

**Data sheet**

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 Date: February 2016

**Hytork XL**

# Torque Data

## Spring Return Actuators (in.lb.), XL26 to XL681

| Model Number | Spring Rating | Torque from Springs |      | Torques from air stroke (in.lbs) at given operating air pressure (PSI) |     |       |      |       |      |       |      |       |      |       |      |       |      |       |      |
|--------------|---------------|---------------------|------|--|-----|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|
|              |               | Start               | End  | 40   |     | 50    |      | 60    |      | 70    |      | 80    |      | 90    |      | 100   |      | 120   |      |
|              |               |                     |      | Start  | End | Start | End  | Start | End  | Start | End  | Start | End  | Start | End  | Start | End  | Start | End  |
| XL26         | S40           | 53                  | 32   | 52   | 31  | 73    | 52   | 94    | 73   | 115   | 94   | 135   | 114  | 156   | 135  | 177   | 156  | 219   | 198  |
|              | S50           | 66                  | 39   | 44   | 18  | 65    | 39   | 86    | 60   | 107   | 80   | 128   | 101  | 148   | 122  | 169   | 143  | 211   | 185  |
|              | S60           | 79                  | 47   | -  | -   | 57    | 26   | 78    | 46   | 99    | 67   | 120   | 88   | 141   | 109  | 161   | 130  | 203   | 172  |
|              | S70           | 92                  | 55   | -  | -   | -     | -    | 70    | 33   | 91    | 54   | 112   | 75   | 133   | 96   | 153   | 117  | 195   | 158  |
|              | S80           | 105                 | 63   | -  | -   | -     | -    | 62    | 20   | 83    | 41   | 104   | 62   | 125   | 83   | 146   | 104  | 187   | 145  |
|              | S90           | 118                 | 71   | -  | -   | -     | -    | -     | -    | 75    | 28   | 96    | 49   | 117   | 70   | 138   | 90   | 179   | 132  |
|              | S1C           | 131                 | 79   | -  | -   | -     | -    | -     | -    | -     | -    | 88    | 36   | 109   | 57   | 130   | 77   | 172   | 119  |
| XL71         | S40           | 131                 | 79   | 130  | 77  | 182   | 130  | 234   | 182  | 286   | 234  | 338   | 286  | 391   | 338  | 443   | 390  | 547   | 495  |
|              | S50           | 164                 | 98   | 110  | 45  | 162   | 97   | 214   | 149  | 267   | 201  | 319   | 253  | 371   | 305  | 423   | 357  | 527   | 462  |
|              | S60           | 197                 | 118  | -  | -   | 143   | 64   | 195   | 116  | 247   | 168  | 299   | 220  | 351   | 273  | 403   | 325  | 508   | 429  |
|              | S70           | 230                 | 138  | -  | -   | -     | -    | 175   | 83   | 227   | 135  | 279   | 188  | 332   | 240  | 384   | 292  | 488   | 396  |
|              | S80           | 263                 | 158  | -  | -   | -     | -    | 155   | 50   | 208   | 103  | 260   | 155  | 312   | 207  | 364   | 259  | 468   | 363  |
|              | S90           | 295                 | 177  | -  | -   | -     | -    | -     | -    | 188   | 70   | 240   | 122  | 292   | 174  | 344   | 226  | 449   | 331  |
|              | S1C           | 328                 | 197  | -  | -   | -     | -    | -     | -    | -     | -    | 220   | 89   | 273   | 141  | 325   | 193  | 429   | 298  |
| XL131        | S40           | 247                 | 148  | 244  | 146 | 342   | 244  | 440   | 342  | 539   | 440  | 637   | 538  | 735   | 636  | 833   | 734  | 1029  | 930  |
