -   | -   | -   | Maximum Operating Pressure |
|                                  | Mid Stroke Min            | 35822  | Mid Stroke Min | -                    | -      | 19112  | 35822  | 52532  | 69242  | 85952  | 102662 | 119372 | -   | -   | -   | -   | 120 psig                   |
|                                  | SET                       | 72683  | AET            | -                    | -      | 19112  | 35822  | 52532  | 69242  | 85952  | 102662 | 119372 | -   | -   | -   | -   |                            |
| 1485UC-S080<br>Series B/C Only   | SST                       | 99381  | AST            | -                    | -      | -      | 90894  | 121839 | 152784 | 183729 | 214674 | 245619 | -   | -   | -   | -   | Maximum Operating Pressure |
|                                  | Mid Stroke Min            | 40940  | Mid Stroke Min | -                    | -      | -      | 24230  | 40940  | 57650  | 74360  | 91070  | 107780 | -   | -   | -   | -   | 120 psig                   |
|                                  | SET                       | 83066  | AET            | -                    | -      | -      | 24230  | 40940  | 57650  | 74360  | 91070  | 107780 | -   | -   | -   | -   |                            |
| 1485UC-S090<br>Series B/C Only   | SST                       | 111804 | AST            | -                    | -      | -      | -      | 96701  | 137069 | 177437 | 217805 | 258173 | -   | -   | -   | -   | Maximum Operating Pressure |
|                                  | Mid Stroke Min            | 46057  | Mid Stroke Min | -                    | -      | -      | -      | 24258  | 46057  | 67856  | 89655  | 111454 | -   | -   | -   | -   | 120 psig                   |
|                                  | SET                       | 93449  | AET            | -                    | -      | -      | -      | 24258  | 46057  | 67856  | 89655  | 111454 | -   | -   | -   | -   |                            |
| 1485UC-S100<br>Series B/C Only   | SST                       | 124226 | AST            | -                    | -      | -      | -      | -      | 121354 | 152299 | 183244 | 214189 | -   | -   | -   | -   | Maximum Operating Pressure |
|                                  | Mid Stroke Min            | 51175  | Mid Stroke Min | -                    | -      | -      | -      | -      | 34465  | 51175  | 67885  | 84595  | -   | -   | -   | -   | 120 psig                   |
|                                  | SET                       | 103833 | AET            | -                    | -      | -      | -      | -      | 34465  | 51175  | 67885  | 84595  | -   | -   | -   | -   |                            |
| 1934UC-S040<br>Series B/C Only   | SST                       | 62113  | AST            | 76150                | 116518 | 156886 | 197254 | 211300 | 277990 | 318358 | 358726 | 399094 | -   | -   | -   | -   | Maximum Operating Pressure |
|                                  | Mid Stroke Min            | 25587  | Mid Stroke Min | 25587                | 47386  | 69185  | 90984  | 104007 | 134582 | 156381 | 178180 | 199979 | -   | -   | -   | -   | 120 psig                   |
|                                  | SET                       | 51916  | AET            | 25587                | 47386  | 69185  | 90984  | 104007 | 134582 | 156381 | 178180 | 199979 | -   | -   | -   | -   |                            |
| 1934UC-S050<br>Series B/C Only   | SST                       | 74536  | AST            | 51011                | 91379  | 131747 | 172115 | 212483 | 252851 | 293219 | 333587 | 373955 | -   | -   | -   | -   | Maximum Operating Pressure |
|                                  | Mid Stroke Min            | 30705  | Mid Stroke Min | 8906                 | 30705  | 52504  | 74303  | 96102  | 117901 | 139700 | 161499 | 183298 | -   | -   | -   | -   | 120 psig                   |
|                                  | SET                       | 62300  | AET            | 8906                 | 30705  | 52504  | 74303  | 96102  | 117901 | 139700 | 161499 | 183298 | -   | -   | -   | -   |                            |
| 1934UC-S060<br>Series B/C Only   | SST                       | 86958  | AST            | -                    | 66241  | 106609 | 146977 | 187345 | 227713 | 268081 | 308449 | 348817 | -   | -   | -   | -   | Maximum Operating Pressure |
|                                  | Mid Stroke Min            | 35822  | Mid Stroke Min | -                    | 14023  | 35822  | 57621  | 79420  | 101219 | 123018 | 144817 | 166616 | -   | -   | -   | -   | 120 psig                   |
|                                  | SET                       | 72683  | AET            | -                    | 14023  | 35822  | 57621  | 79420  | 101219 | 123018 | 144817 | 166616 | -   | -   | -   | -   |                            |
| 1934UC-S070<br>Series B/C Only   | SST                       | 111804 | AST            | -                    | -      | 96700  | 137069 | 177438 | 217807 | 258176 | 298545 | 338914 | -   | -   | -   | -   | Maximum Operating Pressure |
|                                  | Mid Stroke Min            | 46057  | Mid Stroke Min | -                    | -      | 24258  | 46057  | 67856  | 89655  | 111454 | 133253 | 155052 | -   | -   | -   | -   | 120 psig                   |
|                                  | SET                       | 93449  | AET            | -                    | -      | 24258  | 46057  | 67856  | 89655  | 111454 | 133253 | 155052 | -   | -   | -   | -   |                            |

| Model Number | Spring Torques<br>lb. in. |  | Torque at | Supply Pressure psig |    |    |    |    |    |     |     |     |     |     |     |     |
|--------------|---------------------------|--|-----------|----------------------|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
|              |                           |  |           | Air torques lb. in.  |    |    |    |    |    |     |     |     |     |     |     |     |
|              |                           |  |           | 40                   | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |



**Series A/B/C/S: Models 023 - 7114**  
**Spring Return - Fail Closed (CW)**  
**Canted Yoke Design**

| Model Number                   | Spring Torques<br>lb. in. |        | Torque at      | Air torques lb. in.  |        |        |        |        |        |        |        |                            |                            |     |     |     |  |
|--------------------------------|---------------------------|--------|----------------|----------------------|--------|--------|--------|--------|--------|--------|--------|----------------------------|----------------------------|-----|-----|-----|--|
|                                |                           |        |                | Supply Pressure psig |        |        |        |        |        |        |        |                            |                            |     |     |     |  |
|                                |                           |        |                | 40                   | 50     | 60     | 70     | 80     | 90     | 100    | 110    | 120                        | 130                        | 140 | 150 | 160 |  |
| 1935UC-S080<br>Series B/C Only | SST                       | 124226 | AST            | -                    | -      | -      | 111931 | 152299 | 192667 | 233035 | 273403 | 313771                     | Maximum Operating Pressure |     |     |     |  |
|                                | Mid Stroke Min            | 51175  | Mid Stroke Min | -                    | -      | -      | 29376  | 51175  | 72974  | 94773  | 116572 | 138371                     | 120 psig                   |     |     |     |  |
|                                | SET                       | 103833 | AET            | -                    | -      | -      | 29376  | 51175  | 72974  | 94773  | 116572 | 138371                     |                            |     |     |     |  |
| 1935UC-S090<br>Series B/C Only | SST                       | 142105 | AST            | -                    | -      | -      | -      | 133849 | 174218 | 214587 | 254956 | 295325                     | Maximum Operating Pressure |     |     |     |  |
|                                | Mid Stroke Min            | 57639  | Mid Stroke Min | -                    | -      | -      | -      | 35840  | 57639  | 79438  | 101237 | 123036                     | 120 psig                   |     |     |     |  |
|                                | SET                       | 116949 | AET            | -                    | -      | -      | -      | 35840  | 57639  | 79438  | 101237 | 123036                     |                            |     |     |     |  |
| 1935UC-S100<br>Series B/C Only | SST                       | 162406 | AST            | -                    | -      | -      | -      | 158739 | 199107 | 239475 | 279843 | Maximum Operating Pressure |                            |     |     |     |  |
|                                | Mid Stroke Min            | 65873  | Mid Stroke Min | -                    | -      | -      | -      | 44074  | 65873  | 87672  | 109471 | 120 psig                   |                            |     |     |     |  |
|                                | SET                       | 133656 | AET            | -                    | -      | -      | -      | 44074  | 65873  | 87672  | 109471 |                            |                            |     |     |     |  |
| 1935UC-S110<br>Series B/C Only | SST                       | 182706 | AST            | -                    | -      | -      | -      | -      | 183626 | 223995 | 264364 | Maximum Operating Pressure |                            |     |     |     |  |
|                                | Mid Stroke Min            | 74107  | Mid Stroke Min | -                    | -      | -      | -      | -      | 52308  | 74107  | 95906  | 120 psig                   |                            |     |     |     |  |
|                                | SET                       | 150363 | AET            | -                    | -      | -      | -      | -      | 52308  | 74107  | 95906  |                            |                            |     |     |     |  |
| 1935UC-S120<br>Series B/C Only | SST                       | 203007 | AST            | -                    | -      | -      | -      | -      | -      | 208514 | 248883 | Maximum Operating Pressure |                            |     |     |     |  |
|                                | Mid Stroke Min            | 82342  | Mid Stroke Min | -                    | -      | -      | -      | -      | -      | 60543  | 82342  | 120 psig                   |                            |     |     |     |  |
|                                | SET                       | 167070 | AET            | -                    | -      | -      | -      | -      | -      | 60543  | 82342  |                            |                            |     |     |     |  |
| 2380UC-S040<br>Series S Only   | SST                       | 70853  | AST            | 86864                | 127027 | 167190 | 207353 | -      | -      | -      | -      | -                          | MAXIMUM OPERATING          |     |     |     |  |
|                                | Mid Stroke Min            | 28739  | Mid Stroke Min | 28739                | 52539  | 76339  | 100139 | -      | -      | -      | -      | -                          | PRESSURE = 120 PSI         |     |     |     |  |
|                                | SET                       | 58310  | AET            | 28739                | 52539  | 76339  | 100139 | -      | -      | -      | -      | -                          |                            |     |     |     |  |
| 2380UC-S050<br>Series S Only   | SST                       | 88566  | AST            | -                    | 108581 | 148744 | 188907 | 229070 | -      | -      | -      | -                          | MAXIMUM OPERATING          |     |     |     |  |
|                                | Mid Stroke Min            | 35923  | Mid Stroke Min | -                    | 35923  | 59723  | 83523  | 107323 | -      | -      | -      | -                          | PRESSURE = 120 PSI         |     |     |     |  |
|                                | SET                       | 72888  | AET            | -                    | 35923  | 59723  | 83523  | 107323 | -      | -      | -      | -                          |                            |     |     |     |  |
| 2380UC-S060<br>Series S Only   | SST                       | 106279 | AST            | -                    | -      | 130296 | 170459 | 210622 | -      | -      | -      | -                          | MAXIMUM OPERATING          |     |     |     |  |
|                                | Mid Stroke Min            | 43108  | Mid Stroke Min | -                    | -      | 43108  | 66908  | 90708  | -      | -      | -      | -                          | PRESSURE = 120 PSI         |     |     |     |  |
|                                | SET                       | 87465  | AET            | -                    | -      | 43108  | 66908  | 90708  | -      | -      | -      | -                          |                            |     |     |     |  |
| 2380UC-S070<br>Series S Only   | SST                       | 123993 | AST            | -                    | -      | 111850 | 152013 | 192176 | 232339 | -      | -      | -                          | MAXIMUM OPERATING          |     |     |     |  |
|                                | Mid Stroke Min            | 50293  | Mid Stroke Min | -                    | -      | 26493  | 50293  | 74093  | 97893  | -      | -      | -                          | PRESSURE = 120 PSI         |     |     |     |  |
|                                | SET                       | 102043 | AET            | -                    | -      | 26493  | 50293  | 74093  | 97893  | -      | -      | -                          |                            |     |     |     |  |
| 2380UC-S080<br>Series S Only   | SST                       | 141705 | AST            | -                    | -      | -      | 133565 | 173728 | 213891 | -      | -      | -                          | MAXIMUM OPERATING          |     |     |     |  |
|                                | Mid Stroke Min            | 57477  | Mid Stroke Min | -                    | -      | -      | 33677  | 57477  | 81277  | -      | -      | -                          | PRESSURE = 120 PSI         |     |     |     |  |
|                                | SET                       | 116620 | AET            | -                    | -      | -      | 33677  | 57477  | 81277  | -      | -      | -                          |                            |     |     |     |  |
| 2380UC-S090<br>Series S Only   | SST                       | 159419 | AST            | -                    | -      | -      | -      | 155282 | 195445 | 235608 | -      | -                          | MAXIMUM OPERATING          |     |     |     |  |
|                                | Mid Stroke Min            | 64662  | Mid Stroke Min | -                    | -      | -      | -      | 40862  | 64662  | 88462  | -      | -                          | PRESSURE = 120 PSI         |     |     |     |  |
|                                | SET                       | 131198 | AET            | -                    | -      | -      | -      | 40862  | 64662  | 88462  | -      | -                          |                            |     |     |     |  |
| 2380UC-S100<br>Series S Only   | SST                       | 177132 | AST            | -                    | -      | -      | -      | 176997 | 217160 | -      | -      | -                          | MAXIMUM OPERATING          |     |     |     |  |
|                                | Mid Stroke Min            | 71846  | Mid Stroke Min | -                    | -      | -      | -      | 48046  | 71846  | -      | -      | -                          | PRESSURE = 120 PSI         |     |     |     |  |
|                                | SET                       | 145775 | AET            | -                    | -      | -      | -      | 48046  | 71846  | -      | -      | -                          |                            |     |     |     |  |
| 2385UC-S040<br>Series B/C Only | SST                       | 81203  | AST            | 99553                | 149345 | 199137 | 248929 | 298721 | 348513 | 398305 | 448097 | 497889                     | Maximum Operating Pressure |     |     |     |  |
|                                | Mid Stroke Min            | 32937  | Mid Stroke Min | 32937                | 59824  | 86711  | 113598 | 140485 | 167372 | 194259 | 221146 | 248033                     | 120 psig                   |     |     |     |  |
|                                | SET                       | 66828  | AET            | 32937                | 59824  | 86711  | 113598 | 140485 | 167372 | 194259 | 221146 | 248033                     |                            |     |     |     |  |
| 2385UC-S050<br>Series B/C Only | SST                       | 101504 | AST            | 74650                | 124442 | 174234 | 224026 | 273818 | 323610 | 373402 | 423194 | 472986                     | Maximum Operating Pressure |     |     |     |  |
|                                | Mid Stroke Min            | 41171  | Mid Stroke Min | 14284                | 41171  | 68058  | 94945  | 121832 | 148719 | 175606 | 202493 | 229380                     | 120 psig                   |     |     |     |  |
|                                | SET                       | 83535  | AET            | 14284                | 41171  | 68058  | 94945  | 121832 | 148719 | 175606 | 202493 | 229380                     |                            |     |     |     |  |
| 2385UC-S060<br>Series B/C Only | SST                       | 121804 | AST            | -                    | 99538  | 149330 | 199122 | 248914 | 298706 | 348498 | 398290 | 448082                     | Maximum Operating Pressure |     |     |     |  |
|                                | Mid Stroke Min            | 49405  | Mid Stroke Min | -                    | 22518  | 49405  | 76292  | 103179 | 130066 | 156953 | 183840 | 210727                     | 120 psig                   |     |     |     |  |
|                                | SET                       | 100242 | AET            | -                    | 22518  | 49405  | 76292  | 103179 | 130066 | 156953 | 183840 | 210727                     |                            |     |     |     |  |
| 2385UC-S070<br>Series B/C Only | SST                       | 142105 | AST            | -                    | -      | 124426 | 174218 | 224010 | 273802 | 323594 | 373386 | 423178                     | Maximum Operating Pressure |     |     |     |  |
|                                | Mid Stroke Min            | 57639  | Mid Stroke Min | -                    | -      | 30752  | 57639  | 84526  | 111413 | 138300 | 165187 | 192074                     | 120 psig                   |     |     |     |  |
|                                | SET                       | 116949 | AET            | -                    | -      | 30752  | 57639  | 84526  | 111413 | 138300 | 165187 | 192074                     |                            |     |     |     |  |
| 2385UC-S080<br>Series B/C Only | SST                       | 162406 | AST            | -                    | -      | -      | 149315 | 199107 | 248899 | 298691 | 348483 | 398275                     | Maximum Operating Pressure |     |     |     |  |
|                                | Mid Stroke Min            | 65873  | Mid Stroke Min | -                    | -      | -      | 38986  | 65873  | 92760  | 119647 | 146534 | 173421                     | 120 psig                   |     |     |     |  |
|                                | SET                       | 133656 | AET            | -                    | -      | -      | 38986  | 65873  | 92760  | 119647 | 146534 | 173421                     |                            |     |     |     |  |
| 2385UC-S090<br>Series B/C Only | SST                       | 182706 | AST            | -                    | -      | -      | -      | 174203 | 223995 | 273787 | 323579 | 373371                     | Maximum Operating Pressure |     |     |     |  |
|                                | Mid Stroke Min            | 74107  | Mid Stroke Min | -                    | -      | -      | -      | 47220  | 74107  | 100994 | 127881 | 154768                     | 120 psig                   |     |     |     |  |
|                                | SET                       | 150363 | AET            | -                    | -      | -      | -      | 47220  | 74107  | 100994 | 127881 | 154768                     |                            |     |     |     |  |
| 2385UC-S100<br>Series B/C Only | SST                       | 203007 | AST            | -                    | -      | -      | -      | 199091 | 248883 | 298675 | 348467 | Maximum Operating Pressure |                            |     |     |     |  |
|                                | Mid Stroke Min            | 82342  | Mid Stroke Min | -                    | -      | -      | -      | 55455  | 82342  | 109229 | 136116 | 120 psig                   |                            |     |     |     |  |
|                                | SET                       | 167070 | AET            | -                    | -      | -      | -      | 55455  | 82342  | 109229 | 136116 |                            |                            |     |     |     |  |
| 3071UC-S040<br>Series C Only   | SST                       | 101504 | AST            | 124442               | 187837 | 251232 | 314627 | 378022 | 441417 | 504812 | 568207 | -                          | Maximum Operating Pressure |     |     |     |  |
|                                | Mid Stroke Min            | 41171  | Mid Stroke Min | 41171                | 75404  | 109637 | 143870 | 178103 | 212336 | 246569 | 280802 | -                          | 120 psig                   |     |     |     |  |
|                                | SET                       | 83535  | AET            | 41171                | 75404  | 109637 | 143870 | 178103 | 212336 | 246569 | 280802 | -                          |                            |     |     |     |  |
| 3071UC-S050<br>Series C Only   | SST                       | 121804 | AST            | 85936                | 149330 | 212724 | 276118 | 339512 | 402906 | 466300 | 529694 | 593088                     | Maximum Operating Pressure |     |     |     |  |
|                                | Mid Stroke Min            | 49405  | Mid Stroke Min | 15172                | 49405  | 83638  | 117871 | 152104 | 186337 | 220570 | 254803 | 289036                     | 120 psig                   |     |     |     |  |
|                                | SET                       | 100242 | AET            | 15172                | 49405  | 83638  | 117871 | 152104 | 186337 | 220570 | 254803 | 289036                     |                            |     |     |     |  |



