

"aira" offers ISO 5211 Standard Pneumatic Actuator for all your 90° & 180° Valves & Dampers Automation Requirements

Why aira actuator ! Because....



**180°
Rotation
Also
Available**

- 1. Hard Anodized Barrel / Body to Protect from Hazardous atmosphere & corrosion, which enhance life of actuator**
- 2. Namur Standard Pinion Top (An International Standard)**
The pinion (shaft) top drilled and slotted for easy assembling of switch, positioners and other accessories.
- 3. Namur pad for Solenoid Valve (An International Standard)**
Air supply ports are covered with interface plate as per NAMUR standard to facilitate direct mounting of solenoid valve at actuator.
- 4. ISO - 5211 Standard Mounting for Valve (An International Standard)**
Double bottom drilling for actuator to valve Assembling & centering. Designed for strength and easy mounting or interchangeability.
- 5. ISO - 5211 Standard Pinion Bottom (An International Standard)**
Bottom of the pinion (Shaft) as female key, double square hole for assembling on valves with square key stem and in line or turned to 45°. Designed for strength and sure-fix with stem
- 6. Sliding Skates :** The innovation for replaceable sliding skates, between Pistons (Racks) and internal bore surface of the Actuator, just to avoid metal contact, which enhances the Actuator life.

7. Spring : (1). SNS (LH/RH) Spring in Spring Type.
(2). The introduction of pre-loaded spring cartridges, that remove the danger in the case of disassembly of spring return Actuator, and that allows easy change of spring number present inside.

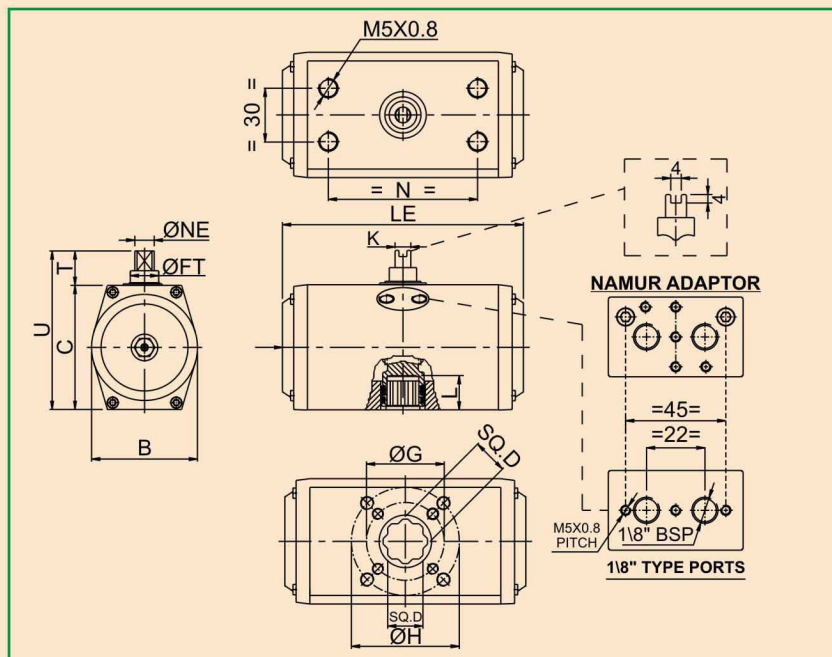
8. Compact Design : "aira" Actuators are designed as compact and common for both double acting and single acting (spring return) which offers high torque values. Internal sliding surface, lapped and anodized for minimum friction and long life of actuator.

General Features :

- Opr. press : 15 to 150 psi
- Temperature range : -20°C to 90°C
- Air supply : Filterd, dry or lubricated
- Ext. protection : Corrosion strength to 500 hours in salted fog

Material of Construction :

- Body : Aluminium Hard Anodized
- Shaft (Pinion) : EN8 /AISI S.S. 304
- Caps : Aluminium Pressure die cast
- Guides : Low friction acetalic resin
- Pistons (Racks) : Aluminium Pressure die cast
- Bolts : Stainless Steel
- Springs : Pre-loaded spring cartridges & SNS (LH/RH) Spring Type
- Sealing : Nitrile [Viton or EPDM available]



Dimensions :

