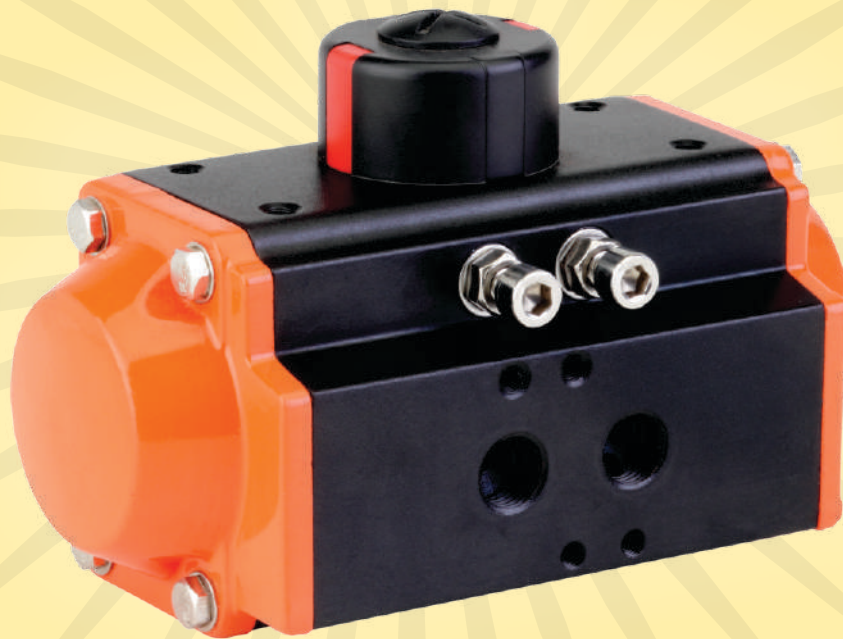




# ACT Range of Pneumatic Actuators For Valve Automation



## Pioneer Spirit in Valve Automation

## COMPANY PROFILE

An ISO 9001:2008 certified company, AVCON has been a trusted name in industry for precision automation. The continuous R&D and marked study has been tradition of the AVCON that keeping track of changing trends in an array of industrial like petroleum, chemical, power generation, metallurgy, water treatment, pharmaceutical, building automation, and in other field.

AVCON Controls Pvt. Ltd. is fore-runner in manufacturing of Pneumatic Rotary Actuators and Automated Control Valves. AVCON is the first company to introduced full range of 3300 series Pneumatic Rotary Actuators in 1978. Now being replace by ACT Series.

Looking at the new tread and stringent requirements of industry, new design was researched, result of is 'ACT' range of Actuators.



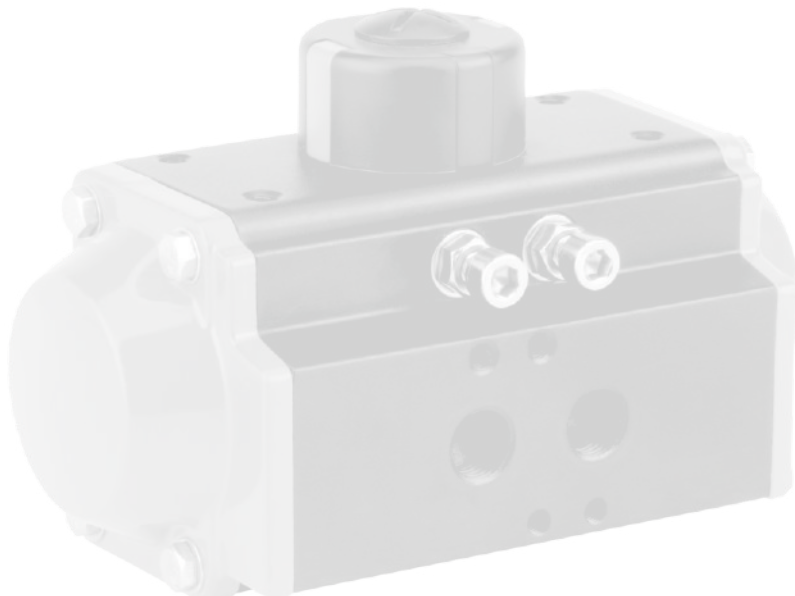
*Pune Works - Unit II*



*Regd. Office & Works - Unit III - Mumbai*

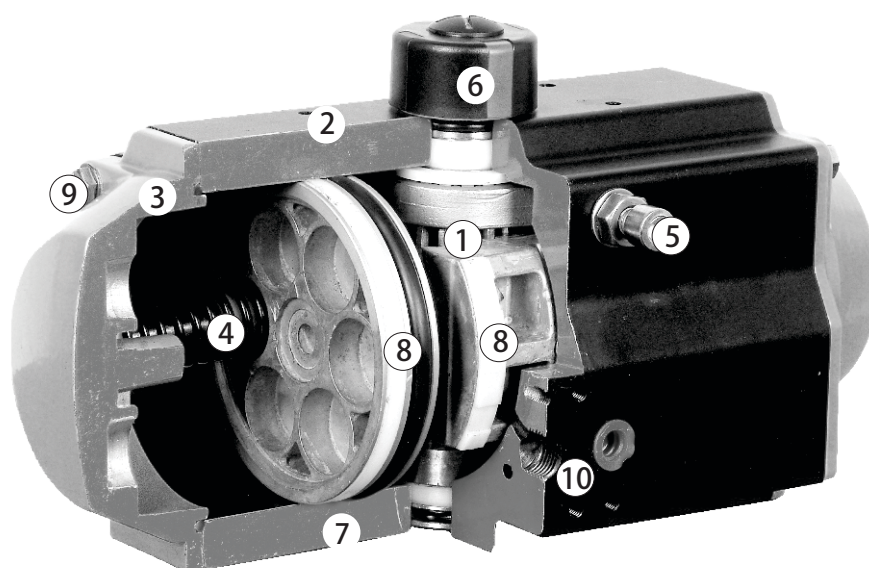


*Office & Works - Unit I - Mumbai*



# “ACT” Range of Pneumatic Actuators

The new ACT Pneumatic rack and pinion actuators have been researched and optimally designed through solid modeling, using high end software like UNIGRAPHICS. The complete actuators are manufactured using Aluminum Extruded sections, Pressure Die Casting and Engineering Plastic Material. Rigorous quality checks are initiated to enhance performance and reliability of the product to the optimum level.



1. Double piston rack and pinion design for fast and smooth operations. Fully machined on CNC machining centers, maintaining precision and easy interchangeability of parts.

2. Extruded high quality aluminum alloy cylinder tubes, precisely bored and hard anodized internally and outer surface, offers extended performance, lower resistance to friction and long life to synthetic parts.

3. Uniform design utilizes identical cylinder body and end caps for all Double Acting and Single Acting Actuators, allows change of action easily by adding or removing springs.

4. Pre-loaded spring cartridges can be installed or removed easily. Number of Springs can be added or removed in field.

5. Two Independent adjustable external screws to adjust end of travel, will facilitate, adjusting On or Off location of the valve.

6. Visual indicator comply with Standard VDI/VDE 3845 and Namur; Also makes possible to install all accessories such as Limit switches, Positioner and Position sensor.

7. Mounting Position confirms to ISO 5211, Optional DIN 3337 (F05-F16), makes actuators installation interchangeable and versatile.

8. Bearing bush installed on the Pinion and piston guiding pads located at the back of gear rack, prevent metal to metal friction; additionally increases lubrication to reduce friction and extend life of the actuator.

9. Stainless steel/electroplated fasteners to ensure long term resistance

10. Position of air connection complies with Namur standard facilitates mounting of Namur Standard Solenoid Valve.

# “ACT” Range of Pneumatic Actuators

## MULTI-FUNCTIONAL NAMUR INTERFACE

Multi-functional indicator in the 4th generation actuator is the standard product, which can be applied to following occasions since it is made of compound materials.



### 1.Location indication

Indicating location of valve and actuator visually by a color inserts provided on visual indicator. The indicator is suitable for all output shaft and any directions of actuator.



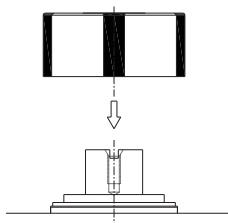
### 2.Output accessories of actuator.

NAMUR standard location indicator can directly get engaged without removing visual indicator to the limit switch box.



### 3.Output accessories of actuator.

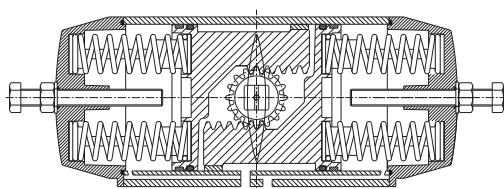
NAMUR standard location indicator can directly get engaged by removing visual indicator to the limit switch box.



## Attachment installed without multi-functional indicator.

According to the requirement, replace standard indicator by stainless steel cap with NAMUR standard trough in 4th generation actuator to carry out following functions:

1. Attachment installation such as limit switch box and locator.
2. Indicating location of actuator by NAMUR standard trough.
3. Operable under high temperature.
4. Operate the actuator manually under emergency.



