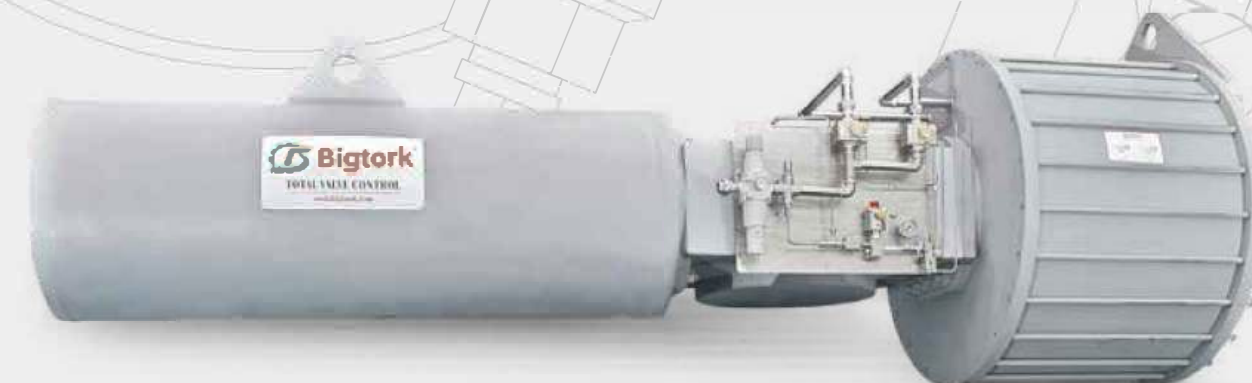




**Bigtork** Heavy-duty  
Valve Actuators For  
Industrial Process Controls

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# Bigtork

## Valve Automation

### Actuator Option



Qualification

Valve Automation  
Actuator Index

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### 企业简介

Bigtork prefer to focus on the developing and research the fluid actuator new technology in various industries. and also make the long term business relation with advanced OEM buyer.

We have the rack pinion and scotch two type of actuator.

We have advanced production line, completely quality control system and facility to guarantee the high quality actuator and all testing can be executed in house.

### 品牌优势

Bigtork prefer to give th e complete schematic solution for valve fluid actuator that make the easy and stable control.

- High Efficient Feedback to Client
- Right Sizing the actuator to save the cost and help the client to save the production cost.
- Choose the better design or material to extended the actuator life cycle that shorten the maintaining period.
- Supply the client with technical solution in any project stage.



## Design Features

BG series scotch actuator adopt the modularity design to suit to various quarter turn valves such as ball valve, butterfly valve and plug valve. All connection as per ISO5211 mounting flange standard. That can be suitable for all kinds of valves.

1.modularity design for easy stock and urgent delivery .

2.safety design for all spring with whole sealing and no one can contact the risk .

3.high accuracy to keep the lowest force of friction that will right output torque and long life cycle.

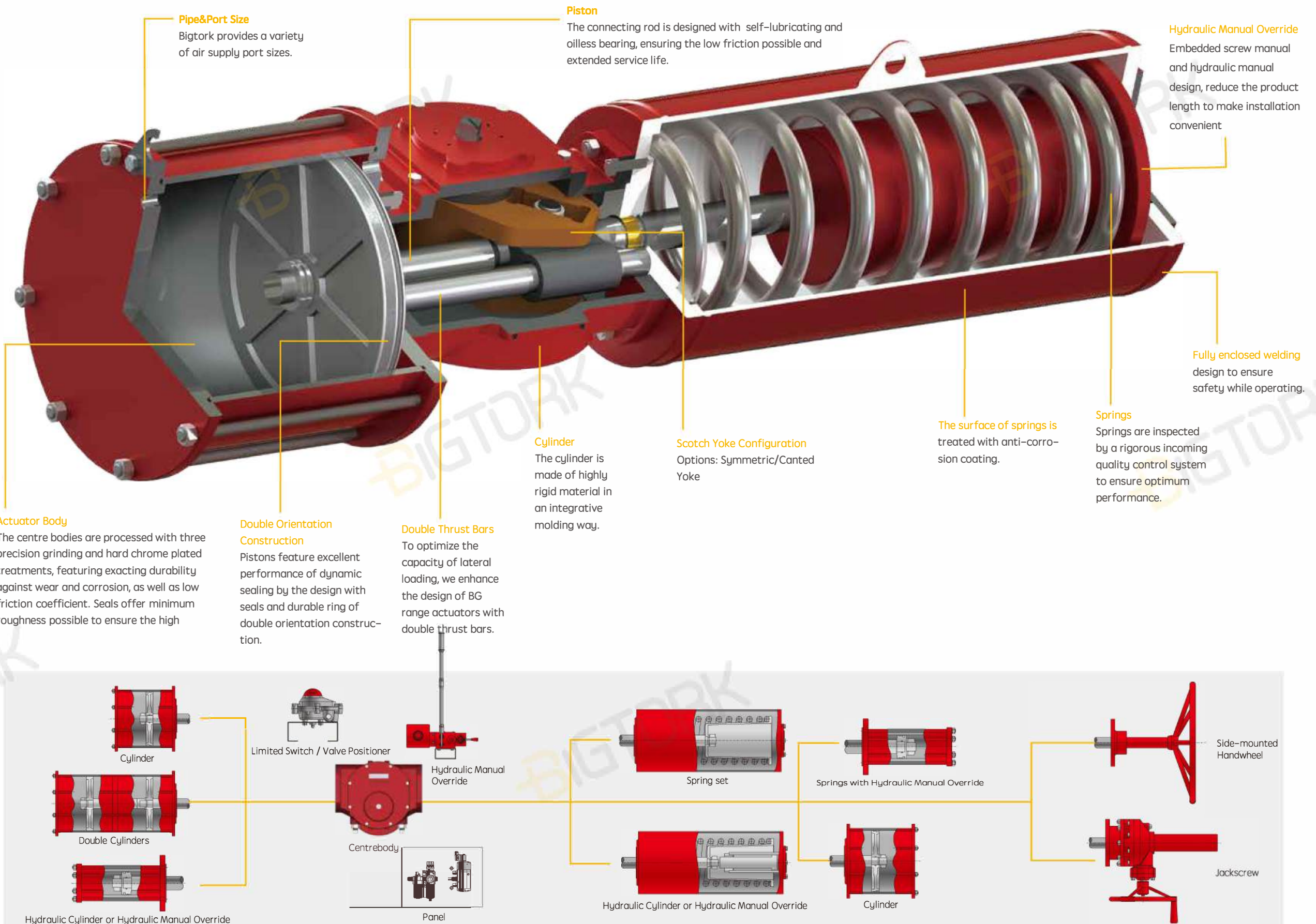
4.Nickel plated or Chrome Plated internal surface that will less the roughness and make high corrosion protection.

5.Low friction for all moving sealing that all reduction all loose of efficiency.

6.Rating output torque range: 360N.m to 110000 N.m .

7.Low Temperature Extremity:  
Extra-Low-60、Low-40、Normal-20.

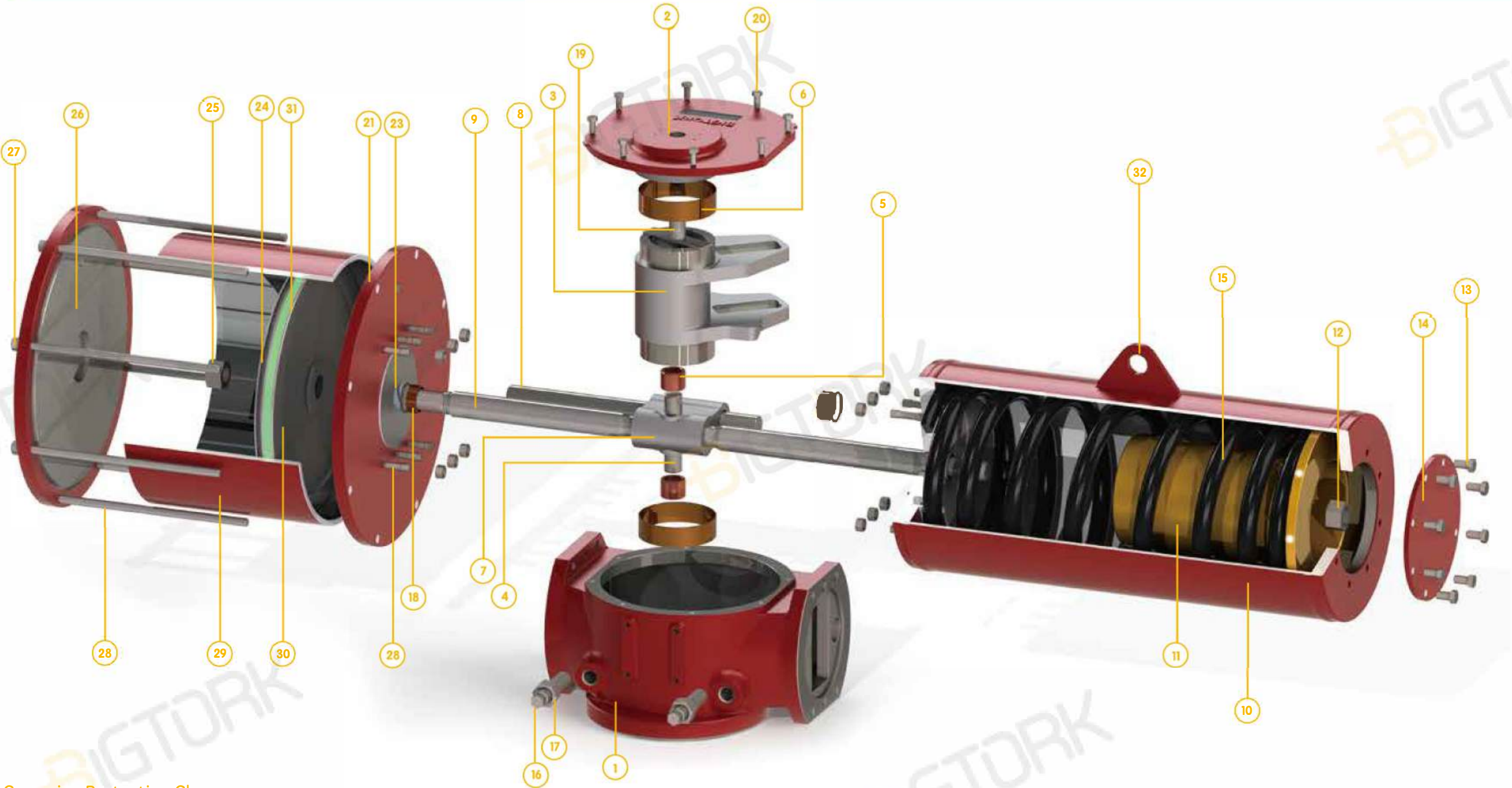
8.Manual override: Screw Rod、 Gear Box、 Manual Hydraulic Pump .



**Modular Configuration** Modular design allows for effective selection and sizing of actuators, available for online maintenance of multi-functional modules. The configuration of BG range products allows the parts which include cylinders, spring sets and manual overrides to be assembled together in various ways, from which actuators with the various sets can be complemented for control valves.



Parts and Material List – Pneumatic Actuator



- 1 Centreboby  
Ductile iron
- 2 Centreboby cover  
Ductile iron
- 3 Yoke  
Carbon steel
- 4 Bearing  
Bearing steel
- 5 Sliding bushing  
Bearing steel
- 6 Oilless bearing  
Composites
- 7 Sliding block  
Carbon steel
- 8 Thrust bar  
Alloy steel(chromium plated)
- 9 Connecting rod  
Alloy steel(chromium plated)
- 10 Spring cartridge  
Carbon steel
- 11 Spring base  
Carbon steel
- 12 Stop screw  
Carbon steel
- 13 Hexagon bolt  
Carbon steel
- 14 Spring cover  
Carbon steel
- 15 Spring  
Alloy steel
- 16 Adjustable bolt  
Carbon steel
- 17 Nut  
Carbon steel
- 18 Rob bushing  
Composites
- 19 Accessory-mounted shaft  
Stainless steel
- 20 Hexagon bolt  
Carbon steel
- 21 Inner cover  
Stainless steel
- 22 Oilless bearing  
Composites
- 23 O-ring  
NBR
- 24 O-ring  
NBR
- 25 Nut  
Carbon steel
- 26 End flange  
Carbon steel
- 27 Nut  
Carbon steel
- 28 Stud bolt  
Carbon steel
- 29 Cylinder  
Carbon steel  
(Inside nickel-plated)
- 30 Piston  
Ductile iron
- 31 Guiding ring  
Composites
- 32 Lifting Point  
Carbon steel

Corrosion Protection Class

| Corrosion Level                           | Undercoat |                |               | Topcoat      |                |               | Durability | Paint is applied on the basis of the operating environments and service life of BG range actuators.<br><br>The above chart is in accordance with corrosion protection standard ISO12944. |
|-------------------------------------------|-----------|----------------|---------------|--------------|----------------|---------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                           | Type      | Coating Number | Thickness(μm) | Type         | Coating Number | Thickness(μm) |            |                                                                                                                                                                                          |
| Moderate corrosion-C3                     | Epoxy     | 1              | 60            | Polyurethane | 2-3            | 120           | L/M/H      |                                                                                                                                                                                          |
| Strong corrosion-C4                       | Epoxy     | 1              | 60            | Polyurethane | 2-4            | 160           | L/M/H      |                                                                                                                                                                                          |
| Extreme corrosion (Industrial-grade )C5-I | Epoxy     | 1-2            | 80            | Polyurethane | 3-4            | 240           | L/M/H      |                                                                                                                                                                                          |
| Extreme corrosion (Marine-grade)C5-M      | Epoxy     | 1-2            | 80            | Polyurethane | 3-4            | 320           | L/M/H      |                                                                                                                                                                                          |

### Sizing of Actuators and Torque Characteristics

#### Steps To Select Valve Actuators

● First, identify the valve type for actuator sizing:



- Bigtork recommend that the valve manufacturers offer the torque values of valves operating at six positions before sizing actuators.
- If there is only one given torque value at valve start position, check the first actuator (see the torque output chart) whose starting torque output at required air supply meets or exceeds the given value, and calculate the torque values at other five positions.
- According to the torque output chart, select appropriate actuator whose torque outputs exceed the valve torque at all positions.

