



天津市博雷阀门有限公司
TIANJIN BOLLEY VALVE CO. LTD.

GT SERIES PNEUMATIC
ACTUATORS
GT 系列气动执行器



建百年博雷阀门 创国际品牌

BUILT IN ONE HUNDRED BOLLEY VALVE
THE FAR EAST AND INTERNATIONAL BRAND

COMPANY PROFILE

公司简介

天津市博雷阀门有限公司是一家集开发、生产、销售于一体的阀门公司，具有多年专业设计制造阀门丰富经验，技术力量雄厚，生产工艺先进，拥有现代化机械加工中心和检测设备。

公司主导产品有：闸阀、截止阀、蝶阀、球阀、止回阀、调节阀、减压阀、隔膜阀、旋塞阀、柱塞阀、疏水阀、安全阀、美标阀、水力控制阀等80多种品种、300多个系列、几千种规格。产品采用GB、JB、HG、API、ANSI、DIN、JIS、BS等国内外先进标准设计制造。通径从1/4"至96"(DN6-2400 mm)、压力从150LB至2500LB (2MPa-42MPa)、工作温度为-196℃至800℃。主要材质有灰铸铁、球墨铸铁、铜、碳素钢、不锈钢、合金钢、低温钢、铬钼钢、沉淀硬化钢及其他特殊钢材。阀门驱动方式有：手动、齿轮传动、电动、气动和液动；连接方式有：焊接、法兰、螺纹、对夹、卡套等系列产品。

多年来，公司产品广泛应用于电力、石油、化工、冶金、造纸、蒸汽、制药、燃气、环保、染料、供热、城建、污水处理等行业，产品已在全国各地享有盛誉，并远销东南亚国家和地区，深受广大客户好评。

Tianjin Bolley Valve Co., Ltd. is a collection development, production and sales of integrated valve company, has many years of professional design and manufacture of valves, rich experience, strong technical force, advanced production technology, with modern machining centers and testing equipment.

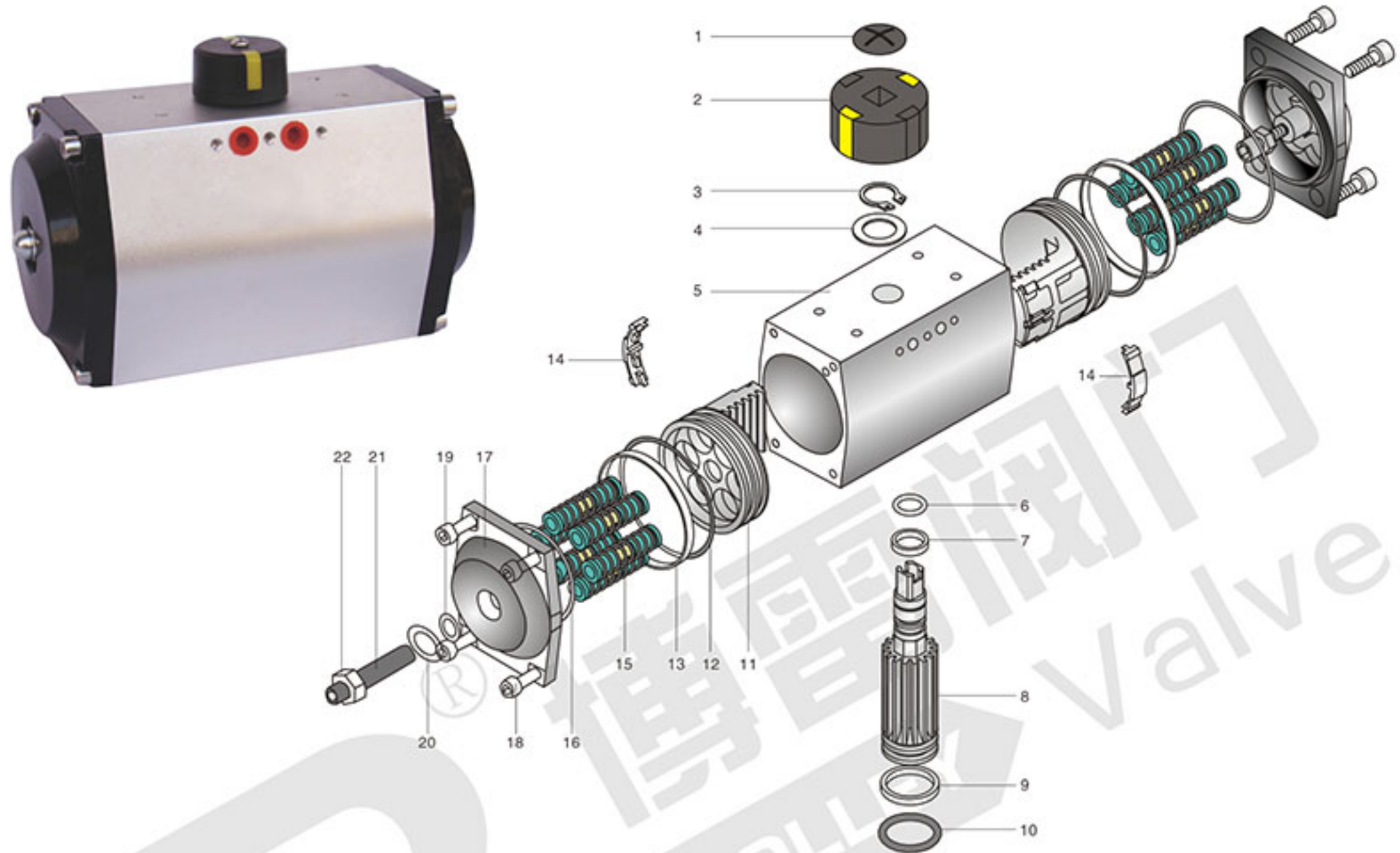
Our main products are: Gate Valve, Globe Valve, Butterfly Valve, Ball Valve, Check Valve, Control Valve, Relief Valve, Diaphragm Valve, Plug Valve, Plunger Valve, Drain Valve, Safety Valve, American Standard Valves, Hydraulic Control Valves and other 80 kinds of varieties, more than 300 series, thousands of specifications. The products are designed and manufactured by GB, JB, HG, API, ANSI, DIN, JIS, BS and other advanced standards at home and abroad. The diameter is from 1/4" to 96" (DN6-2400mm), the pressure is from 150LB to 2500LB (2MPa-42MPa), and the working temperature is from -196℃ to 800℃. The main materials are cast iron, ductile iron, copper, carbon steel, stainless steel, alloy steel, low temperature steel, chrome molybdenum steel, precipitation hardening steel and other special steel. The valve drive methods are: manual, gear drive, electric, pneumatic and hydraulic; connection methods are: welding, flange, thread, pairs of clamps, clamps and other products.

Over the years, the company's products are widely used in electric power, petroleum, chemical industry, metallurgy, papermaking, steam, gas, pharmaceutical, environmental protection, dyes, heating, urban construction, sewage treatment and other industries, products have been renowned throughout the country and exported to Southeast Asian countries and regions, well received by our customers.

我们力求每一个环节都做到精益求精，
争做控制系统行业之美好明天的领航者！

We Strive To Achieve Excellence In Every Aspect,
To Control System Of Industry Leader A Better Tomorrow!