**Series A/B/C/S: Models 023 - 7114**  
**Spring Return - Fail Closed (CW)**  
**Canted Yoke Design**

| Model Number                 | Spring Torques<br>lb. in. |        | Torque at      | Air torques lb. in.  |        |        |        |        |        |        |        |        |                            |     |     |     |
|------------------------------|---------------------------|--------|----------------|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|----------------------------|-----|-----|-----|
|                              |                           |        |                | Supply Pressure psig |        |        |        |        |        |        |        |        |                            |     |     |     |
|                              |                           |        |                | 40                   | 50     | 60     | 70     | 80     | 90     | 100    | 110    | 120    | 130                        | 140 | 150 | 160 |
| 3071UC-S060<br>Series C Only | SST                       | 142105 | AST            | -                    | 110823 | 174218 | 237613 | 301008 | 364403 | 427798 | 491193 | 554588 | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 57639  | Mid Stroke Min | -                    | 23406  | 57639  | 91872  | 126105 | 160338 | 194571 | 228804 | 263037 | 120 psig                   |     |     |     |
|                              | SET                       | 116949 | AET            | -                    | 23406  | 57639  | 91872  | 126105 | 160338 | 194571 | 228804 | 263037 |                            |     |     |     |
| 3071UC-S070<br>Series C Only | SST                       | 182706 | AST            | -                    | -      | 160601 | 223995 | 287389 | 350783 | 414177 | 477571 | 540965 | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 74107  | Mid Stroke Min | -                    | -      | 39874  | 74107  | 108340 | 142573 | 176806 | 211039 | 245272 | 120 psig                   |     |     |     |
|                              | SET                       | 150363 | AET            | -                    | -      | 39874  | 74107  | 108340 | 142573 | 176806 | 211039 | 245272 |                            |     |     |     |
| 3071UC-S080<br>Series C Only | SST                       | 203007 | AST            | -                    | -      | -      | 185488 | 248883 | 312278 | 375673 | 439067 | 502461 | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 82342  | Mid Stroke Min | -                    | -      | -      | 48109  | 82342  | 116575 | 150808 | 185041 | 219274 | 120 psig                   |     |     |     |
|                              | SET                       | 167070 | AET            | -                    | -      | -      | 48109  | 82342  | 116575 | 150808 | 185041 | 219274 |                            |     |     |     |
| 3072UC-S090<br>Series C Only | SST                       | 219786 | AST            | -                    | -      | -      | -      | 206600 | 269454 | 332848 | 396242 | 459636 | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 89147  | Mid Stroke Min | -                    | -      | -      | -      | 54914  | 89147  | 123380 | 157613 | 191846 | 120 psig                   |     |     |     |
|                              | SET                       | 180879 | AET            | -                    | -      | -      | -      | 54914  | 89147  | 123380 | 157613 | 191846 |                            |     |     |     |
| 3072UC-S100<br>Series C Only | SST                       | 251184 | AST            | -                    | -      | -      | -      | -      | 244552 | 307947 | 371341 | 434735 | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 101883 | Mid Stroke Min | -                    | -      | -      | -      | -      | 67650  | 101883 | 136116 | 170349 | 120 psig                   |     |     |     |
|                              | SET                       | 206718 | AET            | -                    | -      | -      | -      | -      | 67650  | 101883 | 136116 | 170349 |                            |     |     |     |
| 3072UC-S110<br>Series C Only | SST                       | 282582 | AST            | -                    | -      | -      | -      | -      | -      | 283047 | 346441 | 409835 | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 114618 | Mid Stroke Min | -                    | -      | -      | -      | -      | -      | 80385  | 114618 | 148851 | 120 psig                   |     |     |     |
|                              | SET                       | 232558 | AET            | -                    | -      | -      | -      | -      | -      | 80385  | 114618 | 148851 |                            |     |     |     |
| 3072UC-S120<br>Series C Only | SST                       | 282582 | AST            | -                    | -      | -      | -      | -      | -      | -      | -      | 346441 | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 114618 | Mid Stroke Min | -                    | -      | -      | -      | -      | -      | -      | -      | 114618 | 120 psig                   |     |     |     |
|                              | SET                       | 232558 | AET            | -                    | -      | -      | -      | -      | -      | -      | -      | 114618 |                            |     |     |     |
| 3731UC-S040<br>Series C Only | SST                       | 125592 | AST            | 153974               | 230985 | 307996 | 385007 | 462018 | 539029 | 616040 | -      | -      | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 50941  | Mid Stroke Min | 50941                | 92527  | 134113 | 175699 | 217285 | 258871 | 300457 | -      | -      | 120 psig                   |     |     |     |
|                              | SET                       | 103359 | AET            | 50941                | 92527  | 134113 | 175699 | 217285 | 258871 | 300457 | -      | -      |                            |     |     |     |
| 3731UC-S050<br>Series C Only | SST                       | 156990 | AST            | 115457               | 192467 | 269477 | 346487 | 423497 | 500507 | 577517 | -      | -      | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 63677  | Mid Stroke Min | 22091                | 63677  | 105263 | 146849 | 188435 | 230021 | 271607 | -      | -      | 120 psig                   |     |     |     |
|                              | SET                       | 129199 | AET            | 22091                | 63677  | 105263 | 146849 | 188435 | 230021 | 271607 | -      | -      |                            |     |     |     |
| 3731UC-S060<br>Series C Only | SST                       | 188388 | AST            | -                    | 153949 | 230960 | 307971 | 384982 | 461993 | 539004 | 616014 | -      | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 76412  | Mid Stroke Min | -                    | 34826  | 76412  | 117998 | 159584 | 201170 | 242756 | 284342 | -      | 120 psig                   |     |     |     |
|                              | SET                       | 155039 | AET            | -                    | 34826  | 76412  | 117998 | 159584 | 201170 | 242756 | 284342 | -      |                            |     |     |     |
| 3731UC-S070<br>Series C Only | SST                       | 219786 | AST            | -                    | -      | 192444 | 269454 | 346464 | 423474 | 500484 | 577494 | -      | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 89147  | Mid Stroke Min | -                    | -      | 47561  | 89147  | 130733 | 172319 | 213905 | 255491 | -      | 120 psig                   |     |     |     |
|                              | SET                       | 180879 | AET            | -                    | -      | 47561  | 89147  | 130733 | 172319 | 213905 | 255491 | -      |                            |     |     |     |
| 3731UC-S080<br>Series C Only | SST                       | 251184 | AST            | -                    | -      | -      | 230936 | 307947 | 384958 | 461969 | 538979 | 615989 | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 101883 | Mid Stroke Min | -                    | -      | -      | 60297  | 101883 | 143469 | 185055 | 226641 | 268227 | 120 psig                   |     |     |     |
|                              | SET                       | 206718 | AET            | -                    | -      | -      | 60297  | 101883 | 143469 | 185055 | 226641 | 268227 |                            |     |     |     |
| 3731UC-S090<br>Series C Only | SST                       | 282582 | AST            | -                    | -      | -      | -      | 269431 | 346441 | 423451 | 500461 | 577471 | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 114618 | Mid Stroke Min | -                    | -      | -      | -      | 73032  | 114618 | 156204 | 197790 | 239376 | 120 psig                   |     |     |     |
|                              | SET                       | 232558 | AET            | -                    | -      | -      | -      | 73032  | 114618 | 156204 | 197790 | 239376 |                            |     |     |     |
| 3731UC-S100<br>Series C Only | SST                       | 313980 | AST            | -                    | -      | -      | -      | -      | 307923 | 384934 | 461944 | 538954 | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 127353 | Mid Stroke Min | -                    | -      | -      | -      | -      | 85767  | 127353 | 168939 | 210525 | 120 psig                   |     |     |     |
|                              | SET                       | 258398 | AET            | -                    | -      | -      | -      | -      | 85767  | 127353 | 168939 | 210525 |                            |     |     |     |
| 4534UC-S040<br>Series C Only | SST                       | 125592 | AST            | 153974               | 247542 | 341110 | 434678 | 528246 | -      | -      | -      | -      | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 50941  | Mid Stroke Min | 50941                | 101468 | 151995 | 202522 | 253049 | -      | -      | -      | -      | 120 psig                   |     |     |     |
|                              | SET                       | 103359 | AET            | 50941                | 101468 | 151995 | 202522 | 253049 | -      | -      | -      | -      |                            |     |     |     |
| 4534UC-S050<br>Series C Only | SST                       | 188388 | AST            | 137392               | 230960 | 324528 | 418096 | 511664 | 605232 | -      | -      | -      | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 76412  | Mid Stroke Min | 25886                | 76412  | 126938 | 177464 | 227990 | 278516 | -      | -      | -      | 120 psig                   |     |     |     |
|                              | SET                       | 155039 | AET            | 25886                | 76412  | 126938 | 177464 | 227990 | 278516 | -      | -      | -      |                            |     |     |     |
| 4534UC-S060<br>Series C Only | SST                       | 219786 | AST            | -                    | 175886 | 269454 | 363022 | 456590 | 550158 | -      | -      | -      | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 89147  | Mid Stroke Min | -                    | 38620  | 89147  | 139674 | 190201 | 240728 | -      | -      | -      | 120 psig                   |     |     |     |
|                              | SET                       | 180879 | AET            | -                    | 38620  | 89147  | 139674 | 190201 | 240728 | -      | -      | -      |                            |     |     |     |
| 4534UC-S070<br>Series C Only | SST                       | 251184 | AST            | -                    | -      | 214379 | 307947 | 401515 | 495083 | 588651 | -      | -      | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 101883 | Mid Stroke Min | -                    | -      | 51357  | 101883 | 152409 | 202935 | 253461 | -      | -      | 120 psig                   |     |     |     |
|                              | SET                       | 206718 | AET            | -                    | -      | 51357  | 101883 | 152409 | 202935 | 253461 | -      | -      |                            |     |     |     |
| 4534UC-S080<br>Series C Only | SST                       | 282582 | AST            | -                    | -      | -      | 252873 | 346441 | 440009 | 533577 | -      | -      | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 114618 | Mid Stroke Min | -                    | -      | -      | 64091  | 114618 | 165145 | 215672 | -      | -      | 120 psig                   |     |     |     |
|                              | SET                       | 232558 | AET            | -                    | -      | -      | 64091  | 114618 | 165145 | 215672 | -      | -      |                            |     |     |     |
| 4534UC-S090<br>Series C Only | SST                       | 313980 | AST            | -                    | -      | -      | -      | 291366 | 384934 | 478502 | 572070 | -      | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 127353 | Mid Stroke Min | -                    | -      | -      | -      | 76827  | 127353 | 177879 | 228405 | -      | 120 psig                   |     |     |     |
|                              | SET                       | 258398 | AET            | -                    | -      | -      | -      | 76827  | 127353 | 177879 | 228405 | -      |                            |     |     |     |
| 5336UC-S040<br>Series C Only | SST                       | 179597 | AST            | 220183               | 330308 | 440433 | 550558 | -      | -      | -      | -      | -      | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 72846  | Mid Stroke Min | 72846                | 132313 | 191780 | 251247 | -      | -      | -      | -      | -      | 120 psig                   |     |     |     |
|                              | SET                       | 147804 | AET            | 72846                | 132313 | 191780 | 251247 | -      | -      | -      | -      | -      |                            |     |     |     |
| 5336UC-S050<br>Series C Only | SST                       | 224496 | AST            | 165104               | 275228 | 385352 | 495476 | 605600 | -      | -      | -      | -      | Maximum Operating Pressure |     |     |     |
|                              | Mid Stroke Min            | 91058  | Mid Stroke Min | 31592                | 91058  | 150524 | 209990 | 269456 | -      | -      | -      | -      | 120 psig                   |     |     |     |
|                              | SET                       | 184755 | AET            | 31592                | 91058  | 150524 | 209990 | 269456 | -      | -      | -      | -      |                            |     |     |     |