#### Sample of Actuator Sizing:

To size an actuator meeting a given start torque 960Nm of a ball valve, check the first size that generates more than 960Nm in the six positions of the torque table. According to the data of Spring-Return Actuator Torque Table, G1-P300SR5 supplies more torque than 960Nm. This is suitable to operate the ball valve.

| 行程位置 | BTO (0°) | RTO (45°) | ETO (90°) | BTC (90°) | RTC (45°) | ETC (0°) |
|------|----------|-----------|-----------|-----------|-----------|----------|
| 阀门   | 960      | 960x0.6   | 960x0.8   | 960x0.7   | 960x0.6   | 960x0.9  |
| 执行机构 | 2081     | 971       | 1316      | 2131      | 1000      | 1366     |
| 安全系数 | 2.1      | 1.7       | 1.7       | 2.7       | 1.7       | 1.6      |

Notes:

**Opening direction:** Break to open (BTO) 、Running to open(RTO)、End to open(ETO)

**Closing direction:** Break to close (BTC) 、Running to close(RTC)、End to close(ETC)

**安全系数:** Safety factors: 1.25 to 1.5(25% to 50%)

If the first found actuator does not exceed the stem torque, check the next size actuator.

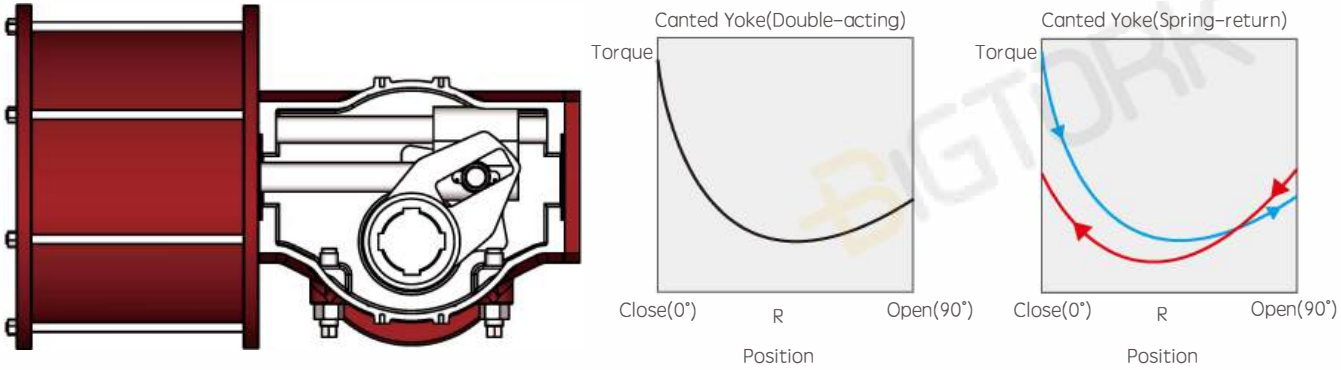
#### Torque Coefficient in Different Positions

| Valve Type                        | BTO(0°) | RTO(45°) | ETO(90°) | BTC(90°) | RTC(45°) | ETC(0°) |                                                                                                     |
|-----------------------------------|---------|----------|----------|----------|----------|---------|-----------------------------------------------------------------------------------------------------|
| Floating ball valve               | 1.0     | 0.6      | 0.8      | 0.8      | 0.6      | 0.9     | Contact Bigtork for actuator sizing of the other valves that are not covered by our standard range. |
| Trunnion mounted ball valves      | 1.0     | 0.55     | 0.7      | 0.75     | 0.55     | 0.85    |                                                                                                     |
| Triple-eccentric butterfly valves | 1.0     | 0.35     | 0.3      | 0.45     | 0.35     | 0.85    |                                                                                                     |
| Plug valves                       | 1.0     | 0.5      | 0.8      | 0.8      | 0.5      | 0.95    |                                                                                                     |

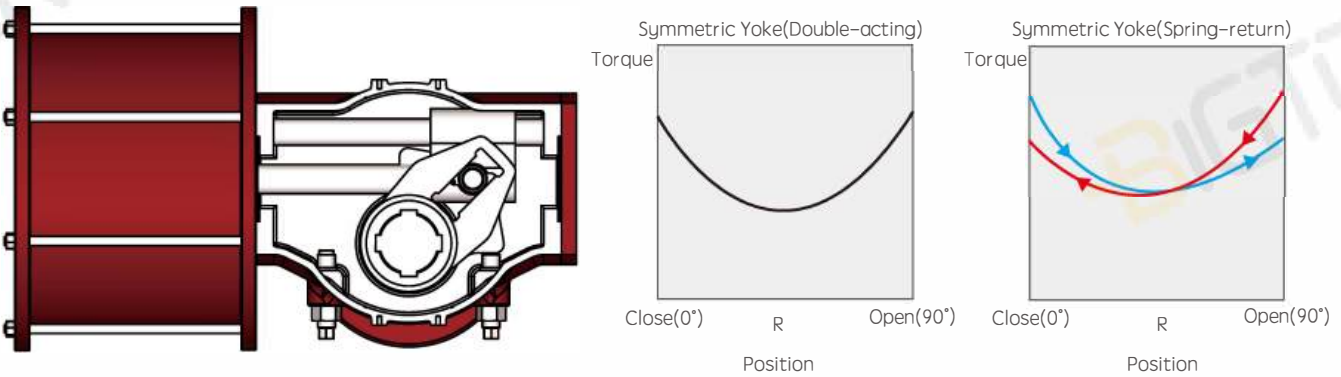
### Torque Output Characteristics

- BG series actuators can be provided with either symmetrical or canted torque arms, which helps valves meet a wide range of torque. (See the following chart)
- The symmetric yoke construction is commonly used for all types of valves.
- The canted yoke construction delivers peak torque when opening valves but less torque when closing, suitable for butterfly valves.
- The use of canted yoke can help customers reduce costs by its unique torque characteristics.

#### Canted Yoke – Torque Output Profiles



#### Symmetric Yoke – Torque Output Profiles

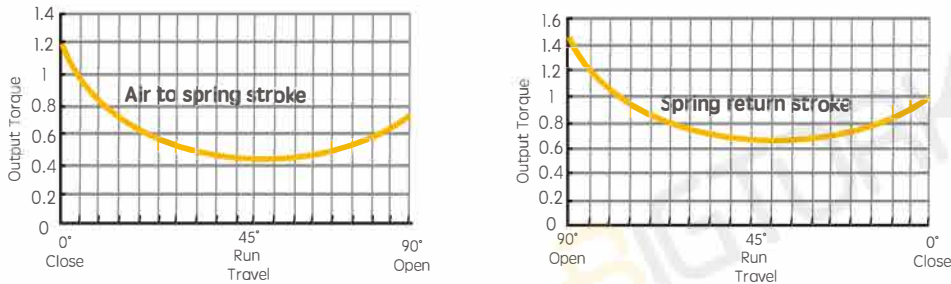




BTS-G Range Pneumatic Actuators

Spring-return torque output

Symmetric yoke configuration



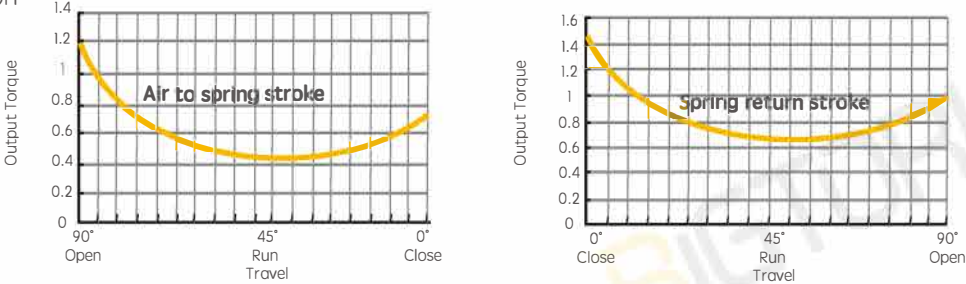
Spring-Return Fail Close (FC)

| Actuator model | Spring-return torque |          |         | Torque outputs at different air supply pressure (Unit:Nm) |          |          |         |          |          |         |          |          |
|----------------|----------------------|----------|---------|-----------------------------------------------------------|----------|----------|---------|----------|----------|---------|----------|----------|
|                |                      |          |         | 4 bar                                                     |          |          | 5 bar   |          |          | 6 bar   |          |          |
|                | BTC(90°)             | RTC(45°) | ETC(0°) | BTO(0°)                                                   | RTO(45°) | ETO(90°) | BTO(0°) | RTO(45°) | ETO(90°) | BTO(0°) | RTO(45°) | ETO(90°) |
| G0-P180 SR4    | 501                  | 237      | 328     | 500                                                       | 236      | 326      | 707     | 354      | 533      | 913     | 473      | 740      |
| G0-P180 SR5    | 620                  | 296      | 414     |                                                           |          |          | 620     | 296      | 414      | 827     | 414      | 620      |
| G0-P180 SR6    | 766                  | 365      | 511     |                                                           |          |          |         |          |          | 730     | 345      | 475      |
| G0-P200 SR4    | 620                  | 296      | 414     | 608                                                       | 288      | 401      | 863     | 434      | 656      | 1118    | 580      | 912      |
| G0-P200 SR5    | 766                  | 365      | 511     |                                                           |          |          | 766     | 365      | 511      | 1021    | 511      | 766      |
| G0-P200 SR6    | 894                  | 438      | 638     |                                                           |          |          |         |          |          | 894     | 438      | 638      |
| G1-P250 SR4    | 1241                 | 574      | 766     | 1149                                                      | 521      | 674      | 1628    | 795      | 1152     | 2107    | 1069     | 1631     |
| G1-P250 SR5    | 1628                 | 768      | 1058    |                                                           |          |          | 1335    | 601      | 766      | 1814    | 875      | 1245     |
| G1-P250 SR6    | 1676                 | 821      | 1197    |                                                           |          |          |         |          |          | 1676    | 821      | 1197     |
| G1-P300 SR4    | 1628                 | 768      | 1058    | 1699                                                      | 809      | 1130     | 2389    | 1203     | 1819     |         |          |          |
| G1-P300 SR5    | 2131                 | 1000     | 1366    |                                                           |          |          | 2081    | 971      | 1316     | 2771    | 1366     | 2006     |
| G1-P300 SR6    | 2413                 | 1183     | 1724    |                                                           |          |          |         |          |          | 2413    | 1183     | 1724     |
| G2-P300 SR4    | 2245                 | 1036     | 1377    | 2070                                                      | 936      | 1202     | 2932    | 1428     | 2064     | 3794    | 1924     | 2926     |
| G2-P300 SR5    | 2840                 | 1341     | 1849    |                                                           |          |          | 2459    | 1123     | 1469     | 3321    | 1616     | 2331     |
| G2-P300 SR6    | 3412                 | 1613     | 2229    |                                                           |          |          |         |          |          | 2942    | 1344     | 1758     |
| G2-P350 SR4    | 2840                 | 1341     | 1849    | 2842                                                      | 1342     | 1852     | 4015    | 2013     | 3025     |         |          |          |
| G2-P350 SR5    | 3583                 | 1662     | 2229    |                                                           |          |          | 3636    | 1692     | 2282     | 4809    | 2363     | 3455     |
| G2-P350 SR6    | 4148                 | 1977     | 2765    |                                                           |          |          |         |          |          | 4272    | 2048     | 2890     |
| G3-P350 SR4    | 3438                 | 1620     | 2227    | 3341                                                      | 1564     | 2130     | 4732    | 2360     | 3522     | 6124    | 3156     | 4913     |
| G3-P350 SR5    | 4387                 | 2090     | 2923    |                                                           |          |          | 4037    | 1890     | 2572     | 5428    | 2685     | 3964     |
| G3-P350 SR6    | 5602                 | 2654     | 3681    |                                                           |          |          |         |          |          | 4670    | 2121     | 2750     |
| G3-P400 SR4    | 4387                 | 2090     | 2923    | 4349                                                      | 2068     | 2885     | 6167    | 3108     | 4703     | 7985    | 4147     | 6521     |
| G3-P400 SR5    | 5602                 | 2654     | 3681    |                                                           |          |          | 5409    | 2544     | 3488     | 7227    | 3583     | 5306     |
| G3-P400 SR6    | 6809                 | 3140     | 4173    |                                                           |          |          |         |          |          | 6735    | 3098     | 4099     |
| G3-P450 SR4    | 5602                 | 2654     | 3681    | 5522                                                      | 2609     | 3602     | 7823    | 3924     | 5903     |         |          |          |
| G3-P450 SR5    | 6809                 | 3140     | 4173    |                                                           |          |          | 7331    | 3439     | 4696     | 9632    | 4755     | 6997     |
| G3-P450 SR6    | 8522                 | 4061     | 5681    |                                                           |          |          |         |          |          | 8124    | 3833     | 5284     |