## Full stroke adjustment on 4th generation actuator

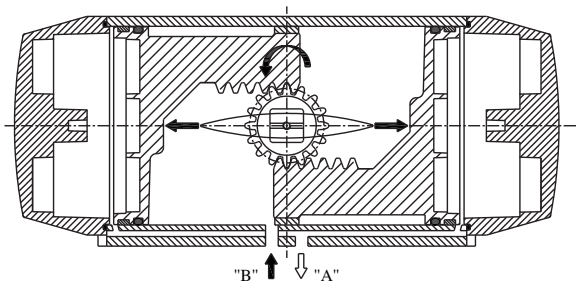
The stroke range is 0° to 90° plus or minus 4° when a stroke less than 90° is required such as 1°, 5°, 10°, 25°, 50°, or 80° you can add two special bolts adjustable or limitable at 0° to 90° at two end covers of actuator according to the requirement of customer. Full stroke adjustment is available in all 4th generation actuators (available Range ACT 100 to ACT 270 ).

# “ACT” Range of Pneumatic Actuators

## Operating Principle and Direction of Rotation.

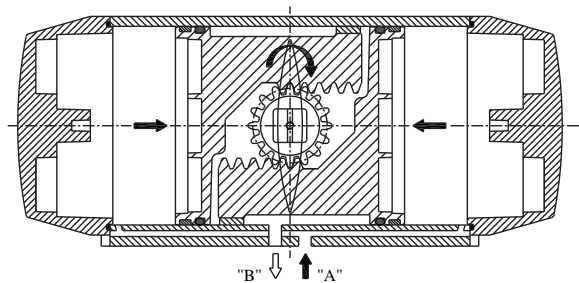
The standard rotating direction is clockwise, and can be anticlockwise when the air arrives at the Port-B.  
The rotating direction of the actuators marked LF is anticlockwise, and when air arrives at Port-B it is clockwise.

## OPERATING PRINCIPLE OF DOUBLE ACTING



### CCW

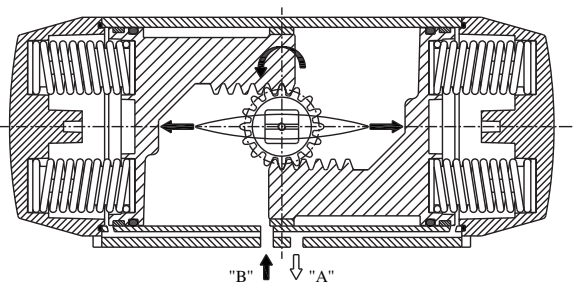
Air to Port-B forces the pistons outwards to the two ends, causing the pinion to turn counterclockwise while the air is being exhausted from Port-A.



### CW

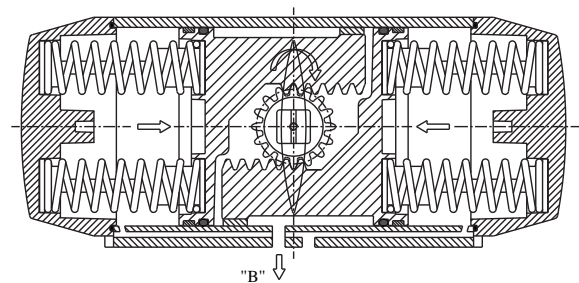
Air to Port-A forces the pistons inwards to the middle, causing the pinion to turn clockwise while the air is being exhausted from Port-B.

## OPERATING PRINCIPLE OF SINGLE ACTING



### CCW

Air to Port-B forces the pistons outwards to the both ends, causing the springs to compress and pinion to turn counter-clockwise while the air is being exhausted from Port-A.

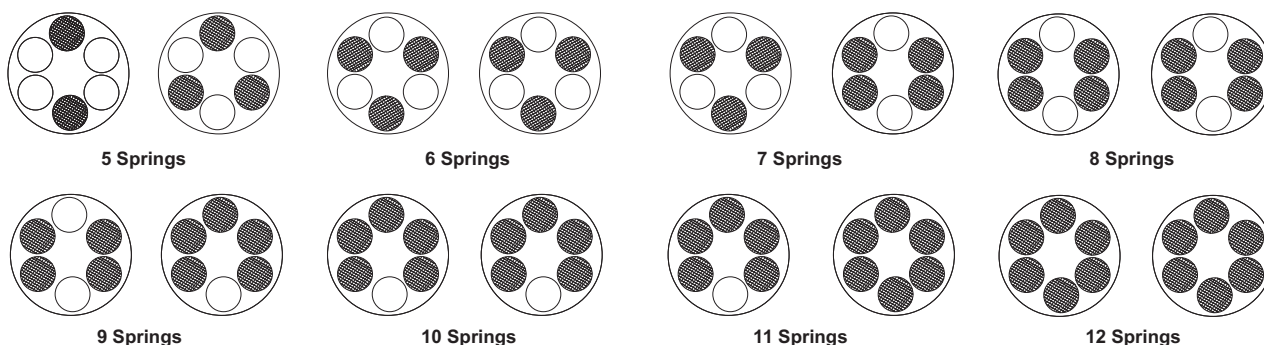


### CW

Loss of air pressure from middle Position, the stored energy in the springs forces the pistons inward to the middle position, pinion turns clockwise while air is being exhausted the from Port-B.

# “ACT” Range of Pneumatic Actuators

## Springs Mounting From For Spring Return Actuators.



## How to select the actuator

The purpose for this reference data is to help how to select ACT Pneumatic actuator . Before installing the actuator to Valve, take the following factors into consideration:

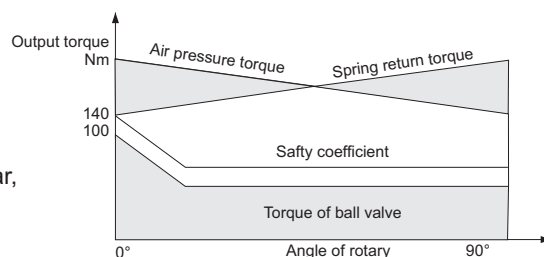
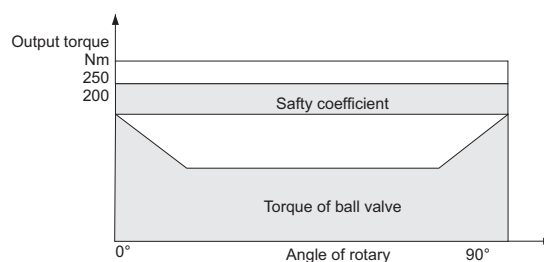
1. Valve's running torque plus safety coefficient that recommended by manufacture/under operating condition.
2. Actuator's air pressure
3. Type of actuator; D (double acting ) or S (spring return) and the output torque under certain air pressure
4. Rotation of actuator and its failure mode (failure on or failure off)

## Selection of Actuator

1. Increase safety coefficient to the torque of selected valve when selecting pneumatic actuator.
2. Increase 25% safety coefficient to vapor or non-lubricating liquids.
3. Increase 30% safety coefficient to non -lubricating slurry liquids.
4. Increase 40% safety coefficient to non -lubricated dry gas.
5. Increase 60% safety coefficient to non -lubricated powdered and particles transported by air.
6. Increase 20% safety coefficient to clean and low - lubricant (above recommended theoretically by us for reference only).
7. Increase 20% Safety coefficient to non-lubricated liquids, water, oil.

## Example ( Double Acting Actuator Selection)

When controlling a ball valve with torque 200NM, at air Pressure 4.5 Bar and medium of non-lubricated Steam, we shall increase 25% safety coefficient for safety consideration. According to the torque list of double acting, check the air pressure that is of 4.5 bar, then follow this row vertical, look for equal or equivalent to this torque, that tell us to choose 277NM, then follow the same line again look for the left direction, we can find the right model of ACT125D.