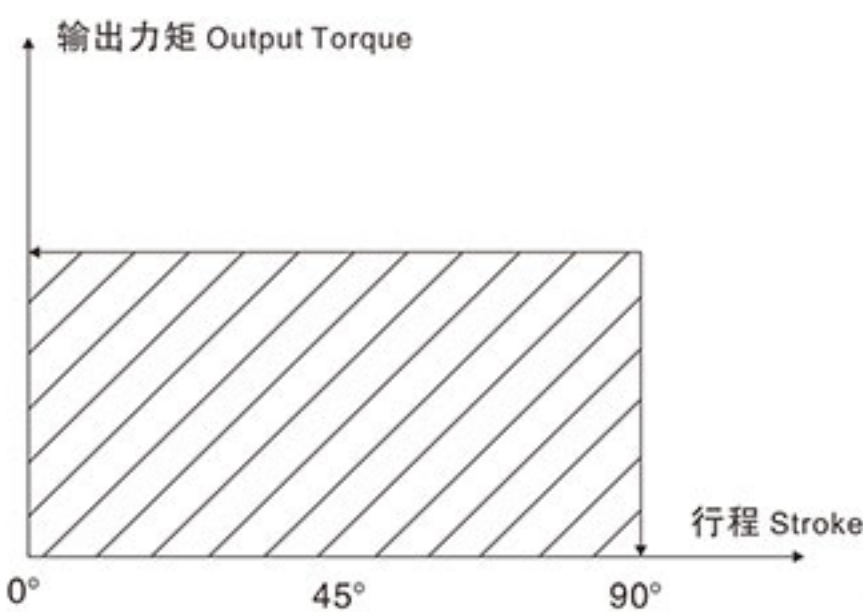
GT气动执行器总装图 GT General Assembly Diagram of Pneumatic Actuator



GT气动执行器主要零件 GT Pneumatic Actuator Parts And Materials

| 序号 Serial number | 名称 Name | 数量 Number | 材料 Material Science | 防腐处理 Antiseptic treatment | 可选材料 Optional materials |
|---------------------|-------------------------------------|--------------|----------------------------------|------------------------------|---------------------------------------|
| 1 | 指示器螺钉 Indicator screw | 1 | 塑料 Plastic | | |
| 2 | 指示器 Indicator | 1 | 塑料 Plastic | | |
| 3 | 轴挡 Axle gear | 1 | 不锈钢 Stainless steel | | |
| 4 | 外垫片 Outer gasket | 1 | 工程塑料 Engineering plastic | | |
| 5 | 缸体 Cylinder block | 1 | 铝合金 Aluminium alloy | 硬质氧化 Hard oxidation | |
| 6 | 上轴"O"型圈 Upper shaft "O" type ring | 1 | 丁腈橡胶 NBR | | 氟硅橡胶 Fluorosilicone / silicone rubber |
| 7 | 上轴支承圈 Upper shaft support ring | 1 | 工程塑料 Engineering plastic | | |
| 8 | 轴 Axis | 1 | 合金钢 Alloy steel | 镀镍 Plate with nickel | 不锈钢 Stainless steel |
| 9 | 下轴支承圈 Lower shaft support ring | 1 | 工程塑料 Engineering plastic | | |
| 10 | 下轴"O"型圈 Lower shaft "O" ring | 1 | 丁腈橡胶 NBR | | 氟硅橡胶 Fluorosilicone / silicone rubber |
| 11 | 活塞 Piston | 2 | 压铸铝合金 Die casting aluminum alloy | 硬质氧化 Hard oxidation | |
| 12 | 活塞"O"型圈 Piston "O" ring | 2 | 丁腈橡胶 NBR | | 氟硅橡胶 Fluorosilicone / silicone rubber |
| 13 | 活塞支承圈 Piston support ring | 2 | 工程塑料 Engineering plastic | | |
| 14 | 活塞导板 Piston guide plate | 2 | 工程塑料 Engineering plastic | | |
| 15 | 弹簧 Spring | 0-12 | 弹簧钢 Spring steel | 浸漆 Dipping paint | |
| 16 | 端盖"O"型圈 End cover "O" ring | 2 | 丁腈橡胶 NBR | | 氟硅橡胶 Fluorosilicone / silicone rubber |
| 17 | 端盖 End cap | 2 | 压铸铝合金 Die casting aluminum alloy | 粉末喷涂 Powder spraying | |
| 18 | 端盖紧固螺栓 Fastening bolt for end cover | 8 | 不锈钢 Stainless steel | | |
| 19 | 调节螺杆"O"型圈 Adjusting screw "O" ring | 2 | 丁腈橡胶 NBR | | 氟硅橡胶 Fluorosilicone / silicone rubber |
| 20 | 平垫 Flat pad | 2 | 不锈钢 Stainless steel | | |
| 21 | 螺母 Nut | 2 | 不锈钢 Stainless steel | | |
| 22 | 调节螺杆 Adjusting screw | 2 | 不锈钢 Stainless steel | | |

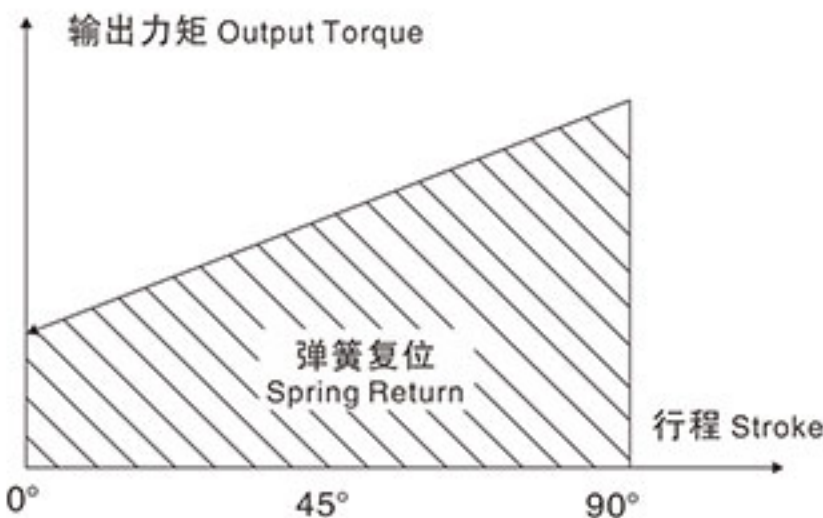
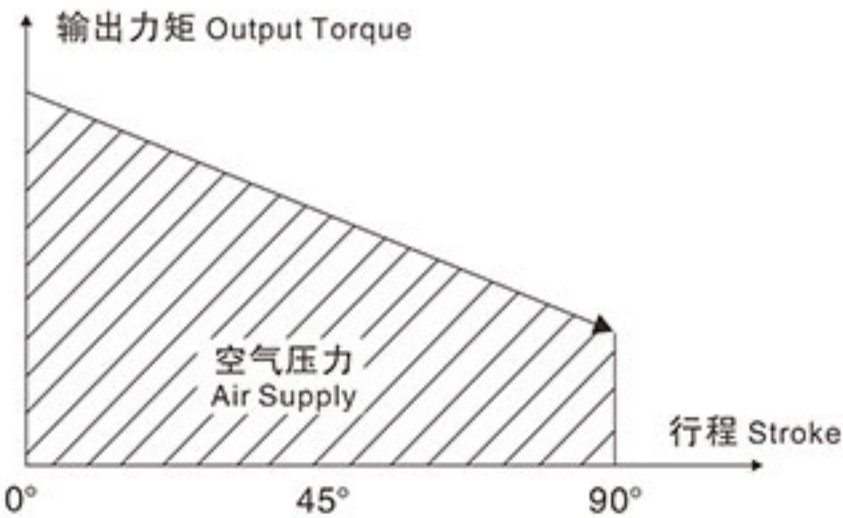
GT 气动执行器双作用力矩图 GT Pneumatic Actuator Double Acting Output Torque