|              | S50           | 309                 | 185  | 207  | 84  | 305   | 182  | 403   | 280  | 502   | 378  | 600   | 476  | 698   | 574  | 796   | 672  | 992   | 869  |
|              | S60           | 370                 | 222  | -  | -   | 268   | 120  | 366   | 218  | 465   | 316  | 563   | 414  | 661   | 513  | 759   | 611  | 955   | 807  |
|              | S70           | 432                 | 259  | -  | -   | -     | -    | 329   | 157  | 427   | 255  | 526   | 353  | 624   | 451  | 722   | 549  | 918   | 745  |
|              | S80           | 494                 | 296  | -  | -   | -     | -    | 292   | 95   | 390   | 193  | 489   | 291  | 587   | 389  | 685   | 487  | 881   | 683  |
|              | S90           | 555                 | 333  | -  | -   | -     | -    | -     | -    | 353   | 131  | 452   | 229  | 550   | 327  | 648   | 426  | 844   | 622  |
|              | S1C           | 617                 | 370  | -  | -   | -     | -    | -     | -    | -     | -    | 414   | 168  | 513   | 266  | 611   | 364  | 807   | 560  |
| XL186        | S40           | 331                 | 198  | 329  | 197 | 461   | 329  | 593   | 461  | 725   | 593  | 857   | 725  | 989   | 857  | 1121  | 989  | 1385  | 1253 |
|              | S50           | 413                 | 248  | 280  | 115 | 412   | 247  | 543   | 379  | 675   | 510  | 807   | 642  | 939   | 774  | 1071  | 906  | 1335  | 1170 |
|              | S60           | 495                 | 298  | -  | -   | 362   | 164  | 494   | 296  | 626   | 428  | 757   | 560  | 889   | 692  | 1021  | 824  | 1285  | 1088 |
|              | S70           | 578                 | 347  | -  | -   | 312   | 81   | 444   | 213  | 576   | 345  | 708   | 477  | 840   | 609  | 972   | 741  | 1236  | 1005 |
|              | S80           | 661                 | 397  | -  | -   | -     | -    | 395   | 130  | 527   | 262  | 659   | 394  | 791   | 526  | 923   | 658  | 1186  | 922  |
|              | S90           | 744                 | 446  | -  | -   | -     | -    | -     | -    | 477   | 180  | 609   | 311  | 741   | 443  | 873   | 575  | 1137  | 839  |
|              | S1C           | 827                 | 495  | -  | -   | -     | -    | -     | -    | -     | -    | 560   | 229  | 692   | 361  | 824   | 492  | 1088  | 756  |
| XL221        | S40           | 463                 | 278  | 458  | 273 | 641   | 456  | 825   | 640  | 1009  | 824  | 1193  | 1008 | 1377  | 1192 | 1560  | 1375 | 1928  | 1743 |
|              | S50           | 578                 | 347  | 388  | 157 | 572   | 341  | 756   | 525  | 940   | 708  | 1123  | 892  | 1307  | 1076 | 1491  | 1260 | 1859  | 1627 |
|              | S60           | 694                 | 416  | -  | -   | 503   | 225  | 686   | 409  | 870   | 593  | 1054  | 777  | 1238  | 960  | 1422  | 1144 | 1789  | 1512 |
|              | S70           | 809                 | 486  | -  | -   | -     | -    | 617   | 293  | 801   | 477  | 985   | 661  | 1168  | 845  | 1352  | 1028 | 1720  | 1396 |
|              | S80           | 925                 | 555  | -  | -   | -     | -    | 548   | 178  | 731   | 361  | 915   | 545  | 1099  | 729  | 1283  | 913  | 1650  | 1280 |
|              | S90           | 1041                | 624  | -  | -   | -     | -    | -     | -    | 662   | 246  | 846   | 430  | 1030  | 613  | 1213  | 797  | 1581  | 1165 |
|              | S1C           | 1156                | 694  | -  | -   | -     | -    | -     | -    | -     | -    | 777   | 314  | 960   | 498  | 1144  | 682  | 1512  | 1049 |
| XL281        | S40           | 567                 | 331  | 548  | 313 | 768   | 532  | 988   | 752  | 1208  | 972  | 1428  | 1192 | 1648  | 1412 | 1867  | 1632 | 2307  | 2072 |