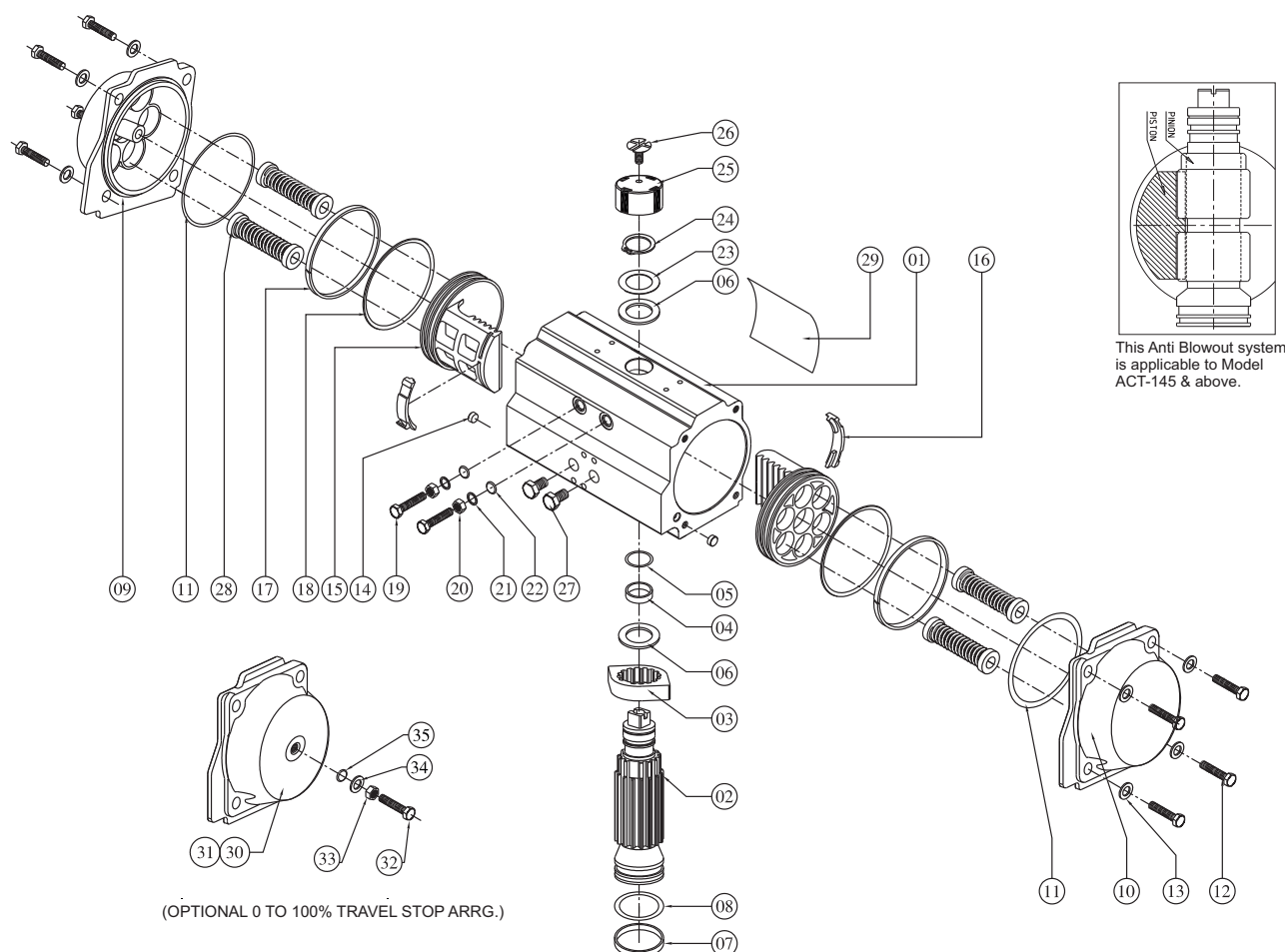


## Example ( Single Acting Actuator Selection )

When controlling a butterfly valve with 100NM torque, at air pressure 4.5 Bar and non-luricated dry gas, we shall increase 40% safety coefficient for safety consideration, i.e. 140NM. Check direction the output torque list of spring return column and we can find out that the similar torque is 148NM. And then search for the left at the same line for the column torque air pressure 4.5 bar and we can find out that it is 158NM we have to take the balance of relative strength of air pressure torque and spring return torque into consideration. Finally, search for the left direction at the same line for model and quantity of spring, and we can find out that it is ACT-145-S with 9 springs.

# “ACT” Range of Pneumatic Actuators

## Parts and Material



| No.  | PART DESCRIPTION                | MATERIAL SPEC.                                | QTY |
|------|---------------------------------|-----------------------------------------------|-----|
| 01   | BODY                            | EXTRUDED ALUMINIUM ALLOY/<br>WCB / CF8M / CF8 | 01  |
| 02   | PINION                          | ALLOY STEEL                                   | 01  |
| 03   | CAM                             | STAINLESS STEEL I.C.                          | 01  |
| ● 04 | PINION TOP RING                 | DELIN                                         | 01  |
| ● 05 | PINION TOP "O" RING             | NBR                                           | 01  |
| ● 06 | PINION TOP / BOTTOM THRUST BUSH | DELIN                                         | 02  |
| ● 07 | PINION BOTTOM RING              | DELIN                                         | 01  |
| ● 08 | PINION BOTTOM "O" RING          | NBR                                           | 01  |
| 09   | END CAP LEFT                    | EXTRUDED ALUMINIUM ALLOY/<br>WCB / CF8M / CF8 | 01  |
| 10   | END CAP RIGHT                   | EXTRUDED ALUMINIUM ALLOY/<br>WCB / CF8M / CF8 | 01  |
| ● 11 | END CAP "O" RING                | NBR                                           | 02  |
| 12   | END CAP BOLT                    | STAINLESS STEEL                               | 08  |
| 13   | END CAP WASHER                  | STAINLESS STEEL                               | 08  |
| ● 14 | PLUG                            | NBR                                           | 02  |
| 15   | PISTON                          | STANYL/CAST AL. ALLOY                         | 02  |
| ● 16 | PISTON PAD                      | STANYL                                        | 02  |
| ● 17 | PISTON RING                     | DELIN                                         | 02  |
| ● 18 | PISTON "O" RING                 | NBR                                           | 02  |

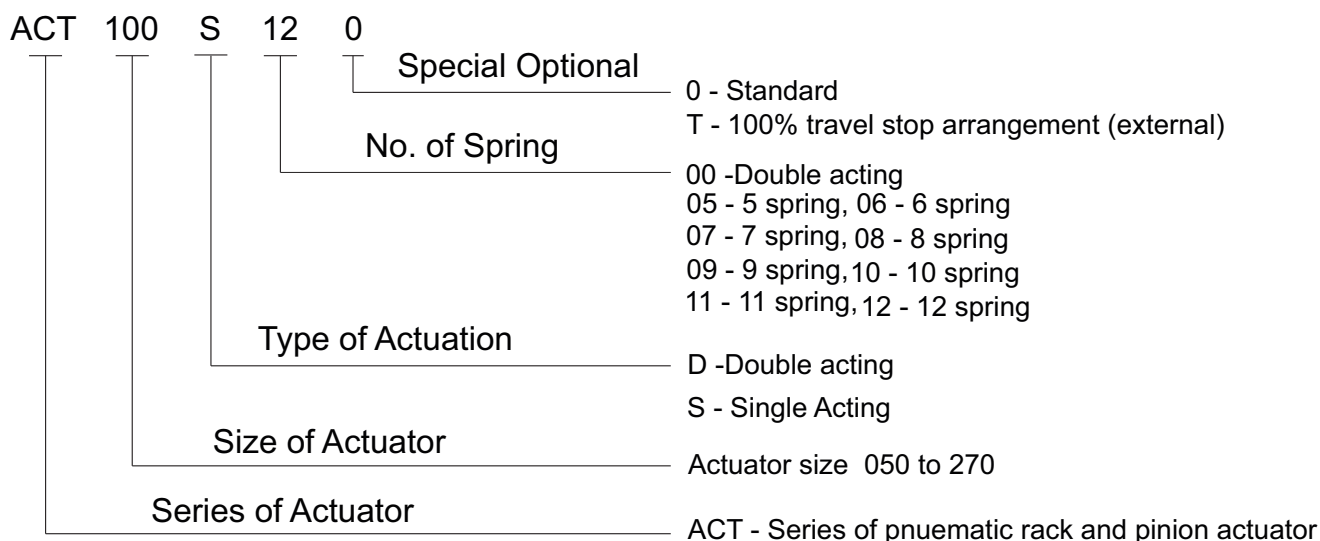
| No.  | PART DESCRIPTION                      | MATERIAL SPEC.       | QTY |
|------|---------------------------------------|----------------------|-----|
| 19   | STROKE BOLT                           | STAINLESS STEEL      | 02  |
| 20   | STROKE BOLT NUT                       | STAINLESS STEEL      | 02  |
| 21   | STROKE BOLT WASHER                    | STAINLESS STEEL      | 02  |
| ● 22 | STROKE BOLT "O" RING                  | NBR                  | 02  |
| ● 23 | SHIM                                  | STAINLESS STEEL      | 01  |
| ● 24 | CIRCLIP                               | SPRING STEEL         | 01  |
| 25   | POSITION INDICATOR                    | PLASTIC              | 01  |
| 26   | POSITION INDICATOR SCREW              | PLASTIC              | 01  |
| ● 27 | 1/4" PLUG                             | PLASTIC              | 02  |
| ● 28 | SPRING CARTRIDGE ASSEMBLY             | —                    | 12  |
| 29   | MAIN STICKER                          | PVC                  | 01  |
| ● 30 | END CAP LEFT (100% TRVEL STOP ARR.G)  | ZYTEL/CAST AL. ALLOY | 01  |
| ● 31 | END CAP RIGHT (100% TRVEL STOP ARR.G) | ZYTEL/CAST AL. ALLOY | 01  |
| ● 32 | BOLT                                  | STAINLESS STEEL      | 02  |
| ● 33 | NUT                                   | STAINLESS STEEL      | 02  |
| ● 34 | WASHER                                | STAINLESS STEEL      | 02  |
| ● 35 | 'O' RING                              | NBR                  | 02  |

- Suggested spare parts for maintenance
- Valid for Spring Return Actuator only
- Optional Only for 0 to 100% travel stop Arrangement (available Range ACT100 to ACT270).