**Series A/B/C/S: Models 023 - 7114**  
**Spring Return - Fail Closed (CW)**  
**Canted Yoke Design**

| Model Number                 | Spring Torques<br>lb. in. |        | Torque at      | Air torques lb. in.  |        |        |        |        |        |         |         |         |     |     |     |                            |
|------------------------------|---------------------------|--------|----------------|----------------------|--------|--------|--------|--------|--------|---------|---------|---------|-----|-----|-----|----------------------------|
|                              |                           |        |                | Supply Pressure psig |        |        |        |        |        |         |         |         |     |     |     |                            |
|                              |                           |        |                | 40                   | 50     | 60     | 70     | 80     | 90     | 100     | 110     | 120     | 130 | 140 | 150 | 160                        |
| 5336UC-S060<br>Series C Only | SST                       | 269396 | AST            | -                    | 220149 | 330274 | 440399 | 550524 | -      | -       | -       | -       | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 109269 | Mid Stroke Min | -                    | 49802  | 109269 | 168736 | 228203 | -      | -       | -       | -       | -   | -   | -   | 120 psig                   |
|                              | SET                       | 221706 | AET            | -                    | 49802  | 109269 | 168736 | 228203 | -      | -       | -       | -       | -   | -   | -   |                            |
| 5336UC-S070<br>Series C Only | SST                       | 314925 | AST            | -                    | -      | 275196 | 385320 | 495444 | 605568 | -       | -       | -       | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 127481 | Mid Stroke Min | -                    | -      | 68015  | 127481 | 186947 | 246413 | -       | -       | -       | -   | -   | -   | 120 psig                   |
|                              | SET                       | 258657 | AET            | -                    | -      | 68015  | 127481 | 186947 | 246413 | -       | -       | -       | -   | -   | -   |                            |
| 5336UC-S080<br>Series C Only | SST                       | 359194 | AST            | -                    | -      | -      | 330241 | 440366 | 550491 | -       | -       | -       | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 145693 | Mid Stroke Min | -                    | -      | -      | 86226  | 145693 | 205160 | -       | -       | -       | -   | -   | -   | 120 psig                   |
|                              | SET                       | 295608 | AET            | -                    | -      | -      | 86226  | 145693 | 205160 | -       | -       | -       | -   | -   | -   |                            |
| 5336UC-S090<br>Series C Only | SST                       | 404093 | AST            | -                    | -      | -      | -      | 385287 | 495411 | 605535  | -       | -       | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 163904 | Mid Stroke Min | -                    | -      | -      | -      | 104438 | 163904 | 223370  | -       | -       | -   | -   | -   | 120 psig                   |
|                              | SET                       | 332559 | AET            | -                    | -      | -      | -      | 104438 | 163904 | 223370  | -       | -       | -   | -   | -   | POA, Consult Factory       |
| 5336UC-S100<br>Series C Only | SST                       | 448993 | AST            | -                    | -      | -      | -      | -      | 440332 | 550457  | -       | -       | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 182116 | Mid Stroke Min | -                    | -      | -      | -      | -      | 122649 | 182116  | -       | -       | -   | -   | -   | 120 psig                   |
|                              | SET                       | 369510 | AET            | -                    | -      | -      | -      | -      | 122649 | 182116  | -       | -       | -   | -   | -   | POA, Consult Factory       |
| 5336UC-S110<br>Series C Only | SST                       | 493892 | AST            | -                    | -      | -      | -      | -      | 495379 | 605503  | -       | -       | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 200327 | Mid Stroke Min | -                    | -      | -      | -      | -      | 140861 | 200327  | -       | -       | -   | -   | -   | 120 psig                   |
|                              | SET                       | 406461 | AET            | -                    | -      | -      | -      | -      | 140861 | 200327  | -       | -       | -   | -   | -   | POA, Consult Factory       |
| 5336UC-S120<br>Series C Only | SST                       | 538791 | AST            | -                    | -      | -      | -      | -      | -      | 550424  | -       | -       | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 218539 | Mid Stroke Min | -                    | -      | -      | -      | -      | -      | 159073  | -       | -       | -   | -   | -   | 120 psig                   |
|                              | SET                       | 443412 | AET            | -                    | -      | -      | -      | -      | -      | 159073  | -       | -       | -   | -   | -   | POA, Consult Factory       |
| 6044UC-S040<br>Series C Only | SST                       | 200731 | AST            | 246093               | 362894 | 479695 | 596496 | 713297 | 830098 | 946899  | 1063700 | 1180501 | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 81418  | Mid Stroke Min | 81418                | 147472 | 213526 | 279580 | 345634 | 411688 | 477742  | 543796  | 609850  | -   | -   | -   | 120 psig                   |
|                              | SET                       | 165197 | AET            | 81418                | 147472 | 213526 | 279580 | 345634 | 411688 | 477742  | 543796  | 609850  | -   | -   | -   |                            |
| 6044UC-S050<br>Series C Only | SST                       | 250914 | AST            | 190815               | 307616 | 424417 | 541218 | 658019 | 774820 | 891621  | 1008422 | 1125223 | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 101773 | Mid Stroke Min | 35719                | 101773 | 167827 | 233881 | 299935 | 365989 | 432043  | 498097  | 564151  | -   | -   | -   | 120 psig                   |
|                              | SET                       | 206496 | AET            | 35719                | 101773 | 167827 | 233881 | 299935 | 365989 | 432043  | 498097  | 564151  | -   | -   | -   |                            |
| 6044UC-S060<br>Series C Only | SST                       | 301096 | AST            | -                    | 252338 | 369139 | 485940 | 602741 | 719542 | 836343  | 953144  | 1069945 | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 122128 | Mid Stroke Min | -                    | 56074  | 122128 | 188182 | 254236 | 320290 | 386344  | 452398  | 518452  | -   | -   | -   | 120 psig                   |
|                              | SET                       | 247795 | AET            | -                    | 56074  | 122128 | 188182 | 254236 | 320290 | 386344  | 452398  | 518452  | -   | -   | -   |                            |
| 6044UC-S070<br>Series C Only | SST                       | 351279 | AST            | -                    | -      | 313861 | 430662 | 547463 | 664264 | 781065  | 897866  | 1014667 | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 142482 | Mid Stroke Min | -                    | -      | 76428  | 142482 | 208536 | 274590 | 340644  | 406698  | 472752  | -   | -   | -   | 120 psig                   |
|                              | SET                       | 289288 | AET            | -                    | -      | 76428  | 142482 | 208536 | 274590 | 340644  | 406698  | 472752  | -   | -   | -   |                            |
| 6044UC-S080<br>Series C Only | SST                       | 401462 | AST            | -                    | -      | -      | 375384 | 492185 | 608986 | 725787  | 842588  | 959389  | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 162837 | Mid Stroke Min | -                    | -      | -      | 96783  | 162837 | 228891 | 294945  | 360999  | 427053  | -   | -   | -   | 120 psig                   |
|                              | SET                       | 330394 | AET            | -                    | -      | -      | 96783  | 162837 | 228891 | 294945  | 360999  | 427053  | -   | -   | -   |                            |
| 7114UC-S040<br>Series C Only | SST                       | 236251 | AST            | 289640               | 427111 | 564582 | 702053 | 839524 | 976995 | 1114466 | 1251937 | 1389408 | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 95826  | Mid Stroke Min | 95826                | 173569 | 251312 | 329055 | 406798 | 484541 | 562284  | 640027  | 717770  | -   | -   | -   | 120 psig                   |
|                              | SET                       | 194429 | AET            | 95826                | 173569 | 251312 | 329055 | 406798 | 484541 | 562284  | 640027  | 717770  | -   | -   | -   |                            |
| 7114UC-S050<br>Series C Only | SST                       | 295314 | AST            | 224579               | 362050 | 499521 | 636992 | 774463 | 911934 | 1049405 | 1186876 | 1324347 | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 119782 | Mid Stroke Min | 42039                | 119782 | 197525 | 275268 | 353011 | 430754 | 508497  | 586240  | 663983  | -   | -   | -   | 120 psig                   |
|                              | SET                       | 243037 | AET            | 42039                | 119782 | 197525 | 275268 | 353011 | 430754 | 508497  | 586240  | 663983  | -   | -   | -   |                            |
| 7114UC-S060<br>Series C Only | SST                       | 354377 | AST            | -                    | 296989 | 434460 | 571931 | 709402 | 846873 | 984344  | 1121815 | 1259286 | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 143739 | Mid Stroke Min | -                    | 65996  | 143739 | 221482 | 299225 | 376968 | 454711  | 532454  | 610197  | -   | -   | -   | 120 psig                   |
|                              | SET                       | 291644 | AET            | -                    | 65996  | 143739 | 221482 | 299225 | 376968 | 454711  | 532454  | 610197  | -   | -   | -   |                            |
| 7114UC-S070<br>Series C Only | SST                       | 413440 | AST            | -                    | -      | 369399 | 506870 | 644341 | 781812 | 919283  | 1056754 | 1194225 | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 167695 | Mid Stroke Min | -                    | -      | 89952  | 167695 | 245438 | 323181 | 400924  | 478667  | 556410  | -   | -   | -   | 120 psig                   |
|                              | SET                       | 340251 | AET            | -                    | -      | 89952  | 167695 | 245438 | 323181 | 400924  | 478667  | 556410  | -   | -   | -   |                            |
| 7114UC-S080<br>Series C Only | SST                       | 472503 | AST            | -                    | -      | -      | 441809 | 579280 | 716751 | 854222  | 991693  | 1129164 | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 191652 | Mid Stroke Min | -                    | -      | -      | 113909 | 191652 | 269395 | 347138  | 424881  | 502624  | -   | -   | -   | 120 psig                   |
|                              | SET                       | 388859 | AET            | -                    | -      | -      | 113909 | 191652 | 269395 | 347138  | 424881  | 502624  | -   | -   | -   |                            |
| 7114UC-S090<br>Series C Only | SST                       | 531566 | AST            | -                    | -      | -      | -      | 514219 | 651690 | 789161  | 926632  | 1064103 | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 215608 | Mid Stroke Min | -                    | -      | -      | -      | 137865 | 215608 | 293351  | 371094  | 448837  | -   | -   | -   | 120 psig                   |
|                              | SET                       | 437466 | AET            | -                    | -      | -      | -      | 137865 | 215608 | 293351  | 371094  | 448837  | -   | -   | -   | POA, Consult Factory       |
| 7114UC-S100<br>Series C Only | SST                       | 590629 | AST            | -                    | -      | -      | -      | -      | 586629 | 724100  | 861571  | 999042  | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 239565 | Mid Stroke Min | -                    | -      | -      | -      | -      | 161822 | 239565  | 317308  | 395051  | -   | -   | -   | 120 psig                   |
|                              | SET                       | 486073 | AET            | -                    | -      | -      | -      | -      | 161822 | 239565  | 317308  | 395051  | -   | -   | -   | POA, Consult Factory       |
| 7114UC-S110<br>Series C Only | SST                       | 649692 | AST            | -                    | -      | -      | -      | -      | 659040 | 796511  | 933982  | -       | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 263521 | Mid Stroke Min | -                    | -      | -      | -      | -      | 185778 | 263521  | 341264  | -       | -   | -   | -   | 120 psig                   |
|                              | SET                       | 534681 | AET            | -                    | -      | -      | -      | -      | 185778 | 263521  | 341264  | -       | -   | -   | -   | POA, Consult Factory       |
| 7114UC-S120<br>Series C Only | SST                       | 708754 | AST            | -                    | -      | -      | -      | -      | -      | 731450  | 868921  | -       | -   | -   | -   | Maximum Operating Pressure |
|                              | Mid Stroke Min            | 287478 | Mid Stroke Min | -                    | -      | -      | -      | -      | -      | 209735  | 287478  | -       | -   | -   | -   | 120 psig                   |
|                              | SET                       | 583288 | AET            | -                    | -      | -      | -      | -      | -      | 209735  | 287478  | -       | -   | -   | -   | POA, Consult Factory       |



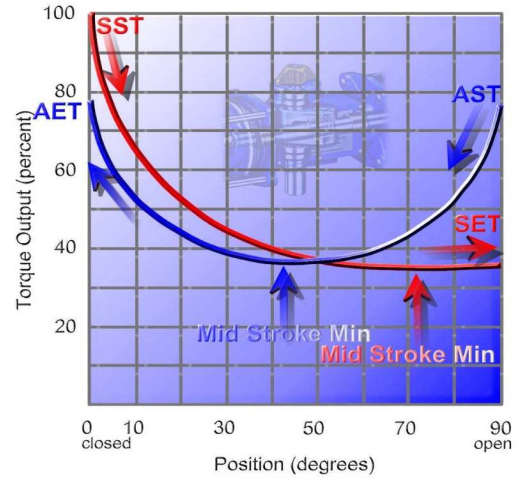
**Series B/ C: Models 023 - 7114**  
**Spring Return - Fail Open (CCW)**  
**Canted Yoke Design**

The chart to the right shows the torque curve of the Morin canted yoke spring return for fail open (fail counter-clockwise) operation.

Proper selection of the actuator is critical to the successful operation of your automated package.

Note: Air torque curve shown is with air pressure equal to spring code, i.e. - S061at 60 psig. Curve will vary for pressures used not equal to spring code.

AST = Air Start Torque                      SST = Spring Start Torque  
 AET = Air End Torque                      SET = Spring End Torque



| Model Number                       | Spring Torques<br>lb. in. | Torque at | #RIF!                |      |      |      |      |      |      |      |      |      |      |      |      |      |
|------------------------------------|---------------------------|-----------|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|                                    |                           |           | Supply Pressure psig |      |      |      |      |      |      |      |      |      |      |      |      |      |
|                                    |                           |           | 40                   | 50   | 60   | 70   | 80   | 90   | 100  | 110  | 120  | 130  | 140  | 150  | 160  |      |
| 023UC-S041<br>Series A/B/S<br>Only | SST                       | 842       | AST                  | 687  | 923  | 1159 | 1394 | 1630 | 1866 | 2102 | 2338 | 2573 | 2809 | 3045 | 3281 | 3517 |
|                                    | Mid Stroke Min            | 276       | Mid Stroke Min       | 276  | 650  | 1024 | 1397 | 1771 | 2145 | 2519 | 2893 | 3266 | 3640 | 4014 | 4388 | 4762 |
|                                    | SET                       | 276       | AET                  | 560  | 934  | 1308 | 1681 | 2055 | 2429 | 2803 | 3177 | 3550 | 3924 | 4298 | 4672 | 5046 |
| 023UC-S051<br>Series A/B/S<br>Only | SST                       | 1061      | AST                  | -    | 866  | 1102 | 1338 | 1573 | 1809 | 2045 | 2281 | 2517 | 2752 | 2988 | 3224 | 3460 |
|                                    | Mid Stroke Min            | 352       | Mid Stroke Min       | -    | 352  | 726  | 1100 | 1473 | 1847 | 2221 | 2595 | 2969 | 3342 | 3716 | 4090 | 4464 |
|                                    | SET                       | 352       | AET                  | -    | 714  | 1088 | 1462 | 1835 | 2209 | 2583 | 2957 | 3331 | 3704 | 4078 | 4452 | 4826 |
| 023UC-S061<br>Series A/B/S<br>Only | SST                       | 1263      | AST                  | -    | -    | 1031 | 1267 | 1503 | 1738 | 1974 | 2210 | 2446 | 2682 | 2917 | 3153 | 3389 |
|                                    | Mid Stroke Min            | 414       | Mid Stroke Min       | -    | -    | 414  | 788  | 1162 | 1535 | 1909 | 2283 | 2657 | 3031 | 3404 | 3778 | 4152 |
|                                    | SET                       | 414       | AET                  | -    | -    | 840  | 1214 | 1588 | 1961 | 2335 | 2709 | 3083 | 3457 | 3830 | 4204 | 4578 |
| 023UC-S071<br>Series A/B/S<br>Only | SST                       | 1466      | AST                  | -    | -    | -    | 1195 | 1431 | 1667 | 1902 | 2138 | 2374 | 2610 | 2846 | 3081 | 3317 |
|                                    | Mid Stroke Min            | 486       | Mid Stroke Min       | -    | -    | -    | 486  | 860  | 1234 | 1607 | 1981 | 2355 | 2729 | 3103 | 3476 | 3850 |
|                                    | SET                       | 486       | AET                  | -    | -    | -    | 987  | 1361 | 1735 | 2108 | 2482 | 2856 | 3230 | 3604 | 3977 | 4351 |
| 023UC-S081<br>Series A/B/S<br>Only | SST                       | 1685      | AST                  | -    | -    | -    | -    | 1374 | 1610 | 1846 | 2081 | 2317 | 2553 | 2789 | 3025 | 3260 |
|                                    | Mid Stroke Min            | 552       | Mid Stroke Min       | -    | -    | -    | -    | 552  | 926  | 1300 | 1673 | 2047 | 2421 | 2795 | 3169 | 3542 |
|                                    | SET                       | 552       | AET                  | -    | -    | -    | -    | 1120 | 1494 | 1868 | 2241 | 2615 | 2989 | 3363 | 3737 | 4110 |
| 023UC-S091<br>Series A/B/S<br>Only | SST                       | 1887      | AST                  | -    | -    | -    | -    | -    | 1539 | 1775 | 2011 | 2246 | 2482 | 2718 | 2954 | 3190 |
|                                    | Mid Stroke Min            | 624       | Mid Stroke Min       | -    | -    | -    | -    | -    | 624  | 998  | 1372 | 1745 | 2119 | 2493 | 2867 | 3241 |
|                                    | SET                       | 624       | AET                  | -    | -    | -    | -    | -    | 1267 | 1641 | 2015 | 2388 | 2762 | 3136 | 3510 | 3884 |
| 023UC-S101<br>Series A/B/S<br>Only | SST                       | 2100      | AST                  | -    | -    | -    | -    | -    | -    | 1713 | 1949 | 2185 | 2420 | 2656 | 2892 | 3128 |
|                                    | Mid Stroke Min            | 693       | Mid Stroke Min       | -    | -    | -    | -    | -    | -    | 693  | 1067 | 1441 | 1814 | 2188 | 2562 | 2936 |
|                                    | SET                       | 693       | AET                  | -    | -    | -    | -    | -    | -    | 1407 | 1781 | 2155 | 2528 | 2902 | 3276 | 3650 |
| 023UC-S121<br>Series A/B/S<br>Only | SST                       | 2527      | AST                  | -    | -    | -    | -    | -    | -    | -    | -    | 2061 | 2297 | 2533 | 2768 | 3004 |
|                                    | Mid Stroke Min            | 828       | Mid Stroke Min       | -    | -    | -    | -    | -    | -    | -    | -    | 828  | 1202 | 1576 | 1949 | 2323 |
|                                    | SET                       | 828       | AET                  | -    | -    | -    | -    | -    | -    | -    | -    | 1680 | 2054 | 2428 | 2801 | 3175 |
| 023UC-S141<br>Series A/B/S<br>Only | SST                       | 2937      | AST                  | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 2395 | 2631 | 2867 |
|                                    | Mid Stroke Min            | 973       | Mid Stroke Min       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 973  | 1347 | 1721 |
|                                    | SET                       | 973       | AET                  | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1974 | 2348 | 2722 |
| 023UC-S161<br>Series A/B/S<br>Only | SST                       | 3369      | AST                  | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 2748 |
|                                    | Mid Stroke Min            | 1104      | Mid Stroke Min       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1104 |
|                                    | SET                       | 1104      | AET                  | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 2240 |
| 036UC-S041<br>Series A/B/S<br>Only | SST                       | 1314      | AST                  | 1072 | 1478 | 1884 | 2290 | 2696 | 3102 | 3507 | 3913 | 4319 | 4725 | 5131 | 5537 | 5943 |
|                                    | Mid Stroke Min            | 435       | Mid Stroke Min       | 435  | 1079 | 1722 | 2366 | 3009 | 3653 | 4296 | 4940 | 5583 | 6227 | 6870 | 7514 | 8157 |
|                                    | SET                       | 435       | AET                  | 882  | 1526 | 2169 | 2813 | 3456 | 4100 | 4743 | 5387 | 6030 | 6674 | 7317 | 7961 | 8604 |
| 036UC-S051<br>Series A/B/S<br>Only | SST                       | 1640      | AST                  | -    | 1337 | 1743 | 2149 | 2555 | 2961 | 3367 | 3772 | 4178 | 4584 | 4990 | 5396 | 5802 |
|                                    | Mid Stroke Min            | 545       | Mid Stroke Min       | -    | 545  | 1189 | 1832 | 2476 | 3119 | 3763 | 4406 | 5050 | 5693 | 6337 | 6980 | 7624 |
|                                    | SET                       | 545       | AET                  | -    | 1106 | 1750 | 2393 | 3037 | 3680 | 4324 | 4967 | 5611 | 6254 | 6898 | 7541 | 8185 |
| 036UC-S061<br>Series A/B/S<br>Only | SST                       | 1971      | AST                  | -    | -    | 1608 | 2014 | 2420 | 2826 | 3232 | 3638 | 4043 | 4449 | 4855 | 5261 | 5667 |
|                                    | Mid Stroke Min            | 656       | Mid Stroke Min       | -    | -    | 656  | 1300 | 1943 | 2587 | 3230 | 3874 | 4517 | 5161 | 5804 | 6448 | 7091 |
|                                    | SET                       | 656       | AET                  | -    | -    | 1330 | 1974 | 2617 | 3261 | 3904 | 4548 | 5191 | 5835 | 6478 | 7122 | 7765 |
| 036UC-S071<br>Series A/B/S<br>Only | SST                       | 2302      | AST                  | -    | -    | -    | 1878 | 2284 | 2690 | 3096 | 3502 | 3908 | 4313 | 4719 | 5125 | 5531 |
|                                    | Mid Stroke Min            | 759       | Mid Stroke Min       | -    | -    | -    | 759  | 1403 | 2046 | 2690 | 3333 | 3977 | 4620 | 5264 | 5907 | 6551 |
|                                    | SET                       | 759       | AET                  | -    | -    | -    | 1540 | 2184 | 2827 | 3471 | 4114 | 4758 | 5401 | 6045 | 6688 | 7332 |
| 036UC-S081<br>Series A/B/S<br>Only | SST                       | 2628      | AST                  | -    | -    | -    | -    | 2143 | 2549 | 2955 | 3361 | 3767 | 4173 | 4578 | 4984 | 5390 |
|                                    | Mid Stroke Min            | 869       | Mid Stroke Min       | -    | -    | -    | -    | 869  | 1513 | 2156 | 2800 | 3443 | 4087 | 4730 | 5374 | 6017 |
|                                    | SET                       | 869       | AET                  | -    | -    | -    | -    | 1764 | 2408 | 3051 | 3695 | 4338 | 4982 | 5625 | 6269 | 6912 |
| Model Number                       | Spring Torques<br>lb. in. | Torque at | Supply Pressure psig |      |      |      |      |      |      |      |      |      |      |      |      |      |
|                                    |                           |           | 40                   | 50   | 60   | 70   | 80   | 90   | 100  | 110  | 120  | 130  | 140  | 150  | 160  |      |
|                                    |                           |           | Air torques lb. in.  |      |      |      |      |      |      |      |      |      |      |      |      |      |



