



## Valve Control Products Overview



Worldwide Manufacturing Facilities  
International Service and Support  
Innovative Design and Technology  
Industry Leading Reliability

Keeping the World Flowing

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Rotork is the global market leader in valve automation and flow control. Our products and services are helping organisations around the world to improve efficiency, assure safety and protect the environment.

We strive always for technical excellence, innovation and the highest quality standards in everything we do. As a result, our people and products remain at the forefront of flow control technology.

Uncompromising reliability is a feature of our entire product range, from our flagship electric actuator range through to our pneumatic, hydraulic and electro-hydraulic actuators, as well as instruments, gearboxes and valve accessories.

Rotork is committed to providing first class support to each client throughout the whole life of their plant, from initial site surveys to installation, maintenance, audits and repair. From our network of national and international offices, our engineers work around the clock to maintain our position of trust.

**Rotork. Keeping the world flowing.**

## Company Introduction

# rotork® Instruments

Rotork Instruments are specialist manufacturers of products for flow control, pressure control, flow measurement and pressure measurement. Our solutions are trusted wherever there is a need for high precision and reliability, including pharmaceutical, biomedical, oil & gas and manufacturing industries.

We have production facilities throughout the world, complemented by a large network of distribution and support centres.

A full listing of our worldwide sales and service network is available on our website at [www.rotork.com](http://www.rotork.com)

### Rotork Instruments:

#### USA

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## Worldwide Industry and Application Experience

With more than 50 years of extensive knowledge and experience, Rotork has provided products and services worldwide for virtually every industrial actuator application.

Rotork Instruments offers a range of valve accessory products from the Rotork Fairchild, Soldo®, Rotork Midland and Young Tech companies:

### Rotork Fairchild

- Pneumatic pressure regulators
- Electro-pneumatic transducers
- Pneumatic volume boosters
- Pneumatic relays

### Soldo

- General purpose limit switch boxes (polymer, aluminium or stainless steel)
- Explosionproof limit switch boxes (aluminium or stainless steel)
- Integrated solenoid/limit switch box units
- Bolt proximity switches
- NAMUR pneumatic components

### Rotork Midland

- Air preparation components and assemblies
- Pneumatic solenoid, poppet and spool valves
- Hydraulic control assemblies
- Ancillary products

### Young Tech Co Ltd.

- Smart positioners for linear and rotary applications
- Aluminium and stainless steel products
- Standard and explosionproof components and systems
- Basic pneumatic and electro-pneumatic positioners
- Pneumatic valve control accessories

Rotork Instruments is proud to offer a diverse range of products which serve many different duties in a wide variety of applications. We also offer a factory customisation service, to create one-off units to meet specific needs.