(All Dimensions are in mm)

| Model | K | B | L | LE | ØNE | ØFT | T | U | ØG | ØH | SQ.D | N | Weight Kg (Approx) | AIR CONSUMPTION-Ltrs | |
|-------------|-------|------|----|--------|-------|-------|-------|------|-----|-----|------|-----|--------------------|----------------------|----------|
| | | | | | | | | | | | | | | D-ACTING | S-ACTING |
| 7770-5510 | 10 | 47.5 | 12 | 111 | 11.85 | 11.85 | 20 | 74.5 | - | 36 | 9 | 50 | 0.550 | 0.10 | 0.07 |
| 7771-5511HT | 10 | 59 | - | 160.50 | 11.85 | 11.85 | 20.00 | 94 | 36 | 50 | 14 | 80 | 1.200 | 0.24 | 0.12 |
| 7772-5512 | 10 | 83 | 14 | 162 | 14 | 17.70 | 19.40 | 120 | 50 | 70 | 17 | 80 | 2.000 | 0.63 | 0.26 |
| 7773-5513 | 14 | 102 | 19 | 211 | 19.5 | 24.70 | 21 | 138 | 50 | 70 | 17 | 80 | 3.300 | 1.08 | 0.45 |
| 7774-5514 | 20 | 120 | 24 | 264 | 28.00 | 39.90 | 19.50 | 160 | 70 | 102 | 22 | 80 | 6.550 | 2.50 | 1.10 |
| 7775-5515 | 21.75 | 140 | 29 | 325 | 28 | 40 | 24 | 184 | 102 | 125 | 27 | 80 | 10.400 | 3.84 | 1.54 |
| 7776-5516 | 28 | 172 | 29 | 375 | 36 | 44.50 | 30 | 228 | 102 | 125 | 36 | 130 | 16.250 | 6.80 | 2.90 |
| 7776-5516HT | 28 | 172 | 38 | 435 | 36 | 44.80 | 30 | 228 | - | 125 | 36 | 130 | 20.350 | - | - |
| 7777-5517 | 32 | 225 | 40 | 460 | 40 | 59.70 | 30 | 285 | - | 140 | 36 | 130 | 29.500 | 14.28 | 5.90 |
| 7778-5518 | 32 | 225 | 50 | 625 | 40 | 59.70 | 30 | 285 | - | 140 | 46 | 130 | 58.300 | On Request | |
| 7780-5580 | 21.75 | 152 | 32 | 358 | 28 | 39.50 | 23 | 195 | 102 | 125 | 27 | 130 | 13.300 | On Request | |
| 2718-3718 | 32 | 330 | - | 646 | 40 | 60.85 | 35 | 400 | - | 165 | 55 | 130 | 151 | On Request | |

"aira" ACTUATOR SELECTION CHART

SELECTION OF DOUBLE ACTING ACTUATOR

- * Conclude your required torque value.
- * Increase 15% for an acceptable safety factor.
- * Now look on **TABLE - A** and find near by higher torque valve of your required torque.
- The found position shows the model of "aira" actuator and working pressure in bar, we need.

EXAMPLE

- * Suppose we need 450 Nm torque to drive a valve.
- * Increase 15% - 517 Nm for safety factor.
- * In below table the nearby higher torque value is 542 at working pressure 5 bar
- * This indicators to select the "aira" actuators model 7776-5516-D

| Model | 1 BAR | 2 BAR | 3 BAR | 4 BAR | 5 BAR | 6 BAR | 7 BAR | 8 BAR | 9 BAR | 10 BAR |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 7770-5510-D | 1.15 | 2.34 | 3.28 | 4.80 | 7 | 7.18 | 8.16 | 9.50 | 10.40 | 11.50 |
| 7771-5511-D | 4.7 | 8.3 | 12 | 16.2 | 20.50 | 24.40 | 30.30 | 35.60 | 41 | 47 |
| 7772-5512-D | 9.8 | 18.10 | 2650 | 34 | 47 | 54.30 | 64.20 | 74.60 | 83.30 | 98.90 |
| 7773-5513-D | 12.2 | 23 | 40 | 60 | 80 | 94 | 110 | 128 | 145 | 164 |
| 7774-5514-D | 35.6 | 77 | 104 | 148 | 194 | 232 | 272 | 317 | 361 | 405 |
| 7775-5515-D | 63 | 128 | 180 | 248 | 335 | 392 | 470 | 535 | 610 | 680 |
| 7780-5580-D | 102 | 202 | 304 | 409 | 455 | 548 | 620 | 730 | 765 | 850 |
| 7776-5516-D | 138 | 200 | 300 | 415 | 542 | 643 | 744 | 843 | 950 | 1050 |
| 7776-5516HT-D | 142.5 | 300 | 385 | 605 | 685 | 825 | 982 | 1135 | 1305 | 1425 |
| 7777-5517-D | 188.2 | 484 | 640 | 867 | 1102 | 1317 | 1545 | 1708 | 1793 | 1908 |
| 7778-5518-D | 332 | 674 | 1011 | 1348 | 1685 | 2022 | - | - | - | - |
| 2718-3718-D | 782 | 1564 | 2345 | 3127 | 3909 | 4691 | 5473 | 6254 | 7036 | 7818 |

