

KELTRON PNEUMATIC ACTUATOR



KELTRON

ACTUATOR MODELS FOR DIFFERENT APPLICATIONS

The pneumatic actuators mainly consist of a double acting power cylinder in which a piston slides and through which the necessary force is transmitted to the final control element. Actuator without positioner is used for ON / OFF control of a regulating device in which air supply is given to the cylinder through a solenoid / pilot operated valve. Actuator with positioner can establish any desired relationship between pneumatic input signal and piston displacement. To match the regulating device characteristics with the system requirements linear, interchangeable cams are provided with the positioner.

(i) BTPC – Burner Tilt Power Cylinder

MODELS: 04"x14", 06"x14", 08"x14", 08"x16",
10"x14", 10"x16", 12"x14", 12"x16",
14"x18.5", 16"x18.5"



(ii) SADC – Secondary Air Damper Control

MODELS: 2.5"x05", 03"x05", 04"x04,04"x05"



The cylinder and piston is on a swivel plate mostly at the bottom. In this type, the piston rod end is directly connected to the load through a fork. Thrust developed by the cylinder is directly coupled to the load. Generally this type actuators grouped into **TRUNION MOUNTED ACTUATORS / A – Type Actuators**.

(iii) AIR DAMPERS (ID, FD, SA, PAH, SAH & PA FAN DAMPERS)

Models: 03"x12", 04"x04", 04"x08", 04"x12", 04"x18", 06"x08", 06"x12", 06"x16", 08"x08", 08"x12",
08"x16", 10"x16", 12"x16", 14"x16, 19"x14", 20"x14", 22" x14"



The cylinder and piston is on a frame (stand) to which it is Coupled through a fork and drive arm. The output force is transmitted to the load through a linkage from an output lever equipped on the power cylinder. Generally this type actuators grouped into **STAND MOUNTED ACTUATORS / C – Type Actuators**.

KELTRON ACTUATOR SPECIFICATIONS

- Supply pressure : 3 to 7 kg/cm²
- Input signal : 0.2 to 1.0 kg/cm² (4-20 mA with IP Convertor)
- Pneumatic connection : PVC coated Copper tube with brass Fittings / SS tube with SS Fittings
- Temperature Range : 20° to 150° C (-20° to +80° for Positioner)
- Painting : Light Grey Epoxy

DATA SHEET FOR PNEUMATIC ACTUATOR

Type -A actuator – Trunion mounted

Type - A actuator, the regulating device is directly operated by the piston rod. The linkage is Simplified, which involves more accurate positioning.

Type -A	0404	0408	0608	0808	0816	1216
Bore X Stroke(mm)	105x100	105x200	150x200	210x200	210x400	300x400
Force * (kg)	287.5	287.5	596	1175	1175	2410

Type - C actuator – Stand mounted

Type -C actuators with supporting stand actuates a regulating device through a lever. It includes A double- acting air cylinder with a piston rod connected by a link to the shaft bearing the drive lever which actuates the controlled device through another link. Travel angle of the drive lever is 90° for piston full stroke.

Type -C	0404	0608	0808	0816	1216
Bore X Stroke(mm)	105x100	150x200	210x200	210x400	300x400
Force * (kg-m)	14	58	117	235	480

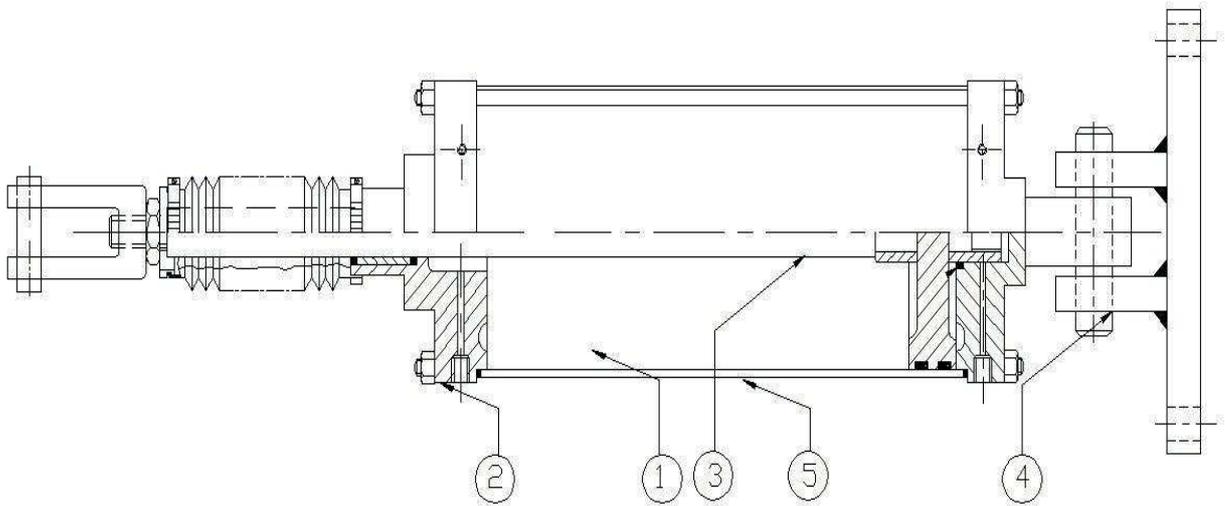
*Theoretical values affected by the kind of load: dissymmetry, inertia, frictional loss, etc.