GT 气动执行器双作用力矩表 GT Pneumatic Actuator Double Acting Output Torque

| 型号 Model | 气源压力 Air supply (Bar) | | | | | | | | | |
|----------|-------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 2 | 2.5 | 3 | 4 | 4.5 | 5 | 5.5 | 6 | 7 | 8 |
| GT52 | 8.1 | 10.1 | 12.1 | 16.1 | 18.1 | 20.2 | 22.2 | 24.2 | 28.2 | 32.3 |
| GT63 | 14.2 | 17.8 | 21.3 | 28.4 | 32.0 | 35.5 | 39.4 | 42.6 | 49.7 | 56.8 |
| GT83 | 30.8 | 38.5 | 46.2 | 61.6 | 69.4 | 77.1 | 84.8 | 92.5 | 107.9 | 123.3 |
| GT110 | 72.2 | 90.2 | 108.3 | 144.4 | 162.4 | 180.5 | 198.5 | 216.5 | 252.6 | 288.7 |
| GT127 | 115 | 144 | 173 | 231 | 260 | 289 | 318 | 346 | 404 | 462 |
| GT160 | 229 | 286 | 344 | 458 | 515 | 573 | 630 | 687 | 802 | 916 |
| GT190 | 388 | 485 | 582 | 775 | 872 | 969 | 1066 | 1163 | 1357 | 1551 |
| GT210 | 526 | 658 | 789 | 1052 | 1184 | 1316 | 1447 | 1579 | 1842 | 2105 |
| GT240 | 773 | 966 | 1160 | 1546 | 1740 | 1933 | 2126 | 2320 | 2706 | 3093 |
| GT270 | 1174 | 1468 | 1761 | 2349 | 2642 | 2936 | 3229 | 3523 | 4110 | 4697 |
| GT300 | 1526 | 1908 | 2289 | 3052 | 3434 | 3815 | 4197 | 4578 | 5343 | 6104 |
| GT350 | 2285 | 2856 | 3427 | 4570 | 5141 | 5712 | 6283 | 6854 | 7997 | 9139 |

GT 气动执行器单作用力矩图 GT Pneumatic Actuator Single Acting Output Torque



GT 气动执行器单作用力矩表 GT Pneumatic Actuator Single Acting Output Torque

| 气源克服弹簧输出力矩 (N.m) Output torque of air supply against spring | | | | | | | | | | | | | | 弹簧输出力矩(Nm) Single output torque | |
|---|-----------------------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|------------------------------------|--------|
| 气源压力 Air supply | | 3Bar | | 4Bar | | 5Bar | | 6Bar | | 7Bar | | 8Bar | | | |
| 型号 Model | 弹簧数量 Spring number | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° |
| | | 开始 Start | 结束 End | 开始 Start | 结束 End | 开始 Start | 结束 End | 开始 Start | 结束 End | 开始 Start | 结束 End | 开始 Start | 结束 End | 开始 Start | 结束 End |
| GTE 52 | 5 | 7.6 | 5.7 | | | | | | | | | | | 6.2 | 4.3 |
| | 6 | 6.9 | 4.5 | 10.9 | 8.5 | | | | | | | | | 7.4 | 5.0 |
| | 7 | 6.0 | 3.3 | 9.8 | 7.3 | 14.0 | 10.4 | | | | | | | 8.6 | 5.9 |
| | 8 | 5.2 | 2.0 | 9.2 | 6.0 | 13.2 | 9.1 | 17.2 | 14.1 | | | | | 9.9 | 6.7 |
| | 9 | 4.3 | 0.8 | 8.3 | 4.8 | 12.3 | 7.9 | 16.3 | 12.8 | 20.3 | 16.8 | | | 11.1 | 7.6 |
| | 10 | | | 7.4 | 3.6 | 11.5 | 6.7 | 15.5 | 11.6 | 19.5 | 15.6 | | | 12.4 | 8.5 |
| | 11 | | | 6.6 | 2.3 | 10.6 | 5.4 | 14.6 | 10.4 | 18.6 | 14.3 | 22.6 | 18.3 | 13.6 | 9.3 |
| | 12 | | | | | 9.7 | 4.2 | 13.8 | 9.1 | 17.8 | 12.2 | 21.8 | 17.1 | 14.8 | 10.2 |
| GTE 63 | 5 | 15.0 | 11.4 | 22.3 | 14.9 | | | | | | | | | 10.4 | 6.8 |
| | 6 | 13.6 | 9.3 | 20.9 | 16.6 | 28.3 | 23.9 | | | | | | | 12.5 | 8.2 |
| | 7 | 12.5 | 7.2 | 19.5 | 14.5 | 26.8 | 21.9 | | | | | | | 14.6 | 9.6 |
| | 8 | 10.9 | 5.1 | 18.2 | 12.4 | 25.5 | 19.8 | 32.8 | 27.8 | 40.1 | 34.3 | | | 16.7 | 10.9 |
| | 9 | | | 16.8 | 10.4 | 24.1 | 17.7 | 31.4 | 24.9 | 38.7 | 32.2 | | | 18.8 | 12.3 |
| | 10 | | | 15.4 | 8.2 | 22.8 | 15.6 | 30.0 | 24.9 | 37.3 | 30.1 | 44.7 | 37.4 | 20.9 | 13.7 |
| | 11 | | | | | 21.5 | 13.5 | 28.7 | 20.7 | 36.0 | 28.0 | 43.3 | 35.3 | 22.9 | 15.0 |
| | 12 | | | | | 20.0 | 11.4 | 27.3 | 18.6 | 34.6 | 25.9 | 41.9 | 33.3 | 25.0 | 16.4 |
| GTE 83 | 5 | 31.1 | 24.0 | 46.8 | 39.7 | | | | | | | | | 23.0 | 15.8 |
| | 6 | 28.0 | 19.3 | 43.7 | 35.1 | 59.4 | 50.7 | | | | | | | 27.6 | 19.0 |
| | 7 | 24.8 | 14.8 | 40.5 | 30.5 | 56.2 | 46.2 | | | | | | | 32.2 | 22.1 |
| | 8 | 21.7 | 10.1 | 37.4 | 25.8 | 53.1 | 41.5 | 68.8 | 57.2 | 84.5 | 72.9 | | | 36.8 | 25.3 |
| | 9 | | | 34.2 | 21.3 | 49.9 | 37.0 | 65.6 | 52.6 | 81.2 | 68.3 | | | 41.4 | 28.5 |
| | 10 | | | 31.0 | 16.6 | 46.7 | 32.3 | 62.4 | 48.0 | 78.1 | 63.7 | 93.8 | 79.3 | 46.0 | 31.6 |
| | 11 | | | | | 43.6 | 27.7 | 59.3 | 43.4 | 75.0 | 59.1 | 90.6 | 74.8 | 50.6 | 34.8 |
| | 12 | | | | | 40.4 | 23.2 | 56.1 | | 71.7 | 54.5 | 87.4 | 70.2 | 55.2 | 38.0 |
| GTE 110 | 5 | 71.3 | 53.4 | 107.4 | 89.5 | | | | | | | | | 54.9 | 37.0 |
| | 6 | 64.0 | 42.3 | 100.1 | 78.4 | 136.2 | 114.5 | | | | | | | 66.0 | 44.3 |
| | 7 | 56.6 | 31.5 | 92.7 | 67.6 | 128.8 | 103.7 | | | | | | | 76.8 | 51.7 |
| | 8 | 49.2 | 20.4 | 85.3 | 56.5 | 121.4 | 92.6 | 157.4 | 128.6 | 193.5 | 164.7 | | | 87.9 | 59.1 |
| | 9 | | | 77.9 | 45.3 | 114.0 | 81.4 | 150.0 | 117.4 | 186.1 | 153.5 | | | 99.1 | 66.5 |
| | 10 | | | 70.5 | 34.4 | 106.6 | 70.5 | 142.6 | 106.5 | 178.7 | 142.6 | 214.8 | 178.7 | 110.0 | 73.9 |
| | 11 | | | | | 99.2 | 59.4 | 135.2 | 95.4 | 171.3 | 131.1 | 207.4 | 167.6 | 121.1 | 81.3 |
| | 12 | | | | | 91.8 | 48.4 | 127.8 | 84.4 | 163.9 | 120.5 | 200.0 | 156.6 | 132.1 | 88.7 |
| GTE 127 | 5 | 114 | 86 | 172 | 146 | | | | | | | | | 87 | 59 |
| | 6 | 103 | 68 | 161 | 126 | 219 | 184 | | | | | | | 105 | 70 |
| | 7 | 91 | 51 | 149 | 109 | 207 | 167 | | | | | | | 122 | 82 |
| | 8 | 79 | 33 | 137 | 91 | 195 | 149 | 252 | 206 | 310 | 264 | | | 140 | 94 |
| | 9 | | | 126 | 73 | 186 | 131 | 241 | 188 | 299 | 246 | | | 158 | 105 |
| | 10 | | | | 56 | 172 | 114 | 229 | 171 | 287 | 229 | 345 | 287 | 175 | 117 |
| | 11 | | | | | 160 | 96 | 217 | 153 | 275 | 211 | 333 | 269 | 193 | 129 |
| | 12 | | | | | 149 | 79 | 206 | 136 | 264 | 194 | 322 | 252 | 210 | 140 |
| GTE 160 | 5 | 259 | 191 | 392 | 324 | | | | | | | | | 208 | 140 |
| | 6 | 232 | 149 | 365 | 282 | 498 | 415 | | | | | | | 250 | 168 |
| | 7 | 203 | 107 | 336 | 240 | 469 | 373 | | | | | | | 292 | 196 |
| | 8 | 176 | 66 | 309 | 199 | 442 | 237 | 575 | 465 | 708 | 598 | | | 333 | 223 |
| | 9 | | | 280 | 157 | 413 | 290 | 546 | 423 | 679 | 556 | | | 375 | 251 |
| | 10 | | | 253 | 115 | 386 | 248 | 519 | 381 | 652 | 514 | 785 | 647 | 417 | 279 |
| | 11 | | | | | 358 | 207 | 491 | 340 | 624 | 473 | 757 | 606 | 458 | 307 |
| | 12 | | | | | 330 | 165 | 463 | 298 | 596 | 431 | 729 | 564 | 500 | 335 |

