

# PNEUMATIC ACTUATOR

## TYPE DVC5051: (AIR/SPRING), DOUBLE ADJUSTABLE



armatec

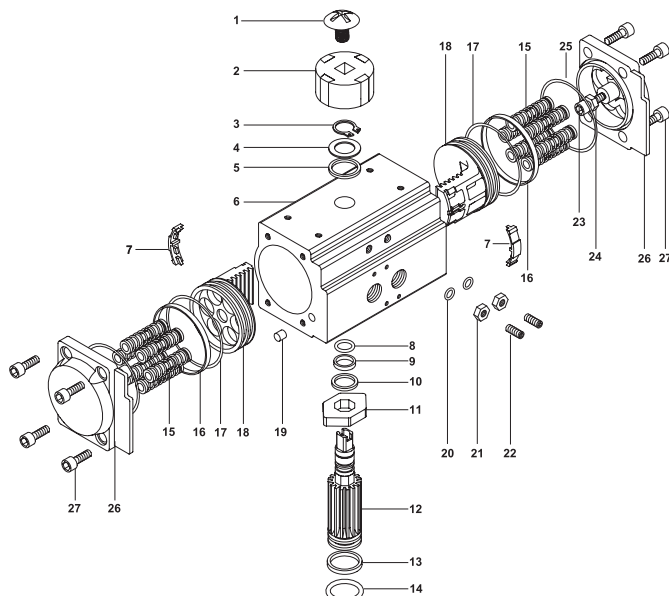


### GENERAL

|                   |                                                                                                                  |
|-------------------|------------------------------------------------------------------------------------------------------------------|
| TORQUE:           | 14 TO 1620 NM AT 6 BAR                                                                                           |
| ROTATION ANGLE:   | 0° TO 90°. ADJUSTABLE +5° TO -5°                                                                                 |
| PRESSURE:         | 2 TO 8 BAR                                                                                                       |
| TEMPERATURE:      | -20° C TO +80° C                                                                                                 |
| WORK MEDIA:       | AIR (PNEUROP/ISO CLASS 4)                                                                                        |
| CONNECTIONS:      | ISO 5211 FOR BRACKETS<br>DIN 3337 COUPLING (STAR SHAPED)<br>VDI/VDE 3845 FOR ACCESSORIES<br>NAMUR FOR WORK MEDIA |
| AIR SUPPLY:       | 1/4" - BSPP (1/2" BSPP FOR SIZE 270)                                                                             |
| SURFACE MATERIAL: | HARD ANODISED - 40µ                                                                                              |

### OPTIONS

|                 |                                                              |
|-----------------|--------------------------------------------------------------|
| SIZE:           | 300 TO 400 ON REQUEST                                        |
| ROTATION ANGLE: | 120° AND 180°                                                |
| MATERIAL:       | BODY IN STAINLESS STEEL                                      |
| TEMPERATURE:    | -15° C TO +150° C (FPM) TYPE 5053<br>-35° C TO +80° C (LNBR) |
| END CAP:        | 0 - 45° ADJUSTMENT OF OPENING                                |