| Actuator model | Spring-return torque |          |         | Torque outputs at different air supply pressure (Unit:Nm) |          |          |         |          |          |         |          |          |
|----------------|----------------------|----------|---------|-----------------------------------------------------------|----------|----------|---------|----------|----------|---------|----------|----------|
|                |                      |          |         | 4 bar                                                     |          |          | 5 bar   |          |          | 6 bar   |          |          |
|                | BTC(90°)             | RTC(45°) | ETC(0°) | BTO(0°)                                                   | RTO(45°) | ETO(90°) | BTO(0°) | RTO(45°) | ETO(90°) | BTO(0°) | RTO(45°) | ETO(90°) |
| G4-P450 SR4    | 6661                 | 3194     | 4509    | 6763                                                      | 3252     | 4611     | 9581    | 4864     | 7429     | 12399   | 6475     | 10247    |
| G4-P450 SR5    | 8217                 | 3976     | 5690    |                                                           |          |          | 8400    | 4081     | 5873     | 11218   | 5692     | 8691     |
| G4-P450 SR6    | 9426                 | 4548     | 6480    |                                                           |          |          |         |          |          | 10427   | 5120     | 7482     |
| G4-P500 SR4    | 8217                 | 3976     | 5690    | 8226                                                      | 3981     | 5699     | 11705   | 5971     | 9178     | 15184   | 7960     | 12657    |
| G4-P500 SR5    | 9426                 | 4548     | 6480    |                                                           |          |          | 10914   | 5399     | 7969     | 14393   | 7388     | 11448    |
| G4-P500 SR6    | 12023                | 5729     | 8016    |                                                           |          |          |         |          |          | 12858   | 6207     | 8850     |
| G4-P550 SR4    | 9426                 | 4548     | 6480    | 10358                                                     | 5081     | 7412     | 14567   | 7488     | 11622    | 18777   | 9895     | 15831    |
| G4-P550 SR5    | 12023                | 5729     | 8016    |                                                           |          |          | 13032   | 6306     | 9024     | 17242   | 8714     | 13234    |
| G4-P550 SR6    | 14528                | 6875     | 9518    |                                                           |          |          |         |          |          | 15739   | 7568     | 10729    |
| G5-P550 SR4    | 13738                | 6417     | 8706    | 13693                                                     | 6392     | 8661     | 19293   | 9594     | 14261    | 24893   | 12796    | 19861    |
| G5-P550 SR5    | 16408                | 7514     | 9873    |                                                           |          |          | 18126   | 8497     | 11591    | 23726   | 11699    | 17191    |
| G5-P550 SR6    | 20998                | 10153    | 14513   |                                                           |          |          |         |          |          | 19086   | 9060     | 12601    |
| G5-P600 SR4    | 16408                | 7514     | 9873    | 16784                                                     | 7729     | 10249    | 23448   | 11540    | 16913    | 30113   | 15351    | 23577    |
| G5-P600 SR5    | 20998                | 10153    | 14513   |                                                           |          |          | 18808   | 8901     | 12323    | 25472   | 12712    | 18988    |
| G5-P600 SR6    | 26926                | 12530    | 16897   |                                                           |          |          |         |          |          | 23089   | 10335    | 13059    |
| G5-P700 SR4    | 20998                | 10153    | 14513   | 21770                                                     | 10595    | 15285    | 30841   | 15782    | 24356    |         |          |          |
| G5-P700 SR5    | 26926                | 12530    | 16897   |                                                           |          |          | 28457   | 13405    | 18428    | 37528   | 18592    | 27499    |
| G5-P700 SR6    | 30198                | 14291    | 19785   |                                                           |          |          |         |          |          | 34640   | 16831    | 24227    |
| G7-P700 SR4    | 25137                | 11809    | 16165   | 26374                                                     | 12516    | 17402    | 37009   | 18598    | 28037    | 47644   | 24679    | 38672    |
| G7-P700 SR5    | 30937                | 14927    | 21270   |                                                           |          |          | 31904   | 15480    | 22236    | 42539   | 21561    | 32871    |
| G7-P700 SR6    | 41216                | 19005    | 25255   |                                                           |          |          |         |          |          | 38553   | 17483    | 22592    |
| G7-P800 SR4    | 30937                | 14927    | 21270   | 34292                                                     | 16845    | 24624    | 48182   | 24788    | 38514    | 62072   | 32731    | 52404    |
| G7-P800 SR5    | 41216                | 19005    | 25255   |                                                           |          |          | 44196   | 20709    | 28235    | 58087   | 28652    | 42125    |
| G7-P800 SR6    | 52740                | 24127    | 31644   |                                                           |          |          |         |          |          | 51698   | 23531    | 30602    |
| G8-P800 SR4    | 36397                | 17561    | 25023   | 40343                                                     | 19818    | 28969    | 56685   | 29162    | 45311    | 73026   | 38507    | 61652    |
| G8-P800 SR5    | 48490                | 22359    | 29712   |                                                           |          |          | 51996   | 24364    | 33218    | 68337   | 33709    | 49559    |
| G8-P800 SR6    | 57166                | 26947    | 37081   |                                                           |          |          |         |          |          | 60968   | 29121    | 40883    |
| G8-P900 SR4    | 48490                | 22359    | 29712   | 53017                                                     | 24948    | 34239    | 73699   | 36775    | 54921    | 94382   | 48602    | 75604    |
| G8-P900 SR5    | 57166                | 26947    | 37081   |                                                           |          |          | 66331   | 32187    | 46245    | 87013   | 44014    | 66927    |
| G8-P900 SR6    | 76601                | 35042    | 45961   |                                                           |          |          |         |          |          | 78133   | 35918    | 47493    |
| G8-P1000 SR4   | 57166                | 26947    | 37081   | 65054                                                     | 31457    | 56646    | 90587   | 46058    | 70502    | 116121  | 60659    | 96036    |
| G8-P1000 SR5   | 76601                | 35042    | 45961   |                                                           |          |          | 81708   | 37963    | 51067    | 107241  | 52564    | 76601    |
| G8-P1000 SR6   | 89368                | 43803    | 63834   |                                                           |          |          |         |          |          | 89368   | 43803    | 63834    |
| G9-P900 SR4    | 65894                | 30416    | 40485   | 71199                                                     | 33449    | 44968    | 99120   | 49415    | 73711    | 127041  | 65382    | 101633   |
| G9-P900 SR5    | 81236                | 37539    | 50059   |                                                           |          |          | 89546   | 42292    | 58369    | 117467  | 58258    | 86290    |
| G9-P900 SR6    | 100102               | 46509    | 62564   |                                                           |          |          |         |          |          | 104962  | 49288    | 67424    |
| G9-P1000 SR4   | 81236                | 37539    | 50059   | 87823                                                     | 41306    | 66735    | 122293  | 61017    | 91116    | 156763  | 80729    | 125586   |
| G9-P1000 SR5   | 100102               | 46509    | 62564   |                                                           |          |          | 109788  | 52048    | 72250    | 144259  | 71759    | 106720   |
| G9-P1000 SR6   | 125128               | 57242    | 75077   |                                                           |          |          |         |          |          | 131746  | 61026    | 81695    |
| G9-P1100 SR4   | 100102               | 46509    | 62564   | 104273                                                    | 48894    | 45790    | 145982  | 72745    | 108444   | 187691  | 96595    | 150153   |
| G9-P1100 SR5   | 125128               | 57242    | 75077   |                                                           |          |          | 133469  | 62012    | 83418    | 175179  | 85863    | 125128   |
| G9-P1100 SR6   | 145982               | 71552    | 104273  |                                                           |          |          |         |          |          | 145982  | 71552    | 104273   |

BTS-G Range Pneumatic Actuators

Spring-return torque output  
Symmetric yoke configuration



Spring-Return Fail Open (FO)

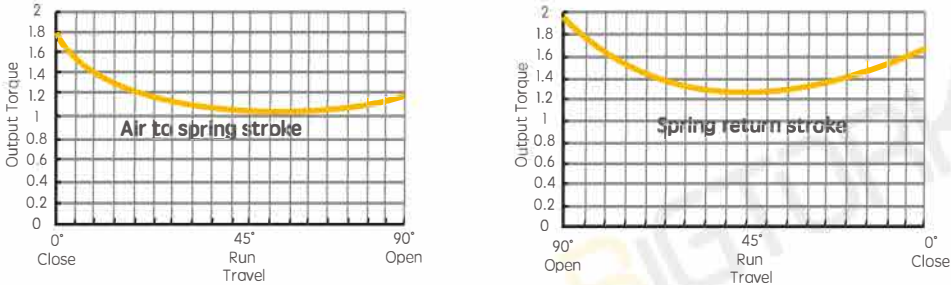
| Actuator model | Spring-return torque |          |          | Torque outputs at different air supply pressure (Unit:Nm) |          |         |          |          |         |          |          |         |
|----------------|----------------------|----------|----------|-----------------------------------------------------------|----------|---------|----------|----------|---------|----------|----------|---------|
|                |                      |          |          | 4 bar                                                     |          |         | 5 bar    |          |         | 6 bar    |          |         |
|                | BTO(0°)              | RTO(45°) | ETO(90°) | BTC(90°)                                                  | RTC(45°) | ETC(0°) | BTC(90°) | RTC(45°) | ETC(0°) | BTC(90°) | RTC(45°) | ETC(0°) |
| G0-P180 SR4    | 501                  | 237      | 328      | 500                                                       | 236      | 326     | 707      | 354      | 533     | 913      | 473      | 740     |
| G0-P180 SR5    | 620                  | 296      | 414      |                                                           |          |         | 620      | 296      | 414     | 827      | 414      | 620     |
| G0-P180 SR6    | 766                  | 365      | 511      |                                                           |          |         |          |          |         | 730      | 345      | 475     |
| G0-P200 SR4    | 620                  | 296      | 414      | 608                                                       | 288      | 401     | 863      | 434      | 656     | 1118     | 580      | 912     |
| G0-P200 SR5    | 766                  | 365      | 511      |                                                           |          |         | 766      | 365      | 511     | 1021     | 511      | 766     |
| G0-P200 SR6    | 894                  | 438      | 638      |                                                           |          |         |          |          |         | 894      | 438      | 638     |
| G1-P250 SR4    | 1241                 | 574      | 766      | 1149                                                      | 521      | 674     | 1628     | 795      | 1152    | 2107     | 1069     | 1631    |
| G1-P250 SR5    | 1628                 | 768      | 1058     |                                                           |          |         | 1335     | 601      | 766     | 1814     | 875      | 1245    |
| G1-P250 SR6    | 1676                 | 821      | 1197     |                                                           |          |         |          |          |         | 1676     | 821      | 1197    |
| G1-P300 SR4    | 1628                 | 768      | 1058     | 1699                                                      | 809      | 1130    | 2389     | 1203     | 1819    |          |          |         |
| G1-P300 SR5    | 2131                 | 1000     | 1366     |                                                           |          |         | 2081     | 971      | 1316    | 2771     | 1366     | 2006    |
| G1-P300 SR6    | 2413                 | 1183     | 1724     |                                                           |          |         |          |          |         | 2413     | 1183     | 1724    |
| G2-P300 SR4    | 2245                 | 1036     | 1377     | 2070                                                      | 936      | 1202    | 2959     | 1428     | 2064    | 3794     | 1924     | 2926    |
| G2-P300 SR5    | 2840                 | 1341     | 1849     |                                                           |          |         | 2459     | 1123     | 1469    | 3321     | 1616     | 2331    |
| G2-P300 SR6    | 3412                 | 1613     | 2229     |                                                           |          |         |          |          |         | 2942     | 1344     | 1758    |
| G2-P350 SR4    | 2840                 | 1341     | 1849     | 2842                                                      | 1342     | 1854    | 4015     | 2013     | 3025    |          |          |         |
| G2-P350 SR5    | 3583                 | 1662     | 2229     |                                                           |          |         | 3636     | 1692     | 2282    | 4809     | 2363     | 3455    |
| G2-P350 SR6    | 4148                 | 1977     | 2765     |                                                           |          |         |          |          |         | 4272     | 2048     | 2890    |
| G3-P350 SR4    | 3438                 | 1620     | 2227     | 3341                                                      | 1564     | 2130    | 4732     | 2360     | 3522    | 6124     | 3156     | 4913    |
| G3-P350 SR5    | 4387                 | 2090     | 2923     |                                                           |          |         | 4037     | 1890     | 2572    | 5428     | 2685     | 3964    |
| G3-P350 SR6    | 5602                 | 2654     | 3681     |                                                           |          |         |          |          |         | 4670     | 2121     | 2750    |
| G3-P400 SR4    | 4387                 | 2090     | 2923     | 4349                                                      | 2068     | 2885    | 6167     | 3108     | 4703    | 7985     | 4147     | 6521    |
| G3-P400 SR5    | 5602                 | 2654     | 3681     |                                                           |          |         | 5409     | 2544     | 3488    | 7227     | 3583     | 5306    |
| G3-P400 SR6    | 6809                 | 3140     | 4173     |                                                           |          |         |          |          |         | 6735     | 3098     | 4099    |
| G3-P450 SR4    | 5602                 | 2654     | 3681     | 5522                                                      | 2609     | 3602    | 7823     | 3924     | 5903    |          |          |         |
| G3-P450 SR5    | 6809                 | 3140     | 4173     |                                                           |          |         | 7331     | 3439     | 4696    | 9632     | 4755     | 6997    |
| G3-P450 SR6    | 8522                 | 4061     | 5681     |                                                           |          |         |          |          |         | 8124     | 3833     | 5284    |