GT 系列气动执行器

GT SERIES PNEUMATIC ACTUATORS

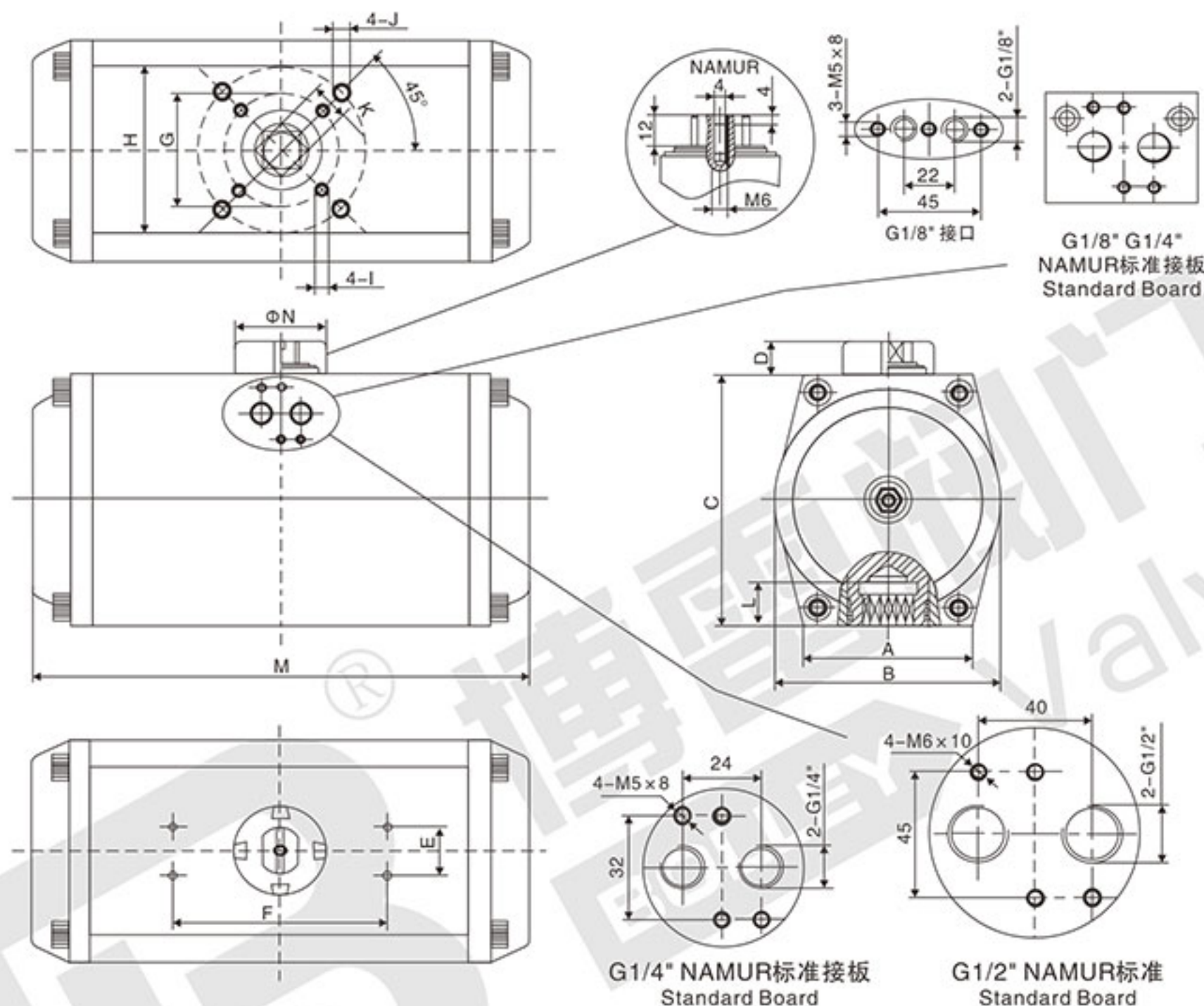


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GT 气动执行器单作用力矩表 GT Pneumatic Actuator Single Acting Output Torque