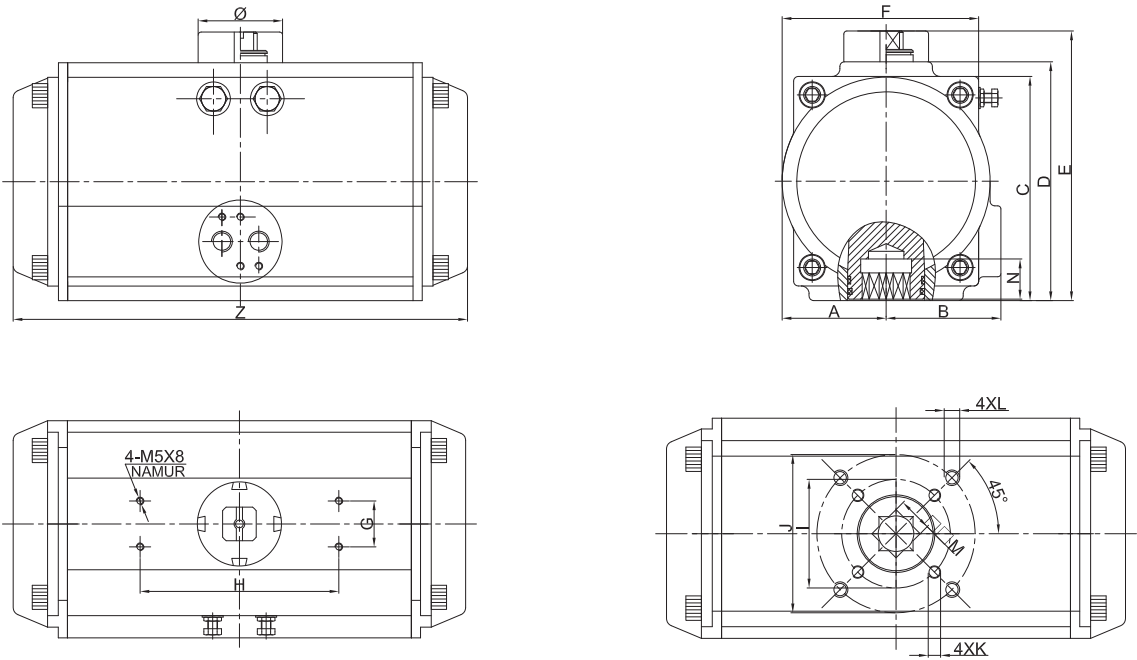


| POS | DESCRIPTION            | MATERIAL                     |
|-----|------------------------|------------------------------|
| 1   | INDICATOR SCREW        | PLASTIC                      |
| 2   | INDICATOR              | PLASTIC / STAINLESS STEEL    |
| 3   | SPRING CLIP            | STAINLESS STEEL (AISI 304)   |
| 4   | METAL WASHER           | STAINLESS STEEL (AISI 304)   |
| 5   | OUTSIDE WASHER         | ENGINEERING PLASTICS         |
| 6   | BODY                   | EXTRUDED ALUMINIUM ALLOY 40µ |
| 7   | PLATE (PISTON)         | ENGINEERING PLASTICS         |
| 8   | INSIDE WASHER          | ENGINEERING PLASTICS         |
| 9   | O-RING (PINION TOP)    | NBR                          |
| 10  | BEARING (PINION TOP)   | ENGINEERING PLASTICS         |
| 11  | TRAVEL STOP            | ALLOY STEEL                  |
| 12  | PINION                 | ALLOY STEEL                  |
| 13  | O-RING (PINION BOT.)   | ENGINEERING PLASTICS         |
| 14  | BEARING (PINION BOT.)  | NBR                          |
| 15  | SPRING                 | SPRING STEEL                 |
| 16  | BEARING (PISTON)       | ENGINEERING PLASTICS         |
| 17  | O-RING (PISTON)        | NBR                          |
| 18  | PISTON                 | ALUMINIUM CASTING (101A)     |
| 19  | HOLE SEALANT           | NBR                          |
| 20  | O-RING (ADJUST. SCREW) | NBR                          |
| 21  | NUT (ADJUST. SCREW)    | STAINLESS STEEL (AISI 304)   |
| 22  | ADJUSTMENT SCREW       | STAINLESS STEEL (AISI 304)   |
| 23  | STOP SCREW             | STAINLESS STEEL (AISI 304)   |
| 24  | NUT (STOP SCREW)       | STAINLESS STEEL (AISI 304)   |
| 25  | O-RING (END CAP)       | NBR                          |
| 26  | END CAP                | ALUMINIUM CASTING (ADC12)    |
| 27  | CAP SCREW              | STAINLESS STEEL (AISI 304)   |

### DESCRIPTION

- **Quality product** - based on modern technology and experience. Very long service.
- **Body in corrosion resistant, hard anodised aluminium** - 40µ
- **Nickle plated pinion and stainless steel screws** provide maximum protection against corrosion.
- **Serial number** for easy identification and traceability.
- **Excellent protection against wear** with high quality bearings at all moving parts.
- **Double adjustable** at 0° and 90° degrees . Perfect for quick and accurate adjustment especially for butterfly valves and 3-way ball valves.
- **Preloaded springs** with corrosion resistant epoxy coating enable an uncomplicated maintenance of the actuator.
- **Various actuator sizes** provide every possibility for perfect dimensioning.
- **100 % quality control** with function test and leakage test of all actuators.