| Actuator model | Spring-return torque |          |          | Torque outputs at different air supply pressure (Unit:Nm) |          |         |          |          |         |          |          |         |
|----------------|----------------------|----------|----------|-----------------------------------------------------------|----------|---------|----------|----------|---------|----------|----------|---------|
|                |                      |          |          | 4 bar                                                     |          |         | 5 bar    |          |         | 6 bar    |          |         |
|                | BTO(0°)              | RTO(45°) | ETO(90°) | BTC(90°)                                                  | RTC(45°) | ETC(0°) | BTC(90°) | RTC(45°) | ETC(0°) | BTC(90°) | RTC(45°) | ETC(0°) |
| G4-P450 SR4    | 6661                 | 3194     | 4509     | 6763                                                      | 3252     | 4611    |          |          |         | 9581     | 4864     | 7429    |
| G4-P450 SR5    | 8217                 | 3976     | 5690     |                                                           |          |         |          |          |         | 8400     | 4081     | 5873    |
| G4-P450 SR6    | 9426                 | 4548     | 6480     |                                                           |          |         |          |          |         |          |          |         |
| G4-P500 SR4    | 8217                 | 3976     | 5690     | 8226                                                      | 3981     | 5699    |          |          |         | 11705    | 5971     | 9178    |
| G4-P500 SR5    | 9426                 | 4548     | 6480     |                                                           |          |         |          |          |         | 10914    | 5399     | 7969    |
| G4-P500 SR6    | 12023                | 5729     | 8016     |                                                           |          |         |          |          |         |          |          |         |
| G4-P550 SR4    | 9426                 | 4548     | 6480     | 10358                                                     | 5081     | 7412    |          |          |         | 14567    | 7488     | 11622   |
| G4-P550 SR5    | 12023                | 5729     | 8016     |                                                           |          |         |          |          |         | 13032    | 6306     | 9024    |
| G4-P550 SR6    | 14528                | 6875     | 9518     |                                                           |          |         |          |          |         |          |          |         |
| G5-P550 SR4    | 13738                | 6417     | 8706     | 13693                                                     | 6392     | 8661    |          |          |         | 19293    | 9594     | 14261   |
| G5-P550 SR5    | 16408                | 7514     | 9873     |                                                           |          |         |          |          |         | 18126    | 8497     | 11591   |
| G5-P550 SR6    | 20998                | 10153    | 14513    |                                                           |          |         |          |          |         |          |          |         |
| G5-P600 SR4    | 16408                | 7514     | 9873     | 16784                                                     | 7729     | 10249   |          |          |         | 23448    | 11540    | 16913   |
| G5-P600 SR5    | 20998                | 10153    | 14513    |                                                           |          |         |          |          |         | 18808    | 8901     | 12323   |
| G5-P600 SR6    | 26926                | 12530    | 16897    |                                                           |          |         |          |          |         |          |          |         |
| G5-P700 SR4    | 20998                | 10153    | 14513    | 21770                                                     | 10595    | 15285   |          |          |         | 30841    | 15782    | 24356   |
| G5-P700 SR5    | 26926                | 12530    | 16897    |                                                           |          |         |          |          |         | 28457    | 13405    | 18428   |
| G5-P700 SR6    | 30198                | 14291    | 19785    |                                                           |          |         |          |          |         |          |          |         |
| G7-P700 SR4    | 25137                | 11809    | 16165    | 26374                                                     | 12516    | 17402   |          |          |         | 37009    | 18598    | 28037   |
| G7-P700 SR5    | 30937                | 14927    | 21270    |                                                           |          |         |          |          |         | 31904    | 15480    | 22236   |
| G7-P700 SR6    | 41216                | 19005    | 25255    |                                                           |          |         |          |          |         |          |          |         |
| G7-P800 SR4    | 30937                | 14927    | 21270    | 34292                                                     | 16845    | 24624   |          |          |         | 48182    | 24788    | 38514   |
| G7-P800 SR5    | 41216                | 19005    | 25255    |                                                           |          |         |          |          |         | 44196    | 20709    | 28235   |
| G7-P800 SR6    | 52740                | 24127    | 31644    |                                                           |          |         |          |          |         |          |          |         |
| G8-P800 SR4    | 36397                | 17561    | 25023    | 40343                                                     | 19818    | 28969   |          |          |         | 56685    | 29162    | 45311   |
| G8-P800 SR5    | 48490                | 22359    | 29712    |                                                           |          |         |          |          |         | 51996    | 24364    | 33218   |
| G8-P800 SR6    | 57166                | 26947    | 37081    |                                                           |          |         |          |          |         |          |          |         |
| G8-P900 SR4    | 48490                | 22359    | 29712    | 53017                                                     | 24948    | 34239   |          |          |         | 73699    | 36775    | 54921   |
| G8-P900 SR5    | 57166                | 26947    | 37081    |                                                           |          |         |          |          |         | 66331    | 32187    | 46245   |
| G8-P900 SR6    | 76601                | 35042    | 45961    |                                                           |          |         |          |          |         |          |          |         |
| G8-P1000 SR4   | 57166                | 26947    | 37081    | 65054                                                     | 31457    | 44968   |          |          |         | 90587    | 46058    | 70502   |
| G8-P1000 SR5   | 76601                | 35042    | 45961    |                                                           |          |         |          |          |         | 81708    | 37963    | 51067   |
| G8-P1000 SR6   | 89368                | 43803    | 63834    |                                                           |          |         |          |          |         |          |          |         |
| G9-P900 SR4    | 65894                | 30416    | 40485    | 71199                                                     | 33449    | 45790   |          |          |         | 99120    | 49415    | 73711   |
| G9-P900 SR5    | 81236                | 37539    | 50059    |                                                           |          |         |          |          |         | 89546    | 42292    | 58369   |
| G9-P900 SR6    | 100102               | 46509    | 62564    |                                                           |          |         |          |          |         |          |          |         |
| G9-P1000 SR4   | 81236                | 37539    | 50059    | 87823                                                     | 41306    | 56646   |          |          |         | 122293   | 61017    | 91116   |
| G9-P1000 SR5   | 100102               | 46509    | 62564    |                                                           |          |         |          |          |         | 109788   | 52048    | 72250   |
| G9-P1000 SR6   | 125128               | 57242    | 75077    |                                                           |          |         |          |          |         |          |          |         |
| G9-P1100 SR4   | 100102               | 46509    | 62564    | 104273                                                    | 48894    | 66735   |          |          |         | 145982   | 72745    | 108444  |
| G9-P1100 SR5   | 125128               | 57242    | 75077    |                                                           |          |         |          |          |         | 133469   | 62012    | 83418   |
| G9-P1100 SR6   | 145982               | 71552    | 104273   |                                                           |          |         |          |          |         |          |          |         |



BTS-G Range Pneumatic Actuators

Spring-return torque output  
Canted yoke configuration



Spring-Return Fail Close (FC)

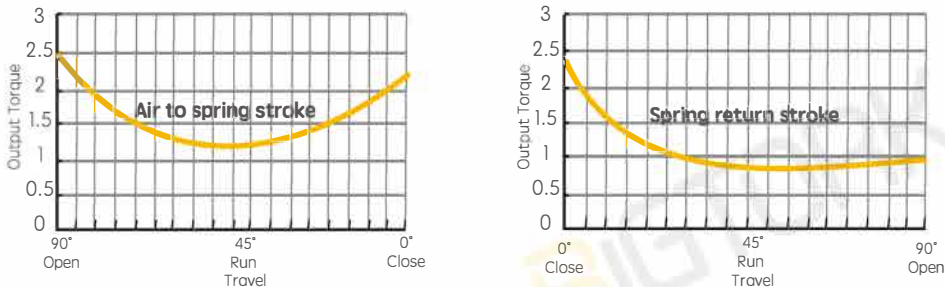
| Actuator model | Spring-return torque |          |         | Torque outputs at different air supply pressure (Unit:Nm) |          |          |         |          |          |         |          |          |
|----------------|----------------------|----------|---------|-----------------------------------------------------------|----------|----------|---------|----------|----------|---------|----------|----------|
|                |                      |          |         | 4 bar                                                     |          |          | 5 bar   |          |          | 6 bar   |          |          |
|                | BTC(90°)             | RTC(45°) | ETC(0°) | BTO(0°)                                                   | RTO(45°) | ETO(90°) | BTO(0°) | RTO(45°) | ETO(90°) | BTO(0°) | RTO(45°) | ETO(90°) |
| GC0-P180 SR4   | 531                  | 296      | 504     | 504                                                       | 192      | 198      | 755     | 313      | 381      | 1007    | 435      | 563      |
| GC0-P180 SR5   | 656                  | 365      | 622     | 386                                                       | 122      | 74       | 637     | 244      | 256      | 889     | 366      | 438      |
| GC0-P180 SR6   | 765                  | 438      | 777     |                                                           |          |          | 482     | 171      | 147      | 734     | 293      | 329      |
| GC0-P200 SR4   | 656                  | 365      | 622     | 622                                                       | 237      | 245      | 933     | 387      | 470      | 1244    | 537      | 695      |
| GC0-P200 SR5   | 765                  | 438      | 777     | 466                                                       | 164      | 136      | 777     | 314      | 361      | 1088    | 464      | 586      |
| GC0-P200 SR6   | 874                  | 511      | 933     |                                                           |          |          | 622     | 241      | 251      | 933     | 391      | 476      |
| GC1-P250 SR4   | 1393                 | 768      | 1289    | 1043                                                      | 360      | 295      | 1626    | 642      | 717      | 2209    | 924      | 1139     |
| GC1-P250 SR5   | 1434                 | 821      | 1457    | 874                                                       | 307      | 254      | 1457    | 589      | 676      | 2040    | 871      | 1098     |
| GC1-P250 SR6   | 1824                 | 1000     | 1663    |                                                           |          |          | 1252    | 410      | 287      | 1835    | 692      | 709      |
| GC1-P300 SR4   | 1824                 | 1000     | 1663    | 1695                                                      | 624      | 607      | 2534    | 1031     | 1215     | 3374    | 1437     | 1823     |
| GC1-P300 SR5   | 2066                 | 1183     | 2099    | 1259                                                      | 442      | 366      | 2099    | 848      | 974      | 2938    | 1254     | 1582     |
| GC1-P300 SR6   | 2361                 | 1380     | 2518    |                                                           |          |          | 1679    | 650      | 679      | 2518    | 1057     | 1287     |
| GC2-P300 SR4   | 2431                 | 1341     | 2252    | 1945                                                      | 690      | 609      | 2995    | 1197     | 1368     | 4044    | 1705     | 2128     |
| GC2-P300 SR5   | 3067                 | 1662     | 2714    |                                                           |          |          | 2533    | 876      | 732      | 3582    | 1384     | 1492     |
| GC2-P300 SR6   | 3551                 | 1977     | 3367    |                                                           |          |          | 1879    | 561      | 248      | 2929    | 1069     | 1008     |
| GC2-P350 SR4   | 3067                 | 1662     | 2714    | 2999                                                      | 1102     | 1070     | 4427    | 1793     | 2104     | 5856    | 2484     | 3138     |
| GC2-P350 SR5   | 3551                 | 1977     | 3367    | 2346                                                      | 787      | 586      | 3774    | 1478     | 1620     | 5202    | 2169     | 2654     |
| GC2-P350 SR6   | 4016                 | 2348     | 4285    |                                                           |          |          | 2856    | 1107     | 1155     | 4285    | 1798     | 2189     |
| GC3-P350 SR4   | 3756                 | 2090     | 3559    | 3220                                                      | 1189     | 1153     | 4915    | 2009     | 2381     | 6610    | 2829     | 3608     |
| GC3-P350 SR5   | 4795                 | 2654     | 4483    |                                                           |          |          | 3991    | 1445     | 1341     | 5686    | 2265     | 2568     |
| GC3-P350 SR6   | 4795                 | 2654     | 4483    |                                                           |          |          | 3991    | 1445     | 1341     | 5686    | 2265     | 2568     |
| GC3-P400 SR4   | 4795                 | 2654     | 4483    | 4372                                                      | 1629     | 1617     | 6586    | 2700     | 3220     | 8799    | 3770     | 4823     |
| GC3-P400 SR5   | 5828                 | 3140     | 5081    | 3773                                                      | 1143     | 583      | 5987    | 2214     | 2186     | 8200    | 3285     | 3789     |
| GC3-P400 SR6   | 7295                 | 4061     | 6918    |                                                           |          |          | 4151    | 1293     | 720      | 6364    | 2364     | 2323     |
| GC3-P450 SR4   | 5828                 | 3140     | 5081    | 6125                                                      | 2281     | 2287     | 8927    | 3636     | 4315     | 11728   | 4991     | 6344     |
| GC3-P450 SR5   | 7295                 | 4061     | 6918    | 4289                                                      | 1360     | 820      | 7091    | 2715     | 2849     | 9892    | 4070     | 4877     |
| GC3-P450 SR6   | 7879                 | 4605     | 8405    |                                                           |          |          | 5603    | 2171     | 2265     | 8405    | 3526     | 4294     |