SELECTION OF SINGLE ACTING ACTUATOR

- * Conclude your required torque value.
- * Increase 25% for an acceptable safety factor.
- * Now look on **TABLE - B**, Your required torque value should be nearby higher value of "FIX TORQUE BY SPRINGS" & "TORQUE BY AIR / GAS PRESSURE."
- * The found position shows the model of "aira" actuator and working pressure in bar, we need.

EXAMPLE

- * Suppose we need 100 Nm torque to drive a valve.
- * Increase 25% - 125 Nm for safety factor.
- * In table given below "aira" actuator model 7715-5515 Shows 133 Nm "TORQUE BY AIR / GAS PRESSURE AT 5 BAR"

IN Nm 10Nm = 1Kgf **SINGLE ACTING ACTUATOR TORQUE CHART** **TABLE - B**

| Model | SPRING SET | AIR PRESSURE | | | | | | | |
|----------------|------------|--------------|-------|-------|-------|-------|-------|--------|---------|
| | | 3 BAR | 4 BAR | 5 BAR | 6 BAR | 7 BAR | 8 BAR | 9 BAR | 10 BAR |
| 7770-5510-S | 1 | - | - | - | - | - | - | - | - |
| | 2 | - | - | 2.97 | 4.47 | 5.70 | 7.2 | 8.50 | 9.50 |
| 7771-5511-S | 1 | 3.20 | 7.80 | - | - | - | - | - | - |
| | 2 | - | - | 11 | 15 | 18.60 | 23 | 28 | 33 |
| 7772-5512-S | 1 | 12.80 | 22.70 | - | - | - | - | - | - |
| | 2 | - | - | 27.60 | 34.80 | 46.60 | 55.20 | 66.60 | 76 |
| 7773-5513-S | 1 | 13.90 | 22.90 | - | - | - | - | - | - |
| | 2 | - | - | 38.20 | 56.40 | 75.10 | 95.30 | 112.20 | 133 |
| 7774-5514-S | 1 | 65 | 102 | - | - | - | - | - | - |
| | 2 | - | - | 98 | 134 | 171 | 215 | 249 | 290 |
| 7775-5515-S | 1 | 65 | 102 | - | - | - | - | - | - |
| | 2 | - | - | 133 | 194 | 255 | 323 | 391 | 476 |
| 7780-5580-S | 1 | 140 | 236 | - | - | - | - | - | - |
| | 2 | - | - | 323 | 414 | 526 | 631 | 740 | 850 |
| 7776-5516-S | 1 | 113 | 200 | - | - | - | - | - | - |
| | 2 | - | - | 275 | 352 | 435 | 525 | 625 | 725 |
| 7776-5516-HT-S | 1 | 275 | 420 | - | - | - | - | - | - |
| | 2 | - | - | 528 | 657 | 800 | 956 | 1120 | 1270 |
| 7777-5517-S | 1 | 415 | 576 | - | - | - | - | - | - |
| | 2 | - | - | 700 | 828 | 963 | 1118 | 1250 | 1468 |
| 7778-5518-S | 1 | 670 | 886 | - | - | - | - | - | - |
| | 2 | - | - | 1028 | 1254 | 1470 | 1692 | 1918 | - |
| 2718-3718-S | 1 | 1524 | 2032 | - | - | - | - | - | - |
| | 2 | - | - | 2540 | 3049 | 3557 | 4065 | 4573 | 5081.70 |