DIMENSIONS



| SIZE | A<br>[MM] | B<br>[MM] | C<br>[MM] | D<br>[MM] | E<br>[MM] | F<br>[MM] | G<br>[MM] | H<br>[MM] | ISO<br>I  | ISO<br>J  | K<br>[MM] | L<br>[MM] | M<br>[MM] | N<br>[MM] | Z<br>[MM] | Ø<br>[MM] |
|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 52   | 30.0      | 42.0      | 66.0      | 72.0      | 92.0      | 65.0      | 30        | 80        | 42 / F04  | -         | M5 x 8    | -         | 9         | 14        | 145       | 40        |
| 52   | 30.0      | 42.0      | 66.0      | 72.0      | 92.0      | 65.0      | 30        | 80        | 36 / F03  | 50 / F05  | M5 x 8    | M6 x 10   | 11        | 14        | 145       | 40        |
| 63   | 36.0      | 47.0      | 81.0      | 88.0      | 108.0     | 72.0      | 30        | 80        | 36 / F03  | 50 / F05  | M6 x 10   | M8 x 13   | 11        | 14        | 166       | 40        |
| 63   | 36.0      | 47.0      | 81.0      | 88.0      | 108.0     | 72.0      | 30        | 80        | 42 / F04  | -         | M6 x 10   | M8 x 13   | 11        | 14        | 166       | 40        |
| 63   | 36.0      | 47.0      | 81.0      | 88.0      | 108.0     | 72.0      | 30        | 80        | 50 / F05  | 70 / F07  | M6 x 10   | M8 x 13   | 14        | 18        | 166       | 40        |
| 75   | 42.0      | 53.0      | 94.0      | 100.0     | 120.0     | 81.0      | 30        | 80        | 36 / F03  | 50 / F05  | M6 x 10   | M8 x 13   | 11 / 14   | 14 / 18   | 180       | 40        |
| 83   | 46.0      | 57.0      | 99.0      | 109.0     | 129.0     | 92.0      | 30        | 80        | 50 / F05  | 70 / F07  | M6 x 10   | M8 x 13   | 14        | 18        | 205       | 40        |
| 92   | 50.0      | 59.0      | 111.0     | 117.0     | 137.0     | 98.0      | 30        | 80        | 50 / F05  | 70 / F07  | M6 x 10   | M8 x 13   | 14 / 17   | 18 / 21   | 258       | 40        |
| 105  | 58.0      | 64.0      | 123.0     | 133.0     | 153.0     | 110.0     | 30        | 80        | 70 / F07  | 102 / F10 | M8 x 13   | M10 x 16  | 17        | 21        | 270       | 40        |
| 125  | 68.0      | 75.0      | 146.0     | 155.0     | 175.0     | 128.0     | 30        | 80        | 70 / F07  | 102 / F10 | M8 x 13   | M10 x 16  | 22        | 26        | 302       | 55        |
| 140  | 75.0      | 77.0      | 161.0     | 172.0     | 192.0     | 138.0     | 30        | 80        | 102 / F10 | 125 / F12 | M10 x 16  | M12 x 20  | 22        | 26        | 394       | 55        |
| 160  | 87.0      | 87.0      | 184.0     | 197.0     | 217.0     | 158.0     | 30        | 80        | 102 / F10 | 125 / F12 | M10 x 16  | M12 x 20  | 22 / 27   | 26 / 31   | 451       | 55        |
| 190  | 103.0     | 103.0     | 216.0     | 230.0     | 260.0     | 189.0     | 30        | 130       | 125 / F12 | -         | M12 x 20  | -         | 27        | 31        | 522       | 80        |
| 210  | 113.0     | 113.0     | 236.0     | 255.0     | 285.0     | 210.0     | 30        | 130       | 125 / F12 | -         | M12 x 20  | -         | 27        | 31        | 527       | 80        |
| 240  | 130.0     | 130.0     | 265.0     | 289.0     | 319.0     | 245.0     | 30        | 130       | 140 / F14 | -         | M16 x 25  | -         | 36        | 40        | 598       | 80        |
| 270  | 147.0     | 147.0     | 299.0     | 326.0     | 356.0     | 273.0     | 30        | 130       | 165 / F16 | -         | M20 x 25  | -         | 46        | 50        | 720       | 80        |
| 300  | 160.0     | 173.0     | 329.0     | 352.0     | 382.0     | 289.0     | 30        | 130       | 165 / F16 | 254 / F25 | M20 x 25  | -         | 46        | 60        | 757       | 80        |
| 350  | 190.0     | 195.0     | 382.0     | 408.0     | 438.0     | 336.0     | 30        | 130       | 165 / F16 | 254 / F25 | M20 x 25  | -         | 46        | 60        | 888       | 80        |
| 400  | 260.0     | 260.0     | 441.0     | 466.0     | 496.0     | 330.0     | 30        | 130       | 165 / F16 | 254 / F25 | M20 x 25  | -         | 46        | 60        | 922       | 80        |

Other ISO measures and larger dimensions on request.