| Actuator model | Spring-return torque |          |         | Torque outputs at different air supply pressure (Unit:Nm) |          |          |         |          |          |         |          |          |
|----------------|----------------------|----------|---------|-----------------------------------------------------------|----------|----------|---------|----------|----------|---------|----------|----------|
|                |                      |          |         | 4 bar                                                     |          |          | 5 bar   |          |          | 6 bar   |          |          |
|                | BTC(90°)             | RTC(45°) | ETC(0°) | BTO(0°)                                                   | RTO(45°) | ETO(90°) | BTO(0°) | RTO(45°) | ETO(90°) | BTO(0°) | RTO(45°) | ETO(90°) |
| GC3-P500 SR4   | 7295                 | 4061     | 6918    | 6918                                                      | 2631     | 2723     | 10376   | 4305     | 5228     | 13835   | 5978     | 7733     |
| GC3-P500 SR5   | 8511                 | 4873     | 8647    | 5188                                                      | 1819     | 1508     | 8647    | 3492     | 4012     | 12106   | 5165     | 6517     |
| GC3-P500 SR6   | 9727                 | 5685     | 10376   |                                                           |          |          | 6918    | 2680     | 2796     | 10376   | 4353     | 5301     |
| GC4-P450 SR4   | 7034                 | 3976     | 6928    | 6796                                                      | 2663     | 2904     | 10228   | 4322     | 5389     | 13659   | 5982     | 7874     |
| GC4-P450 SR5   | 8069                 | 4548     | 7891    | 5834                                                      | 2091     | 1870     | 9265    | 3751     | 4354     | 12697   | 5411     | 6839     |
| GC4-P450 SR6   | 10292                | 5729     | 9760    |                                                           |          |          | 7396    | 2569     | 2131     | 10827   | 4229     | 4615     |
| GC4-P500 SR4   | 8069                 | 4548     | 7891    | 9054                                                      | 3648     | 4201     | 13290   | 5697     | 7268     | 17526   | 7746     | 10336    |
| GC4-P500 SR5   | 10292                | 5729     | 9760    | 7184                                                      | 2467     | 1977     | 11420   | 4516     | 5045     | 15656   | 6565     | 8112     |
| GC4-P500 SR6   | 12437                | 6875     | 11590   |                                                           |          |          | 9590    | 3370     | 2901     | 13826   | 5419     | 5968     |
| GC4-P550 SR4   | 10292                | 5729     | 9760    | 10743                                                     | 4188     | 4554     | 15868   | 6667     | 8266     | 20994   | 9147     | 11977    |
| GC4-P550 SR5   | 12437                | 6875     | 11590   | 8913                                                      | 3042     | 2410     | 14038   | 5522     | 6122     | 19164   | 8001     | 9833     |
| GC4-P550 SR6   | 15010                | 8594     | 15250   |                                                           |          |          | 10378   | 3803     | 3548     | 15504   | 6282     | 7260     |
| GC5-P550 SR4   | 14046                | 7514     | 12022   | 15252                                                     | 5679     | 5704     | 22071   | 8977     | 10641    | 28889   | 12275    | 15579    |
| GC5-P550 SR5   | 17975                | 10153    | 17672   | 9602                                                      | 3040     | 1775     | 16421   | 6338     | 6712     | 23239   | 9636     | 11650    |
| GC5-P550 SR6   | 23050                | 12530    | 20574   |                                                           |          |          | 13519   | 3961     | 1637     | 20337   | 7260     | 6575     |
| GC5-P600 SR4   | 17458                | 9327     | 14889   | 17569                                                     | 6373     | 6046     | 25684   | 10299    | 11922    | 33798   | 14224    | 17798    |
| GC5-P600 SR5   | 23050                | 12530    | 20574   |                                                           |          |          | 19999   | 7096     | 6330     | 28114   | 11021    | 12206    |
| GC5-P600 SR6   | 25850                | 14291    | 24090   |                                                           |          |          | 16483   | 5335     | 3530     | 24597   | 9260     | 9406     |
| GC5-P700 SR4   | 23050                | 12530    | 20574   | 23606                                                     | 8841     | 8942     | 34650   | 14183    | 16940    | 45695   | 19526    | 24937    |
| GC5-P700 SR5   | 25850                | 14291    | 24090   | 20089                                                     | 7080     | 6141     | 31134   | 12422    | 14139    | 42179   | 17765    | 22137    |
| GC5-P700 SR6   | 31060                | 18155    | 33134   |                                                           |          |          | 22090   | 8559     | 8930     | 33134   | 13901    | 16928    |
| GC7-P700 SR4   | 26484                | 14927    | 25898   | 25898                                                     | 10128    | 11024    | 38847   | 16392    | 20401    | 51796   | 22656    | 29778    |
| GC7-P700 SR5   | 35283                | 19005    | 30751   | 21045                                                     | 6050     | 2225     | 33994   | 12313    | 11602    | 46943   | 18577    | 20978    |
| GC7-P700 SR6   | 45147                | 24127    | 38530   |                                                           |          |          | 26215   | 7192     | 1737     | 39164   | 13456    | 11114    |
| GC7-P800 SR4   | 35283                | 19005    | 30751   | 36901                                                     | 13720    | 13707    | 53814   | 21901    | 25954    | 70727   | 30082    | 38201    |
| GC7-P800 SR5   | 45147                | 24127    | 38530   | 29122                                                     | 8598     | 3842     | 46035   | 16779    | 16089    | 62948   | 24961    | 28337    |
| GC7-P800 SR6   | 47562                | 27800    | 50739   |                                                           |          |          | 33826   | 13106    | 13674    | 50739   | 21287    | 25921    |
| GC8-P800 SR4   | 41509                | 22359    | 36178   | 43413                                                     | 16141    | 16125    | 63311   | 25766    | 30534    | 83209   | 35391    | 44943    |
| GC8-P800 SR5   | 48936                | 26947    | 45150   | 34441                                                     | 11553    | 8698     | 54339   | 21178    | 23107    | 74236   | 30803    | 37515    |
| GC8-P800 SR6   | 65573                | 35042    | 55962   |                                                           |          |          | 43526   | 13082    | 6470     | 63424   | 22707    | 20878    |
| GC8-P900 SR4   | 48936                | 26947    | 45150   | 55582                                                     | 21780    | 24007    | 80765   | 33961    | 42243    | 105948  | 46143    | 60479    |
| GC8-P900 SR5   | 65573                | 35042    | 55962   | 44770                                                     | 13684    | 7370     | 69953   | 25866    | 25606    | 95136   | 38047    | 43842    |
| GC8-P900 SR6   | 76502                | 43803    | 77726   |                                                           |          |          | 48190   | 17105    | 14677    | 73373   | 29287    | 32913    |
| GC8-P1000 SR4  | 65573                | 35042    | 55962   | 68398                                                     | 25114    | 24481    | 99489   | 40153    | 46994    | 130579  | 55192    | 69507    |
| GC8-P1000 SR5  | 76502                | 43803    | 77726   | 46635                                                     | 16353    | 13552    | 77726   | 31392    | 36065    | 108816  | 46431    | 58579    |
| GC8-P1000 SR6  | 87431                | 50373    | 90162   |                                                           |          |          | 65289   | 24822    | 25136    | 96380   | 39861    | 47650    |
| GC9-P900 SR4   | 69541                | 37539    | 60953   | 75036                                                     | 28241    | 28933    | 109033  | 44686    | 53551    | 143030  | 61132    | 78170    |
| GC9-P900 SR5   | 85691                | 46509    | 76179   | 59810                                                     | 19272    | 12783    | 93807   | 35717    | 37401    | 127804  | 52162    | 62020    |
| GC9-P900 SR6   | 107114               | 57242    | 91415   |                                                           |          |          | 78571   | 24984    | 15979    | 112568  | 41429    | 40597    |
| GC9-P1000 SR4  | 85691                | 46509    | 76179   | 91708                                                     | 34702    | 35882    | 133680  | 55005    | 66275    | 175652  | 75307    | 96668    |
| GC9-P1000 SR5  | 107114               | 57242    | 91415   | 76473                                                     | 23969    | 14459    | 118444  | 44272    | 44852    | 160416  | 64574    | 75245    |
| GC9-P1000 SR6  | 124966               | 71552    | 126965  |                                                           |          |          | 82894   | 29961    | 27000    | 124866  | 50264    | 57393    |
| GC9-P1100 SR4  | 107114               | 57242    | 91415   | 111729                                                    | 41023    | 39989    | 162515  | 65590    | 76765    | 213301  | 90156    | 113540   |
| GC9-P1100 SR5  | 124966               | 71552    | 126965  | 76179                                                     | 26713    | 22137    | 126965  | 51279    | 58913    | 177751  | 75845    | 95688    |
| GC9-P1100 SR6  | 149959               | 83478    | 142200  |                                                           |          |          | 111729  | 39354    | 33919    | 162515  | 63920    | 70695    |



BTS-G Range Pneumatic Actuators

Spring-return torque output  
Canted yoke configuration



Spring-Return Fail Open (FO)

| Actuator model | Spring-return torque |          |          | Torque outputs at different air supply pressure (Unit:Nm) |          |         |          |          |         |          |          |         |
|----------------|----------------------|----------|----------|-----------------------------------------------------------|----------|---------|----------|----------|---------|----------|----------|---------|
|                |                      |          |          | 4 bar                                                     |          |         | 5 bar    |          |         | 6 bar    |          |         |
|                | BTO(0°)              | RTO(45°) | ETO(90°) | BTC(90°)                                                  | RTC(45°) | ETC(0°) | BTC(90°) | RTC(45°) | ETC(0°) | BTC(90°) | RTC(45°) | ETC(0°) |
| GC0-P180 SR4   | 406                  | 189      | 287      | 670                                                       | 298      | 431     | 909      | 420      | 640     | 1149     | 542      | 849     |
| GC0-P180 SR5   | 492                  | 237      | 379      | 578                                                       | 250      | 345     | 818      | 372      | 554     | 1057     | 494      | 763     |
| GC0-P180 SR6   | 609                  | 296      | 479      | 479                                                       | 192      | 227     | 718      | 313      | 437     | 957      | 435      | 646     |
| GC0-P200 SR4   | 492                  | 237      | 379      | 803                                                       | 365      | 541     | 1098     | 515      | 799     | 1394     | 665      | 1058    |
| GC0-P200 SR5   | 609                  | 296      | 479      | 703                                                       | 306      | 424     | 999      | 456      | 682     | 1294     | 607      | 940     |
| GC0-P200 SR6   | 752                  | 365      | 591      | 591                                                       | 237      | 281     | 886      | 387      | 539     | 1182     | 537      | 797     |
| GC1-P250 SR4   | 903                  | 438      | 709      | 1507                                                      | 690      | 1034    | 2061     | 972      | 1518    | 2615     | 1254     | 2003    |
| GC1-P250 SR5   | 1219                 | 574      | 886      | 1330                                                      | 554      | 718     | 1884     | 836      | 1202    | 2438     | 1118     | 1686    |
| GC1-P250 SR6   | 1598                 | 768      | 1225     | 991                                                       | 360      | 338     | 1545     | 642      | 823     | 2099     | 924      | 1307    |
| GC1-P300 SR4   | 1219                 | 574      | 886      | 2305                                                      | 1050     | 1570    | 3102     | 1456     | 2267    | 3900     | 1862     | 2965    |
| GC1-P300 SR5   | 1598                 | 768      | 1225     | 1966                                                      | 856      | 1191    | 2764     | 1262     | 1888    | 3562     | 1668     | 2585    |
| GC1-P300 SR6   | 2092                 | 1000     | 1580     | 1611                                                      | 624      | 697     | 2408     | 1031     | 1394    | 3206     | 1437     | 2091    |
| GC2-P300 SR4   | 1736                 | 807      | 1219     | 2770                                                      | 1224     | 1750    | 3767     | 1731     | 2622    | 4764     | 2239     | 3493    |
| GC2-P300 SR5   | 2204                 | 1036     | 1593     | 2395                                                      | 995      | 1282    | 3393     | 1502     | 2154    | 4390     | 2010     | 3025    |
| GC2-P300 SR6   | 2788                 | 1341     | 2140     | 1849                                                      | 690      | 698     | 2846     | 1197     | 1570    | 3843     | 1705     | 2441    |
| GC2-P350 SR4   | 2204                 | 1036     | 1593     | 3836                                                      | 1728     | 2541    | 5193     | 2419     | 3727    | 6550     | 3110     | 4914    |
| GC2-P350 SR5   | 2788                 | 1341     | 2140     | 3289                                                      | 1423     | 1957    | 4646     | 2114     | 3143    | 6003     | 2804     | 4330    |
| GC2-P350 SR6   | 3518                 | 1662     | 2579     | 2850                                                      | 1102     | 1227    | 4207     | 1793     | 2414    | 5565     | 2484     | 3600    |
| GC3-P350 SR4   | 2734                 | 1273     | 1933     | 4510                                                      | 2006     | 2898    | 6120     | 2826     | 4305    | 7731     | 3645     | 5713    |
| GC3-P350 SR5   | 3376                 | 1620     | 2577     | 3865                                                      | 1660     | 2255    | 5476     | 2479     | 3663    | 7087     | 3299     | 5071    |
| GC3-P350 SR6   | 4308                 | 2090     | 3382     | 3060                                                      | 1189     | 1323    | 4671     | 2009     | 2731    | 6281     | 2829     | 4138    |
| GC3-P400 SR4   | 3376                 | 1620     | 2577     | 5838                                                      | 2663     | 3979    | 7941     | 3734     | 5818    | 10045    | 4805     | 7656    |
| GC3-P400 SR5   | 4308                 | 2090     | 3382     | 5032                                                      | 2193     | 3047    | 7136     | 3264     | 4885    | 9240     | 4334     | 6724    |
| GC3-P400 SR6   | 5501                 | 2654     | 4260     | 4155                                                      | 1629     | 1854    | 6258     | 2700     | 3693    | 8362     | 3770     | 5532    |
| GC3-P450 SR4   | 4308                 | 2090     | 3382     | 7267                                                      | 3331     | 5000    | 9930     | 4686     | 7328    | 12592    | 6041     | 9655    |
| GC3-P450 SR5   | 5501                 | 2654     | 4260     | 6390                                                      | 2767     | 3808    | 9052     | 4122     | 6135    | 11715    | 5477     | 8462    |
| GC3-P450 SR6   | 6686                 | 3140     | 4829     | 5821                                                      | 2281     | 2623    | 8483     | 3636     | 4950    | 11146    | 4991     | 7277    |