|              | S50           | 709                 | 414  | 465  | 171 | 685   | 391  | 905   | 611  | 1125  | 831  | 1345  | 1050 | 1565  | 1270 | 1785  | 1490 | 2224  | 1930 |
|              | S60           | 850                 | 497  | -  | -   | 602   | 249  | 822   | 469  | 1042  | 689  | 1262  | 909  | 1482  | 1129 | 1702  | 1348 | 2142  | 1788 |
|              | S70           | 992                 | 580  | -  | -   | -     | -    | 739   | 327  | 959   | 547  | 1179  | 767  | 1399  | 987  | 1619  | 1207 | 2059  | 1646 |
|              | S80           | 1134                | 663  | -  | -   | -     | -    | 657   | 185  | 877   | 405  | 1096  | 625  | 1316  | 845  | 1536  | 1065 | 1976  | 1505 |
|              | S90           | 1276                | 745  | -  | -   | -     | -    | -     | -    | 794   | 264  | 1014  | 483  | 1233  | 703  | 1453  | 923  | 1893  | 1363 |
|              | S1C           | 1417                | 828  | -  | -   | -     | -    | -     | -    | -     | -    | 931   | 342  | 1151  | 562  | 1370  | 782  | 1810  | 1221 |
| XL426        | S40           | 831                 | 498  | 784  | 452 | 1105  | 772  | 1425  | 1093 | 1746  | 1413 | 2067  | 1734 | 2387  | 2055 | 2708  | 2375 | 3349  | 3017 |
|              | S50           | 1039                | 623  | 659  | 244 | 980   | 564  | 1301  | 885  | 1621  | 1206 | 1942  | 1526 | 2263  | 1847 | 2583  | 2168 | 3224  | 2809 |
|              | S60           | 1246                | 748  | -  | -   | 855   | 357  | 1176  | 677  | 1497  | 998  | 1817  | 1319 | 2138  | 1639 | 2459  | 1960 | 3100  | 2601 |
|              | S70           | 1454                | 872  | -  | -   | -     | -    | 1051  | 470  | 1372  | 790  | 1693  | 1111 | 2013  | 1431 | 2334  | 1752 | 2975  | 2393 |
|              | S80           | 1662                | 997  | -  | -   | -     | -    | 927   | 262  | 1247  | 583  | 1568  | 903  | 1889  | 1224 | 2209  | 1544 | 2851  | 2186 |
|              | S90           | 1870                | 1122 | -  | -   | -     | -    | -     | -    | 1123  | 375  | 1443  | 695  | 1764  | 1016 | 2085  | 1337 | 2726  | 1978 |
|              | S1C           | 2077                | 1246 | -  | -   | -     | -    | -     | -    | -     | -    | 1319  | 488  | 1639  | 808  | 1960  | 1129 | 2601  | 1770 |
| XL681        | S40           | 1337                | 802  | 1289   | 754 | 1811  | 1277 | 2334  | 1799 | 2856  | 2322 | 3379  | 2844 | 3902  | 3367 | 4424  | 3890 | 5470  | 4935 |
|              | S50           | 1671                | 1002 | 1088   | 420 | 1611  | 942  | 2133  | 1465 | 2656  | 1988 | 3179  | 2510 | 3701  | 3033 | 4224  | 3556 | 5269  | 4601 |
|              | S60           | 2005                | 1203 | -  | -   | 1410  | 608  | 1933  | 1131 | 2455  | 1654 | 2978  | 2176 | 3501  | 2699 | 4023  | 3221 | 5069  | 4267 |
|              | S70           | 2339                | 1403 | -  | -   | -     | -    | 1732  | 797  | 2255  | 1319 | 2778  | 1842 | 3300  | 2365 | 3823  | 2887 | 4868  | 3933 |
|              | S80           | 2673                | 1604 | -  | -   | -     | -    | 1532  | 463  | 2055  | 985  | 2577  | 1508 | 3100  | 2031 | 3622  | 2553 | 4668  | 3598 |
|              | S90           | 3007                | 1804 | -  | -   | -     | -    | -     | -    | 1854  | 651  | 2377  | 1174 | 2899  | 1696 | 3422  | 2219 | 4467  | 3264 |
|              | S1C           | 3341                | 2005 | -  | -   | -     | -    | -     | -    | -     | -    | 2176  | 840  | 2699  | 1362 | 3221  | 1885 | 4267  | 2930 |