ACTUATOR DATA

| SPRING RETURN (AIR/SPRING) |             |        |                |        |                |        |                |        |             |           |            |
|----------------------------|-------------|--------|----------------|--------|----------------|--------|----------------|--------|-------------|-----------|------------|
| SIZE                       | TORQUE [Nm] |        |                |        |                |        |                |        | WEIGHT [Kg] | AIR [Ltr] |            |
|                            | SPRING      |        | PRESSURE 5 BAR |        | PRESSURE 6 BAR |        | PRESSURE 7 BAR |        |             | OPEN (NC) | CLOSE (NO) |
|                            | 0°          | 90°    | 0°             | 90°    | 0°             | 90°    | 0°             | 90°    |             |           |            |
| 52                         | 10.2        | 14.8   | 9.7            | 4.2    | 13.8           | 9.1    | 17.8           | 12.2   | 1.5         | 0.12      | 0.16       |
| 63                         | 16.4        | 25.0   | 20.0           | 11.4   | 27.3           | 18.6   | 34.6           | 25.9   | 2.2         | 0.21      | 0.23       |
| 75                         | 25.3        | 34.7   | 24.9           | 15.4   | 34.9           | 25.4   | 44.9           | 35.4   | 2.9         | 0.30      | 0.34       |
| 83                         | 38.0        | 55.2   | 40.4           | 23.2   | 56.1           | 38.9   | 71.7           | 54.5   | 3.6         | 0.43      | 0.47       |
| 92                         | 56.0        | 82.5   | 56.8           | 30.4   | 79.4           | 53.0   | 101.9          | 75.5   | 5.5         | 0.64      | 0.73       |
| 105                        | 75.9        | 118.1  | 89.4           | 47.5   | 122.5          | 80.6   | 155.5          | 113.6  | 6.7         | 0.95      | 0.88       |
| 125                        | 125.8       | 188.3  | 125.3          | 63.4   | 176.2          | 113.4  | 226.2          | 163.8  | 10.4        | 1.60      | 1.40       |
| 140                        | 206.0       | 310.5  | 221.8          | 118.5  | 307.8          | 203.8  | 392.1          | 289.5  | 14.4        | 2.50      | 2.20       |
| 160                        | 335.7       | 500.4  | 330.6          | 165.6  | 463.2          | 298.4  | 596.3          | 431.1  | 23.3        | 3.70      | 3.20       |
| 190                        | 480.1       | 742.4  | 584.2          | 322.7  | 797.5          | 535.1  | 1010.4         | 748.6  | 46.1        | 5.90      | 5.40       |
| 210                        | 660.3       | 912.1  | 670.3          | 418.5  | 936.9          | 684.2  | 1202.1         | 950.3  | 53.2        | 7.50      | 7.50       |
| 240                        | 985.2       | 1330.8 | 939.4          | 594.1  | 1323.4         | 979.6  | 1708.9         | 1363.4 | 73.3        | 11.00     | 9.00       |
| 270                        | 1342.4      | 1887.2 | 1582.4         | 1037.7 | 2167.2         | 1623.6 | 2751.3         | 2207.4 | 115.9       | 17.00     | 14.00      |
| 300                        | 1752.0      | 2546.0 | 1868.0         | 986.0  | 2631.0         | 1749.0 | 3394.0         | 2512.0 | 156.6       | 22.94     | 28.19      |
| 350                        | 2816.0      | 4086.0 | 2584.0         | 1172.0 | 3726.0         | 2314.0 | 4869.0         | 3457.0 | 259.4       | 33.22     | 46.08      |
| 400                        | 4199.0      | 6584.0 | -              | -      | 5101.0         | 2452.0 | 6728.0         | 4079.0 | 252.0       | 50.11     | 66.97      |

Torque calculated from 12 springs (size 400 - 16 pcs.)  
Torques at different air pressures and spring sets than the above can be informed.