STANYL  
AKULON  
(PA630GF) } DSM.  
ZYTEL  
DERLIN } DUPONT.

# “ACT” Range of Pneumatic Actuators

## How to Order



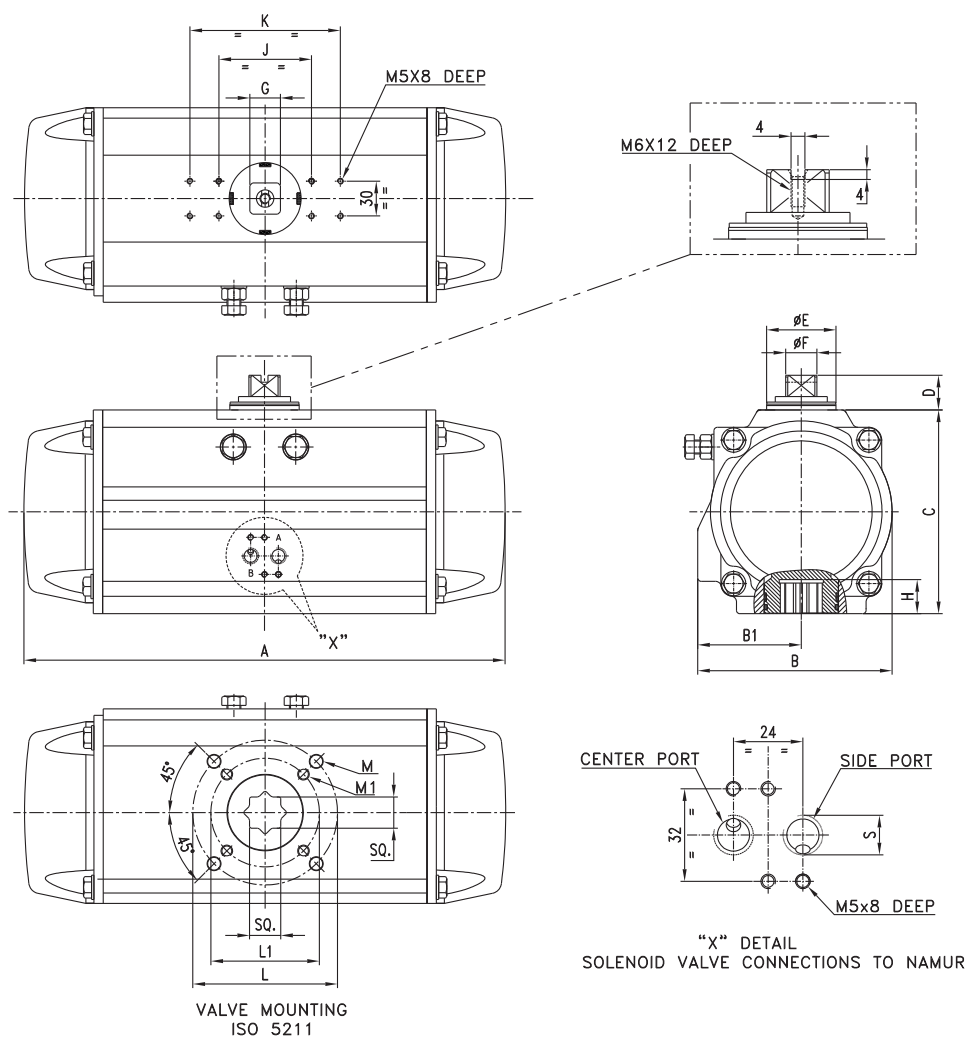
## Technical data

| Model and Type                             | ACT050<br>D/S | ACT063<br>D/S | ACT075<br>D/S | ACT090<br>D/S | ACT100<br>D/S | ACT115<br>D/S | ACT125<br>D/S | ACT145<br>D/S | ACT160<br>D/S | ACT190<br>D/S | ACT210<br>D/S | ACT240<br>D/S | ACT270<br>D/S |      |      |      |      |      |      |      |      |      |      |       |       |       |
|--------------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| Diameter of Bore                           | 50            | 63            | 75            | 90            | 100           | 115           | 125           | 145           | 160           | 190           | 210           | 240           | 270           |      |      |      |      |      |      |      |      |      |      |       |       |       |
| Rotation required for 1° stroke adjustment | 1/6           | 1/6           | 1/5           | 1/5           | 1/5           | 1/5           | 1/5           | 1/4           | 1/4           | 1/4           | 1/4           | 1/4           | 1/4           |      |      |      |      |      |      |      |      |      |      |       |       |       |
| Opening cylinder (D) volume (L)            | 0.1           | 0.2           | 0.3           | 0.5           | 0.7           | 1.2           | 1.5           | 2.4           | 3.1           | 4.3           | 5.9           | 10.0          | 14.5          |      |      |      |      |      |      |      |      |      |      |       |       |       |
| Closing cylinder (D) volume (L)            | 0.2           | 0.3           | 0.5           | 0.8           | 1.1           | 1.8           | 2.3           | 3.8           | 4.9           | 6.9           | 9.5           | 15.2          | 21.4          |      |      |      |      |      |      |      |      |      |      |       |       |       |
| Opening time (S)                           | 0.2           | 0.3           | 0.3           | 0.3           | 0.3           | 0.35          | 0.4           | 0.5           | 0.5           | 0.6           | 0.7           | 0.8           | 0.9           | 1.1  | 1.2  | 1.4  | 1.5  | 1.7  | 2    | 2.2  | 2.7  | 3.2  | 3.5  | 4     | 4     | 4.5   |
| Closing time (S)                           | 0.3           | 0.3           | 0.3           | 0.4           | 0.4           | 0.5           | 0.5           | 0.6           | 0.7           | 0.9           | 0.9           | 1.1           | 1.2           | 1.4  | 1.5  | 1.8  | 1.8  | 2.1  | 2.4  | 2.8  | 3.5  | 4    | 4.1  | 4.6   | 4.5   | 5     |
| Approximate weight (Kg) (Aluminium)        | 1.1           | 1.2           | 1.4           | 1.8           | 2.5           | 3.3           | 4.0           | 4.7           | 5.4           | 6.5           | 8.4           | 9.8           | 11            | 13.4 | 15.5 | 19.1 | 20.2 | 24.4 | 33   | 39.6 | 35.5 | 45.1 | 61.5 | 72.5  | 86    | 104   |
| Approximate weight (Kg) (CS/SS)            | 1.9           | 2.0           | 2.4           | 2.8           | 4.3           | 5.1           | 6.4           | 7.1           | 8.9           | 10            | 12.3          | 13.7          | 16.8          | 19.2 | 23.2 | 26.8 | 30.6 | 34.8 | 49.8 | 56.4 | 53.6 | 63.2 | 92.9 | 103.9 | 129.9 | 147.9 |

Air consumption depends on air pressure, switch stroke, the volume and frequency of action. Calculation is as follows:  
 Litre/Minute= Cylinder volume(opening volume+closing volume) X {supplied air/gas pressure (Kpa)\*101.3}Xtimes/minute (1Kpa=0.01bar).

# “ACT” Range of Pneumatic Actuators

Dimension are in millimeters. Dimensions are approximate. For Certified Drawing Contact to Avcon.



## DIMENSION IN (MM)

| Size   | A   | B   | B1    | C     | D  | ØE   | ØF | G(SQ) | J  | K   | SQ | H  | L   | L1  | M   | M1  | S<br>(BSP) |
|--------|-----|-----|-------|-------|----|------|----|-------|----|-----|----|----|-----|-----|-----|-----|------------|
| ACT050 | 157 | 70  | 41    | 69    | 20 | 22   | 13 | 11    | 80 | -   | 11 | 12 | 50  | 36  | M6  | M5  | 1/4        |
| ACT063 | 173 | 82  | 46    | 85    | 20 | 24   | 13 | 11    | 80 | -   | 14 | 16 | 50  | 36  | M6  | M5  | 1/4        |
| ACT075 | 221 | 97  | 55    | 102   | 20 | 25.5 | 18 | 14    | 80 | -   | 17 | 19 | 70  | 50  | M8  | M6  | 1/4        |
| ACT090 | 260 | 104 | 55    | 115   | 20 | 35   | 18 | 14    | 80 | -   | 17 | 19 | 70  | 50  | M8  | M6  | 1/4        |
| ACT100 | 290 | 122 | 67    | 127   | 20 | 38   | 18 | 14    | 80 | -   | 22 | 24 | 102 | 70  | M10 | M8  | 1/4        |
| ACT115 | 312 | 132 | 69.5  | 140   | 30 | 40   | 28 | 22    | 80 | 130 | 22 | 24 | 102 | 70  | M10 | M8  | 1/4        |
| ACT125 | 368 | 149 | 80    | 156   | 30 | 52   | 28 | 22    | 80 | 130 | 27 | 29 | 102 | 70  | M10 | M8  | 1/4        |
| ACT145 | 421 | 168 | 89.5  | 176   | 30 | 60   | 36 | 27    | 80 | 130 | 27 | 29 | 125 | 102 | M12 | M10 | 1/4        |
| ACT160 | 450 | 185 | 97    | 197   | 30 | 60   | 36 | 27    | 80 | 130 | 27 | 29 | 125 | 102 | M12 | M10 | 1/4        |
| ACT190 | 550 | 215 | 110   | 231   | 30 | 62   | 36 | 27    | -  | 130 | 36 | 38 | 140 | -   | M16 | -   | 1/4        |
| ACT210 | 620 | 236 | 120   | 253.5 | 30 | 62   | 36 | 27    | -  | 130 | 36 | 38 | 140 | -   | M16 | -   | 1/4        |
| ACT240 | 691 | 261 | 130.5 | 291   | 40 | 70   | 48 | 36    | -  | 130 | 46 | 48 | 165 | -   | M20 | -   | 3/8        |
| ACT270 | 743 | 294 | 147   | 331.5 | 40 | 74   | 48 | 36    | -  | 130 | 46 | 48 | 165 | -   | M20 | -   | 3/8        |