**Note:**  
 We recommends that the valve manufacturer supply the maximum required torque values (Including any adjustments or suggested safety factors for valve service conditions or application). Additionally, the valve manufacturer must identify at which position(s) and direction(s) of rotation (Counter Clock Wise or Clock Wise) these maximum requirements occur.

**S1C Spring Return**  
 For all fail closed butterfly valves and other spring return applications where 100 Psi air is available, Hytork's optional S1C Spring Modules will often permit the selection of a smaller Hytork Actuator. Both space and cost savings can be achieved



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# Data sheet

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**Hytork XL**

# Torque Data

## Spring Return Actuators (in.lb.), XL1127 to XL4581

| Model Number | Spring Rating | Torque from Springs |       | Torques from air stroke (in.lbs) at given operating air pressure (PSI) |      |       |      |       |       |       |       |       |       |       |       |       |       |       |       |
|--------------|---------------|---------------------|-------|--|------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|              |               |                     |       | 40   |      | 50    |      | 60    |       | 70    |       | 80    |       | 90    |       | 100   |       | 120   |       |
|              |               | Start               | End   | Start  | End  | Start | End  | Start | End   | Start | End   | Start | End   | Start | End   | Start | End   | Start | End   |
| XL1127       | S40           | 2189                | 1312  | 2188   | 1311 | 3063  | 2186 | 3938  | 3061  | 4813  | 3936  | 5688  | 4811  | 6563  | 5686  | 7438  | 6561  | 9188  | 8311  |
|              | S50           | 2736                | 1640  | 1860   | 764  | 2735  | 1639 | 3610  | 2514  | 4485  | 3389  | 5360  | 4264  | 6235  | 5139  | 7110  | 6014  | 8860  | 7764  |
|              | S60           | 3283                | 1968  | -  | -    | 2407  | 1092 | 3282  | 1967  | 4157  | 2842  | 5032  | 3717  | 5907  | 4592  | 6782  | 5467  | 8532  | 7217  |
|              | S70           | 3830                | 2296  | -  | -    | 2079  | 545  | 2954  | 1420  | 3829  | 2295  | 4704  | 3170  | 5579  | 4045  | 6454  | 4920  | 8204  | 6670  |
|              | S80           | 4377                | 2624  | -  | -    | -     | -    | 2626  | 873   | 3501  | 1748  | 4376  | 2623  | 5251  | 3498  | 6126  | 4373  | 7876  | 6123  |
|              | S90           | 4925                | 2952  | -  | -    | -     | -    | -     | -     | 3173  | 1200  | 4048  | 2075  | 4923  | 2950  | 5798  | 3825  | 7548  | 5575  |
| S1C          | 5472          | 3280                | -     | -  | -    | -     | -    | -     | -     | -     | 3720  | 1528  | 4595  | 2403  | 5470  | 3278  | 7220  | 5028  |       |
| XL1372       | S40           | 2694                | 1616  | 2659   | 1581 | 3728  | 2649 | 4797  | 3718  | 5865  | 4787  | 6934  | 5856  | 8003  | 6924  | 9072  | 7993  | 11209 | 10131 |
|              | S50           | 3368                | 2020  | 2255   | 907  | 3324  | 1976 | 4393  | 3045  | 5461  | 4113  | 6530  | 5182  | 7599  | 6251  | 8668  | 7320  | 10805 | 9457  |
|              | S60           | 4041                | 2424  | -  | -    | 2920  | 1302 | 3989  | 2371  | 5057  | 3440  | 6126  | 4509  | 7195  | 5577  | 8264  | 6646  | 10401 | 8784  |
|              | S70           | 4715                | 2828  | -  | -    | -     | -    | 3585  | 1698  | 4653  | 2766  | 5722  | 3835  | 6791  | 4904  | 7860  | 5973  | 9997  | 8110  |
|              | S80           | 5389                | 3232  | -  | -    | -     | -    | 3181  | 1024  | 4249  | 2093  | 5318  | 3161  | 6387  | 4230  | 7456  | 5299  | 9593  | 7436  |