**Series B/ C: Models 023 - 7114**

Spring Return - Fail Open (CCW)

Canted Yoke Design

| Model Number                       | Spring Torques<br>lb. in. | Torque at | Air torques lb. in.  |      |        |        |        |        |        |      |      |      |   |      |      |       |  |
|------------------------------------|---------------------------|-----------|----------------------|------|--------|--------|--------|--------|--------|------|------|------|---|------|------|-------|--|
|                                    |                           |           | Supply Pressure psig |      |        |        |        |        |        |      |      |      |   |      |      |       |  |
|                                    |                           |           | 40                   | 50   | 60     | 70     | 80     | 90     | 100    | 110  | 120  | 130  | 140   | 150  | 160  |       |  |
| 036UC-S091<br>Series A/B/S<br>Only | SST                       | 2953      | AST                  | -    | -      | -      | -      | -      | 2409   | 2815 | 3221 | 3627 | 4033  | 4439 | 4844 | 5250  |  |
|                                    | Mid Stroke Min            | 976       | Mid Stroke Min       | -    | -      | -      | -      | -      | 976    | 1620 | 2263 | 2907 | 3550  | 4194 | 4837 | 5481  |  |
|                                    | SET                       | 976       | AET                  | -    | -      | -      | -      | -      | 1981   | 2625 | 3268 | 3912 | 4555  | 5199 | 5842 | 6486  |  |
| 036UC-S101<br>Series A/B/S<br>Only | SST                       | 3285      | AST                  | -    | -      | -      | -      | -      | 2679   | 3085 | 3491 | 3897 | 4303  | 4709 | 5114 |       |  |
|                                    | Mid Stroke Min            | 1087      | Mid Stroke Min       | -    | -      | -      | -      | -      | 1087   | 1731 | 2374 | 3018 | 3661  | 4305 | 4948 |       |  |
|                                    | SET                       | 1087      | AET                  | -    | -      | -      | -      | -      | 2205   | 2849 | 3492 | 4136 | 4779  | 5423 | 6066 |       |  |
| 036UC-S121<br>Series A/B/S<br>Only | SST                       | 3942      | AST                  | -    | -      | -      | -      | -      | -      | -    | -    | 3215 | 3621  | 4027 | 4433 | 4839  |  |
|                                    | Mid Stroke Min            | 1304      | Mid Stroke Min       | -    | -      | -      | -      | -      | -      | -    | -    | 1304 | 1948  | 2591 | 3235 | 3878  |  |
|                                    | SET                       | 1304      | AET                  | -    | -      | -      | -      | -      | -      | -    | -    | 2646 | 3290  | 3933 | 4577 | 5220  |  |
| 036UC-S141<br>Series A/B/S<br>Only | SST                       | 4599      | AST                  | -    | -      | -      | -      | -      | -      | -    | -    | -    | -   | 3751 | 4157 | 4563  |  |
|                                    | Mid Stroke Min            | 1521      | Mid Stroke Min       | -    | -      | -      | -      | -      | -      | -    | -    | -    | -   | 1521 | 2165 | 2808  |  |
|                                    | SET                       | 1521      | AET                  | -    | -      | -      | -      | -      | -      | -    | -    | -    | -   | 3087 | 3731 | 4374  |  |
| 036UC-S161<br>Series A/B/S<br>Only | SST                       | 5278      | AST                  | -    | -      | -      | -      | -      | -      | -    | -    | -    | -   | -    | -    | 4305  |  |
|                                    | Mid Stroke Min            | 1725      | Mid Stroke Min       | -    | -      | -      | -      | -      | -      | -    | -    | -    | -   | -    | -    | 1725  |  |
|                                    | SET                       | 1725      | AET                  | -    | -      | -      | -      | -      | -      | -    | -    | -    | -   | -    | -    | 3500  |  |
| 046UC-S041<br>Series A/B/S<br>Only | SST                       | 1685      | AST                  | 1374 | 1845,6 | 2317,2 | 2788,8 | 3260,4 | 3732   | 4204 | 4675 | 5147 | 5618  | 6090 | 6562 | 7033  |  |
|                                    | Mid Stroke Min            | 552       | Mid Stroke Min       | 552  | 1299,6 | 2047,2 | 2794,8 | 3542,4 | 4290   | 5038 | 5785 | 6533 | 7280  | 8028 | 8776 | 9523  |  |
|                                    | SET                       | 552       | AET                  | 1120 | 1867,6 | 2615,2 | 3362,8 | 4110,4 | 4858   | 5606 | 6353 | 7101 | 7848  | 8596 | 9344 | 10091 |  |
| 046UC-S051<br>Series A/B/S<br>Only | SST                       | 2100      | AST                  | -    | 1713   | 2184,6 | 2656,2 | 3127,8 | 3599   | 4071 | 4543 | 5014 | 5486  | 5957 | 6429 | 6901  |  |
|                                    | Mid Stroke Min            | 693       | Mid Stroke Min       | -    | 693    | 1440,6 | 2188,2 | 2935,8 | 3683   | 4431 | 5179 | 5926 | 6674  | 7421 | 8169 | 8917  |  |
|                                    | SET                       | 693       | AET                  | -    | 1407   | 2154,6 | 2902,2 | 3649,8 | 4397   | 5145 | 5893 | 6640 | 7388  | 8135 | 8883 | 9631  |  |
| 046UC-S061<br>Series A/B/S<br>Only | SST                       | 2527      | AST                  | -    | -      | 2061   | 2532,6 | 3004,2 | 3475,8 | 3947 | 4419 | 4891 | 5362  | 5834 | 6305 | 6777  |  |
|                                    | Mid Stroke Min            | 828       | Mid Stroke Min       | -    | -      | 828    | 1575,6 | 2323,2 | 3070,8 | 3818 | 4566 | 5314 | 6061  | 6809 | 7556 | 8304  |  |
|                                    | SET                       | 828       | AET                  | -    | -      | 1680   | 2427,6 | 3175,2 | 3922,8 | 4670 | 5418 | 6166 | 6913  | 7661 | 8408 | 9156  |  |
| 046UC-S071<br>Series A/B/S<br>Only | SST                       | 2937      | AST                  | -    | -      | -      | 2395   | 2866,6 | 3338   | 3810 | 4281 | 4753 | 5225  | 5696 | 6168 | 6639  |  |
|                                    | Mid Stroke Min            | 973       | Mid Stroke Min       | -    | -      | -      | 973    | 1720,6 | 2468   | 3216 | 3963 | 4711 | 5459  | 6206 | 6954 | 7701  |  |
|                                    | SET                       | 973       | AET                  | -    | -      | -      | 1974   | 2721,6 | 3469   | 4217 | 4964 | 5712 | 6460  | 7207 | 7955 | 8702  |  |
| 046UC-S081<br>Series A/B/S<br>Only | SST                       | 3369      | AST                  | -    | -      | -      | -      | 2748   | 3219,6 | 3691 | 4163 | 4634 | 5106  | 5578 | 6049 | 6521  |  |
|                                    | Mid Stroke Min            | 1104      | Mid Stroke Min       | -    | -      | -      | -      | 1104   | 1851,6 | 2599 | 3347 | 4094 | 4842  | 5590 | 6337 | 7085  |  |
|                                    | SET                       | 1104      | AET                  | -    | -      | -      | -      | 2240   | 2987,6 | 3735 | 4483 | 5230 | 5978  | 6726 | 7473 | 8221  |  |
| 058UC-S041<br>Series A/B/S<br>Only | SST                       | 2100      | AST                  | 1713 | 2318   | 2923   | 3527   | 4132   | 4737   | 5342 | 5947 | 6551 | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |       |  |
|                                    | Mid Stroke Min            | 693       | Mid Stroke Min       | 693  | 1652   | 2611   | 3569   | 4528   | 5487   | 6446 | 7405 | 8363 |   |      |      |       |  |
|                                    | SET                       | 693       | AET                  | 1407 | 2366   | 3325   | 4283   | 5242   | 6201   | 7160 | 8119 | 9077 |   |      |      |       |  |
| 058UC-S051<br>Series A/B/S<br>Only | SST                       | 2527      | AST                  | -    | 2061   | 2666   | 3271   | 3875   | 4480   | 5085 | 5690 | 6295 | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |       |  |
|                                    | Mid Stroke Min            | 828       | Mid Stroke Min       | -    | 828    | 1787   | 2746   | 3704   | 4663   | 5622 | 6581 | 7540 |   |      |      |       |  |
|                                    | SET                       | 828       | AET                  | -    | 1680   | 2639   | 3598   | 4556   | 5515   | 6474 | 7433 | 8392 |   |      |      |       |  |
| 058UC-S061<br>Series A/B/S<br>Only | SST                       | 2937      | AST                  | -    | -      | 2395   | 3000   | 3605   | 4209   | 4814 | 5419 | 6024 | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |       |  |
|                                    | Mid Stroke Min            | 973       | Mid Stroke Min       | -    | -      | 973    | 1932   | 2891   | 3849   | 4808 | 5767 | 6726 |   |      |      |       |  |
|                                    | SET                       | 973       | AET                  | -    | -      | 1974   | 2933   | 3892   | 4850   | 5809 | 6768 | 7727 |   |      |      |       |  |
| 058UC-S071<br>Series A/B/S<br>Only | SST                       | 3369      | AST                  | -    | -      | -      | 2748   | 3353   | 3958   | 4562 | 5167 | 5772 | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |       |  |
|                                    | Mid Stroke Min            | 1104      | Mid Stroke Min       | -    | -      | -      | 1104   | 2063   | 3022   | 3980 | 4939 | 5898 |   |      |      |       |  |
|                                    | SET                       | 1104      | AET                  | -    | -      | -      | 2240   | 3199   | 4158   | 5116 | 6075 | 7034 |   |      |      |       |  |
| 059UC-S081<br>Series A/B/S<br>Only | SST                       | 3942      | AST                  | -    | -      | -      | -      | 3215   | 3820   | 4425 | 5029 | 5634 | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |       |  |
|                                    | Mid Stroke Min            | 1304      | Mid Stroke Min       | -    | -      | -      | -      | 1304   | 2263   | 3222 | 4180 | 5139 |   |      |      |       |  |
|                                    | SET                       | 1304      | AET                  | -    | -      | -      | -      | 2646   | 3605   | 4564 | 5522 | 6481 |   |      |      |       |  |
| 059UC-S091<br>Series A/B/S<br>Only | SST                       | 4599      | AST                  | -    | -      | -      | -      | -      | 3751   | 4356 | 4961 | 5565 | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |       |  |
|                                    | Mid Stroke Min            | 1521      | Mid Stroke Min       | -    | -      | -      | -      | -      | 1521   | 2480 | 3439 | 4397 |   |      |      |       |  |
|                                    | SET                       | 1521      | AET                  | -    | -      | -      | -      | -      | 3087   | 4046 | 5005 | 5963 |   |      |      |       |  |
| 059UC-S101<br>Series A/B/S<br>Only | SST                       | 5278      | AST                  | -    | -      | -      | -      | -      | -      | 4305 | 4910 | 5515 | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |       |  |
|                                    | Mid Stroke Min            | 1725      | Mid Stroke Min       | -    | -      | -      | -      | -      | -      | 1725 | 2684 | 3643 |   |      |      |       |  |
|                                    | SET                       | 1725      | AET                  | -    | -      | -      | -      | -      | -      | 3500 | 4459 | 5418 |   |      |      |       |  |
| 072UC-S041<br>Series A/B/S<br>Only | SST                       | 2628      | AST                  | 2143 | 2955   | 3767   | 4578   | 5390   | 6202   | 7014 | -    | -    | Maximum Operating Pressure 100 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |       |  |
|                                    | Mid Stroke Min            | 869       | Mid Stroke Min       | 869  | 2156   | 3443   | 4730   | 6017   | 7304   | 8591 | -    | -    |   |      |      |       |  |
|                                    | SET                       | 869       | AET                  | 1764 | 3051   | 4338   | 5625   | 6912   | 8199   | 9486 | -    | -    |   |      |      |       |  |
| 072UC-S051<br>Series A/B/S<br>Only | SST                       | 3285      | AST                  | -    | 2679   | 3491   | 4303   | 5114   | 5926   | 6738 | -    | -    | Maximum Operating Pressure 100 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |       |  |
|                                    | Mid Stroke Min            | 1087      | Mid Stroke Min       | -    | 1087   | 2374   | 3661   | 4948   | 6235   | 7522 | -    | -    |   |      |      |       |  |
|                                    | SET                       | 1087      | AET                  | -    | 2205   | 3492   | 4779   | 6066   | 7353   | 8640 | -    | -    |   |      |      |       |  |
| 072UC-S061<br>Series A/B/S<br>Only | SST                       | 3942      | AST                  | -    | -      | 3215   | 4027   | 4839   | 5650   | 6462 | -    | -    | Maximum Operating Pressure 100 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |       |  |
|                                    | Mid Stroke Min            | 1304      | Mid Stroke Min       | -    | -      | 1304   | 2591   | 3878   | 5165   | 6452 | -    | -    |   |      |      |       |  |
|                                    | SET                       | 1304      | AET                  | -    | -      | 2646   | 3933   | 5220   | 6507   | 7794 | -    | -    |   |      |      |       |  |
| 072UC-S071<br>Series A/B/S<br>Only | SST                       | 4599      | AST                  | -    | -      | -      | 3751   | 4563   | 5375   | 6186 | -    | -    | Maximum Operating Pressure 100 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |       |  |
|                                    | Mid Stroke Min            | 1521      | Mid Stroke Min       | -    | -      | -      | 1521   | 2808   | 4095   | 5382 | -    | -    |   |      |      |       |  |
|                                    | SET                       | 1521      | AET                  | -    | -      | -      | 3087   | 4374   | 5661   | 6948 | -    | -    |   |      |      |       |  |
| 072UC-S081<br>Series A/B/S<br>Only | SST                       | 5278      | AST                  | -    | -      | -      | -      | 4305   | 5117   | 5929 | -    | -    | Maximum Operating Pressure 100 psig<br>(Series A / Max Shell Pressure 175 psig) |      |      |       |  |
|                                    | Mid Stroke Min            | 1725      | Mid Stroke Min       | -    | -      | -      | -      | 1725   | 3012   | 4299 | -    | -    |   |      |      |       |  |
|                                    | SET                       | 1725      | AET                  | -    | -      | -      | -      | 3500   | 4787   | 6074 | -    | -    |   |      |      |       |  |
| 100UC-S041<br>Series B/S Only      | SST                       | 3650      | AST                  | 2977 | 4002   | 5027   | 6052   | 7077   | 8102   | -    | -    | -    | Maximum Operating Pressure<br>100 psig  |      |      |       |  |
|                                    | Mid Stroke Min            | 1208      | Mid Stroke Min       | 1208 | 2833   | 4458   | 6083   | 7708   | 9333   | -    | -    | -    |   |      |      |       |  |
|                                    | SET                       | 1208      | AET                  | 2450 | 4075   | 5700   | 7325   | 8950   | 10575  | -    | -    | -    |   |      |      |       |  |



**Series B/ C: Models 023 - 7114**

Spring Return - Fail Open (CCW)