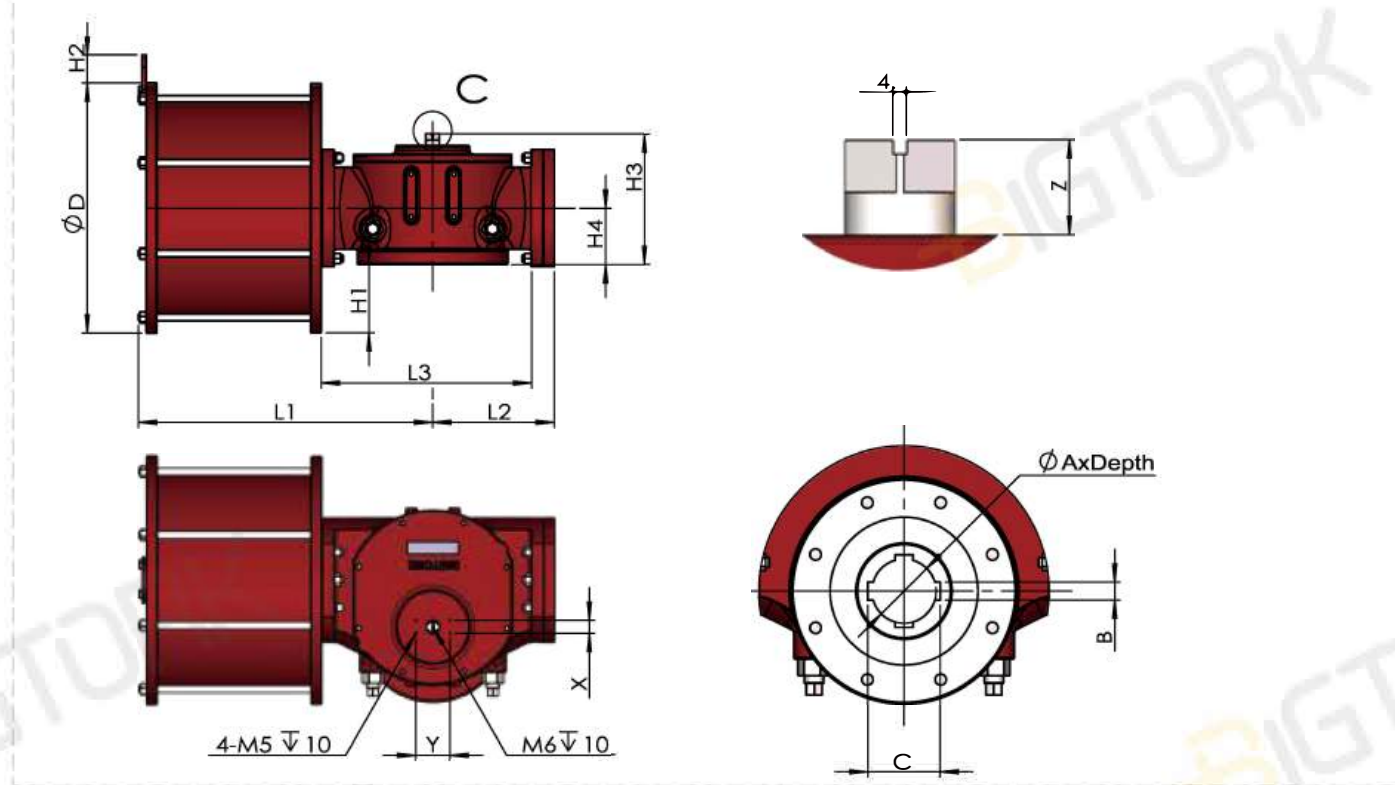
| Actuator model | Spring-return torque |          |          | Torque outputs at different air supply pressure (Unit:Nm) |          |         |          |          |         |          |          |         |
|----------------|----------------------|----------|----------|-----------------------------------------------------------|----------|---------|----------|----------|---------|----------|----------|---------|
|                |                      |          |          | 4 bar                                                     |          |         | 5 bar    |          |         | 6 bar    |          |         |
|                | BTO(0°)              | RTO(45°) | ETO(90°) | BTC(90°)                                                  | RTC(45°) | ETC(0°) | BTC(90°) | RTC(45°) | ETC(0°) | BTC(90°) | RTC(45°) | ETC(0°) |
| GC4-P450 SR4   | 5017                 | 2479     | 4122     | 8921                                                      | 4160     | 6383    | 12181    | 5819     | 9233    | 15442    | 7479     | 12083   |
| GC4-P450 SR5   | 6540                 | 3194     | 5217     | 7826                                                      | 3445     | 4860    | 11086    | 5105     | 7710    | 14347    | 6765     | 10560   |
| GC4-P450 SR6   | 8069                 | 3976     | 6584     | 6459                                                      | 2663     | 3332    | 9719     | 4322     | 6182    | 12980    | 5982     | 9032    |
| GC4-P500 SR4   | 6540                 | 3194     | 5217     | 10885                                                     | 5003     | 7534    | 14911    | 7052     | 11053   | 18936    | 9101     | 14571   |
| GC4-P500 SR5   | 8069                 | 3976     | 6584     | 9518                                                      | 4220     | 6006    | 13544    | 6269     | 9525    | 17569    | 8318     | 13043   |
| GC4-P500 SR6   | 9256                 | 4548     | 7499     | 8604                                                      | 3648     | 4819    | 12629    | 5697     | 8337    | 16655    | 7746     | 11856   |
| GC4-P550 SR4   | 8069                 | 3976     | 6584     | 12900                                                     | 5941     | 8962    | 17771    | 8421     | 13219   | 22642    | 10900    | 17477   |
| GC4-P550 SR5   | 9256                 | 4548     | 7499     | 11985                                                     | 5370     | 7774    | 16856    | 7849     | 12032   | 21727    | 10328    | 16289   |
| GC4-P550 SR6   | 11806                | 5729     | 9275     | 10209                                                     | 4188     | 5224    | 15080    | 6667     | 9482    | 19951    | 9147     | 13739   |
| GC5-P550 SR4   | 10741                | 5202     | 8397     | 17522                                                     | 7991     | 11914   | 24002    | 11289    | 17577   | 30481    | 14587    | 23241   |
| GC5-P550 SR5   | 13490                | 6417     | 10074    | 15845                                                     | 6776     | 9165    | 22325    | 10074    | 14829   | 28804    | 13372    | 20492   |
| GC5-P550 SR6   | 16112                | 7514     | 11424    | 14495                                                     | 5679     | 6543    | 20974    | 8977     | 12207   | 27454    | 12275    | 17870   |
| GC5-P600 SR4   | 13490                | 6417     | 10074    | 20772                                                     | 9284     | 13471   | 28483    | 13209    | 20212   | 36194    | 17134    | 26952   |
| GC5-P600 SR5   | 16112                | 7514     | 11424    | 19421                                                     | 8186     | 10849   | 27133    | 12112    | 17589   | 34844    | 16037    | 24330   |
| GC5-P600 SR6   | 20026                | 9327     | 14149    | 16696                                                     | 6373     | 6935    | 24408    | 10299    | 13675   | 32119    | 14224    | 20416   |
| GC5-P700 SR4   | 16112                | 7514     | 11424    | 30560                                                     | 13856    | 20585   | 41056    | 19199    | 29759   | 51552    | 24541    | 38934   |
| GC5-P700 SR5   | 20619                | 10153    | 16794    | 25191                                                     | 11217    | 16078   | 35687    | 16560    | 25253   | 46183    | 21902    | 34427   |
| GC5-P700 SR6   | 26440                | 12530    | 19551    | 22433                                                     | 8841     | 10257   | 32929    | 14183    | 19431   | 43425    | 19526    | 28606   |
| GC7-P700 SR4   | 18134                | 8855     | 14466    | 34757                                                     | 16200    | 24890   | 47063    | 22464    | 35646   | 59369    | 28728    | 46402   |
| GC7-P700 SR5   | 24683                | 11809    | 18705    | 30518                                                     | 13246    | 18341   | 42824    | 19510    | 29097   | 55130    | 25774    | 39854   |
| GC7-P700 SR6   | 30379                | 14927    | 24611    | 24611                                                     | 10128    | 12645   | 36917    | 16392    | 23401   | 49223    | 22656    | 34158   |
| GC7-P800 SR4   | 24683                | 11809    | 18705    | 45586                                                     | 20916    | 31512   | 61659    | 29097    | 45561   | 77732    | 37279    | 59610   |
| GC7-P800 SR5   | 30379                | 14927    | 24611    | 39680                                                     | 17798    | 25816   | 55753    | 25979    | 39865   | 71825    | 34161    | 53914   |
| GC7-P800 SR6   | 40472                | 19005    | 29223    | 35068                                                     | 13720    | 15723   | 51141    | 21901    | 29771   | 67214    | 30082    | 43820   |
| GC8-P800 SR4   | 32093                | 14951    | 22691    | 52946                                                     | 23548    | 34019   | 71855    | 33173    | 50547   | 90764    | 42798    | 67075   |
| GC8-P800 SR5   | 35740                | 17561    | 28955    | 46682                                                     | 20939    | 30372   | 65591    | 30564    | 46900   | 84500    | 40189    | 63428   |
| GC8-P800 SR6   | 47615                | 22359    | 34380    | 41256                                                     | 16141    | 18497   | 60166    | 25766    | 35025   | 79075    | 35391    | 51553   |
| GC8-P900 SR4   | 35740                | 17561    | 28955    | 66773                                                     | 31165    | 47933   | 90705    | 43347    | 68851   | 114637   | 55529    | 89769   |
| GC8-P900 SR5   | 47615                | 22359    | 34380    | 61347                                                     | 26367    | 36058   | 85279    | 38549    | 56976   | 109211   | 50731    | 77895   |
| GC8-P900 SR6   | 56134                | 26947    | 42907    | 52821                                                     | 21780    | 27539   | 76753    | 33961    | 48457   | 100685   | 46143    | 69375   |
| GC8-P1000 SR4  | 47615                | 22359    | 34380    | 83802                                                     | 37797    | 55685   | 113348   | 52836    | 81510   | 142893   | 67875    | 107335  |
| GC8-P1000 SR5  | 56134                | 26947    | 42907    | 75275                                                     | 33209    | 47166   | 104821   | 48248    | 72990   | 134367   | 63287    | 98815   |
| GC8-P1000 SR6  | 75218                | 35042    | 53182    | 65000                                                     | 25114    | 28081   | 94546    | 40153    | 53906   | 124091   | 55192    | 79731   |
| GC9-P900 SR4   | 54834                | 25546    | 38770    | 90463                                                     | 40235    | 58124   | 122771   | 56680    | 86364   | 155079   | 73125    | 114603  |
| GC9-P900 SR5   | 64704                | 30416    | 46847    | 82386                                                     | 35365    | 48254   | 114694   | 51810    | 76494   | 147002   | 68255    | 104733  |
| GC9-P900 SR6   | 79770                | 37539    | 57924    | 71308                                                     | 28241    | 33189   | 103616   | 44686    | 61428   | 135924   | 61132    | 89668   |
| GC9-P1000 SR4  | 64704                | 30416    | 46847    | 112699                                                    | 50795    | 74750   | 152586   | 71098    | 109614  | 192472   | 91401    | 144478  |
| GC9-P1000 SR5  | 79770                | 37539    | 57924    | 101622                                                    | 43671    | 59685   | 141508   | 63974    | 94549   | 181395   | 84277    | 129412  |
| GC9-P1000 SR6  | 98295                | 46509    | 72394    | 87152                                                     | 34702    | 41159   | 127039   | 55005    | 76023   | 166925   | 75307    | 110887  |
| GC9-P1100 SR4  | 79770                | 37539    | 57924    | 135126                                                    | 60726    | 88970   | 183389   | 85292    | 131156  | 231652   | 109858   | 173341  |
| GC9-P1100 SR5  | 98295                | 46509    | 72394    | 120657                                                    | 51756    | 70445   | 168919   | 76322    | 112630  | 217182   | 100889   | 154815  |
| GC9-P1100 SR6  | 122869               | 57242    | 86873    | 106178                                                    | 41023    | 45871   | 154441   | 65590    | 88056   | 202703   | 90156    | 130241  |



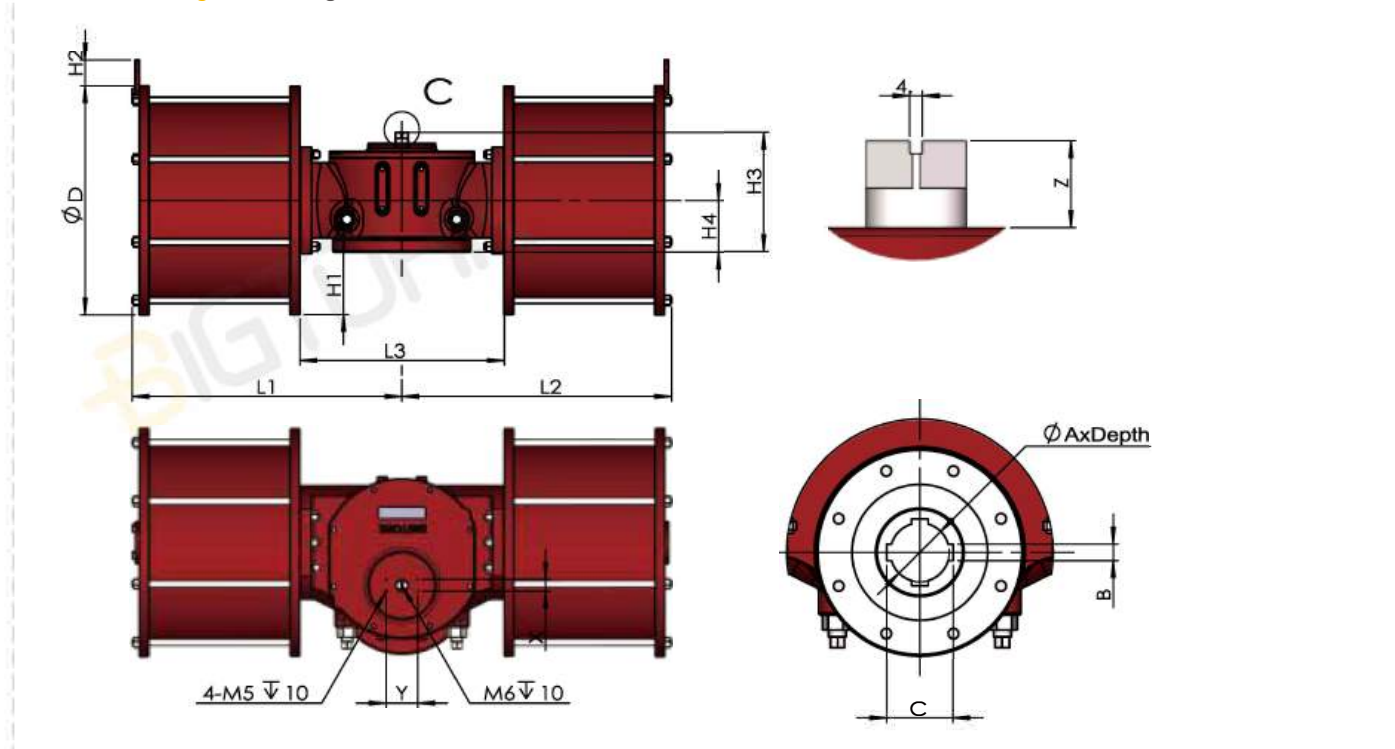
## Overall Dimensions

Double-acting configuraion(Symmetric/Canted Yoke)