| 气源克服弹簧输出力矩 (N.m) Output torque of air supply against spring | | | | | | | | | | | | | | 弹簧输出力矩(N.m) Single output torque | |
|---|-----------------------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|-------------------------------------|--------|
| 气源压力 Air supply | | 3Bar | | 4Bar | | 5Bar | | 6Bar | | 7Bar | | 8Bar | | | |
| 型号 Model | 弹簧数量 Spring number | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° |
| | | 开始 Start | 结束 End | 开始 Start | 结束 End | 开始 Start | 结束 End | 开始 Start | 结束 End | 开始 Start | 结束 End | 开始 Start | 结束 End | 开始 Start | 结束 End |
| GTE 190 | 5 | 438 | 329 | 651 | 542 | | | | | | | | | 309 | 200 |
| | 6 | 398 | 267 | 611 | 480 | 824 | 693 | | | | | | | 371 | 240 |
| | 7 | 358 | 205 | 571 | 418 | 784 | 631 | | | | | | | 433 | 280 |
| | 8 | 318 | 143 | 531 | 356 | 744 | 569 | 957 | 782 | 1169 | 995 | | | 495 | 320 |
| | 9 | | | 491 | 295 | 704 | 507 | 917 | 720 | 1130 | 933 | | | 557 | 360 |
| | 10 | | | 451 | 233 | 664 | 446 | 877 | 658 | 1090 | 871 | 1302 | 1084 | 618 | 400 |
| | 11 | | | | | 624 | 446 | 837 | 597 | 1050 | 809 | 1263 | 1022 | 680 | 440 |
| | 12 | | | | | 584 | 322 | 797 | 535 | 1010 | 748 | 1223 | 960 | 742 | 480 |
| GTE 210 | 5 | 523 | 418 | 789 | 684 | | | | | | | | | 380 | 275 |
| | 6 | 468 | 342 | 734 | 608 | 1000 | 874 | | | | | | | 456 | 330 |
| | 7 | 413 | 266 | 679 | 532 | 945 | 798 | | | | | | | 532 | 385 |
| | 8 | 358 | 190 | 624 | 456 | 890 | 722 | 1156 | 988 | 1422 | 1254 | | | 608 | 440 |
| | 9 | | | 569 | 380 | 835 | 646 | 1101 | 912 | 1367 | 1178 | | | 684 | 495 |
| | 10 | | | 514 | 304 | 780 | 570 | 1046 | 836 | 1312 | 1102 | 1578 | 1368 | 760 | 550 |
| | 11 | | | | | 725 | 494 | 991 | 760 | 1257 | 1026 | 1526 | 1292 | 836 | 605 |
| | 12 | | | | | 670 | 418 | 936 | 684 | 1202 | 950 | 1468 | 1216 | 912 | 660 |
| GTE 240 | 5 | 744 | 600 | 1129 | 985 | | | | | | | | | 554 | 410 |
| | 6 | 662 | 489 | 1047 | 847 | 1432 | 1259 | | | | | | | 665 | 492 |
| | 7 | 580 | 379 | 964 | 764 | 1349 | 1149 | | | | | | | 775 | 575 |
| | 8 | 498 | 268 | 883 | 653 | 1267 | 1037 | 1652 | 1422 | 2037 | 1807 | | | 886 | 656 |
| | 9 | | | 800 | 542 | 1185 | 926 | 1569 | 1311 | 1954 | 1696 | | | 998 | 739 |
| | 10 | | | 718 | 431 | 1103 | 816 | 1488 | 1201 | 1872 | 1586 | 2257 | 1970 | 1108 | 821 |
| | 11 | | | | | 1021 | 705 | 1406 | 1090 | 1791 | 1474 | 2176 | 1859 | 1219 | 903 |
| | 12 | | | | | 939 | 594 | 1323 | 979 | 1708 | 1363 | 2093 | 1748 | 1330 | 985 |
| GTE 270 | 5 | 1195 | 968 | 1779 | 1552 | | | | | | | | | 787 | 560 |
| | 6 | 1083 | 811 | 1667 | 1396 | 2252 | 1981 | | | | | | | 943 | 672 |
| | 7 | 972 | 654 | 1556 | 1238 | 2141 | 1826 | | | | | | | 1101 | 786 |
| | 8 | 860 | 497 | 1444 | 1081 | 2029 | 1666 | 2614 | 2252 | 3199 | 2836 | | | 1258 | 895 |
| | 9 | | | 1332 | 923 | 1917 | 1509 | 2502 | 2094 | 3087 | 2678 | | | 1416 | 1007 |
| | 10 | | | 1220 | 767 | 1805 | 1352 | 2390 | 1937 | 2974 | 2521 | 3560 | 3107 | 1572 | 1119 |
| | 11 | | | | | 1693 | 1194 | 2278 | 1779 | 2862 | 2364 | 3448 | 2949 | 1730 | 1231 |
| | 12 | | | | | 1582 | 1037 | 2167 | 1623 | 2751 | 2207 | 3336 | 2792 | 1887 | 1342 |
| GTE 300 | 5 | 1522 | 1139 | 2285 | 1902 | | | | | | | | | 1150 | 767 |
| | 6 | 1370 | 911 | 2133 | 1674 | | | | | | | | | 1378 | 919 |
| | 7 | 1218 | 683 | 1981 | 1446 | 2744 | 2209 | | | | | | | 1606 | 1071 |
| | 8 | 1066 | 455 | 1829 | 1218 | 2592 | 1981 | | | | | | | 1834 | 1223 |
| | 9 | | | 1677 | 990 | 2440 | 1753 | 3203 | 2516 | | | | | 2062 | 1375 |
| | 10 | | | 1525 | 762 | 2288 | 1525 | 3051 | 2288 | 3814 | 3051 | 4577 | 3814 | 2290 | 1527 |
| | 11 | | | | | 2136 | 1297 | 2899 | 2060 | 3662 | 2823 | 4425 | 3586 | 2518 | 1679 |
| | 12 | | | | | 1984 | 1069 | 2747 | 1832 | 3510 | 2595 | 4273 | 3358 | 2746 | 1831 |
| GTE 350 | 5 | 2003 | 1474 | 3285 | 2578 | | | | | | | | | 1702 | 1173 |
| | 6 | 1863 | 1157 | 3006 | 2300 | | | | | | | | | 2043 | 1406 |
| | 7 | 1602 | 779 | 2745 | 1922 | 3886 | 3065 | | | | | | | 2383 | 1642 |
| | 8 | 1341 | 401 | 2484 | 1544 | 3626 | 2686 | | | | | | | 2724 | 1877 |
| | 9 | | | 2224 | 1165 | 3366 | 2307 | 4508 | 3449 | | | | | 3064 | 2112 |
| | 10 | | | 1963 | 787 | 3105 | 1929 | 4247 | 3071 | 5390 | 4214 | 6532 | 5356 | 3405 | 2346 |
| | 11 | | | | | 2844 | 1551 | 3986 | 2693 | 5129 | 3836 | 6271 | 4978 | 3745 | 2581 |
| | 12 | | | | | 2584 | 1172 | 3726 | 2314 | 4869 | 3457 | 6011 | 4599 | 4086 | 2816 |