Canted Yoke Design

| Model Number                  | Spring Torques<br>lb. in. |       | Torque at      | Air torques lb. in.  |      |       |       |       |       |       |       |       |                            |       |       |       |
|-------------------------------|---------------------------|-------|----------------|----------------------|------|-------|-------|-------|-------|-------|-------|-------|----------------------------|-------|-------|-------|
|                               |                           |       |                | Supply Pressure psig |      |       |       |       |       |       |       |       |                            |       |       |       |
|                               |                           |       |                | 40                   | 50   | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130                        | 140   | 150   | 160   |
| 100UC-S051<br>Series B/S Only | SST                       | 4559  | AST            | -                    | 3719 | 4744  | 5769  | 6794  | 7819  | -     | -     | -     | Maximum Operating Pressure |       |       |       |
|                               | Mid Stroke Min            | 1511  | Mid Stroke Min | -                    | 1511 | 3136  | 4761  | 6386  | 8011  | -     | -     | -     | 100 psig                   |       |       |       |
|                               | SET                       | 1511  | AET            | -                    | 3066 | 4691  | 6316  | 7941  | 9566  | -     | -     | -     |                            |       |       |       |
| 100UC-S061<br>Series B/S Only | SST                       | 5480  | AST            | -                    | -    | 4470  | 5495  | 6520  | 7545  | 8570  | -     | -     | Maximum Operating Pressure |       |       |       |
|                               | Mid Stroke Min            | 1808  | Mid Stroke Min | -                    | -    | 1808  | 3433  | 5058  | 6683  | 8308  | -     | -     | 100 psig                   |       |       |       |
|                               | SET                       | 1808  | AET            | -                    | -    | 3668  | 5293  | 6918  | 8543  | 10168 | -     | -     |                            |       |       |       |
| 100UC-S071<br>Series B/S Only | SST                       | 6390  | AST            | -                    | -    | -     | 5212  | 6237  | 7262  | 8287  | -     | -     | Maximum Operating Pressure |       |       |       |
|                               | Mid Stroke Min            | 2111  | Mid Stroke Min | -                    | -    | -     | 2111  | 3736  | 5361  | 6986  | -     | -     | 100 psig                   |       |       |       |
|                               | SET                       | 2111  | AET            | -                    | -    | -     | 4284  | 5909  | 7534  | 9159  | -     | -     |                            |       |       |       |
| 100UC-S081<br>Series B/S Only | SST                       | 7300  | AST            | -                    | -    | -     | -     | 5954  | 6979  | 8004  | -     | -     | Maximum Operating Pressure |       |       |       |
|                               | Mid Stroke Min            | 2415  | Mid Stroke Min | -                    | -    | -     | -     | 2415  | 4040  | 5665  | -     | -     | 100 psig                   |       |       |       |
|                               | SET                       | 2415  | AET            | -                    | -    | -     | -     | 4900  | 6525  | 8150  | -     | -     |                            |       |       |       |
| 135UC-S041                    | SST                       | 4930  | AST            | 4021                 | 5474 | 6928  | 8381  | 9835  | 11288 | 12741 | 14195 | 15648 | 17102                      | 18555 | 20008 | 21462 |
|                               | Mid Stroke Min            | 1958  | Mid Stroke Min | 1958                 | 3271 | 4583  | 5896  | 7208  | 8521  | 9833  | 11146 | 12458 | 13771                      | 15083 | 16396 | 17708 |
|                               | SET                       | 1958  | AET            | 3973                 | 6277 | 8581  | 10885 | 13189 | 15494 | 17798 | 20102 | 22406 | 24710                      | 27014 | 29318 | 31622 |
| 135UC-S051                    | SST                       | 6160  | AST            | -                    | 5024 | 6477  | 7931  | 9384  | 10838 | 12291 | 13744 | 15198 | 16651                      | 18105 | 19558 | 21011 |
|                               | Mid Stroke Min            | 2443  | Mid Stroke Min | -                    | 2443 | 3756  | 5068  | 6381  | 7693  | 9006  | 10318 | 11631 | 12943                      | 14256 | 15568 | 16881 |
|                               | SET                       | 2443  | AET            | -                    | 4956 | 7260  | 9564  | 11868 | 14172 | 16477 | 18781 | 21085 | 23389                      | 25693 | 27997 | 30301 |
| 135UC-S061                    | SST                       | 7389  | AST            | -                    | -    | 6027  | 7480  | 8934  | 10387 | 11841 | 13294 | 14747 | 16201                      | 17654 | 19108 | 20561 |
|                               | Mid Stroke Min            | 2935  | Mid Stroke Min | -                    | -    | 2935  | 4248  | 5560  | 6873  | 8185  | 9498  | 10810 | 12123                      | 13435 | 14748 | 16060 |
|                               | SET                       | 2935  | AET            | -                    | -    | 5956  | 8260  | 10564 | 12868 | 15172 | 17477 | 19781 | 22085                      | 24389 | 26693 | 28997 |
| 135UC-S071                    | SST                       | 8625  | AST            | -                    | -    | 5582  | 7035  | 8488  | 9942  | 11395 | 12849 | 14302 | 15755                      | 17209 | 18662 | 20116 |
|                               | Mid Stroke Min            | 3424  | Mid Stroke Min | -                    | -    | 2112  | 3424  | 4737  | 6049  | 7362  | 8674  | 9987  | 11299                      | 12612 | 13924 | 15237 |
|                               | SET                       | 3424  | AET            | -                    | -    | 4643  | 6947  | 9251  | 11555 | 13859 | 16163 | 18468 | 20772                      | 23076 | 25380 | 27684 |
| 135UC-S081                    | SST                       | 9854  | AST            | -                    | -    | -     | 6585  | 8038  | 9491  | 10945 | 12398 | 13852 | 15305                      | 16758 | 18212 | 19665 |
|                               | Mid Stroke Min            | 3912  | Mid Stroke Min | -                    | -    | -     | 2600  | 3912  | 5225  | 6537  | 7850  | 9162  | 10475                      | 11787 | 13100 | 14412 |
|                               | SET                       | 3912  | AET            | -                    | -    | -     | 5634  | 7938  | 10242 | 12546 | 14850 | 17154 | 19459                      | 21763 | 24067 | 26371 |
| 135UC-S091                    | SST                       | 11090 | AST            | -                    | -    | -     | -     | 7593  | 9046  | 10499 | 11953 | 13406 | 14860                      | 16313 | 17766 | 19220 |
|                               | Mid Stroke Min            | 4401  | Mid Stroke Min | -                    | -    | -     | -     | 3089  | 4401  | 5714  | 7026  | 8339  | 9651                       | 10964 | 12276 | 13589 |
|                               | SET                       | 4401  | AET            | -                    | -    | -     | -     | 6625  | 8929  | 11233 | 13537 | 15841 | 18145                      | 20450 | 22754 | 25058 |
| 135UC-S101                    | SST                       | 12319 | AST            | -                    | -    | -     | -     | -     | 8596  | 10049 | 11502 | 12956 | 14409                      | 15863 | 17316 | 18769 |
|                               | Mid Stroke Min            | 4889  | Mid Stroke Min | -                    | -    | -     | -     | -     | 3577  | 4889  | 6202  | 7514  | 8827                       | 10139 | 11452 | 12764 |
|                               | SET                       | 4889  | AET            | -                    | -    | -     | -     | -     | 7616  | 9920  | 12224 | 14528 | 16832                      | 19136 | 21441 | 23745 |
| 135UC-S121                    | SST                       | 14779 | AST            | -                    | -    | -     | -     | -     | -     | -     | 10602 | 12055 | 13508                      | 14962 | 16415 | 17869 |
|                               | Mid Stroke Min            | 5871  | Mid Stroke Min | -                    | -    | -     | -     | -     | -     | -     | 4559  | 5871  | 7184                       | 8496  | 9809  | 11121 |
|                               | SET                       | 5871  | AET            | -                    | -    | -     | -     | -     | -     | -     | 9607  | 11911 | 14215                      | 16519 | 18823 | 21127 |
| 135UC-S141                    | SST                       | 17244 | AST            | -                    | -    | -     | -     | -     | -     | -     | -     | -     | 12612                      | 14065 | 15518 | 16972 |
|                               | Mid Stroke Min            | 6848  | Mid Stroke Min | -                    | -    | -     | -     | -     | -     | -     | -     | -     | 5536                       | 6848  | 8161  | 9473  |
|                               | SET                       | 6848  | AET            | -                    | -    | -     | -     | -     | -     | -     | -     | -     | 11590                      | 13894 | 16198 | 18502 |
| 135UC-S161                    | SST                       | 19709 | AST            | -                    | -    | -     | -     | -     | -     | -     | -     | -     | -                          | -     | 14623 | 16076 |
|                               | Mid Stroke Min            | 7825  | Mid Stroke Min | -                    | -    | -     | -     | -     | -     | -     | -     | -     | -                          | -     | 6513  | 7825  |
|                               | SET                       | 7825  | AET            | -                    | -    | -     | -     | -     | -     | -     | -     | -     | -                          | -     | 13572 | 15876 |
| 210UC-S041                    | SST                       | 7664  | AST            | 6252                 | 8620 | 10988 | 13355 | 15723 | 18091 | 20459 | 22827 | 25194 | 27562                      | -     | -     | -     |
|                               | Mid Stroke Min            | 2790  | Mid Stroke Min | 2790                 | 4830 | 6870  | 8910  | 10950 | 12990 | 15030 | 17070 | 19110 | 21150                      | -     | -     | -     |
|                               | SET                       | 2790  | AET            | 5660                 | 9414 | 13168 | 16921 | 20675 | 24429 | 28183 | 31937 | 35690 | 39444                      | -     | -     | -     |
| 210UC-S051                    | SST                       | 9579  | AST            | -                    | 7813 | 10181 | 12549 | 14916 | 17284 | 19652 | 22020 | 24388 | 26755                      | -     | -     | -     |
|                               | Mid Stroke Min            | 3484  | Mid Stroke Min | -                    | 3484 | 5524  | 7564  | 9604  | 11644 | 13684 | 15724 | 17764 | 19804                      | -     | -     | -     |
|                               | SET                       | 3484  | AET            | -                    | 7069 | 10823 | 14577 | 18330 | 22084 | 25838 | 29592 | 33346 | 37099                      | -     | -     | -     |
| 210UC-S061                    | SST                       | 11500 | AST            | -                    | -    | 9380  | 11748 | 14116 | 16483 | 18851 | 21219 | 23587 | 25955                      | 28322 | -     | -     |
|                               | Mid Stroke Min            | 4182  | Mid Stroke Min | -                    | -    | 4182  | 6222  | 8262  | 10302 | 12342 | 14382 | 16422 | 18462                      | 20502 | -     | -     |
|                               | SET                       | 4182  | AET            | -                    | -    | 8485  | 12239 | 15993 | 19746 | 23500 | 27254 | 31008 | 34762                      | 38515 | -     | -     |
| 210UC-S071                    | SST                       | 13409 | AST            | -                    | -    | 8569  | 10937 | 13305 | 15673 | 18040 | 20408 | 22776 | 25144                      | 27512 | -     | -     |
|                               | Mid Stroke Min            | 4880  | Mid Stroke Min | -                    | -    | 2840  | 4880  | 6920  | 8960  | 11000 | 13040 | 15080 | 17120                      | 19160 | -     | -     |
|                               | SET                       | 4880  | AET            | -                    | -    | 6148  | 9902  | 13656 | 17410 | 21163 | 24917 | 28671 | 32425                      | 36179 | -     | -     |
| 210UC-S081                    | SST                       | 15329 | AST            | -                    | -    | -     | 10135 | 12503 | 14871 | 17239 | 19606 | 21974 | 24342                      | 26710 | 29078 | -     |
|                               | Mid Stroke Min            | 5579  | Mid Stroke Min | -                    | -    | -     | 3539  | 5579  | 7619  | 9659  | 11699 | 13739 | 15779                      | 17819 | 19859 | -     |
|                               | SET                       | 5579  | AET            | -                    | -    | -     | 7565  | 11319 | 15073 | 18827 | 22580 | 26334 | 30088                      | 33842 | 37596 | -     |
| 210UC-S091                    | SST                       | 17238 | AST            | -                    | -    | -     | -     | 11693 | 14061 | 16429 | 18797 | 21164 | 23532                      | 25900 | 28268 | -     |
|                               | Mid Stroke Min            | 6277  | Mid Stroke Min | -                    | -    | -     | -     | 4237  | 6277  | 8317  | 10357 | 12397 | 14437                      | 16477 | 18517 | -     |
|                               | SET                       | 6277  | AET            | -                    | -    | -     | -     | 8982  | 12736 | 16490 | 20244 | 23997 | 27751                      | 31505 | 35259 | -     |
| 210UC-S101                    | SST                       | 19158 | AST            | -                    | -    | -     | -     | -     | 13259 | 15627 | 17995 | 20363 | 22730                      | 25098 | 27466 | 29834 |
|                               | Mid Stroke Min            | 6975  | Mid Stroke Min | -                    | -    | -     | -     | -     | 4935  | 6975  | 9015  | 11055 | 13095                      | 15135 | 17175 | 19215 |
|                               | SET                       | 6975  | AET            | -                    | -    | -     | -     | -     | 10399 | 14153 | 17907 | 21661 | 25414                      | 29168 | 32922 | 36676 |
| 210UC-S121                    | SST                       | 22993 | AST            | -                    | -    | -     | -     | -     | -     | -     | 16387 | 18755 | 21123                      | 23491 | 25858 | 28226 |
|                               | Mid Stroke Min            | 8368  | Mid Stroke Min | -                    | -    | -     | -     | -     | -     | -     | 6328  | 8368  | 10408                      | 12448 | 14488 | 16528 |
|                               | SET                       | 8368  | AET            | -                    | -    | -     | -     | -     | -     | -     | 13225 | 16979 | 20733                      | 24487 | 28240 | 31994 |
| 210UC-S141                    | SST                       | 26828 | AST            | -                    | -    | -     | -     | -     | -     | -     | -     | -     | 19515                      | 21883 | 24251 | 26619 |
|                               | Mid Stroke Min            | 9761  | Mid Stroke Min | -                    | -    | -     | -     | -     | -     | -     | -     | -     | 7721                       | 9761  | 11801 | 13841 |
|                               | SET                       | 9761  | AET            | -                    | -    | -     | -     | -     | -     | -     | -     | -     | 16050                      | 19804 | 23558 | 27312 |



**Series B/ C: Models 023 - 7114**

Spring Return - Fail Open (CCW)

