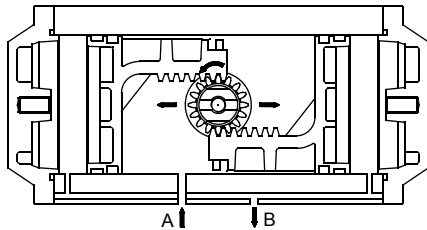


The operating principle of double acting actuator

Sizing example of HAITIMA double acting actuator:

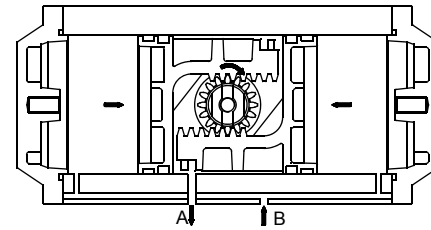
Valve torque 100Nm plus 30% safety factor= 130N.m. Minimum operating pressure 6bar. By reading down the 6bar column the figure below 130N.m is 189.4N.m, The model number shown in the left hand column is therefore HTD-105.

CCW-counter-clockwise



Air to port A forces the pistons outwards, causing the piston to turn counter-clockwise while air is being exhausted from port B.

CW-clockwise



Air to port B forces the pistons inwards, causing the piston to turn clockwise while air is being exhausted from port A.



## Torque Table of Double Acting Actuator

Unit: in.lbs

Unit: N.m

| Model   | Air Supply Pressure |        |        |        |        |        |         |
|---------|---------------------|--------|--------|--------|--------|--------|---------|
|         | 40 Psi              | 50 Psi | 60 Psi | 70 Psi | 80 Psi | 90 Psi | 100 Psi |
| HTD-032 | 33                  | 43     | 54     | 63     | 72     | 80     | 86      |
| HTD-052 | 94                  | 118    | 142    | 165    | 189    | 212    | 236     |
| HTD-063 | 168                 | 210    | 252    | 294    | 336    | 378    | 420     |
| HTD-075 | 274                 | 342    | 409    | 477    | 545    | 613    | 681     |
| HTD-083 | 344                 | 430    | 516    | 602    | 688    | 775    | 860     |
| HTD-092 | 527                 | 660    | 792    | 923    | 1054   | 1186   | 1318    |
| HTD-105 | 770                 | 967    | 1163   | 1350   | 1541   | 1733   | 1926    |
| HTD-125 | 1323                | 1654   | 1985   | 2316   | 2647   | 2977   | 3308    |
| HTD-140 | 1992                | 2489   | 2987   | 3485   | 3983   | 4481   | 4979    |
| HTD-160 | 3067                | 3834   | 4601   | 5368   | 6135   | 6902   | 7669    |
| HTD-190 | 4944                | 6180   | 7415   | 8651   | 9887   | 11123  | 12360   |
| HTD-210 | 6794                | 8492   | 10191  | 11889  | 13587  | 15286  | 16984   |
| HTD-240 | 10649               | 13311  | 15973  | 18636  | 21298  | 23961  | 26623   |
| HTD-270 | 14975               | 18719  | 22463  | 26207  | 29950  | 33694  | 37438   |
| HTD-300 | 18377               | 22975  | 27574  | 32168  | 36762  | 41357  | 45951   |
| HTD-350 | 27517               | 34397  | 41280  | 48163  | 55041  | 61920  | 68803   |
| HTD-400 | 39209               | 49015  | 58822  | 68624  | 78426  | 88229  | 98031   |

| Model   | Air Supply Pressure |        |        |        |         |         |
|---------|---------------------|--------|--------|--------|---------|---------|
|         | 3 Bar               | 4 Bar  | 5 Bar  | 6 Bar  | 7 Bar   | 8 Bar   |
| HTD-032 | 4.1                 | 5.9    | 7.4    | 8.8    | 9.8     | 11.3    |
| HTD-052 | 11.6                | 15.5   | 19.3   | 23.2   | 27.1    | 31      |
| HTD-063 | 20.6                | 27.5   | 34.4   | 41.3   | 48.2    | 55      |
| HTD-075 | 33.7                | 44.7   | 55.9   | 67     | 78.2    | 89.3    |
| HTD-083 | 42.3                | 56.4   | 70.5   | 84.6   | 98.7    | 112.9   |
| HTD-092 | 64.8                | 86.5   | 108    | 129.6  | 151.2   | 172.8   |
| HTD-105 | 94.7                | 127.2  | 157.8  | 189.4  | 220.9   | 252.5   |
| HTD-125 | 162.7               | 216.9  | 271.1  | 325.3  | 379.5   | 433.8   |
| HTD-140 | 244.8               | 326.4  | 408    | 489.6  | 571.2   | 652.8   |
| HTD-160 | 377                 | 502.7  | 628.4  | 754.1  | 879.7   | 1005.4  |
| HTD-190 | 607.7               | 810.2  | 1012.8 | 1215.3 | 1417.9  | 1620.4  |
| HTD-210 | 835.1               | 1113.4 | 1391.8 | 1670.1 | 1948.4  | 2226.9  |
| HTD-240 | 1309                | 1745.2 | 2181.6 | 2617.9 | 3054.2  | 3490.5  |
| HTD-270 | 1840.7              | 2454.2 | 3067.8 | 3681.3 | 4294.9  | 4908.5  |
| HTD-300 | 2258.8              | 3012.7 | 3765.6 | 4518.6 | 5271.5  | 6024.5  |
| HTD-350 | 3382.1              | 4510.1 | 5638.1 | 6765.2 | 7893.2  | 9020.2  |
| HTD-400 | 4819.4              | 6426.8 | 8033.2 | 9639.7 | 11246.2 | 12852.6 |