# “ACT” Range of Pneumatic Actuators

## OUTPUT TORQUE OF SPRING RETURN ACTUATORS

| Output torque of air overcomes Spring force (Nm)(1Kgf.m ≅ 9.807Nm.) |             |         |      |       |      |         |      |       |      |         |      |       |      |         |      |       |      | Spring's force |      |       |      |      |      |
|---------------------------------------------------------------------|-------------|---------|------|-------|------|---------|------|-------|------|---------|------|-------|------|---------|------|-------|------|----------------|------|-------|------|------|------|
| Air Pressure                                                        |             | 2,5 Bar |      | 3 Bar |      | 3,5 Bar |      | 4 Bar |      | 4,5 Bar |      | 5 Bar |      | 5,5 Bar |      | 6 Bar |      | 7 Bar          |      | 8 Bar |      |      |      |
| Model                                                               | Spring Qty. | max     | min  | max   | min  | max     | min  | max   | min  | max     | min  | max   | min  | max     | min  | max   | min  | max            | min  | max   | min  | max  | min  |
| ACT 050S                                                            | S05         | 4.9     | 3.4  | 6.6   | 5.1  | 8.3     | 6.8  | 9.9   | 8.4  | 11.6    | 10.1 | 13.2  | 11.7 |         |      |       |      |                |      |       |      | 4.9  | 3.4  |
|                                                                     | S06         | 4.3     | 2.5  | 5.9   | 4.1  | 7.6     | 5.8  | 9.3   | 7.4  | 10.9    | 9.1  | 12.6  | 10.8 | 14.2    | 12.3 |       |      |                |      |       |      | 5.8  | 4    |
|                                                                     | S07         |         |      | 5.3   | 3.1  | 6.9     | 4.8  | 8.6   | 6.5  | 10.2    | 8.1  | 11.9  | 9.8  | 13.6    | 11.5 | 15.2  | 13.2 |                |      |       |      | 6.8  | 4.7  |
|                                                                     | S08         |         |      |       |      | 6.2     | 3.8  | 7.9   | 5.5  | 9.6     | 7.2  | 11.2  | 8.8  | 12.9    | 10.5 | 14.6  | 12.1 | 17.9           | 15.5 |       |      | 7.8  | 5.4  |
|                                                                     | S09         |         |      |       |      |         |      | 7.2   | 4.5  | 8.9     | 6.2  | 10.6  | 7.8  | 12.2    | 8.5  | 13.9  | 11.2 | 17.2           | 14.5 | 20.5  | 17.8 | 8.8  | 6.1  |
|                                                                     | S10         |         |      |       |      |         |      |       |      | 8.2     | 5.2  | 9.9   | 6.9  | 11.5    | 8.5  | 13.2  | 10.2 | 16.5           | 13.5 | 19.8  | 16.8 | 9.7  | 6.7  |
|                                                                     | S11         |         |      |       |      |         |      |       |      |         |      | 9.2   | 5.9  | 10.9    | 7.6  | 12.5  | 9.2  | 15.9           | 12.5 | 19.5  | 15.9 | 10.7 | 7.4  |
|                                                                     | S12         |         |      |       |      |         |      |       |      |         |      |       |      | 10.2    | 6.6  | 11.9  | 8.2  | 15.2           | 11.6 | 18.5  | 14.9 | 11.7 | 8.1  |
| ACT 063S                                                            | S05         | 9.5     | 6.2  | 12    | 9.2  | 15.0    | 12.1 | 17.9  | 15.0 | 20.8    | 17.9 | 23.8  | 20.9 |         |      |       |      |                |      |       |      | 8.4  | 5.5  |
|                                                                     | S06         | 8       | 4.5  | 10.9  | 7.5  | 13.9    | 10.4 | 16.8  | 13.3 | 19.7    | 16.3 | 22.7  | 19.2 | 25.6    | 22.1 |       |      |                |      |       |      | 10.1 | 6.7  |
|                                                                     | S07         |         |      | 9.8   | 5.8  | 12.8    | 8.7  | 15.7  | 11.6 | 18.6    | 14.6 | 21.7  | 17.5 | 24.5    | 20.4 | 27.4  | 23.4 |                |      |       |      | 11.8 | 7.8  |
|                                                                     | S08         |         |      |       |      | 11.6    | 7    | 14.6  | 10   | 17.5    | 12.9 | 20.4  | 15.8 | 23.4    | 18.7 | 26.3  | 21.7 | 32.2           | 27.5 |       |      | 13.5 | 8.9  |
|                                                                     | S09         |         |      |       |      |         |      | 13.5  | 8.3  | 16.4    | 11.2 | 19.3  | 14.1 | 22.3    | 17.1 | 25.2  | 20   | 31.3           | 25.9 | 36.9  | 31.7 | 15.2 | 10   |
|                                                                     | S10         |         |      |       |      |         |      |       |      | 15.3    | 9.5  | 18.2  | 12.4 | 21.1    | 15.4 | 24.1  | 18.3 | 29.9           | 24.2 | 35.8  | 30   | 16.9 | 11.1 |
|                                                                     | S11         |         |      |       |      |         |      |       |      |         |      | 17.1  | 10.8 | 20      | 13.7 | 23    | 16.6 | 28.8           | 22.5 | 34.7  | 28.3 | 18.6 | 12.2 |
|                                                                     | S12         |         |      |       |      |         |      |       |      |         |      |       |      | 18.9    | 12   | 21.9  | 14.9 | 27.7           | 20.8 | 33.6  | 26.7 | 20.2 | 13.3 |
| ACT 075S                                                            | S05         | 18.0    | 11.8 | 23.8  | 17.6 | 29.7    | 23.4 | 35.5  | 29.5 | 41.3    | 35   | 47.1  | 40.9 |         |      |       |      |                |      |       |      | 17.3 | 11.1 |
|                                                                     | S06         | 15.8    | 8.3  | 21.6  | 14.1 | 27.6    | 19.9 | 33.3  | 25.8 | 39.1    | 31.6 | 44.9  | 37.4 | 50.7    | 43.2 |       |      |                |      |       |      | 20.8 | 13.3 |
|                                                                     | S07         |         |      | 19.4  | 10.7 | 25.2    | 16.5 | 31.1  | 22.3 | 36.9    | 28.1 | 42.7  | 33.9 | 48.5    | 39.8 | 54.3  | 45.6 |                |      |       |      | 24.2 | 15.5 |
|                                                                     | S08         |         |      |       |      | 23      | 13   | 28.8  | 18.8 | 34.7    | 24.7 | 40.5  | 30.5 | 46.3    | 36.3 | 52.1  | 42.1 | 63.7           | 53.7 |       |      | 27.7 | 17.7 |
|                                                                     | S09         |         |      |       |      |         |      | 26.6  | 15.4 | 32.5    | 21.2 | 38.3  | 27.0 | 44.1    | 32.8 | 49.9  | 38.6 | 61.5           | 50.3 | 73.2  | 61.9 | 31.2 | 19.9 |
|                                                                     | S10         |         |      |       |      |         |      |       |      | 30.2    | 17.2 | 36.1  | 23.6 | 41.9    | 29.4 | 47.7  | 35.2 | 59.3           | 46.8 | 71    | 58.5 | 34.6 | 22.1 |
|                                                                     | S11         |         |      |       |      |         |      |       |      |         |      | 33.8  | 20.1 | 39.7    | 25.9 | 45.5  | 31.7 | 57.1           | 43.4 | 68.7  | 55   | 38.1 | 24.3 |
|                                                                     | S12         |         |      |       |      |         |      |       |      |         |      |       |      | 37.5    | 22.4 | 43.3  | 28.3 | 54.9           | 39.9 | 66.5  | 51.5 | 41.5 | 26.5 |
| ACT 090S                                                            | S05         | 27.4    | 16.9 | 36.6  | 26   | 45.7    | 35.2 | 54.9  | 44.3 | 64      | 53.5 | 73.2  | 62.6 |         |      |       |      |                |      |       |      | 28.9 | 18.3 |
|                                                                     | S06         | 23.8    | 11.1 | 32.9  | 20.3 | 42.1    | 29.4 | 51.2  | 38.6 | 60.4    | 47.7 | 69.5  | 56.9 | 78.6    | 66   |       |      |                |      |       |      | 34.7 | 22   |
|                                                                     | S07         |         |      | 29.2  | 14.5 | 38.4    | 23.6 | 47.5  | 32.8 | 56.7    | 41.9 | 65.8  | 51.1 | 75      | 60.2 | 84.2  | 69.4 |                |      |       |      | 40.4 | 25.7 |
|                                                                     | S08         |         |      |       |      | 34.7    | 17.9 | 43.9  | 27   | 53      | 36.2 | 62.2  | 45.3 | 71.3    | 54.5 | 80.5  | 63.6 | 98.8           | 81.9 |       |      | 46.2 | 29.3 |
|                                                                     | S09         |         |      |       |      |         |      | 40.2  | 21.2 | 49.4    | 30.4 | 58.5  | 39.5 | 67.7    | 48.7 | 76.8  | 57.8 | 95.1           | 76.1 | 113   | 94.5 | 52   | 33   |
|                                                                     | S10         |         |      |       |      |         |      |       |      | 45.7    | 24.6 | 54.9  | 33.8 | 64      | 42.9 | 73.1  | 52.1 | 91.5           | 70.4 | 110   | 88.7 | 57.8 | 36.7 |
|                                                                     | S11         |         |      |       |      |         |      |       |      |         |      | 51.2  | 28   | 60.3    | 37.1 | 69.5  | 46.3 | 87.8           | 64.6 | 106   | 82.9 | 63.5 | 40.3 |
|                                                                     | S12         |         |      |       |      |         |      |       |      |         |      |       |      | 56.7    | 31.4 | 65.8  | 40.5 | 84.1           | 58.8 | 102   | 77.1 | 69.3 | 44   |
| ACT 100S                                                            | S05         | 41.1    | 27.1 | 54.4  | 40.4 | 67.7    | 53.7 | 81    | 67   | 94.3    | 80.3 | 108   | 93.9 |         |      |       |      |                |      |       |      | 39.4 | 25.3 |
|                                                                     | S06         | 36.1    | 19.2 | 49.4  | 32.5 | 62.7    | 45.8 | 76    | 59.1 | 89.3    | 72.4 | 103   | 85.7 | 116     | 90   |       |      |                |      |       |      | 47.3 | 30.4 |
|                                                                     | S07         |         |      | 44.3  | 24.6 | 57.6    | 37.9 | 70.9  | 51.2 | 84.2    | 64.5 | 97.5  | 77.8 | 111     | 91.1 | 124   | 104  |                |      |       |      | 55.1 | 35.5 |
|                                                                     | S08         |         |      |       |      | 52.5    | 30   | 65.8  | 43.3 | 79.1    | 56.6 | 92.4  | 69.9 | 106     | 83.2 | 119   | 96.5 | 146            | 123  |       |      | 63   | 40.5 |
|                                                                     | S09         |         |      |       |      |         |      | 60.8  | 35.5 | 74      | 48.8 | 87.3  | 62.1 | 101     | 75.3 | 114   | 88.6 | 141            | 115  | 167   | 142  | 70.9 | 45.6 |
|                                                                     | S10         |         |      |       |      |         |      |       |      | 69      | 40.9 | 82.3  | 54.2 | 95.6    | 67.5 | 109   | 80.8 | 135            | 107  | 162   | 134  | 78.8 | 50.7 |
|                                                                     | S11         |         |      |       |      |         |      |       |      |         |      | 77.2  | 46.3 | 90.5    | 59.6 | 104   | 72.9 | 130            | 99   | 157   | 126  | 86.7 | 55.7 |
|                                                                     | S12         |         |      |       |      |         |      |       |      |         |      |       |      | 85.4    | 51.7 | 98.7  | 65   | 125            | 92   | 152   | 118  | 94.5 | 60.8 |