GT 气动执行器 外形 GT Pneumatic Actuator External



| 型号 Model | A | B | C | D | E | F | G | H | I | J | K | L | M | N | 气源接口 Air connection |
|----------|-----|-----|-----|----|----|-----|------|------|--------|--------|----|----|-----|----|------------------------|
| GT52 | 50 | 59 | 74 | 20 | 30 | 80 | Φ36 | Φ50 | M5×8 | M6×10 | 11 | 14 | 125 | 40 | G1/8" |
| GT63 | 60 | 70 | 88 | 20 | 30 | 80 | Φ36 | Φ50 | M5×8 | M6×10 | 14 | 18 | 140 | 40 | G1/8" |
| GT83 | 67 | 91 | 110 | 20 | 30 | 80 | Φ50 | Φ70 | M6×10 | M8×13 | 14 | 18 | 188 | 40 | G1/8" |
| GT110 | 90 | 120 | 140 | 20 | 30 | 80 | Φ70 | Φ102 | M8×13 | M10×16 | 17 | 21 | 230 | 40 | NAMUR G1/4" |
| GT127 | 102 | 141 | 160 | 20 | 30 | 80 | Φ70 | Φ102 | M8×13 | M10×16 | 22 | 26 | 300 | 55 | NAMUR G1/4" |
| GT160 | 110 | 176 | 198 | 20 | 30 | 80 | Φ102 | Φ125 | M10×16 | M12×20 | 27 | 31 | 382 | 55 | NAMUR G1/4" |
| GT190 | 125 | 206 | 234 | 30 | 30 | 130 | | Φ140 | | M16×25 | 36 | 40 | 500 | 80 | NAMUR G1/4" |
| GT210 | 135 | 226 | 255 | 30 | 30 | 130 | | Φ140 | | M16×25 | 36 | 40 | 530 | 80 | NAMUR G1/4" |
| GT240 | 155 | 256 | 290 | 30 | 30 | 130 | | Φ165 | | M20×25 | 46 | 50 | 602 | 80 | NAMUR G1/4" |
| GT270 | 190 | 294 | 320 | 30 | 30 | 130 | | Φ165 | | M20×25 | 46 | 50 | 722 | 80 | NAMUR G1/2" |
| GT300 | 196 | 324 | 348 | 30 | 30 | 130 | | Φ165 | | M20×25 | 46 | 60 | 820 | 80 | NAMUR G1/2" |
| GT350 | 220 | 380 | 407 | 30 | 30 | 130 | | Φ165 | | M20×25 | 46 | 60 | 900 | 80 | NAMUR G1/2" |

GT 系列气动执行器

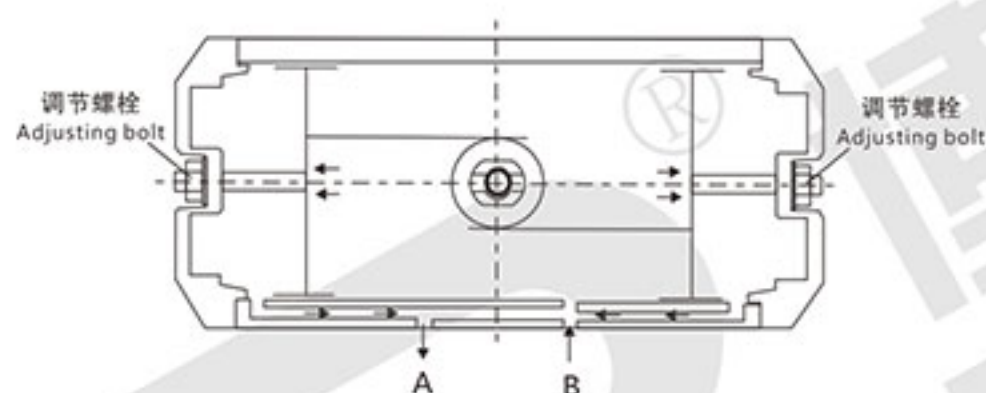
GT SERIES PNEUMATIC ACTUATORS

性能和特点

- 1、挤压成型的优质铝合金缸体，经精密加工的内孔和外部表面经细磨及硬质氧化处理，使用寿命长，摩擦系数低。
- 2、紧凑的双活塞齿轮、齿条式结构，啮合精确，传动平稳，安装位置对称，输出扭矩恒定，通过简单的改变活塞装配位置可得到反方向。
- 3、预压缩负荷弹簧，安装、拆卸安全、方便。
- 4、端盖两侧的行程调节螺钉可在 0° 和 $90^\circ \pm 5^\circ$ 单向的行程调节。
- 5、安装连接尺寸符合ISO5211、DIN3337和VDI/VDE3845以及NAMUR标准。
- 6、所有的紧固件均采用不锈钢材料，长期抗腐蚀。
- 7、密封件材料有常温型、高温型、低温型。在常温工作条件下使用丁腈橡胶，在高温或低温时采用氟橡胶或硅橡胶。
- 8、根据需要可提供多种角行程（例如： 120° 、 135° 、 180° 等）和三位式气动执行器。

工作原理 Operating Principle

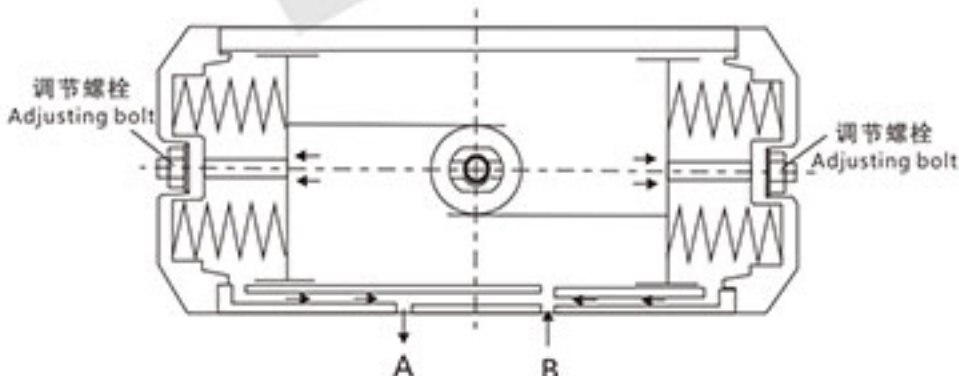
双作用工作原理 Operating Principle Of Double Acting



压缩空气从气口(B)进入气缸两活塞之间，使活塞分离向气缸两端移动，两端空气通过气口(A)排出，同时两活塞齿条同步带动输出轴逆时针旋转 90° ，轴的指示位置为开位，此时两端调节螺栓可以在关位的位置微量调节角度为 $\pm 5^\circ$ ，角度调节好后旋紧螺母，保证气缸密封。

Compressed air from the air port (B) into the cylinder between the two pistons, force the pistons outwards, the air in both ends exhaust through the port (A), at the same time two pistons drive the output shaft rotate 90° counterclockwise the shaft indicator turn to open position. At this time, the adjusting bolts on end caps can adjust $\pm 5^\circ$ in the close position. After the adjustment, pls tighten the adjustment nuts to guarantee the cylinder seal.