Canted Yoke Design

| Model Number                    | Spring Torques<br>lb. in. |       | Torque at      | Air torques lb. in.  |       |       |       |       |       |       |       |       |       |       |       |       |   |       |       |
|---------------------------------|---------------------------|-------|----------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---|-------|-------|
|                                 |                           |       |                | Supply Pressure psig |       |       |       |       |       |       |       |       |       |       |       |       |   |       |       |
|                                 |                           |       |                | 40                   | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |   |       |       |
| 210UC-S161                      | SST                       | 30658 | AST            | -                    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | 22639   | 25007 |       |
|                                 | Mid Stroke Min            | 11157 | Mid Stroke Min | -                    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -   | 9117  | 11157 |
|                                 | SET                       | 11157 | AET            | -                    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | 18884   | 22638 |       |
| 270UC-S041                      | SST                       | 9860  | AST            | 8042                 | 10948 | 13854 | 16760 | 19666 | 22572 | 25478 | -     | -     | -     | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |
|                                 | Mid Stroke Min            | 3590  | Mid Stroke Min | 3590                 | 6215  | 8840  | 11465 | 14090 | 16715 | 19340 | -     | -     | -     | -     | -     | -     |   |       |       |
|                                 | SET                       | 3590  | AET            | 7284                 | 11891 | 16498 | 21105 | 25712 | 30319 | 34926 | -     | -     | -     | -     | -     | -     |   |       |       |
| 270UC-S051                      | SST                       | 12319 | AST            | -                    | 10049 | 12955 | 15861 | 18767 | 21673 | 24579 | 27485 | -     | -     | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |
|                                 | Mid Stroke Min            | 4482  | Mid Stroke Min | -                    | 4482  | 7107  | 9732  | 12357 | 14982 | 17607 | 20232 | -     | -     | -     | -     | -     |   |       |       |
|                                 | SET                       | 4482  | AET            | -                    | 9094  | 13701 | 18308 | 22915 | 27522 | 32129 | 36736 | -     | -     | -     | -     | -     |   |       |       |
| 270UC-S061                      | SST                       | 14779 | AST            | -                    | -     | 12055 | 14961 | 17867 | 20773 | 23679 | 26585 | 29491 | -     | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |
|                                 | Mid Stroke Min            | 5381  | Mid Stroke Min | -                    | -     | 5381  | 8006  | 10631 | 13256 | 15881 | 18506 | 21131 | -     | -     | -     | -     |   |       |       |
|                                 | SET                       | 5381  | AET            | -                    | -     | 10919 | 15526 | 20133 | 24740 | 29347 | 33954 | 38561 | -     | -     | -     | -     |   |       |       |
| 270UC-S071                      | SST                       | 17244 | AST            | -                    | -     | 11159 | 14065 | 16971 | 19877 | 22783 | 25689 | 28595 | -     | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |
|                                 | Mid Stroke Min            | 6277  | Mid Stroke Min | -                    | -     | 3652  | 6277  | 8902  | 11527 | 14152 | 16777 | 19402 | -     | -     | -     | -     |   |       |       |
|                                 | SET                       | 6277  | AET            | -                    | -     | 8129  | 12736 | 17343 | 21950 | 26557 | 31164 | 35771 | -     | -     | -     | -     |   |       |       |
| 270UC-S081                      | SST                       | 19709 | AST            | -                    | -     | -     | 13170 | 16076 | 18982 | 21888 | 24794 | 27700 | -     | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |
|                                 | Mid Stroke Min            | 7173  | Mid Stroke Min | -                    | -     | -     | 4548  | 7173  | 9798  | 12423 | 15048 | 17673 | -     | -     | -     | -     |   |       |       |
|                                 | SET                       | 7173  | AET            | -                    | -     | -     | 9946  | 14553 | 19160 | 23767 | 28374 | 32981 | -     | -     | -     | -     |   |       |       |
| 270UC-S091                      | SST                       | 22175 | AST            | -                    | -     | -     | -     | 15181 | 18087 | 20993 | 23899 | 26805 | -     | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |
|                                 | Mid Stroke Min            | 8068  | Mid Stroke Min | -                    | -     | -     | -     | 5443  | 8068  | 10693 | 13318 | 15943 | -     | -     | -     | -     |   |       |       |
|                                 | SET                       | 8068  | AET            | -                    | -     | -     | -     | 11763 | 16370 | 20977 | 25584 | 30191 | -     | -     | -     | -     |   |       |       |
| 270UC-S101                      | SST                       | 24639 | AST            | -                    | -     | -     | -     | -     | 17191 | 20097 | 23003 | 25909 | -     | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |
|                                 | Mid Stroke Min            | 8964  | Mid Stroke Min | -                    | -     | -     | -     | -     | 6339  | 8964  | 11589 | 14214 | -     | -     | -     | -     |   |       |       |
|                                 | SET                       | 8964  | AET            | -                    | -     | -     | -     | -     | 13582 | 18189 | 22796 | 27403 | -     | -     | -     | -     |   |       |       |
| 344UC-S041                      | SST                       | 12319 | AST            | 10049                | 13762 | 17475 | 21189 | 24902 | 28615 | -     | -     | -     | -     | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |
|                                 | Mid Stroke Min            | 4359  | Mid Stroke Min | 4359                 | 7713  | 11067 | 14420 | 17774 | 21128 | -     | -     | -     | -     | -     | -     | -     |   |       |       |
|                                 | SET                       | 4359  | AET            | 8845                 | 14732 | 20618 | 26505 | 32391 | 38278 | -     | -     | -     | -     | -     | -     | -     |   |       |       |
| 344UC-S051                      | SST                       | 14779 | AST            | -                    | 12055 | 15768 | 19481 | 23195 | 26908 | -     | -     | -     | -     | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |
|                                 | Mid Stroke Min            | 5234  | Mid Stroke Min | -                    | 5234  | 8588  | 11942 | 15295 | 18649 | -     | -     | -     | -     | -     | -     | -     |   |       |       |
|                                 | SET                       | 5234  | AET            | -                    | 10620 | 16507 | 22393 | 28280 | 34166 | -     | -     | -     | -     | -     | -     | -     |   |       |       |
| 344UC-S061                      | SST                       | 17244 | AST            | -                    | -     | 14065 | 17778 | 21491 | 25205 | 28918 | -     | -     | -     | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |
|                                 | Mid Stroke Min            | 6106  | Mid Stroke Min | -                    | 6106  | 9460  | 12814 | 16167 | 19521 | -     | -     | -     | -     | -     | -     | -     |   |       |       |
|                                 | SET                       | 6106  | AET            | -                    | -     | 12389 | 18276 | 24162 | 30049 | 35935 | -     | -     | -     | -     | -     | -     |   |       |       |
| 344UC-S071                      | SST                       | 22175 | AST            | -                    | -     | 14374 | 18087 | 21800 | 25513 | 29227 | -     | -     | -     | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |
|                                 | Mid Stroke Min            | 7847  | Mid Stroke Min | -                    | -     | 4493  | 7847  | 11201 | 14555 | 17908 | -     | -     | -     | -     | -     | -     |   |       |       |
|                                 | SET                       | 7847  | AET            | -                    | -     | 10035 | 15922 | 21809 | 27695 | 33582 | -     | -     | -     | -     | -     | -     |   |       |       |
| 344UC-S081                      | SST                       | 24639 | AST            | -                    | -     | -     | 16384 | 20097 | 23810 | 27523 | 31237 | -     | -     | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |
|                                 | Mid Stroke Min            | 8720  | Mid Stroke Min | -                    | -     | -     | 5366  | 8720  | 12074 | 15428 | 18781 | -     | -     | -     | -     | -     |   |       |       |
|                                 | SET                       | 8720  | AET            | -                    | -     | -     | 11805 | 17692 | 23579 | 29465 | 35352 | -     | -     | -     | -     | -     |   |       |       |
| 345UC-S091                      | SST                       | 26828 | AST            | -                    | -     | -     | -     | 18170 | 21883 | 25596 | 29309 | -     | -     | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |
|                                 | Mid Stroke Min            | 9494  | Mid Stroke Min | -                    | -     | -     | -     | 6140  | 9494  | 12848 | 16202 | -     | -     | -     | -     | -     |   |       |       |
|                                 | SET                       | 9494  | AET            | -                    | -     | -     | -     | 13377 | 19264 | 25151 | 31037 | -     | -     | -     | -     | -     |   |       |       |
| 345UC-S101                      | SST                       | 30658 | AST            | -                    | -     | -     | -     | -     | 21294 | 25007 | 28720 | 32433 | -     | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |
|                                 | Mid Stroke Min            | 10853 | Mid Stroke Min | -                    | -     | -     | -     | -     | 7499  | 10853 | 14207 | 17561 | -     | -     | -     | -     |   |       |       |
|                                 | SET                       | 10853 | AET            | -                    | -     | -     | -     | -     | 16134 | 22021 | 27908 | 33794 | -     | -     | -     | -     |   |       |       |
| 345UC-S111                      | SST                       | 34482 | AST            | -                    | -     | -     | -     | -     | 24413 | 28126 | 31839 | -     | -     | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |
|                                 | Mid Stroke Min            | 12212 | Mid Stroke Min | -                    | -     | -     | -     | -     | 8858  | 12212 | 15566 | -     | -     | -     | -     | -     |   |       |       |
|                                 | SET                       | 12212 | AET            | -                    | -     | -     | -     | -     | 18890 | 24777 | 30664 | -     | -     | -     | -     | -     |   |       |       |
| 345UC-S121                      | SST                       | 34482 | AST            | -                    | -     | -     | -     | -     | 24413 | 28126 | 31839 | -     | -     | -     | -     | -     | Maximum Operating Pressure 120 psig<br>(Series A / Max Shell Pressure 175 psig) |       |       |
|                                 | Mid Stroke Min            | 12212 | Mid Stroke Min | -                    | -     | -     | -     | -     | 8858  | 12212 | 15566 | -     | -     | -     | -     | -     |   |       |       |
|                                 | SET                       | 12212 | AET            | -                    | -     | -     | -     | -     | 18890 | 24777 | 30664 | -     | -     | -     | -     | -     |   |       |       |
| 370UC-S041<br>Series B,C,S only | SST                       | 13504 | AST            | 11015                | 15073 | 19131 | 23189 | 27247 | 31305 | 35363 | 39421 | 43479 | 47537 | 51595 | 55653 | 59711 |   |       |       |
|                                 | Mid Stroke Min            | 5138  | Mid Stroke Min | 5138                 | 8408  | 11678 | 14948 | 18218 | 21488 | 24758 | 28028 | 31298 | 34568 | 37838 | 41108 | 44378 |   |       |       |
|                                 | SET                       | 5138  | AET            | 10424                | 16857 | 23291 | 29724 | 36158 | 42591 | 49024 | 55458 | 61891 | 68325 | 74758 | 81191 | 87625 |   |       |       |
| 370UC-S051<br>Series B,C,S only | SST                       | 16879 | AST            | -                    | 13767 | 17825 | 21883 | 25941 | 29999 | 34057 | 38115 | 42173 | 46231 | 50289 | 54347 | 58405 |   |       |       |
|                                 | Mid Stroke Min            | 7209  | Mid Stroke Min | -                    | 7209  | 10479 | 13749 | 17019 | 20289 | 23559 | 26829 | 30099 | 33369 | 36639 | 39909 | 43179 |   |       |       |
|                                 | SET                       | 7209  | AET            | -                    | 13033 | 21060 | 27494 | 33927 | 40361 | 46794 | 53227 | 59661 | 66094 | 72528 | 78961 | 85394 |   |       |       |
| 370UC-S061<br>Series B,C,S only | SST                       | 20259 | AST            | -                    | -     | 16525 | 20583 | 24641 | 28699 | 32757 | 36815 | 40873 | 44931 | 48989 | 53047 | 57105 |   |       |       |
|                                 | Mid Stroke Min            | 7705  | Mid Stroke Min | -                    | -     | 7705  | 10975 | 14245 | 17515 | 20785 | 24055 | 27325 | 30595 | 33865 | 37135 | 40405 |   |       |       |
|                                 | SET                       | 7705  | AET            | -                    | -     | 15634 | 22067 | 28501 | 34934 | 41368 | 47801 | 54234 | 60668 | 67101 | 73535 | 79968 |   |       |       |
| 370UC-S071<br>Series B,C,S only | SST                       | 23634 | AST            | -                    | -     | 15219 | 19277 | 23335 | 27393 | 31451 | 35509 | 39567 | 43625 | 47683 | 51741 | 55799 |   |       |       |
|                                 | Mid Stroke Min            | 8991  | Mid Stroke Min | -                    | -     | 5721  | 8991  | 12261 | 15531 | 18801 | 22071 | 25341 | 28611 | 31881 | 35151 | 38421 |   |       |       |
|                                 | SET                       | 8991  | AET            | -                    | -     | 11809 | 18242 | 24675 | 31109 | 37542 | 43976 | 50409 | 56842 | 63276 | 69709 | 76143 |   |       |       |
| 370UC-S081<br>Series B,C,S only | SST                       | 27008 | AST            | -                    | -     | -     | 17972 | 22030 | 26088 | 30146 | 34204 | 38262 | 42320 | 46378 | 50436 | 54494 |   |       |       |
|                                 | Mid Stroke Min            | 10276 | Mid Stroke Min | -                    | -     | -     | 7006  | 10276 | 13546 | 16816 | 20086 | 23356 | 26626 | 29896 | 33166 | 36436 |   |       |       |
|                                 | SET                       | 10276 | AET            | -                    | -     | -     | 14417 | 20850 | 27283 | 33717 | 40150 | 46584 | 53017 | 59450 | 65884 | 72317 |   |       |       |
| 370UC-S091<br>Series B,C,S only | SST                       | 30383 | AST            | -                    | -     | -     | -     | 20724 | 24782 | 28840 | 32898 | 36956 | 41014 | 45072 | 49130 | 53188 |   |       |       |
|                                 | Mid Stroke Min            | 11562 | Mid Stroke Min | -                    | -     | -     | -     | 8292  | 11562 | 14832 | 18102 | 21372 | 24642 | 27912 | 31182 | 34452 |   |       |       |
|                                 | SET                       | 11562 | AET            | -                    | -     | -     | -     | 17025 | 23458 | 29891 | 36325 | 42758 | 49192 | 55625 | 62058 | 68492 |   |       |       |







**Series B/ C: Models 023 - 7114**

**Spring Return - Fail Open (CCW)**

**Canted Yoke Design**

| Model Number                            | Spring Torques<br>lb. in. | Torque at | Air torques lb. in.  |       |       |       |       |       |        |       |       |       |                            |     |     |  |
|---|---------------------------|-----------|----------------------|-------|-------|-------|-------|-------|--------|-------|-------|-------|----------------------------|-----|-----|--|
|   |                           |           | Supply Pressure psig |       |       |       |       |       |        |       |       |       |                            |     |     |  |
|   |                           |           | 40                   | 50    | 60    | 70    | 80    | 90    | 100    | 110   | 120   | 130   | 140                        | 150 | 160 |  |
| <b>740UC-S061</b><br>Series B,C,S only  | SST                       | 40512     | AST                  | -     | -     | 33045 | 41009 | 48974 | 56938  | 64903 | 72867 | -     | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 15414     | Mid Stroke Min       | -     | -     | 15414 | 21954 | 28494 | 35034  | 41574 | 48114 | -     | 120 psig                   |     |     |  |
|   | SET                       | 15414     | AET                  | -     | -     | 31275 | 43901 | 56528 | 69154  | 81781 | 94407 | -     |                            |     |     |  |
| <b>740UC-S071</b><br>Series B,C,S only  | SST                       | 47267     | AST                  | -     | -     | 30590 | 38554 | 46518 | 54483  | 62447 | 70412 | 78376 | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 17981     | Mid Stroke Min       | -     | -     | 11441 | 17981 | 24521 | 31061  | 37601 | 44141 | 50681 | 120 psig                   |     |     |  |
|   | SET                       | 17981     | AET                  | -     | -     | 23857 | 36483 | 49109 | 61736  | 74362 | 86989 | 99615 |                            |     |     |  |
| <b>740UC-S081</b><br>Series B,C,S only  | SST                       | 54016     | AST                  | -     | -     | -     | 36096 | 44060 | 52024  | 59989 | 67953 | 75918 | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 20552     | Mid Stroke Min       | -     | -     | -     | 14012 | 20552 | 27092  | 33632 | 40172 | 46712 | 120 psig                   |     |     |  |
|   | SET                       | 20552     | AET                  | -     | -     | -     | 29073 | 41699 | 54325  | 66952 | 79578 | 92205 |                            |     |     |  |
| <b>740UC-S091</b><br>Series B,C,S only  | SST                       | 60763     | AST                  | -     | -     | -     | -     | 41599 | 49563  | 57527 | 65492 | 73456 | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 23125     | Mid Stroke Min       | -     | -     | -     | -     | 16585 | 23125  | 29665 | 36205 | 42745 | 120 psig                   |     |     |  |
|   | SET                       | 23125     | AET                  | -     | -     | -     | -     | 34294 | 46920  | 59546 | 72173 | 84799 |                            |     |     |  |
| <b>740UC-S101</b><br>Series B,C,S only  | SST                       | 67515     | AST                  | -     | -     | -     | -     | -     | 47106  | 55070 | 63034 | 70999 | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 25694     | Mid Stroke Min       | -     | -     | -     | -     | -     | 19154  | 25694 | 32234 | 38774 | 120 psig                   |     |     |  |
|   | SET                       | 25694     | AET                  | -     | -     | -     | -     | -     | 39507  | 52133 | 64759 | 77386 |                            |     |     |  |
| <b>944UC-S041</b><br>Series B,C,S only  | SST                       | 33757     | AST                  | 27535 | 37899 | 48264 | 58628 | 68993 | 79357  | -     | -     | -     | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 11953     | Mid Stroke Min       | 11953 | 21051 | 30148 | 39246 | 48343 | 57441  | -     | -     | -     | 120 psig                   |     |     |  |
|   | SET                       | 11953     | AET                  | 24252 | 40683 | 57114 | 73546 | 89977 | 106408 | -     | -     | -     |                            |     |     |  |
| <b>944UC-S051</b><br>Series B,C,S only  | SST                       | 40512     | AST                  | -     | 33045 | 43409 | 53774 | 64138 | 74503  | -     | -     | -     | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 14342     | Mid Stroke Min       | -     | 14342 | 23440 | 32537 | 41635 | 50732  | -     | -     | -     | 120 psig                   |     |     |  |
|   | SET                       | 14342     | AET                  | -     | 29099 | 45530 | 61961 | 78393 | 94824  | -     | -     | -     |                            |     |     |  |
| <b>944UC-S061</b><br>Series B,C,S only  | SST                       | 47267     | AST                  | -     | -     | 38554 | 48918 | 59283 | 69647  | 80012 | -     | -     | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 16730     | Mid Stroke Min       | -     | -     | 16730 | 25828 | 34925 | 44023  | 53120 | -     | -     | 120 psig                   |     |     |  |
|   | SET                       | 16730     | AET                  | -     | -     | 33944 | 50375 | 66806 | 83238  | 99669 | -     | -     |                            |     |     |  |
| <b>944UC-S071</b><br>Series B,C,S only  | SST                       | 54016     | AST                  | -     | -     | 33696 | 44060 | 54424 | 64789  | 75153 | -     | -     | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 19122     | Mid Stroke Min       | -     | -     | 10024 | 19122 | 28220 | 37317  | 46415 | -     | -     | 120 psig                   |     |     |  |
|   | SET                       | 19122     | AET                  | -     | -     | 22367 | 38798 | 55229 | 71660  | 88092 | -     | -     |                            |     |     |  |
| <b>945UC-S081</b><br>Series B,C,S only  | SST                       | 62955     | AST                  | -     | -     | -     | 40987 | 51351 | 61715  | 72080 | 82444 | -     | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 22289     | Mid Stroke Min       | -     | -     | -     | 13191 | 22289 | 31387  | 40484 | 49582 | -     | 120 psig                   |     |     |  |
|   | SET                       | 22289     | AET                  | -     | -     | -     | 28793 | 45224 | 61655  | 78086 | 94518 | -     |                            |     |     |  |
| <b>945UC-S091</b><br>Series B,C,S only  | SST                       | 73444     | AST                  | -     | -     | -     | -     | 49542 | 59906  | 70270 | 80635 | -     | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 26003     | Mid Stroke Min       | -     | -     | -     | -     | 16905 | 26003  | 35101 | 44198 | -     | 120 psig                   |     |     |  |
|   | SET                       | 26003     | AET                  | -     | -     | -     | -     | 36328 | 52759  | 69190 | 85621 | -     |                            |     |     |  |
| <b>945UC-S101</b><br>Series B,C,S only  | SST                       | 83944     | AST                  | -     | -     | -     | -     | -     | 58107  | 68471 | 78835 | -     | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 29717     | Mid Stroke Min       | -     | -     | -     | -     | -     | 20619  | 29717 | 38815 | -     | 120 psig                   |     |     |  |
|   | SET                       | 29717     | AET                  | -     | -     | -     | -     | -     | 43864  | 60295 | 76726 | -     |                            |     |     |  |
| <b>945UC-S111</b><br>Series B,C,S only  | SST                       | 94433     | AST                  | -     | -     | -     | -     | -     | -      | 66662 | 77026 | 87390 | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 33431     | Mid Stroke Min       | -     | -     | -     | -     | -     | -      | 24333 | 33431 | 42529 | 120 psig                   |     |     |  |
|   | SET                       | 33431     | AET                  | -     | -     | -     | -     | -     | -      | 51399 | 67830 | 84261 |                            |     |     |  |
| <b>945UC-S121</b><br>Series B,C,S only  | SST                       | 94433     | AST                  | -     | -     | -     | -     | -     | -      | -     | 66662 | 77026 | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 33431     | Mid Stroke Min       | -     | -     | -     | -     | -     | -      | -     | 24333 | 33431 | 120 psig                   |     |     |  |
|   | SET                       | 33431     | AET                  | -     | -     | -     | -     | -     | -      | -     | 51399 | 67830 |                            |     |     |  |
| <b>1150UC-S041</b><br>Series B,C,S only | SST                       | 41972     | AST                  | 34236 | 46613 | 58990 | 71367 | -     | -      | -     | -     | -     | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 14580     | Mid Stroke Min       | 14580 | 25800 | 37020 | 48240 | -     | -      | -     | -     | -     | 120 psig                   |     |     |  |
|   | SET                       | 14580     | AET                  | 29583 | 49205 | 68827 | 88449 | -     | -      | -     | -     | -     |                            |     |     |  |
| <b>1150UC-S051</b><br>Series B,C,S only | SST                       | 52467     | AST                  | -     | 42796 | 55173 | 67550 | 79927 | -      | -     | -     | -     | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 18222     | Mid Stroke Min       | -     | 18222 | 29442 | 40662 | 51882 | -      | -     | -     | -     | 120 psig                   |     |     |  |
|   | SET                       | 18222     | AET                  | -     | 36971 | 56593 | 76215 | 95837 | -      | -     | -     | -     |                            |     |     |  |
| <b>1150UC-S061</b><br>Series B,C,S only | SST                       | 62955     | AST                  | -     | -     | 51351 | 63728 | 76105 | -      | -     | -     | -     | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 21873     | Mid Stroke Min       | -     | -     | 21873 | 33093 | 44313 | -      | -     | -     | -     | 120 psig                   |     |     |  |
|   | SET                       | 21873     | AET                  | -     | -     | 44380 | 64002 | 83624 | -      | -     | -     | -     |                            |     |     |  |
| <b>1150UC-S071</b><br>Series B,C,S only | SST                       | 73444     | AST                  | -     | -     | 47529 | 59906 | 72283 | 84660  | -     | -     | -     | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 25517     | Mid Stroke Min       | -     | -     | 14297 | 25517 | 36737 | 47957  | -     | -     | -     | 120 psig                   |     |     |  |
|   | SET                       | 25517     | AET                  | -     | -     | 32151 | 51773 | 71395 | 91017  | -     | -     | -     |                            |     |     |  |
| <b>1150UC-S081</b><br>Series B,C,S only | SST                       | 83944     | AST                  | -     | -     | -     | 56094 | 68471 | 80848  | -     | -     | -     | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 29161     | Mid Stroke Min       | -     | -     | -     | 17941 | 29161 | 40381  | -     | -     | -     | 120 psig                   |     |     |  |
|   | SET                       | 29161     | AET                  | -     | -     | -     | 39546 | 59168 | 78790  | -     | -     | -     |                            |     |     |  |
| <b>1150UC-S091</b><br>Series B,C,S only | SST                       | 94433     | AST                  | -     | -     | -     | -     | 64649 | 77026  | 89403 | -     | -     | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 32805     | Mid Stroke Min       | -     | -     | -     | -     | 21585 | 32805  | 44025 | -     | -     | 120 psig                   |     |     |  |
|   | SET                       | 32805     | AET                  | -     | -     | -     | -     | 46940 | 66562  | 86184 | -     | -     |                            |     |     |  |
| <b>1150UC-S101</b><br>Series B,C,S only | SST                       | 104933    | AST                  | -     | -     | -     | -     | -     | 73214  | 85591 | -     | -     | Maximum Operating Pressure |     |     |  |
|   | Mid Stroke Min            | 36442     | Mid Stroke Min       | -     | -     | -     | -     | -     | 25222  | 36442 | -     | -     | 120 psig                   |     |     |  |
|   | SET                       | 36442     | AET                  | -     | -     | -     | -     | -     | 54319  | 73941 | -     | -     |                            |     |     |  |