# “ACT” Range of Pneumatic Actuators

## OUTPUT TORQUE OF SPRING RETURN ACTUATORS

| Output torque of air overcomes Spring force (Nm)(1Kgf.m ≅ 9.807Nm.) |             |         |      |       |      |         |      |       |      |         |      |       |      |         | Spring's<br>force |      |       |      |       |      |       |     |     |      |      |
|---------------------------------------------------------------------|-------------|---------|------|-------|------|---------|------|-------|------|---------|------|-------|------|---------|-------------------|------|-------|------|-------|------|-------|-----|-----|------|------|
| Air Pressure                                                        |             | 2,5 Bar |      | 3 Bar |      | 3,5 Bar |      | 4 Bar |      | 4,5 Bar |      | 5 Bar |      | 5,5 Bar |                   |      | 6 Bar |      | 7 Bar |      | 8 Bar |     |     |      |      |
| Model                                                               | Spring Qty. | max     | min  | max   | min  | max     | min  | max   | min  | max     | min  | max   | min  | max     | min               | max  | min   | max  | min   | max  | min   | max | min | max  | min  |
| ACT 115S                                                            | S05         | 63.5    | 41.9 | 87.9  | 63.9 | 109     | 84.9 | 131   | 106  | 152     | 128  | 174   | 149  |         |                   |      |       |      |       |      |       |     |     | 65.5 | 41   |
|                                                                     | S06         | 58.1    | 28.8 | 79.7  | 50.3 | 101     | 71.8 | 123   | 93.3 | 144     | 115  | 166   | 136  | 187     | 158               |      |       |      |       |      |       |     |     | 78.6 | 49.2 |
|                                                                     | S07         |         |      | 71.5  | 37.2 | 93      | 58.7 | 115   | 80.2 | 136     | 102  | 158   | 123  | 179     | 145               | 200  | 166   |      |       |      |       |     |     | 91.7 | 57.4 |
|                                                                     | S08         |         |      |       |      | 84.8    | 45.6 | 106   | 67.1 | 128     | 88.6 | 149   | 110  | 171     | 132               | 192  | 153   | 235  | 196   |      |       |     |     | 105  | 65.6 |
|                                                                     | S09         |         |      |       |      |         |      | 98.1  | 54   | 120     | 75.5 | 141   | 97   | 163     | 118               | 184  | 140   | 227  | 183   | 270  | 226   |     |     | 118  | 73.8 |
|                                                                     | S10         |         |      |       |      |         |      |       |      | 111     | 62.4 | 133   | 83.9 | 154     | 105               | 176  | 127   | 219  | 170   | 262  | 213   |     |     | 131  | 82   |
|                                                                     | S11         |         |      |       |      |         |      |       |      |         |      | 125   | 70.8 | 146     | 92.3              | 168  | 114   | 211  | 157   | 254  | 200   |     |     | 144  | 90.2 |
|                                                                     | S12         |         |      |       |      |         |      |       |      |         |      |       |      | 138     | 79.2              | 159  | 101   | 202  | 143   | 245  | 186   |     |     | 157  | 98.5 |
| ACT 125S                                                            | S05         | 86      | 56.1 | 113.7 | 83.3 | 141     | 111  | 169   | 139  | 197     | 167  | 224   | 195  |         |                   |      |       |      |       |      |       |     |     | 82   | 52.5 |
|                                                                     | S06         | 75.5    | 39.6 | 103.2 | 67.3 | 131     | 95   | 159   | 123  | 186     | 150  | 214   | 178  | 242     | 206               |      |       |      |       |      |       |     |     | 99   | 62.9 |
|                                                                     | S07         |         |      | 92.7  | 50.8 | 120.4   | 78.5 | 148   | 106  | 176     | 134  | 203   | 162  | 231     | 189               | 259  | 217   |      |       |      |       |     |     | 115  | 73.5 |
|                                                                     | S08         |         |      |       |      | 110     | 62   | 137.6 | 89.7 | 165     | 117  | 193   | 145  | 221     | 173               | 248  | 201   | 304  | 256   |      |       |     |     | 132  | 84   |
|                                                                     | S09         |         |      |       |      |         |      | 127   | 73.3 | 155     | 101  | 182   | 129  | 210     | 156               | 238  | 184   | 293  | 239   | 349  | 295   |     |     | 148  | 94.5 |
|                                                                     | S10         |         |      |       |      |         |      |       |      | 144     | 84.5 | 172   | 112  | 200     | 140               | 227  | 168   | 283  | 223   | 338  | 278   |     |     | 165  | 105  |
|                                                                     | S11         |         |      |       |      |         |      |       |      |         |      | 161   | 95.7 | 189     | 123               | 217  | 151   | 273  | 206   | 328  | 262   |     |     | 181  | 116  |
|                                                                     | S12         |         |      |       |      |         |      |       |      |         |      |       |      | 179     | 107               | 206  | 135   | 262  | 190   | 317  | 245   |     |     | 198  | 126  |
| ACT 145S                                                            | S05         | 135     | 88.6 | 179   | 132  | 222     | 176  | 265   | 219  | 309     | 262  | 352   | 306  |         |                   |      |       |      |       |      |       |     |     | 129  | 82   |
|                                                                     | S06         | 119     | 62.6 | 162   | 106  | 206     | 150  | 249   | 193  | 293     | 236  | 336   | 280  | 379     | 324               |      |       |      |       |      |       |     |     | 155  | 98.7 |
|                                                                     | S07         |         |      | 146   | 80.5 | 189     | 124  | 233   | 167  | 276     | 211  | 320   | 254  | 363     | 298               | 406  | 341   |      |       |      |       |     |     | 180  | 115  |
|                                                                     | S08         |         |      |       |      | 173     | 98.2 | 216   | 142  | 260     | 185  | 303   | 229  | 347     | 272               | 390  | 316   | 477  | 403   |      |       |     |     | 206  | 132  |
|                                                                     | S09         |         |      |       |      |         |      | 200   | 116  | 243     | 159  | 287   | 203  | 330     | 246               | 374  | 290   | 460  | 377   | 547  | 464   |     |     | 232  | 148  |
|                                                                     | S10         |         |      |       |      |         |      |       |      | 227     | 134  | 270   | 177  | 314     | 221               | 357  | 264   | 444  | 351   | 531  | 438   |     |     | 258  | 165  |
|                                                                     | S11         |         |      |       |      |         |      |       |      |         |      | 254   | 151  | 297     | 195               | 341  | 238   | 428  | 325   | 515  | 412   |     |     | 283  | 181  |
|                                                                     | S12         |         |      |       |      |         |      |       |      |         |      |       |      | 281     | 169               | 324  | 213   | 411  | 299   | 498  | 386   |     |     | 309  | 198  |
| ACT 160S                                                            | S05         | 171     | 118  | 228   | 174  | 285     | 231  | 342   | 288  | 398     | 344  | 455   | 401  |         |                   |      |       |      |       |      |       |     |     | 166  | 112  |
|                                                                     | S06         | 149     | 84.3 | 206   | 141  | 262     | 198  | 319   | 255  | 376     | 311  | 433   | 368  | 489     | 425               |      |       |      |       |      |       |     |     | 199  | 135  |
|                                                                     | S07         |         |      | 183   | 108  | 240     | 165  | 297   | 221  | 353     | 278  | 410   | 335  | 467     | 391               | 524  | 448   |      |       |      |       |     |     | 233  | 157  |
|                                                                     | S08         |         |      |       |      | 218     | 131  | 274   | 188  | 331     | 245  | 388   | 302  | 444     | 358               | 501  | 415   | 615  | 528   |      |       |     |     | 266  | 180  |
|                                                                     | S09         |         |      |       |      |         |      | 252   | 155  | 309     | 212  | 365   | 368  | 422     | 325               | 479  | 382   | 592  | 495   | 706  | 609   |     |     | 299  | 202  |
|                                                                     | S10         |         |      |       |      |         |      |       |      | 286     | 178  | 343   | 235  | 400     | 292               | 456  | 349   | 570  | 462   | 683  | 575   |     |     | 332  | 224  |
|                                                                     | S11         |         |      |       |      |         |      |       |      |         |      | 320   | 202  | 377     | 259               | 434  | 315   | 547  | 429   | 661  | 542   |     |     | 365  | 247  |
|                                                                     | S12         |         |      |       |      |         |      |       |      |         |      |       |      | 355     | 225               | 411  | 282   | 525  | 396   | 638  | 509   |     |     | 399  | 269  |