单作用工作原理 Operating Principle Of Single Acting

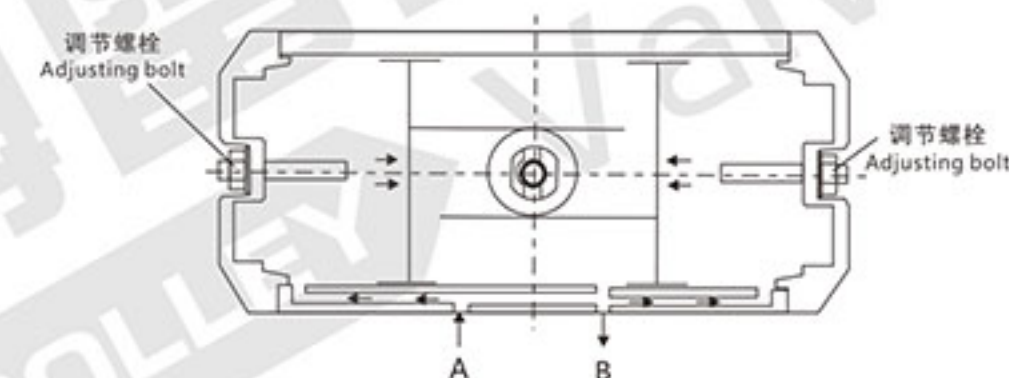


压缩空气从气口(B)进入气缸两活塞之间，使活塞分离向气缸两端移动，迫使两端的弹簧压缩，两端空气通过气口(A)排出，同时两活塞齿条同步带动输出轴逆时针旋转 90° ，轴的指示位置为开位，此时两端调节螺栓可以在关位的位置微量调节角度为 $\pm 5^\circ$ ，角度调节好后旋紧螺母，保证气缸密封。

Compressed air from the air port (B) into the cylinder between the two pistons, force the pistons outwards, force the springs on both ends to compress, the air in both ends exhaust through the port (A), at the same time two pistons drive the output shaft rotate 90° counterclockwise, the shaft indicator turn to open position. At this time, the adjusting bolts on end caps can adjust $\pm 5^\circ$ in the close position. After the adjustment, pls tighten the adjustment nuts to guarantee the cylinder seal.

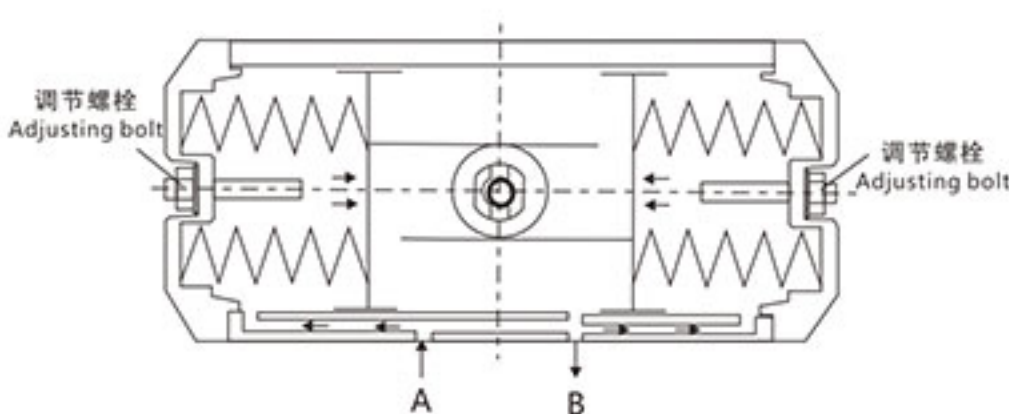
Performance And Feature

1. The extruded high quality aluminum alloy cylinder, with precision machining inner hole and fine grinding and hard anodized treatment surface, has long service life and low friction coefficient.
2. Compact double pistons rack & pinion structure, meshing precision, stable transmission, installation position symmetry, output torque constant, can be reversed by simply changing the piston assembly position.
3. Precompression load spring make installation, remove safe and convenient.
4. The travel adjustment screws on both sides of the cover can be adjusted at 0° and $90^\circ \pm 5^\circ$ one-way travel.
5. The installation connection size conforms to ISO5211, DIN3337 and VDI/VDE3845 and NAMUR standard.
6. All fasteners are made of stainless steel and have long corrosion resistance.
7. The seal material has normal temperature type, high temperature type, low temperature type. NBR for normal temperature, Viton for high temperature and silicon rubber for low temperature.
8. We can provide a variety of special angle travel (For example: 120° , 135° , 180° , etc.) and three type pneumatic actuators according to the requirement.



压缩空气从气口(A)进入气缸两端，使活塞向气缸中间移动，两活塞之间空气通过气口(B)排出，同时两活塞齿条同步带动输出轴顺时针旋转 90° ，轴的指示位置为关位。

Compressed air from the air port (A) into both ends of the cylinder, force the pistons inwards, the air between two pistons exhaust through the port (B), at the same time two pistons drive the output shaft rotate 90° clockwise, the shaft indicator turn to close position.



压缩空气经过电磁阀换向后，气缸的两活塞在弹簧的弹力下向中间移动，两活塞之间空气通过气(B)排出，同时两活塞齿条同步带动输出轴顺时针旋转 90° ，轴的指示位置为关位。

Compressed air reversed by solenoid valve, the pistons inwards forced by spring, the air between two pistons exhaust through the port (B), at the same time two pistons drive the output shaft rotate 90° clockwise the shaft indicator turn to open position.

工作技术条件 Working Technical Conditions

- 1、使用介质: 压缩空气、无腐蚀性气体和油;
 - 2、压力范围: 双作用2~8巴(Bar), 单作用2~8巴(Bar);
 - 3、工作温度: 标准型(使用丁腈橡胶O型圈)-20℃~+80℃;
低温型(使用低温丁腈橡胶O型圈)-35℃~+80℃;
高温型(使用氟橡胶O型圈)-15℃~+150℃;
 - 4、行程调整: 活塞在两端位置有±5°的可调范围;
 - 5、润滑: 在正常工作条件下, 不需添加润滑剂;
 - 6、安装: 适合室内或室外安装;
 - 7、最高使用压力: 输入气压不超过10巴。
- 1、Operating media: Compressed air, non-corrosive gases or oil;
 - 2、Air supply pressure: Double acting 2~8Bar, Single acting 2~8Bar;
 - 3、Working temperature: Standard temperature: -20℃~+80℃(NBR O-ring) Low temperature: -35℃~+80℃(Silicon rubber O-ring); High temperature: -15℃~+150℃(Viton O-ring);
 - 4、Travel adjustment: ±5° adjustment range;
 - 5、Lubrication: Under normal operating condition, need not add lubricant;
 - 6、Installation: Indoor or outdoor;
 - 7、Max pressure: 10bar.