**Series B/ C: Models 023 - 7114**  
Spring Return - Fail Open (CCW)  
Canted Yoke Design

| Model Number                 | Spring Torques<br>lb. in. |        | Torque at      | Air torques lb. in.  |        |        |        |        |        |        |        |        |                            |                            |     |     |
|------------------------------|---------------------------|--------|----------------|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|----------------------------|----------------------------|-----|-----|
|                              |                           |        |                | Supply Pressure psig |        |        |        |        |        |        |        |        |                            |                            |     |     |
|                              |                           |        |                | 40                   | 50     | 60     | 70     | 80     | 90     | 100    | 110    | 120    | 130                        | 140                        | 150 | 160 |
| 3072UC-S121<br>Series C Only | SST                       | 346441 | AST            | -                    | -      | -      | -      | -      | -      | -      | -      | 248350 | 282582                     | Maximum Operating Pressure |     |     |
|                              | Mid Stroke Min            | 114618 | Mid Stroke Min | -                    | -      | -      | -      | -      | -      | -      | -      | 93064  | 114618                     | 120 psig                   |     |     |
|                              | SET                       | 114618 | AET            | -                    | -      | -      | -      | -      | -      | -      | -      | 169164 | 232558                     |                            |     |     |
| 3731UC-S041<br>Series C Only | SST                       | 153974 | AST            | 125592               | 167178 | 208764 | 250350 | 291936 | 333522 | 375108 | -      | -      | Maximum Operating Pressure |                            |     |     |
|                              | Mid Stroke Min            | 50941  | Mid Stroke Min | 50941                | 77125  | 103309 | 129493 | 155677 | 181861 | 208045 | -      | -      | 120 psig                   |                            |     |     |
|                              | SET                       | 50941  | AET            | 103359               | 180370 | 257381 | 334392 | 411403 | 488414 | 565425 | -      | -      |                            |                            |     |     |
| 3731UC-S051<br>Series C Only | SST                       | 192467 | AST            | 115404               | 156990 | 198576 | 240162 | 281748 | 323334 | 364920 | 406506 | -      | Maximum Operating Pressure |                            |     |     |
|                              | Mid Stroke Min            | 63677  | Mid Stroke Min | 37493                | 63677  | 89861  | 116045 | 142229 | 168413 | 194597 | 220781 | -      | 120 psig                   |                            |     |     |
|                              | SET                       | 63677  | AET            | 52189                | 129199 | 206209 | 283219 | 360229 | 437239 | 514249 | 591259 | -      |                            |                            |     |     |
| 3731UC-S061<br>Series C Only | SST                       | 230960 | AST            | -                    | 146802 | 188388 | 229974 | 271560 | 313146 | 354732 | 396318 | 437904 | Maximum Operating Pressure |                            |     |     |
|                              | Mid Stroke Min            | 76412  | Mid Stroke Min | -                    | 50228  | 76412  | 102596 | 128780 | 154964 | 181148 | 207332 | 233516 | 120 psig                   |                            |     |     |
|                              | SET                       | 76412  | AET            | -                    | 78028  | 155039 | 232050 | 309061 | 386072 | 463083 | 540094 | 617105 |                            |                            |     |     |
| 3731UC-S071<br>Series C Only | SST                       | 269454 | AST            | -                    | -      | 178200 | 219786 | 261372 | 302958 | 344544 | 386130 | 427716 | Maximum Operating Pressure |                            |     |     |
|                              | Mid Stroke Min            | 89147  | Mid Stroke Min | -                    | -      | 62963  | 89147  | 115331 | 141515 | 167699 | 193883 | 220067 | 120 psig                   |                            |     |     |
|                              | SET                       | 89147  | AET            | -                    | -      | 103869 | 180879 | 257889 | 334899 | 411909 | 488919 | 565929 |                            |                            |     |     |
| 3731UC-S081<br>Series C Only | SST                       | 307947 | AST            | -                    | -      | -      | 209598 | 251184 | 292770 | 334356 | 375942 | 417528 | Maximum Operating Pressure |                            |     |     |
|                              | Mid Stroke Min            | 101883 | Mid Stroke Min | -                    | -      | -      | 75699  | 101883 | 128067 | 154251 | 180435 | 206619 | 120 psig                   |                            |     |     |
|                              | SET                       | 101883 | AET            | -                    | -      | -      | 129707 | 206718 | 283729 | 360740 | 437751 | 514762 |                            |                            |     |     |
| 3731UC-S091<br>Series C Only | SST                       | 346441 | AST            | -                    | -      | -      | -      | 240996 | 282582 | 324168 | 365754 | 407340 | Maximum Operating Pressure |                            |     |     |
|                              | Mid Stroke Min            | 114618 | Mid Stroke Min | -                    | -      | -      | -      | 88433  | 114618 | 140802 | 166986 | 193170 | 120 psig                   |                            |     |     |
|                              | SET                       | 114618 | AET            | -                    | -      | -      | -      | 155548 | 232558 | 309568 | 386578 | 463588 |                            |                            |     |     |
| 3731UC-S101<br>Series C Only | SST                       | 384934 | AST            | -                    | -      | -      | -      | -      | 272394 | 313980 | 355566 | 397152 | Maximum Operating Pressure |                            |     |     |
|                              | Mid Stroke Min            | 127353 | Mid Stroke Min | -                    | -      | -      | -      | -      | 101169 | 127353 | 153537 | 179721 | 120 psig                   |                            |     |     |
|                              | SET                       | 127353 | AET            | -                    | -      | -      | -      | -      | 181387 | 258398 | 335409 | 412420 |                            |                            |     |     |
| 3731UC-S111<br>Series C Only | SST                       | 423427 | AST            | -                    | -      | -      | -      | -      | -      | 303792 | 345378 | 386964 | Maximum Operating Pressure |                            |     |     |
|                              | Mid Stroke Min            | 140089 | Mid Stroke Min | -                    | -      | -      | -      | -      | -      | 113905 | 140089 | 166273 | 120 psig                   |                            |     |     |
|                              | SET                       | 140089 | AET            | -                    | -      | -      | -      | -      | -      | 207228 | 284238 | 361248 |                            |                            |     |     |
| 3731UC-S121<br>Series C Only | SST                       | 461921 | AST            | -                    | -      | -      | -      | -      | -      | -      | 335190 | 376776 | Maximum Operating Pressure |                            |     |     |
|                              | Mid Stroke Min            | 152824 | Mid Stroke Min | -                    | -      | -      | -      | -      | -      | -      | 126640 | 152824 | 120 psig                   |                            |     |     |
|                              | SET                       | 152824 | AET            | -                    | -      | -      | -      | -      | -      | -      | 233068 | 310078 |                            |                            |     |     |
| 4534UC-S041<br>Series C Only | SST                       | 153974 | AST            | 125592               | 176119 | 226646 | 277173 | 327700 | 378227 | -      | -      | -      | Maximum Operating Pressure |                            |     |     |
|                              | Mid Stroke Min            | 50941  | Mid Stroke Min | 50941                | 82754  | 114567 | 146380 | 178193 | 210006 | -      | -      | -      | 120 psig                   |                            |     |     |
|                              | SET                       | 50941  | AET            | 103359               | 196927 | 290495 | 384063 | 477631 | 571199 | -      | -      | -      |                            |                            |     |     |
| 4534UC-S051<br>Series C Only | SST                       | 230960 | AST            | 137862               | 188388 | 238914 | 289440 | 339966 | 390492 | -      | -      | -      | Maximum Operating Pressure |                            |     |     |
|                              | Mid Stroke Min            | 76412  | Mid Stroke Min | 44598                | 76412  | 108226 | 140040 | 171854 | 203668 | -      | -      | -      | 120 psig                   |                            |     |     |
|                              | SET                       | 76412  | AET            | 61471                | 155039 | 248607 | 342175 | 435743 | 529311 | -      | -      | -      |                            |                            |     |     |
| 4534UC-S061<br>Series C Only | SST                       | 269454 | AST            | -                    | 169259 | 219786 | 270313 | 320840 | 371367 | 421894 | -      | -      | Maximum Operating Pressure |                            |     |     |
|                              | Mid Stroke Min            | 89147  | Mid Stroke Min | -                    | 57334  | 89147  | 120960 | 152773 | 184586 | 216399 | -      | -      | 120 psig                   |                            |     |     |
|                              | SET                       | 89147  | AET            | -                    | 87311  | 180879 | 274447 | 368015 | 461583 | 555151 | -      | -      |                            |                            |     |     |
| 4534UC-S071<br>Series C Only | SST                       | 307947 | AST            | -                    | -      | 200658 | 251184 | 301710 | 352236 | 402762 | 453288 | -      | Maximum Operating Pressure |                            |     |     |
|                              | Mid Stroke Min            | 101883 | Mid Stroke Min | -                    | -      | 70069  | 101883 | 133697 | 165511 | 197325 | 229139 | -      | 120 psig                   |                            |     |     |
|                              | SET                       | 101883 | AET            | -                    | -      | 113150 | 206718 | 300286 | 393854 | 487422 | 580990 | -      |                            |                            |     |     |
| 4534UC-S081<br>Series C Only | SST                       | 346441 | AST            | -                    | -      | -      | 232055 | 282582 | 333109 | 383636 | 434163 | 484690 | Maximum Operating Pressure |                            |     |     |
|                              | Mid Stroke Min            | 114618 | Mid Stroke Min | -                    | -      | -      | 82805  | 114618 | 146431 | 178244 | 210057 | 241870 | 120 psig                   |                            |     |     |
|                              | SET                       | 114618 | AET            | -                    | -      | -      | 138990 | 232558 | 326126 | 419694 | 513262 | 606830 |                            |                            |     |     |
| 4534UC-S091<br>Series C Only | SST                       | 384934 | AST            | -                    | -      | -      | -      | 263454 | 313980 | 364506 | 415032 | 465558 | Maximum Operating Pressure |                            |     |     |
|                              | Mid Stroke Min            | 127353 | Mid Stroke Min | -                    | -      | -      | -      | 95539  | 127353 | 159167 | 190981 | 222795 | 120 psig                   |                            |     |     |
|                              | SET                       | 127353 | AET            | -                    | -      | -      | -      | 164830 | 258398 | 351966 | 445534 | 539102 |                            |                            |     |     |
| 5336UC-S041<br>Series C Only | SST                       | 220183 | AST            | 179597               | 239064 | 298531 | 357998 | 417465 | -      | -      | -      | -      | Maximum Operating Pressure |                            |     |     |
|                              | Mid Stroke Min            | 72846  | Mid Stroke Min | 72846                | 110288 | 147730 | 185172 | 222614 | -      | -      | -      | -      | 120 psig                   |                            |     |     |
|                              | SET                       | 72846  | AET            | 147804               | 257929 | 368054 | 478179 | 588304 | -      | -      | -      | -      |                            |                            |     |     |
| 5336UC-S051<br>Series C Only | SST                       | 275228 | AST            | 165028               | 224496 | 283964 | 343432 | 402900 | -      | -      | -      | -      | Maximum Operating Pressure |                            |     |     |
|                              | Mid Stroke Min            | 91058  | Mid Stroke Min | 53616                | 91058  | 128500 | 165942 | 203384 | -      | -      | -      | -      | 120 psig                   |                            |     |     |
|                              | SET                       | 91058  | AET            | 74629                | 184755 | 294881 | 405007 | 515133 | -      | -      | -      | -      |                            |                            |     |     |
| 5336UC-S061<br>Series C Only | SST                       | 330274 | AST            | -                    | 209929 | 269396 | 328863 | 388330 | 447797 | -      | -      | -      | Maximum Operating Pressure |                            |     |     |
|                              | Mid Stroke Min            | 109269 | Mid Stroke Min | -                    | 71827  | 109269 | 146711 | 184153 | 221595 | -      | -      | -      | 120 psig                   |                            |     |     |
|                              | SET                       | 109269 | AET            | -                    | 111581 | 221706 | 331831 | 441956 | 552081 | -      | -      | -      |                            |                            |     |     |
| 5336UC-S071<br>Series C Only | SST                       | 385320 | AST            | -                    | -      | 254827 | 314295 | 373763 | 433231 | 492699 | -      | -      | Maximum Operating Pressure |                            |     |     |
|                              | Mid Stroke Min            | 127481 | Mid Stroke Min | -                    | -      | 90039  | 127481 | 164923 | 202365 | 239807 | -      | -      | 120 psig                   |                            |     |     |
|                              | SET                       | 127481 | AET            | -                    | -      | 148531 | 258657 | 368783 | 478909 | 589035 | -      | -      |                            |                            |     |     |