| ACT 190S                                                            | S05         | 327     | 212  |       |      |         |      |       |      |         |      |       |      |         |                   |      |       |      |       |      |       |     |     | 293  | 190  |
|                                                                     | S06         | 285     | 147  | 393   | 255  | 501     | 363  |       |      |         |      |       |      |         |                   |      |       |      |       |      |       |     |     | 352  | 227  |
|                                                                     | S07         | 243     | 82   | 351   | 190  | 459     | 298  | 566   | 405  | 675     | 514  | 740   | 556  |         |                   |      |       |      |       |      |       |     |     | 410  | 265  |
|                                                                     | S08         |         |      | 309   | 125  | 417     | 233  | 524   | 340  | 633     | 449  | 698   | 491  | 849     | 665               |      |       |      |       |      |       |     |     | 469  | 303  |
|                                                                     | S09         |         |      |       |      |         |      | 482   | 275  | 591     | 384  | 656   | 426  | 807     | 600               | 913  | 706   |      |       |      |       |     |     | 527  | 341  |
|                                                                     | S10         |         |      |       |      |         |      | 440   | 210  | 549     | 384  | 614   | 361  | 765     | 535               | 871  | 736   | 1087 | 857   | 1302 | 1072  |     |     | 586  | 379  |
|                                                                     | S11         |         |      |       |      |         |      |       |      |         |      | 572   | 296  | 723     | 470               | 829  | 576   | 1045 | 792   | 1260 | 1007  |     |     | 645  | 417  |
|                                                                     | S12         |         |      |       |      |         |      |       |      |         |      |       |      | 681     | 405               | 787  | 511   | 1003 | 727   | 1218 | 942   |     |     | 703  | 455  |
| ACT 210S                                                            | S05         | 369     | 258  |       |      |         |      |       |      |         |      |       |      |         |                   |      |       |      |       |      |       |     |     | 360  | 260  |
|                                                                     | S06         | 311     | 178  | 442   | 309  | 572     | 446  | 647   | 493  | 778     | 631  |       |      |         |                   |      |       |      |       |      |       |     |     | 432  | 313  |
|                                                                     | S07         | 253     | 99   | 384   | 230  | 514     | 367  | 589   | 413  | 720     | 552  | 853   | 677  | 721     | 815               |      |       |      |       |      |       |     |     | 503  | 365  |
|                                                                     | S08         |         |      | 326   | 150  | 456     | 288  | 531   | 333  | 662     | 473  | 795   | 597  | 663     | 736               | 1058 | 860   |      |       |      |       |     |     | 575  | 417  |
|                                                                     | S09         |         |      |       |      |         |      | 473   | 253  | 604     | 394  | 737   | 517  | 605     | 657               | 1000 | 780   | 1263 | 1043  | 1526 | 1306  |     |     | 647  | 469  |
|                                                                     | S10         |         |      |       |      |         |      |       |      |         |      | 679   | 437  | 547     | 578               | 942  | 700   | 1205 | 963   | 1468 | 1226  |     |     | 719  | 521  |
|                                                                     | S11         |         |      |       |      |         |      |       |      |         |      | 621   | 357  | 489     | 499               | 884  | 620   | 1147 | 883   | 1410 | 1146  |     |     | 791  | 573  |
|                                                                     | S12         |         |      |       |      |         |      |       |      |         |      |       |      |         |                   |      |       |      |       |      |       |     |     | 863  | 625  |

# “ACT” Range of Pneumatic Actuators

## OUTPUT TORQUE OF SPRING RETURN ACTUATORS

| Output torque of air overcomes Spring force (Nm)(1Kgf.m ≅ 9.807Nm.) |             |         |     |       |     |         |      |       |      |         |      |       |      |         |      | Spring's<br>force. |       |      |       |      |       |      |      |
|---------------------------------------------------------------------|-------------|---------|-----|-------|-----|---------|------|-------|------|---------|------|-------|------|---------|------|--------------------|-------|------|-------|------|-------|------|------|
| Air Pressure                                                        |             | 2,5 Bar |     | 3 Bar |     | 3,5 Bar |      | 4 Bar |      | 4,5 Bar |      | 5 Bar |      | 5,5 Bar |      |                    | 6 Bar |      | 7 Bar |      | 8 Bar |      |      |
| Model                                                               | Spring Qty. | max     | min | max   | min | max     | min  | max   | min  | max     | min  | max   | min  | max     | min  | max                | min   | max  | min   | max  | min   |      |      |
| ACT 240S                                                            | S05         | 533     | 372 | 712   | 551 | 890     | 730  | 1069  | 908  | 1248    | 1087 | 1426  | 1266 |         |      |                    |       |      |       | 521  | 360   |      |      |
|                                                                     | S06         | 461     | 268 | 640   | 447 | 818     | 625  | 997   | 804  | 1176    | 983  | 1354  | 1162 | 1533    | 1340 |                    |       |      |       | 625  | 433   |      |      |
|                                                                     | S07         |         |     | 568   | 343 | 746     | 521  | 925   | 700  | 1104    | 879  | 1282  | 1057 | 1461    | 1236 | 1640               | 1415  |      |       | 730  | 505   |      |      |
|                                                                     | S08         |         |     |       |     | 574     | 417  | 853   | 596  | 1032    | 774  | 1210  | 953  | 1389    | 1132 | 1568               | 1310  | 1925 | 1668  |      | 834   | 577  |      |
|                                                                     | S09         |         |     |       |     |         |      | 781   | 491  | 959     | 670  | 1138  | 849  | 1317    | 1028 | 1495               | 1206  | 1853 | 1564  | 2210 | 1921  | 938  | 649  |
|                                                                     | S10         |         |     |       |     |         |      |       |      | 887     | 566  | 1066  | 745  | 1245    | 923  | 1423               | 1102  | 1781 | 1459  | 2138 | 1817  | 1042 | 721  |
|                                                                     | S11         |         |     |       |     |         |      |       |      |         |      | 994   | 640  | 1173    | 819  | 1351               | 998   | 1709 | 1355  | 2066 | 1713  | 1146 | 793  |
|                                                                     | S12         |         |     |       |     |         |      |       |      |         |      |       |      | 1101    | 715  | 1279               | 894   | 1637 | 1251  | 1994 | 1608  | 1251 | 865  |
| ACT 270S                                                            | S05         | 879     | 640 |       |     |         |      |       |      |         |      |       |      |         |      |                    |       |      |       |      |       | 745  | 530  |
|                                                                     | S06         | 761     | 475 | 1054  | 768 | 1353    | 1059 |       |      |         |      |       |      |         |      |                    |       |      |       |      |       | 894  | 636  |
|                                                                     | S07         | 644     | 309 | 937   | 602 | 1236    | 893  | 1525  | 1190 | 1823    | 1480 |       |      |         |      |                    |       |      |       |      |       | 1043 | 742  |
|                                                                     | S08         |         |     | 819   | 437 | 1119    | 727  | 1407  | 1025 | 1706    | 1314 | 1994  | 1612 | 2293    | 1901 |                    |       |      |       |      |       | 1192 | 848  |
|                                                                     | S09         |         |     |       |     | 1002    | 561  | 1289  | 859  | 1589    | 1148 | 1876  | 1446 | 2176    | 1735 | 2463               | 2033  |      |       |      |       | 1341 | 954  |
|                                                                     | S10         |         |     |       |     |         |      | 1171  | 694  | 1472    | 982  | 1758  | 1281 | 2059    | 1569 | 2345               | 1868  | 2932 | 2455  | 3519 | 3042  | 1490 | 1060 |
|                                                                     | S11         |         |     |       |     |         |      |       |      | 1355    | 816  | 1640  | 950  | 1942    | 1403 | 2227               | 1702  | 3884 | 2289  | 3402 | 2876  | 1639 | 1166 |
|                                                                     | S12         |         |     |       |     |         |      |       |      |         |      |       |      | 1825    | 1237 | 2110               | 1537  | 1697 | 2124  | 3284 | 2711  | 1788 | 1272 |