耗气量计算 Gas Consumption Calculation

| 型号 Model | 开向体积(升) Open volum(L) | 关向体积(升) Close volum(L) | 型号 Model | 关向体积(升) Close volum(L) | 关向体积(升) Close volum(L) |
|----------|--------------------------|---------------------------|----------|---------------------------|---------------------------|
| GT52 | 0.11 | 0.14 | GT190 | 5.9 | 7.9 |
| GT63 | 0.20 | 0.23 | GT210 | 7.4 | 9.7 |
| GT83 | 0.41 | 0.55 | GT240 | 10.7 | 14.3 |
| GT110 | 1.15 | 1.25 | GT270 | 16.9 | 22.5 |
| GT127 | 1.40 | 1.80 | GT300 | 23.8 | 29.7 |
| GT160 | 3.65 | 5.03 | GT350 | 35.1 | 46.3 |

耗气量取决于供气压力、开关行程, 体积及动作次数, 计算如下:

$$\text{升/分} = \text{气缸体积}(\text{开向体积} + \text{关向体积}) \times \left[\frac{\text{供气压力(Kpa)} + 101.3}{101.3} \right] \times \text{次数/分钟}$$

Gas consumption depend on air supply, stroke, volume and action times, calculation as below:

$$\text{L/min} = \text{cylinder volume}(\text{open volume} + \text{close volume}) \times \left[\frac{\text{air supply}}{101.3} \right] \times \text{times/min}$$

重量表 Weight

| 型号 Model | 52 | 63 | 83 | 110 | 127 | 160 |
|----------|-------|-------|-------|-------|--------|--------|
| GTD | 1.1kg | 1.7kg | 2.9kg | 6.8kg | 10.1kg | 15.3kg |
| GTE | 1.2kg | 2.0kg | 3.5kg | 8.7kg | 13.2kg | 19.7kg |

| 型号 Model | 190 | 210 | 240 | 270 | 300 | 350 |
|----------|------|------|------|------|-------|-------|
| GTD | 29kg | 36kg | 50kg | 71kg | 110kg | 186kg |
| GTE | 35kg | 44kg | 62kg | 89kg | 130kg | 234kg |

执行器选型 Actuator Selection

双作用执行器的选型

Double Acting Actuator Selection

在正常操作条件下，双作用执行器考虑的安全系数为20%–30%。

示例：

- 矩=100N.m
- 安全力矩=100 × (1+30%)=130N.m
- 气源压力=5Bar

对照双作用力矩表，选配双作用执行器最小规格为BL-GTD105

Under normal operation condition, double acting actuator consider safety factor 20%–30%.

For ample:

Valve torque=100N.m

Torque with safety factor=100x(1+30%)=130N.m

Air supply=5Bar

Check the output torque of double acting, choose the smallest model BL-GTD105

单作用执行器的选型 Single Acting Actuator Selection

在正常条件下单作用执行器考虑的安全系数为30%–50%。

例如：

阀门需要力矩=80N.m

安全力矩=80(1+30%)=104N.m

气源压力=5Bar

对照单作用执行器出力矩表，我们可以查到BL-GTE140K7出力矩为

空气行程0° =308N.m

空气行程90° =247N.m

弹簧行程90° =181N.m

弹簧行程0° =120N.m

所有出力矩均大于我们需求。

Under normal operation condition, single acting actuator consider safety factor 30%–50%, for example:

Valve torque=80N.m

Torque with safety factor=80x(1+30%)=104N.m

Air supply=5Bar

Check the output torque of single, acting, we will find the torque of model BL-GTE140K7

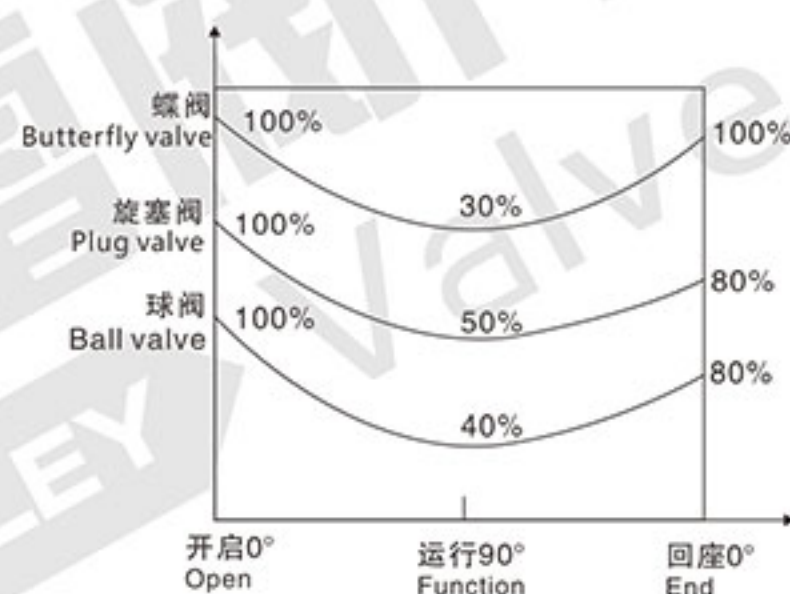
Air stroke 0° =308N.m

Air stroke 90° =247N.m

Spring stroke 90° =181N.m

Spring stroke 0° =120N.m

All output torque is greater than our demand.



单作用执行器的经济选型

在单作用执行器的选配过程中，如果能够了解阀门在开启、运行和关闭时的扭矩分配，我们就可以更加经济、更加合理地选配执行器。

例如：蝶阀原最大扭矩=104N.m

打开后扭矩104x 30%=32N.m

气源压力=5Bar

我们可以选择BL-ATE130Kg

• 空气行程0° =183N.m>104N.m

• 空气行程90° =127N.m>32N.m

• 弹簧行程90° =169N.m>32N.m

• 弹簧行程0° =113N.m>104N.m

以上数据显示可以满足该蝶阀的正常启闭。

Single Acting Pneumatic Actuator Economic Selection

When selecting single acting pneumatic actuator, if you know valve start torque, running torque and close torque, we can select more economic actuator.

For example: Butterfly valve biggest torque=104N.m

Running torque 104x30%=32N.m

Air supply=5Bar

We can select BL-ATE130K9

Air stroke 0° =183N.m>104N.m

Air stroke 90° =127N.m>32N.m

Spring stroke 90° =169N.m>32N.m

Spring stroke 0° =113N.m>104N.m

The above data show that the butterfly valve can meet the normal opening and closing.

订货须知 Ordering Instructions

| 内容 Content | 系列 Series | 作用形式 Action form | 规格 Specifications | 弹簧数量 Spring quantity | 行程角度 Travel angle | 产品代码 Product code |
|------------|-----------|------------------|-------------------------|--------------------------|-----------------------------|-------------------|
| BL | GT | D | 52 | K10 | 90° | BL-GTD52-K10 |
| | GT AT | D E | 52 63 75 | K8 K9 K10 | 90° 120° 135° 180° | |



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