## Direct Gas / Hydraulic Actuators

| Model Number | Torque at   | Output Torques (lb. in.) |         |         |         |         |         |         |         |           |         |         | Max Pressures |                                  |
|--------------|-------------|--------------------------|---------|---------|---------|---------|---------|---------|---------|-----------|---------|---------|---------------|----------------------------------|
|              |             | Supply Pressure (psig)   |         |         |         |         |         |         |         |           |         |         |               |                                  |
|              |             | 400                      | 500     | 600     | 700     | 800     | 900     | 1000    | 1200    | 1500      | 1800    | 2000    |               | 2250                             |
| HP65UC-4-2DA | Start (CCW) | 57.852                   | 72.315  | 86.778  | 101.241 | 115.704 | 130.167 | 144.630 | 173.556 | 216.945   | 260.334 | 289.260 | 325.417       | MOP = 2250 psi<br>MAP = 2250 psi |
|              | END (CCW)   | 34.283                   | 42.853  | 51.424  | 59.995  | 68.565  | 77.136  | 85.707  | 102.848 | 128.560   | 154.272 | 171.413 | 192.840       |                                  |
|              | Start (CW)  | 35.140                   | 43.925  | 52.710  | 61.494  | 70.279  | 79.064  | 87.849  | 105.419 | 131.774   | 158.129 | 175.698 | 197.661       |                                  |
|              | END (CW)    | 55.709                   | 69.637  | 83.564  | 97.491  | 111.419 | 125.346 | 139.273 | 167.128 | 208.910   | 250.692 | 278.546 | 313.365       |                                  |
|              | MINIMUM     | 34.047                   | 42.559  | 51.071  | 59.582  | 68.094  | 76.606  | 85.118  | 102.141 | 127.676   | 153.212 | 170.235 | 191.514       |                                  |
| HP65UC-6-2DA | Start (CCW) | 125.112                  | 156.390 | 187.668 | 218.946 | 250.225 | 281.503 | 312.781 | 375.337 | 469.171   | -       | -       | -             | MOP = 1600 psi<br>MAP = 2250 psi |
|              | END (CCW)   | 74.141                   | 92.676  | 111.211 | 129.746 | 148.281 | 166.816 | 185.352 | 222.422 | 278.027   | -       | -       | -             |                                  |
|              | Start (CW)  | 75.994                   | 94.993  | 113.991 | 132.990 | 151.988 | 170.987 | 189.985 | 227.982 | 284.978   | -       | -       | -             |                                  |
|              | END (CW)    | 120.478                  | 150.598 | 180.718 | 210.837 | 240.957 | 271.077 | 301.196 | 361.435 | 451.794   | -       | -       | -             |                                  |
|              | MINIMUM     | 73.631                   | 92.039  | 110.447 | 128.854 | 147.262 | 165.670 | 184.078 | 220.893 | 276.117   | -       | -       | -             |                                  |
| HP65UC-8-2DA | Start (CCW) | 218.313                  | 272.891 | 327.469 | 382.047 | 436.626 | 491.204 | -       | -       | -         | -       | -       | -             | MOP = 900 psi<br>MAP = 2000 psi  |
|              | END (CCW)   | 129.371                  | 161.713 | 194.056 | 226.398 | 258.741 | 291.084 | -       | -       | -         | -       | -       | -             |                                  |
|              | Start (CW)  | 132.605                  | 165.756 | 198.907 | 232.058 | 265.210 | 298.361 | -       | -       | -         | -       | -       | -             |                                  |
|              | END (CW)    | 210.227                  | 262.784 | 315.341 | 367.898 | 420.454 | 473.011 | -       | -       | -         | -       | -       | -             |                                  |
|              | MINIMUM     | 128.481                  | 160.602 | 192.722 | 224.843 | 256.963 | 289.083 | -       | -       | -         | -       | -       | -             |                                  |
| HP80UC-4-1DA | Start (CCW) | 60.054                   | 75.067  | 90.081  | 105.094 | 120.108 | 135.121 | 150.135 | 180.162 | 225.202   | 270.243 | 300.269 | 337.803       | MOP = 2250 psi<br>MAP = 2250 psi |
|              | END (CCW)   | 35.587                   | 44.484  | 53.381  | 62.278  | 71.175  | 80.072  | 88.969  | 106.762 | 133.453   | 160.144 | 177.937 | 200.180       |                                  |
|              | Start (CW)  | 36.477                   | 45.596  | 54.716  | 63.835  | 72.954  | 82.074  | 91.193  | 109.432 | 136.789   | 164.147 | 182.386 | 205.184       |                                  |
|              | END (CW)    | 57.830                   | 72.287  | 86.745  | 101.202 | 115.659 | 130.117 | 144.574 | 173.489 | 216.861   | 260.234 | 289.148 | 325.292       |                                  |
|              | MINIMUM     | 35.343                   | 44.179  | 53.014  | 61.850  | 70.686  | 79.522  | 88.357  | 106.029 | 132.536   | 159.043 | 176.715 | 198.804       |                                  |
| HP80UC-6-1DA | Start (CCW) | 149.734                  | 187.168 | 224.602 | 262.035 | 299.469 | 336.902 | 374.336 | 449.203 | 561.504   | 673.805 | 748.672 | 842.256       | MOP = 2250 psi<br>MAP = 2250 psi |
|              | END (CCW)   | 88.731                   | 110.914 | 133.097 | 155.280 | 177.463 | 199.646 | 221.829 | 266.194 | 332.743   | 399.292 | 443.657 | 499.115       |                                  |
|              | Start (CW)  | 90.950                   | 113.687 | 136.425 | 159.162 | 181.900 | 204.637 | 227.374 | 272.849 | 341.062   | 409.274 | 454.749 | 511.592       |                                  |
|              | END (CW)    | 144.189                  | 180.236 | 216.283 | 252.330 | 288.377 | 324.424 | 360.472 | 432.566 | 540.707   | 648.849 | 720.943 | 811.061       |                                  |
|              | MINIMUM     | 88.122                   | 110.152 | 132.183 | 154.213 | 176.243 | 198.274 | 220.304 | 264.365 | 330.456   | 396.548 | 440.608 | 495.684       |                                  |
| HP80UC-8-1DA | Start (CCW) | 274.002                  | 342.502 | 411.003 | 479.503 | 548.004 | 616.504 | 685.004 | 822.005 | 1.027.507 | -       | -       | -             | MOP = 1500 psi<br>MAP = 2000 psi |
|              | END (CCW)   | 162.371                  | 202.964 | 243.557 | 284.150 | 324.743 | 365.336 | 405.929 | 487.114 | 608.893   | -       | -       | -             |                                  |
|              | Start (CW)  | 166.431                  | 208.038 | 249.646 | 291.254 | 332.861 | 374.469 | 416.077 | 499.292 | 624.115   | -       | -       | -             |                                  |
|              | END (CW)    | 263.854                  | 329.817 | 395.780 | 461.744 | 527.707 | 593.671 | 659.634 | 791.561 | 989.451   | -       | -       | -             |                                  |
|              | MINIMUM     | 161.256                  | 201.569 | 241.883 | 282.197 | 322.511 | 362.825 | 403.139 | 483.767 | 604.708   | -       | -       | -             |                                  |
| HP80UC-4-2DA | Start (CCW) | 77.136                   | 96.420  | 115.704 | 134.988 | 154.272 | 173.556 | 192.840 | 231.408 | 289.260   | 347.112 | 385.679 | 433.889       | MOP = 2250 psi<br>MAP = 2250 psi |
|              | END (CCW)   | 45.710                   | 57.138  | 68.565  | 79.993  | 91.420  | 102.848 | 114.275 | 137.130 | 171.413   | 205.696 | 228.551 | 257.120       |                                  |
|              | Start (CW)  | 46.853                   | 58.566  | 70.279  | 81.993  | 93.706  | 105.419 | 117.132 | 140.559 | 175.698   | 210.838 | 234.265 | 263.548       |                                  |
|              | END (CW)    | 74.279                   | 92.849  | 111.419 | 129.988 | 148.558 | 167.128 | 185.698 | 222.837 | 278.546   | 334.256 | 371.395 | 417.819       |                                  |
|              | MINIMUM     | 45.396                   | 56.745  | 68.094  | 79.443  | 90.792  | 102.141 | 113.490 | 136.188 | 170.235   | 204.282 | 226.980 | 255.353       |                                  |
| HP80UC-6-2DA | Start (CCW) | 166.816                  | 208.520 | 250.225 | 291.929 | 333.633 | 375.337 | 417.041 | 500.449 | 625.561   | 750.674 | 834.082 | 938.342       | MOP = 2250 psi<br>MAP = 2250 psi |
|              | END (CCW)   | 98.854                   | 123.568 | 148.281 | 172.995 | 197.708 | 222.422 | 247.135 | 296.562 | 370.703   | 444.844 | 494.271 | 556.055       |                                  |
|              | Start (CW)  | 101.325                  | 126.657 | 151.988 | 177.320 | 202.651 | 227.982 | 253.314 | 303.976 | 379.971   | 455.965 | 506.627 | 569.956       |                                  |
|              | END (CW)    | 160.638                  | 200.797 | 240.957 | 281.116 | 321.276 | 361.435 | 401.595 | 481.914 | 602.392   | 722.871 | 803.190 | 903.589       |                                  |
|              | MINIMUM     | 98.175                   | 122.718 | 147.262 | 171.806 | 196.350 | 220.893 | 245.437 | 294.524 | 368.155   | 441.786 | 490.874 | 552.233       |                                  |
| HP80UC-8-2DA | Start (CCW) | 291.084                  | 363.855 | 436.626 | 509.397 | 582.168 | 654.938 | 727.709 | 873.251 | 1.091.564 | -       | -       | -             | MOP = 1500 psi<br>MAP = 2000 psi |
|              | END (CCW)   | 172.494                  | 215.618 | 258.741 | 301.865 | 344.988 | 388.112 | 431.235 | 517.482 | 646.853   | -       | -       | -             |                                  |
|              | Start (CW)  | 176.806                  | 221.008 | 265.210 | 309.411 | 353.613 | 397.814 | 442.016 | 530.419 | 663.024   | -       | -       | -             |                                  |
|              | END (CW)    | 280.303                  | 350.379 | 420.454 | 490.530 | 560.606 | 630.682 | 700.757 | 840.909 | 1.051.136 | -       | -       | -             |                                  |
|              | MINIMUM     | 171.309                  | 214.136 | 256.963 | 299.790 | 342.617 | 385.444 | 428.272 | 513.926 | 642.407   | -       | -       | -             |                                  |

Maximum Operating Pressure (MOP) = The Maximum pressure under normal operation producing the maximum allowable output torque  
Maximum Allowable Pressure (MAP) = The Static pressure allowed under normal operating conditions for a fully stroked actuator against the travel stop.



## Direct Gas / Hydraulic Actuators

| Model Number   | Torque at   | Output Torques (lb. in.) |          |          |          |          |          |          |          |          |          |          |          | Max Pressures                    |
|----------------|-------------|--------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------------------------------|
|                |             | Supply Pressure (psig)   |          |          |          |          |          |          |          |          |          |          |          |                                  |
|                |             | 400                      | 500      | 600      | 700      | 800      | 900      | 1000     | 1200     | 1500     | 1800     | 2000     | 2250     |                                  |
| HP15U-2-1-XXXX | Break       | 1.680                    | 2.250    | 2.615    | 3.000    | 3.510    | 4.095    | 4.095    | 4.880    | 6.500    | 6.500    | 6.500    | 6.500    | MOP = 2250 psi<br>MAP = 2250 psi |
|                | End         | 905                      | 1.200    | 1.410    | 1.600    | 1.890    | 2.205    | 2.205    | 2.620    | 3.500    | 3.500    | 3.500    | 3.500    |                                  |
|                | Minimum     | 815                      | 1.080    | 1.269    | 1.440    | 1.701    | 1.985    | 1.985    | 2.358    | 3.150    | 3.150    | 3.150    | 3.150    |                                  |
|                | Spring Pack | 23S090                   | 046S060  | 046S070  | 046S080  | 072S060  | 072S070  | 072S070  | 100S060  | 100S080  | 100S080  | 100S080  | 100S080  |                                  |
| HP15U-3-1-XXXX | Break       | 4.060                    | 4.880    | 5.690    | 6.500    | 6.500    | 6.500    | -        | -        | -        | -        | -        | -        | MOP = 900 psi<br>MAP = 1500 psi  |
|                | End         | 2.190                    | 2.620    | 3.060    | 3.500    | 3.500    | 3.500    | -        | -        | -        | -        | -        | -        |                                  |
|                | Minimum     | 1.971                    | 2.358    | 2.754    | 3.150    | 3.150    | 3.150    | -        | -        | -        | -        | -        | -        |                                  |
|                | Spring Pack | 100S050                  | 100S060  | 100S070  | 100S080  | 100S080  | 100S080  | -        | -        | -        | -        | -        | -        |                                  |
| HP25U-3-1-XXXX | Break       | 6.825                    | 8.530    | 10.240   | 11.940   | 13.650   | 15.350   | 17.060   | 20.475   | 23.890   | 30.705   | 30.705   | 34.120   | MOP = 2250 psi<br>MAP = 2250 psi |
|                | End         | 4.043                    | 5.049    | 6.061    | 7.073    | 8.085    | 9.097    | 9.650    | 11.576   | 13.503   | 17.367   | 17.367   | 19.299   |                                  |
|                | Minimum     | 3.639                    | 4.544    | 5.455    | 6.366    | 7.277    | 8.187    | 8.685    | 10.418   | 12.153   | 15.630   | 15.630   | 17.369   |                                  |
|                | Spring Pack | 210S040                  | 210S050  | 210S060  | 210S070  | 210S080  | 210S090  | 420S060  | 420S070  | 420S070  | 420S090  | 420S090  | 420S100  |                                  |
| HP25U-4-1-XXXX | Break       | 10.240                   | 13.650   | 17.060   | 20.475   | 23.890   | 23.890   | 27.300   | 34.120   | -        | -        | -        | -        | MOP = 1400 psi<br>MAP = 2250 psi |
|                | End         | 6.061                    | 7.718    | 9.650    | 11.576   | 13.503   | 13.503   | 15.435   | 19.299   | -        | -        | -        | -        |                                  |
|                | Minimum     | 5.455                    | 6.946    | 8.685    | 10.418   | 12.153   | 12.153   | 13.892   | 17.369   | -        | -        | -        | -        |                                  |
|                | Spring Pack | 210S060                  | 420S040  | 420S050  | 420S060  | 420S070  | 420S070  | 420S080  | 420S100  | -        | -        | -        | -        |                                  |
| HP30U-4-1-XXXX | Break       | 12.025                   | 15.030   | 21.045   | 24.050   | 27.055   | 30.060   | 30.060   | 42.090   | 48.100   | 54.108   | 60.120   | 60.120   | MOP = 2250 psi<br>MAP = 2250 psi |
|                | End         | 7.446                    | 10.448   | 13.030   | 14.893   | 16.756   | 18.619   | 18.619   | 26.059   | 29.785   | 33.514   | 37.238   | 37.238   |                                  |
|                | Minimum     | 6.701                    | 9.403    | 11.727   | 13.404   | 15.080   | 16.757   | 16.757   | 23.453   | 26.807   | 30.163   | 33.514   | 33.514   |                                  |
|                | Spring Pack | 370S040                  | 370S050  | 370S070  | 370S080  | 370S090  | 740S050  | 740S050  | 740S070  | 740S080  | 740S090  | 740S100  | 740S100  |                                  |
| HP30U-6-1-XXXX | Break       | 30.060                   | 37.375   | 42.090   | 48.100   | 56.060   | 65.400   | 74.750   | 84.090   | 93.440   | -        | -        | -        | MOP = 1500 psi<br>MAP = 2250 psi |
|                | End         | 18.619                   | 21.131   | 26.059   | 29.785   | 31.700   | 36.981   | 42.263   | 47.544   | 52.815   | -        | -        | -        |                                  |
|                | Minimum     | 16.757                   | 19.018   | 23.453   | 26.807   | 28.530   | 33.283   | 38.037   | 42.790   | 47.534   | -        | -        | -        |                                  |
|                | Spring Pack | 740S050                  | 575S080  | 740S070  | 740S080  | 1150S060 | 1150S070 | 1150S080 | 1150S090 | 1150S100 | -        | -        | -        |                                  |
| HP30U-8-1-XXXX | Break       | 48.100                   | 65.400   | 74.750   | 84.090   | 93.440   | 93.440   | -        | -        | -        | -        | -        | -        | MOP = 900 psi<br>MAP = 2000 psi  |
|                | End         | 29.785                   | 36.981   | 42.263   | 47.544   | 52.815   | 52.815   | -        | -        | -        | -        | -        | -        |                                  |
|                | Minimum     | 26.807                   | 33.283   | 38.037   | 42.790   | 47.534   | 47.534   | -        | -        | -        | -        | -        | -        |                                  |
|                | Spring Pack | 740S080                  | 1150S070 | 1150S080 | 1150S090 | 1150S100 | 1150S100 | -        | -        | -        | -        | -        | -        |                                  |
| HP65U-6-1-XXXX | Break       | 54.247                   | 67.809   | 81.371   | 94.933   | 108.494  | 122.056  | 135.618  | 177.299  | 221.623  | 239.941  | 274.218  | 308.496  | MOP = 2250 psi<br>MAP = 2250 psi |
|                | End         | 29.666                   | 37.083   | 44.500   | 51.916   | 59.333   | 66.750   | 74.166   | 95.469   | 119.336  | 129.199  | 147.656  | 166.113  |                                  |
|                | Minimum     | 26.700                   | 33.375   | 40.050   | 46.725   | 53.400   | 60.075   | 66.750   | 85.922   | 107.402  | 116.279  | 132.890  | 149.502  |                                  |
|                | Spring Pack | 1485S040                 | 1485S050 | 1485S060 | 1485S070 | 1485S080 | 1485S090 | 1485S100 | 2385S080 | 2385S100 | 3731S070 | 3731S080 | 3731S090 |                                  |
| HP65U-8-1-XXXX | Break       | 94.933                   | 122.056  | 137.109  | 171.386  | 205.664  | 205.664  | 239.941  | 308.496  | 392.133  | -        | -        | -        | MOP = 1500 psi<br>MAP = 2000 psi |
|                | End         | 51.916                   | 66.750   | 73.828   | 92.285   | 110.742  | 110.742  | 129.199  | 166.113  | 211.149  | -        | -        | -        |                                  |
|                | Minimum     | 46.725                   | 60.075   | 66.445   | 83.057   | 99.668   | 99.668   | 116.279  | 149.502  | 190.034  | -        | -        | -        |                                  |
|                | Spring Pack | 1485S070                 | 1485S090 | 3731S040 | 3731S050 | 3731S060 | 3731S060 | 3731S070 | 3731S090 | 5336S080 | -        | -        | -        |                                  |
| HP80U-6-1-XXXX | Break       | -                        | -        | -        | -        | -        | -        | -        | 219.139  | 273.923  | 322.396  | 386.875  | 451.354  | MOP = 2250 psi<br>MAP = 2250 psi |
|                | End         | -                        | -        | -        | -        | -        | -        | -        | 117.998  | 147.497  | 173.588  | 208.317  | 243.037  |                                  |
|                | Minimum     | -                        | -        | -        | -        | -        | -        | -        | 106.198  | 132.747  | 156.238  | 187.485  | 218.733  |                                  |
|                | Spring Pack | -                        | -        | -        | -        | -        | -        | -        | 6044S040 | 6044S050 | 7114S050 | 7114S060 | 7114S070 |                                  |
| HP80U-8-1-XXXX | Break       | -                        | -        | -        | 219.139  | 273.923  | 273.923  | 328.708  | 386.875  | 515.833  | -        | -        | -        | MOP = 1500 psi<br>MAP = 2000 psi |
|                | End         | -                        | -        | -        | 117.998  | 147.497  | 147.497  | 176.997  | 208.317  | 277.756  | -        | -        | -        |                                  |
|                | Minimum     | -                        | -        | -        | 106.198  | 132.747  | 132.747  | 159.297  | 187.485  | 249.981  | -        | -        | -        |                                  |
|                | Spring Pack | -                        | -        | -        | 6044S040 | 6044S050 | 6044S050 | 6044S060 | 7114S060 | 7114S080 | -        | -        | -        |                                  |

Note: For Fail Open operation replace last "0" of spring code with "1" (i.e. -S040 becomes S041)

Maximum Operating Pressure (MOP) = The Maximum pressure under normal operation producing the maximum allowable output torque  
 Maximum Allowable Pressure (MAP) = The Static pressure allowed under normal operating conditions for a fully stroked actuator against the travel stop.