Double-acting – Single cylinder



Double-acting – Double cylinders



## Double-acting Scotch Yoke Actuator – Overall Dimensions

Unit: mm

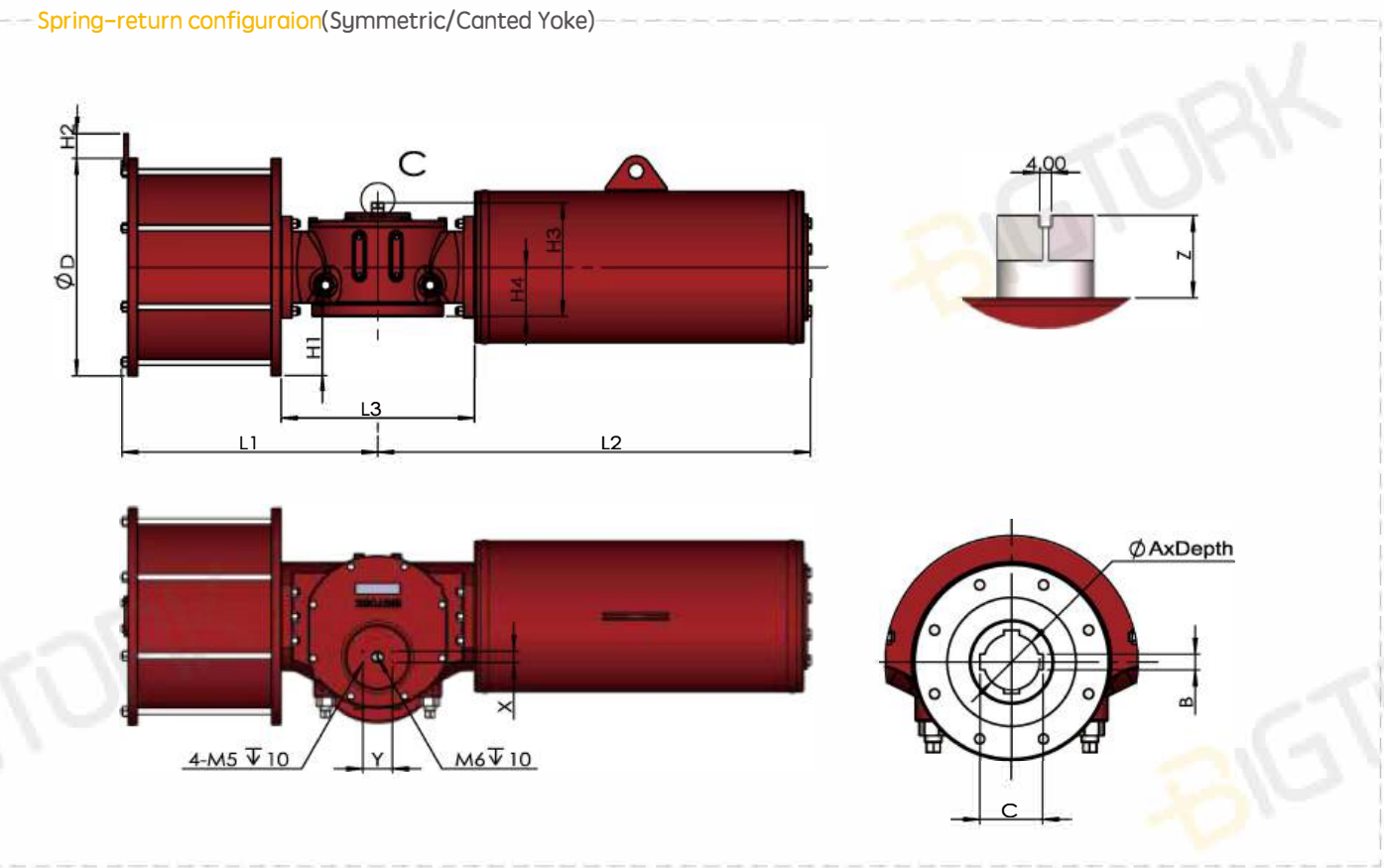
| MODEL    | D    | L    | L1   | L2   | L3   | H1  | H2  | H3  | H4  | A*Depth  | B  | C     | X * Y * Z | Flanges to<br>ISO5211 | Pipe/Port Size<br>to air supply |
|----------|------|------|------|------|------|-----|-----|-----|-----|----------|----|-------|-----------|-----------------------|---------------------------------|
| G0-P180  | 230  | 486  | 350  | 136  | 240  | 40  | 31  | 179 | 75  | Φ36x60   | 10 | 42.6  | 30x80x20  | F12                   | G1/4"                           |
| G0-P200  | 250  | 486  | 350  | 136  | 240  | 50  | 31  | 179 | 75  | Φ36x60   | 10 | 42.6  | 30x80x20  | F12                   | G1/4"                           |
| G1-P250  | 320  | 630  | 465  | 165  | 290  | 74  | 53  | 219 | 86  | Φ40x70   | 12 | 46.6  | 30x80x20  | F14                   | G1/2"                           |
| G1-P300  | 375  | 630  | 465  | 165  | 290  | 99  | 53  | 219 | 86  | Φ40x70   | 12 | 46.6  | 30x80x20  | F14                   | G1/2"                           |
| G2-P300  | 375  | 709  | 522  | 187  | 334  | 97  | 53  | 229 | 91  | Φ50x90   | 14 | 57.6  | 30x80x20  | F16                   | G1/2"                           |
| G2-P350  | 425  | 709  | 522  | 187  | 334  | 122 | 53  | 229 | 91  | Φ50x90   | 14 | 57.6  | 30x80x20  | F16                   | G1/2"                           |
| G3-P350  | 425  | 810  | 590  | 220  | 390  | 103 | 70  | 262 | 110 | Φ60x120  | 18 | 68.8  | 30x130x30 | F25/F16               | G1/2"                           |
| G3-P400  | 475  | 810  | 590  | 220  | 390  | 128 | 70  | 262 | 110 | Φ60x120  | 18 | 68.8  | 30x130x30 | F25/F16               | G1/2"                           |
| G3-P450  | 525  | 810  | 590  | 220  | 390  | 153 | 70  | 262 | 110 | Φ60x120  | 18 | 68.8  | 30x130x30 | F25/F16               | G3/4"                           |
| G4-P450  | 525  | 966  | 708  | 258  | 475  | 132 | 72  | 307 | 131 | Φ80x150  | 22 | 90.8  | 30x130x30 | F30/F25               | G3/4"                           |
| G4-P500  | 580  | 966  | 708  | 258  | 475  | 159 | 72  | 307 | 131 | Φ80x150  | 22 | 90.8  | 30x130x30 | F30/F25               | G3/4"                           |
| G4-P550  | 630  | 966  | 708  | 258  | 475  | 159 | 72  | 307 | 131 | Φ80x150  | 22 | 90.8  | 30x130x30 | F30/F25               | G3/4"                           |
| G5-P500  | 580  | 1100 | 767  | 333  | 595  | 133 | 72  | 364 | 157 | Φ98x180  | 28 | 110.8 | 30x130x30 | F35/F30               | G3/4"                           |
| G5-P550  | 630  | 1100 | 767  | 333  | 595  | 153 | 72  | 364 | 157 | Φ98x180  | 28 | 110.8 | 30x130x30 | F35/F30               | G3/4"                           |
| G5-P600  | 680  | 1100 | 767  | 333  | 595  | 183 | 72  | 364 | 157 | Φ98x180  | 28 | 110.8 | 30x130x30 | F35/F30               | G1"                             |
| G5-P2500 | 580  | 1100 | 767  | 767  | 595  | 133 | 72  | 364 | 157 | Φ98x180  | 28 | 110.8 | 30x130x30 | F35/F30               | G3/4"                           |
| G7-P600  | 703  | 1395 | 993  | 402  | 736  | 152 | 109 | 385 | 199 | Φ120x200 | 32 | 134.8 | 30x130x30 | F40                   | G1"                             |
| G7-P700  | 803  | 1395 | 993  | 402  | 736  | 202 | 109 | 385 | 199 | Φ120x200 | 32 | 134.8 | 30x130x30 | F40                   | G1"                             |
| G7-P2500 | 580  | 1395 | 993  | 993  | 736  | 102 | 109 | 385 | 199 | Φ120x200 | 32 | 134.8 | 30x130x30 | F40                   | G3/4"                           |
| G7-P750  | 853  | 1395 | 993  | 402  | 736  | 252 | 109 | 385 | 199 | Φ120x200 | 32 | 134.8 | 30x130x30 | F40                   | G1"                             |
| G7-P2550 | 630  | 1395 | 993  | 993  | 736  | 127 | 109 | 385 | 199 | Φ120x200 | 32 | 134.8 | 30x130x30 | F40                   | G3/4"                           |
| G7-P800  | 913  | 1395 | 993  | 402  | 736  | 257 | 109 | 385 | 199 | Φ120x200 | 32 | 134.8 | 30x130x30 | F40                   | G1"                             |
| G8-P2550 | 630  | 1269 | 1208 | 1208 | 850  | 152 | 100 | 461 | 193 | Φ160x240 | 40 | 178.8 | 30x130x30 | F48/F40               | G3/4"                           |
| G8-P800  | 950  | 1269 | 1208 | 461  | 850  | 282 | 100 | 461 | 193 | Φ160x240 | 40 | 178.8 | 30x130x30 | F48/F40               | 2-G1"                           |
| G8-P850  | 1000 | 1269 | 1208 | 461  | 850  | 282 | 100 | 461 | 193 | Φ160x240 | 40 | 178.8 | 30x130x30 | F48/F40               | 2-G1"                           |
| G8-P2600 | 680  | 1269 | 1208 | 1208 | 850  | 182 | 100 | 461 | 193 | Φ160x240 | 40 | 178.8 | 30x130x30 | F48/F40               | G1"                             |
| G8-P900  | 1050 | 1269 | 1208 | 461  | 850  | 332 | 100 | 461 | 193 | Φ160x240 | 40 | 178.8 | 30x130x30 | F48/F40               | 2-G1"                           |
| G8-P2650 | 730  | 1269 | 1208 | 1208 | 850  | 208 | 100 | 461 | 193 | Φ160x240 | 40 | 178.8 | 30x130x30 | F48/F40               | G1"                             |
| G8-P2700 | 803  | 1269 | 1208 | 1208 | 850  | 232 | 100 | 461 | 193 | Φ160x240 | 40 | 178.8 | 30x130x30 | F48/F40               | G1"                             |
| G8-P1000 | 1130 | 1269 | 1208 | 461  | 850  | 382 | 100 | 461 | 193 | Φ160x240 | 40 | 178.8 | 30x130x30 | F48/F40               | 2-G1"                           |
| G9-P900  | 1050 | 2014 | 1414 | 600  | 1080 | 308 | 100 | 502 | 249 | Φ220x250 | 50 | 242.8 | 30x130x30 | F60/F48               | 2-G1"                           |
| G9-P2700 | 803  | 2014 | 1414 | 1414 | 1080 | 208 | 100 | 502 | 249 | Φ220x250 | 50 | 242.8 | 30x130x30 | F60/F48               | G1"                             |
| G9-P1000 | 1130 | 2014 | 1414 | 600  | 1080 | 353 | 100 | 502 | 249 | Φ220x250 | 50 | 242.8 | 30x130x30 | F60/F48               | 2-G1"                           |
| G9-P1100 | 1250 | 2014 | 1414 | 600  | 1080 | 408 | 100 | 502 | 249 | Φ220x250 | 50 | 242.8 | 30x130x30 | F60/F48               | 2-G1"                           |
| G9-P2800 | 950  | 2014 | 1414 | 1414 | 1080 | 308 | 100 | 502 | 249 | Φ220x250 | 50 | 242.8 | 30x130x30 | F60/F48               | 2-G1"                           |
| G9-P2900 | 1050 | 2014 | 1414 | 1414 | 1080 | 408 | 100 | 502 | 249 | Φ220x250 | 50 | 242.8 | 30x130x30 | F60/F48               | 2-G1"                           |

\* A can be customized according to customer needs.