Note: Other types as per specific requirements can be supplied on request.

Direct hand operation of the regulated device

- Through the piston balancing system provided by the positioner
- Through a hand actuated lever or wheel. The piston can be set to the selected position by a locking device.

CYLINDER SPECIFICATIONS



- | | |
|-------------------|---|
| 1. Cylinder | Seamless carbon steel tube ASTM A106 GRADE B / Aluminum / M.S Seamless tube & Hard Chrome Plated. |
| 2. Cylinder heads | Aluminum / Carbon Steel IS 2062 |
| 3. Piston Rod | EN 19 / IS 3930 (Chromium Molybdenum Steel)/SS TO AISI-420/EN-8 with Hard Chrome Plated |
| 4. Pin & Clevis | Stainless Steel / M.S |
| 5. Tie Rods | Steel Cadmium Plate / SS TO AISI-420/EN-38 with Nickel Plated. |
| 6. Lubricants | High corrosion resistant molybdenum disulphate grease |
| 7. Seals | Nitrile / Viton |

STANDARD ACCESSORIES

- Positioner (Pneumatic / Electro Pneumatic/ Smart)
- Solenoid Valve (Single / Dual)
- Limit switch Assy. (Micro Switches / Proximity Switches)
- Air lock Relay
- Electronic Position Feed Back Transmitter
- Junction Box
- IP Convertor Assy.
- Pressure Switch Assy.
- Volume Booster
- Speed Muffler Assy.
- Mechanical Connecting Linkage Assy.
- Air filter regulator

POSITIONER

All regulating type actuators are integrally mounted with a highly sensitive pneumatic positioner that sets the piston position accurately with reference to the pneumatic input signal. The positioner is suitable for direct or reverse loading. Change of direction can be easily obtained by reversing the air supply connections and reversal of the mounting of the cam.



AIRLOCK RELAY

Double Acting Relay is used for locking Air in both the chambers of cylinders whenever the supply pressure (air pressure connected to the signal port) falls below the set value thereby keeping the Actuator in stay-put condition



LIMITSWITCH ASSY

Micro switches equipped in a separate box capable of operating at any percentage of stroke attached to power cylinder are called limit switches. Settings of the switches can be altered as required by changing the cam positions. Circuits through these switches are usually used for annunciations, inter-locking systems, alarms, etc.



POSITION FEED BACK TRANSMITTER

The controlling activity has taken place in a loop it is essential to have a feedback signal to the control room from this final control element. Electronic devices equipped within positioner which delivery current signals (4 to 20 mA) corresponding to the piston movement are called power transmitters.



SPEED MUFFLER

Rate of piston movement depends on the capacity of cylinder, size of the pipe used and the pressure of the supply air. If the speed of the piston is high it can be harmful to piston, cap and bottom plates. It is nothing but a needle valve provided in the line with which the opening of passage through the device is regulated so that the air flow can be regulated.



JUNCTION BOX ASSY

Junction Box provides a versatile solution for modern day industrial application. An electrical junction box is a container for electrical connections, usually intended to conceal them from sight and deter tampering.





Keltron Controls Division, Aroor, Kerala

Keltron Controls Division

Aroor P O, Alappuzha
Kerala – 688534
Phone: 0478 2872455, 0478 2830710
0478 2872323 – 6
Fax: 0478 2872322
E mail: kelkca@vsnl.com

**Kerala State Electronics
Development Corporation Limited**

Corporate Office

Keltron House, Vellayambalam
Trivandrum 695 033
Phone: 0471 - 2724444, 4094444
Fax: 0471 - 2724545
keltron@keltron.org

Marketing Offices

Mumbai

102, Poonam Chambers
Dr. Annie Besant Road
Worli, Mumbai 400 018
Phone: 022 - 24922109, 4968775, 24934094
Fax: 022 - 24968004
Email: kelmumbai@gmail.com

Kolkata

20, Ballygunj, Circular Road
Kolkata 700 019
Phone: 033 - 24765980, 24757871
Fax: 033 - 24765980
Email: keltron.cal@gmail.com

New Delhi

Travancore House
Kasturba Gandhi Marg
Bharatiya Vidya Bhavan
New Delhi 110 001
Phone: 011 - 23388625, 23381730, 23383689
Fax: 011 - 23389313
Email: keltrondelhi@gmail.com

Bangalore

No 52, St. Johns Road
Bangalore 560 042
Phone: 80-25579382, 25564228,
25544289, 25554592
Fax: 080 - 5579382
Email: kelbang@keltron.org
keltronbangalore@gmail.com

Chennai

Sudarshan Buildings
86, Chamiers Road
Chennai 600 018
Phone: 044-24341261, 24346330, 24342006
Fax: 044 - 24342469,
Email: kelmad@vsnl.com

Hyderabad

1-1-300/3, Ashok Nagar
Syndicate Bank Complex
Hyderabad - 500 020
Phone: 040 - 27634537
Fax: 040 - 27634537
Email: kelhyd@keltron.org

Ahmedabad

Bungalow No.18
SBI Officer's Society
Narayan Nagar, Paladi
Dr. Mahila Milan Mandir
Ahmedabad 380 007
Phone: 079 - 26635688, 26604728
Email: kelahmd@keltron.org
ksedcahmedabad@gmail.com