## OUTPUT TORQUE OF DOUBLE ACTING ACTUATORS

| Output Torque Of Double Acting Actuators (Nm) |         |       |         |       |         |       |         |       |       |       |
|-----------------------------------------------|---------|-------|---------|-------|---------|-------|---------|-------|-------|-------|
| Air Pressure<br>Model                         | 2,5 Bar | 3 Bar | 3,5 Bar | 4 Bar | 4,5 Bar | 5 Bar | 5,5 Bar | 6 Bar | 7 Bar | 8 Bar |
| ACT 032D                                      | 3.8     | 4.6   | 5.3     | 6.1   | 6.9     | 7.6   | 8.4     | 9.2   | 10.7  | 12.2  |
| ACT 050D                                      | 8.3     | 10.0  | 11.6    | 13.3  | 15.0    | 16.6  | 18.3    | 19.9  | 23.3  | 26.6  |
| ACT 063D                                      | 14.7    | 17.6  | 20.6    | 23.5  | 26.4    | 26.3  | 32.2    | 35.2  | 41.0  | 46.9  |
| ACT 075D                                      | 29.1    | 34.9  | 40.7    | 46.5  | 52.4    | 58.2  | 64.0    | 69.9  | 81.4  | 93.1  |
| ACT 090D                                      | 45.8    | 54.9  | 64.1    | 73.1  | 82.4    | 91.5  | 101     | 110   | 128   | 146   |
| ACT 100D                                      | 66.5    | 79.8  | 93.1    | 106   | 120     | 133   | 146     | 160   | 186   | 213   |
| ACT 115D                                      | 92.6    | 111   | 129.7   | 148.2 | 166.7   | 185.2 | 204     | 224   | 254   | 296   |
| ACT 125D                                      | 138     | 166   | 194     | 222   | 249     | 277   | 305     | 332   | 388   | 443   |
| ACT 145D                                      | 217     | 261   | 304     | 348   | 391     | 435   | 478     | 522   | 609   | 696   |
| ACT160D                                       | 284     | 340   | 397     | 454   | 511     | 567   | 624     | 681   | 794   | 908   |
| ACT 190D                                      | 466     | 560   | 653     | 746   | 840     | 933   | 1026    | 1119  | 1305  | 1492  |
| ACT 210D                                      | 658     | 789   | 920     | 1052  | 1184    | 1316  | 1447    | 1579  | 1842  | 2105  |
| ACT 240D                                      | 966     | 1160  | 1352    | 1546  | 1740    | 1933  | 2126    | 2320  | 2706  | 3093  |
| ACT 270D                                      | 1468    | 1761  | 2055    | 2349  | 2642    | 2936  | 3229    | 3523  | 4110  | 4697  |

## TORQUE CONVERSIONS TABLE

| Multiply<br>Number of        | By | To Obtain | Newton meter<br>(Nm) | Kilogram force meter<br>(Kgf.m) | Foot Pound<br>(lbf.ft) | Inch Pounds<br>(lbf.in) |
|------------------------------|----|-----------|----------------------|---------------------------------|------------------------|-------------------------|
| Newton meter (Nm)            |    |           | 1                    | 0.1020                          | 0.7376                 | 8.851                   |
| Kilogram force meter (Kgf.m) |    |           | 9.807                | 1                               | 7.233                  | 86.80                   |
| Foot pounds (lbf.ft)         |    |           | 1.356                | 0.1383                          | 1                      | 12.00                   |
| Inch Pounds (lbf.in)         |    |           | 0.1130               | 0.1152                          | 0.0833                 | 1                       |

## 3-way Metal Body Ball Valves With Pneumatic Actuators



## Advantage / Benefits

- High operation safety :  
Highly reliable, long life,  
Simple in Construction and  
maintenance free Gland  
Packing .
- Ultra-Compact :  
- Direct Mounting  
- Small in dimension  
- low weight
- Ports:  
T-Port & L-Port (factory Set).
- Easy to install :  
End connections are  
available in Flanges &  
Screwed BSP(F) & NPT(F).
- Position indicator standard.
- Cost-savings in operation  
due to minimized control air  
consumption.
- Low Lifecycle costs.

## Design

The pneumatically-operated 3-way metal body ball valve is operated by an Ultra compact piston (Rack N Pinion) Actuator.

Despite the small dimensions of the pneumatic actuator, high pressure can be switched without problem.

Full bore construction of valve body makes high flow rates possible, particularly in comparison to conventional globe valves.

The proven, self-adjusting and maintenance free 'V' packing glands ensure high sealing integrity.

Design Standard - ASME B16.34/DIN EN 12516/BS EN 17292.

End to End Standard - DIN -3202-Part-1.

Testing Standard - BS EN 12266-Part-1.

## Accessories

- ❖ Switch Boxes for Position Indicator with Limit Switches or Proximity Switches.
- ❖ Manual override.
- ❖ Solenoid valve Namur & Non Namur.
- ❖ Valve Positioner Pneumatic to Pneumatic (P to P) or Electric to Pneumatic (E to P).
- ❖ FRG.

## Applications

### Media

Air, Oil, Gas , Steam, Corrosive Chemicals, Viscous fluids etc.

### Industry

Food & Pharma, Chemicals, Machine Tools, Stirrer, Autoclaves & Many other uses where simple control is required.

## Material of Construction

- ❖ ASTM A351 CF8
- ❖ ASTM A351 CF8M
- ❖ ASTM A216 WCB

## 2-way Metal Body Ball Valves With Pneumatic Actuators



## Advantage / Benefits

- High operation safety :  
Highly reliable, long life,  
Simple in Construction and  
maintenance free Gland  
Packing .
- Compact :  
- Mounting with bracket.  
- Small in dimension  
- low weight
- Ports:  
L-Port (factory Set).
- Easy to install :  
End connections are  
available in Flanges  
ANSI16.5 Class 150.
- Position indicator standard.
- Cost-savings in operation  
due to minimized control air  
consumption.
- Low Lifecycle costs.

## Design

The pneumatically-operated 2-way metal body ball valve is operated by an Ultra compact piston (Rack N Pinion) Actuator.

Despite the small dimensions of the pneumatic actuator, high pressure can be switched without problem.

Full bore construction of valve body makes high flow rates possible, particularly in comparison to conventional globe valves.

The proven, self-adjusting and maintenance free 'V' packing glands ensure high sealing integrity.

Design Standard - ASME B16.34/DIN EN 12516.

End to End Standard - ASME B-16.10 (short body).

Testing Standard - BS EN 12266-Part-1.

## Accessories

- ❖ Switch Boxes for Position Indicator with Limit Switches or Proximity Switches.
- ❖ Manual override.
- ❖ Solenoid valve Namur & Non Namur.
- ❖ Valve Positioner Pneumatic to Pneumatic (P to P) or Electric to Pneumatic (E to P).
- ❖ FRG.

## Applications

### Media

Air, Oil, Gas , Steam, Corrosive Chemicals, Viscous fluids etc.

### Industry

Food & Pharma, Chemicals, Machine Tools, Stirrer, Autoclaves & Many other uses where simple control is required.

## Material of Construction

- ❖ ASTM A351 CF8
- ❖ ASTM A351 CF8M
- ❖ ASTM A216 WCB



CIMFR



BIS



PESO

MD

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