Overall Dimensionst

Spring-return configuraion(Symmetric/Canted Yoke)

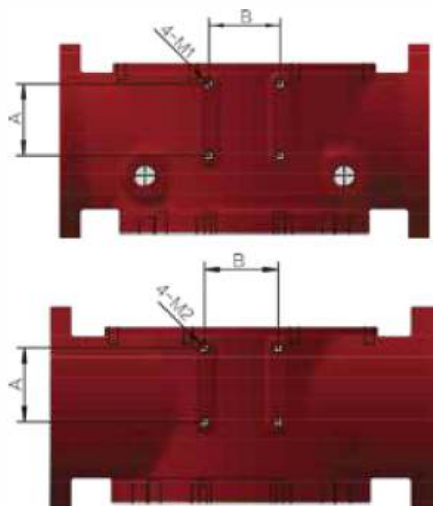


Spring-Return Scotch Yoke Actuator – Overall Dimensions

Unit: mm

| MODEL       | D    | L    | L1   | L2   | L3   | H1  | H2  | H3  | H4  | A*Depth               | B  | C     | X * Y * Z | Flanges to<br>ISO5211 | Pipe/Port<br>Size to air<br>supply |
|-------------|------|------|------|------|------|-----|-----|-----|-----|-----------------------|----|-------|-----------|-----------------------|------------------------------------|
| G0-P180 SR  | 230  | 939  | 350  | 589  | 240  | 40  | 31  | 179 | 75  | $\Phi 36 \times 60$   | 10 | 42.6  | 30x80x20  | F12                   | G1/4"                              |
| G0-P200 SR  | 250  | 939  | 350  | 589  | 240  | 50  | 31  | 179 | 75  | $\Phi 36 \times 60$   | 10 | 42.6  | 30x80x20  | F12                   | G1/4"                              |
| G1-P250 SR  | 320  | 1325 | 465  | 860  | 290  | 74  | 53  | 219 | 86  | $\Phi 40 \times 70$   | 12 | 46.6  | 30x80x20  | F14                   | G1/2"                              |
| G1-P300 SR  | 375  | 1325 | 465  | 860  | 290  | 99  | 53  | 219 | 86  | $\Phi 40 \times 70$   | 12 | 46.6  | 30x80x20  | F14                   | G1/2"                              |
| G2-P300 SR  | 375  | 1433 | 522  | 911  | 334  | 97  | 53  | 229 | 91  | $\Phi 50 \times 90$   | 14 | 57.6  | 30x80x20  | F16                   | G1/2"                              |
| G2-P350 SR  | 425  | 1433 | 522  | 911  | 334  | 122 | 53  | 229 | 91  | $\Phi 50 \times 90$   | 14 | 57.6  | 30x80x20  | F16                   | G1/2"                              |
| G3-P350 SR  | 425  | 1650 | 590  | 1060 | 390  | 103 | 70  | 262 | 110 | $\Phi 60 \times 120$  | 18 | 68.8  | 30x130x30 | F25/F16               | G1/2"                              |
| G3-P400 SR  | 475  | 1650 | 590  | 1060 | 390  | 128 | 70  | 262 | 110 | $\Phi 60 \times 120$  | 18 | 68.8  | 30x130x30 | F25/F16               | G1/2"                              |
| G3-P450 SR  | 525  | 1650 | 590  | 1060 | 390  | 153 | 70  | 262 | 110 | $\Phi 60 \times 120$  | 18 | 68.8  | 30x130x30 | F25/F16               | G3/4"                              |
| G4-P450 SR  | 525  | 1839 | 708  | 1131 | 475  | 132 | 72  | 307 | 131 | $\Phi 80 \times 150$  | 22 | 90.8  | 30x130x30 | F30/F25               | G3/4"                              |
| G4-P500 SR  | 580  | 1839 | 708  | 1131 | 475  | 159 | 72  | 307 | 131 | $\Phi 80 \times 150$  | 22 | 90.8  | 30x130x30 | F30/F25               | G3/4"                              |
| G4-P550 SR  | 630  | 1839 | 708  | 1131 | 475  | 185 | 72  | 307 | 131 | $\Phi 80 \times 150$  | 22 | 90.8  | 30x130x30 | F30/F25               | G3/4"                              |
| G5-P550 SR  | 630  | 2122 | 767  | 1355 | 595  | 160 | 72  | 364 | 157 | $\Phi 98 \times 180$  | 28 | 110.8 | 30x130x30 | F35/30                | G3/4"                              |
| G5-P600 SR  | 680  | 2122 | 767  | 1355 | 595  | 183 | 72  | 364 | 157 | $\Phi 98 \times 180$  | 28 | 110.8 | 30x130x30 | F35/30                | G1"                                |
| G5-P700 SR  | 780  | 2466 | 767  | 1699 | 595  | 250 | 72  | 364 | 157 | $\Phi 98 \times 180$  | 28 | 110.8 | 30x130x30 | F35/30                | G1"                                |
| G7-P700 SR  | 803  | 2884 | 993  | 1891 | 736  | 202 | 109 | 385 | 199 | $\Phi 120 \times 200$ | 32 | 134.8 | 30x130x30 | F40                   | G1"                                |
| G7-P800 SR  | 913  | 3044 | 993  | 2051 | 736  | 257 | 109 | 385 | 199 | $\Phi 120 \times 200$ | 32 | 134.8 | 30x130x30 | F40                   | G1"                                |
| G8-P800 SR  | 950  | 3508 | 1208 | 2300 | 850  | 282 | 100 | 461 | 193 | $\Phi 160 \times 240$ | 40 | 178.8 | 30x130x30 | F48/F40               | 2-G1"                              |
| G8-P900 SR  | 1050 | 3508 | 1208 | 2300 | 850  | 332 | 100 | 461 | 193 | $\Phi 160 \times 240$ | 40 | 178.8 | 30x130x30 | F48/F40               | 2-G1"                              |
| G8-P1000 SR | 1130 | 3508 | 1208 | 2300 | 850  | 382 | 100 | 461 | 193 | $\Phi 160 \times 240$ | 40 | 178.8 | 30x130x30 | F48/F40               | 2-G1"                              |
| G9-P900 SR  | 1050 | 4041 | 1414 | 2627 | 1080 | 308 | 100 | 502 | 249 | $\Phi 220 \times 250$ | 50 | 242.8 | 30x130x30 | F60/48                | 2-G1"                              |
| G9-P1000 SR | 1130 | 4041 | 1414 | 2627 | 1080 | 358 | 100 | 502 | 249 | $\Phi 220 \times 250$ | 50 | 242.8 | 30x130x30 | F60/48                | 2-G1"                              |
| G9-P1100 SR | 1250 | 4041 | 1414 | 2627 | 1080 | 408 | 100 | 502 | 249 | $\Phi 220 \times 250$ | 50 | 242.8 | 30x130x30 | F60/48                | 2-G1"                              |

Connecting Dimension to Panels



| Centrebody Size | A   | B   | M1    | M2    |
|-----------------|-----|-----|-------|-------|
| G0/GC0          | 82  | 55  | 4-M8  | 4-M8  |
| G1/GC1          | 100 | 100 | 4-M12 | 4-M12 |
| G2/GC2          | 100 | 100 | 4-M12 | 4-M12 |
| G3/GC3          | 100 | 100 | 4-M12 | 4-M12 |
| G4/GC4          | 100 | 100 | 4-M12 | 4-M12 |
| G5/GC5          | 100 | 100 | 4-M12 | 4-M12 |
| G7/GC7          | 100 | 100 | 4-M12 | 8-M12 |
| G8/GC8          | 100 | 100 | 4-M12 | 8-M12 |
| G9/GC9          | 100 | 100 | 4-M12 | 8-M12 |

Air consumption volume

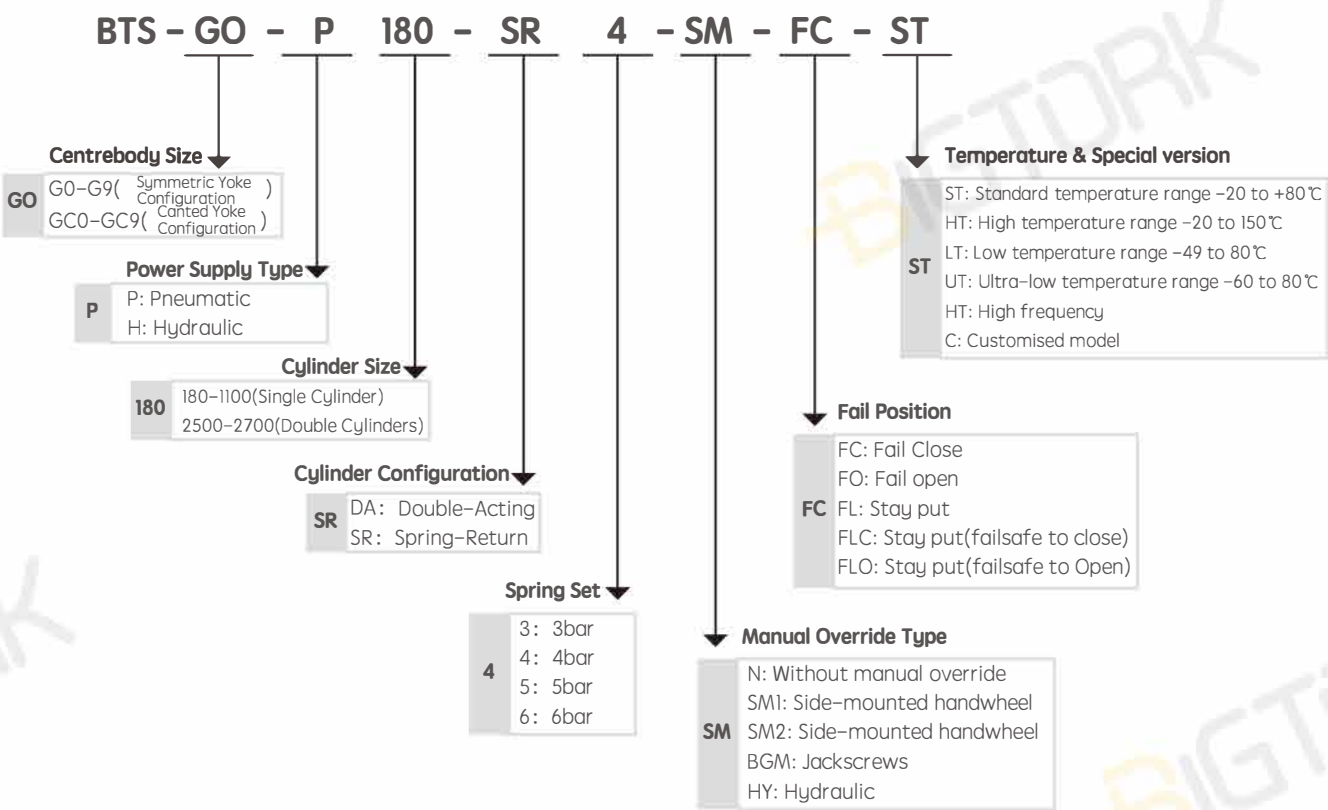
Double-Acting

| MODEL       | Air consumption volume (L) | MODEL       | Air consumption volume (L) |
|-------------|----------------------------|-------------|----------------------------|
| G0-P180-DA  | 6.2                        | G7-P600-DA  | 238.3                      |
| G0-P200-DA  | 7.7                        | G7-P700-DA  | 325.1                      |
| G1-P250-DA  | 14.6                       | G7-P2500-DA | 325.1                      |
| G1-P300-DA  | 21.1                       | G7-P750-DA  | 373.5                      |
| G2-P300-DA  | 26.3                       | G7-P2550-DA | 404.1                      |
| G2-P350-DA  | 35.9                       | G7-P800-DA  | 425.2                      |
| G3-P350-DA  | 42.4                       | G8-P2550-DA | 474.4                      |
| G3-P400-DA  | 55.5                       | G8-P800-DA  | 499.2                      |
| G3-P450-DA  | 70.3                       | G8-P850-DA  | 564.0                      |
| G4-P450-DA  | 86.1                       | G8-P2600-DA | 564.0                      |
| G4-P500-DA  | 106.4                      | G8-P900-DA  | 632.7                      |
| G4-P550-DA  | 128.9                      | G8-P2650-DA | 661.2                      |
| G5-P500-DA  | 133.6                      | G8-P2700-DA | 766.2                      |
| G5-P550-DA  | 161.8                      | G8-P1000-DA | 781.8                      |
| G5-P600-DA  | 192.8                      | G9-P900-DA  | 853.1                      |
| G5-P2500-DA | 262.7                      | G9-P2700-DA | 1033.4                     |
|             |                            | G9-P1000-DA | 1054.5                     |
|             |                            | G9-P1100-DA | 1277.0                     |
|             |                            | G9-P2800-DA | 1347.9                     |
|             |                            | G9-P2900-DA | 1704.0                     |

Single-Return

| MODEL      | Air consumption volume (L) | MODEL       | Air consumption volume (L) |
|------------|----------------------------|-------------|----------------------------|
| G0-P180 SR | 3.1                        | G5-P550 SR  | 80.5                       |
| G1-P200 SR | 4.6                        | G5-P600 SR  | 96.0                       |
| G1-P250 SR | 7.2                        | G5-P700 SR  | 130.9                      |
| G1-P300 SR | 10.5                       | G7-P700 SR  | 118.2                      |
| G2-P300 SR | 13.1                       | G7-P800 SR  | 211.6                      |
| G2-P350 SR | 17.9                       | G8-P800 SR  | 248.0                      |
| G3-P350 SR | 21.0                       | G8-P900 SR  | 314.7                      |
| G3-P400 SR | 27.5                       | G8-P1000 SR | 389.3                      |
| G3-P450 SR | 34.9                       | G9-P900 SR  | 423.9                      |
| G4-P450 SR | 42.8                       | G9-P1000 SR | 524.6                      |
| G4-P500 SR | 52.9                       | G9-P1100 SR | 635.9                      |
| G4-P550 SR | 64.2                       |             |                            |

Model Number Designation



Example Model Number

BTS-GO-P180-SR4-SM-FC-ST,  
BTS: BTS series  
GO: Symmetric Yoke Configuration  
P180: Pneumatic actuation & single cylinder & cylinder size 180mm  
SR4: Single-acting configuration & air supply pressure range 4bar  
SM: Side-mounted handwheel  
FC: Spring-return fail close  
ST: Standard temperature range -20 to +80°C

Ordering Instructions

Based on a wealth of experience, Bigtork has the knowledge to provide reliable and appropriate automotive solutions for valve applications. General technical attributes for product selection include:

- Valve: valve type, operating pressure, valve size, sealing type(hard sealed and soft sealed options) ,media and operating temperature
- Double-acting and spring-return configurations(normally closed and normally open options)

- Solenoid valve type: double-solenoid/single-solenoid, supply voltage, explosionproof type
- Limited switches type: basic/explosionproof type
- Valve positioner type: current signal, air supply signal, electric-pneumatic converters, explosionproof grade
- Air filter & regulator
- Manual gear operator
- Customised solutions
- Accessories of designated brand