|              | S90           | 6062                | 3636  | -  | -    | -     | -    | -     | -     | 3845  | 1419  | 4914  | 2488  | 5983  | 3557  | 7052  | 4625  | 9189  | 6763  |
| S1C          | 6736          | 4040                | -     | -  | -    | -     | -    | -     | -     | -     | 4510  | 1814  | 5579  | 2883  | 6648  | 3952  | 8785  | 6089  |       |
| XL2586       | S40           | 5084                | 3051  | 5024   | 2991 | 7043  | 5010 | 9062  | 7028  | 11081 | 9047  | 13099 | 11066 | 15118 | 13085 | 17137 | 15103 | 21174 | 19141 |
|              | S50           | 6355                | 3813  | 4262   | 1720 | 6281  | 3739 | 8299  | 5757  | 10318 | 7776  | 12337 | 9795  | 14356 | 11814 | 16374 | 13832 | 20412 | 17870 |
|              | S60           | 7626                | 4576  | -  | -    | 5518  | 2468 | 7537  | 4486  | 9555  | 6505  | 11574 | 8524  | 13593 | 10543 | 15612 | 12561 | 19649 | 16599 |
|              | S70           | 8897                | 5338  | -  | -    | -     | -    | 6774  | 3215  | 8793  | 5234  | 10812 | 7253  | 12830 | 9272  | 14849 | 11290 | 18887 | 15328 |
|              | S80           | 10168               | 6101  | -  | -    | -     | -    | 6011  | 1944  | 8030  | 3963  | 10049 | 5982  | 12068 | 8001  | 14086 | 10019 | 18124 | 14057 |
|              | S90           | 11439               | 6864  | -  | -    | -     | -    | -     | -     | 7267  | 2692  | 9286  | 4711  | 11305 | 6730  | 13324 | 8748  | 17361 | 12786 |
| S1C          | 12710         | 7626                | -     | -  | -    | -     | -    | -     | -     | -     | 8524  | 3440  | 10542 | 5459  | 12561 | 7477  | 16599 | 11515 |       |
| XL4581       | S40           | 8996                | 5398  | 8852   | 5254 | 12415 | 8816 | 15977 | 12379 | 19540 | 15941 | 23102 | 19504 | 26665 | 23066 | 30227 | 26629 | 37352 | 33754 |
|              | S50           | 11246               | 6747  | 7503   | 3004 | 11065 | 6567 | 14628 | 10129 | 18190 | 13692 | 21753 | 17254 | 25315 | 20817 | 28878 | 24379 | 36003 | 31504 |
|              | S60           | 13495               | 8097  | -  | -    | 9716  | 4318 | 13278 | 7880  | 16841 | 11443 | 20403 | 15005 | 23966 | 18568 | 27528 | 22130 | 34653 | 29255 |
|              | S70           | 15744               | 9446  | -  | -    | -     | -    | 11929 | 5631  | 15492 | 9194  | 19054 | 12756 | 22617 | 16319 | 26179 | 19881 | 33304 | 27006 |
|              | S80           | 17993               | 10795 | -  | -    | -     | -    | 10580 | 3382  | 14142 | 6945  | 17705 | 10507 | 21267 | 14070 | 24830 | 17632 | 31955 | 24757 |
|              | S90           | 20242               | 12145 | -  | -    | -     | -    | -     | -     | 12793 | 4696  | 16355 | 8258  | 19918 | 11821 | 23480 | 15383 | 30605 | 22508 |
| S1C          | 22491         | 13494               | -     | -  | -    | -     | -    | -     | -     | -     | 15006 | 6009  | 18568 | 9571  | 22131 | 13134 | 29256 | 20259 |       |

**Note:**  
We recommend that the valve manufacturer supply the maximum required torque values (Including any adjustments or suggested safety factors for valve service conditions or application). Additionally, the valve manufacturer must identify at which position(s) and direction(s) of rotation (Counter Clock Wise or Clock Wise) these maximum requirements occur.

**S1C Spring Return**  
For all fail closed butterfly valves and other spring return applications where 100 Psi air is available, Hytork's optional S1C Spring Modules will often permit the selection of a smaller Hytork Actuator. Both space and cost savings can be achieved



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