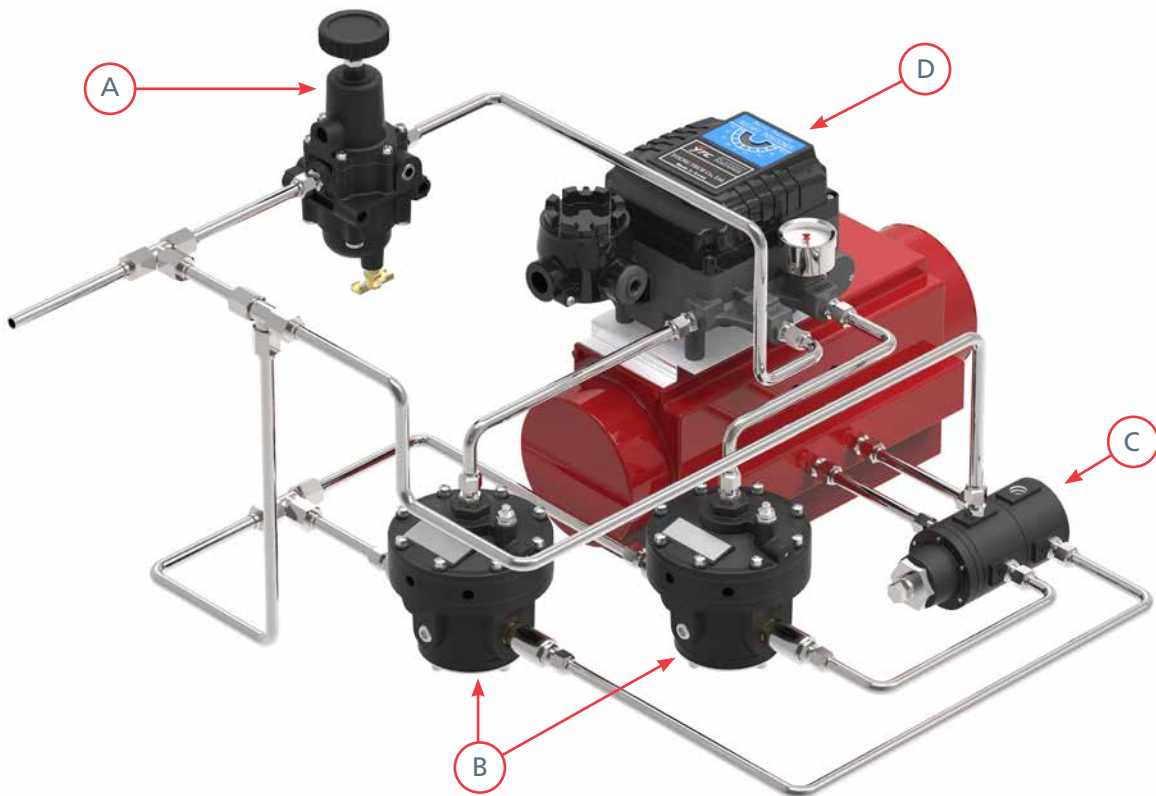
## Product Range Introduction

Rotork Instruments provides innovative and comprehensive solutions for pneumatic and hydraulic valve actuation. Rotork's solutions are quick and easy to specify and order. Designed to reduce customers' engineering specification work, these packages also simplify and reduce assembly and commissioning time.

Bringing together a broad portfolio of actuation products manufactured by industry leading brands with longstanding reputations for superior quality, Rotork's global service and support network offers complete and customized control packages or if you prefer, a full range of valve actuation items and accessories to assemble your own package. Air preparation sets; poppet, spool and solenoid valve products; valve positioners; and performance enhancing boosters and relays, are just a few of the pieces in the Instruments' product portfolio.

From simple all pneumatic systems through advanced technology electro-pneumatic or smart positioner operated packages, we serve the market from the most basic valve system to the most complex arrangements. Everything we provide is built to last from the highest quality materials for rugged reliable service.

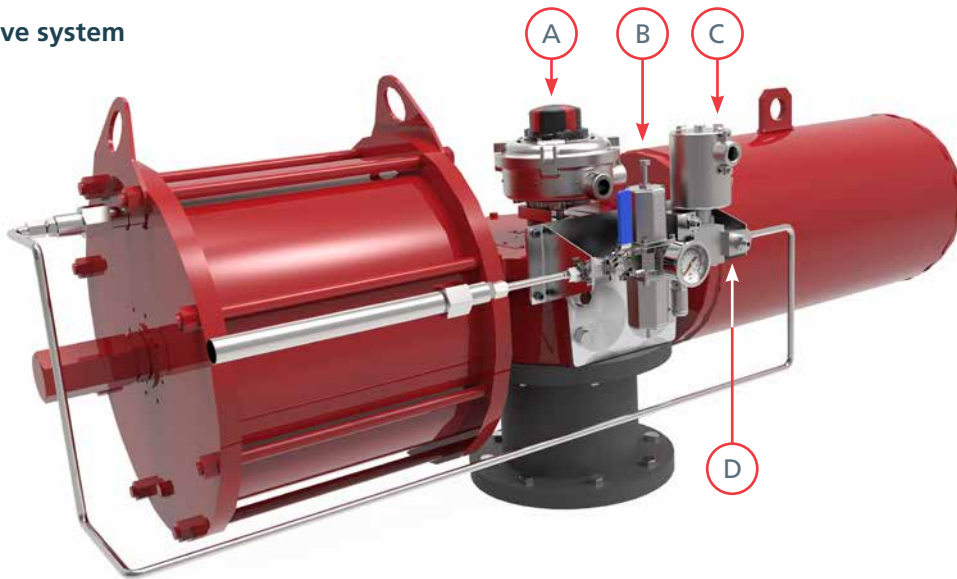
### Basic electro-pneumatic actuated valve system



In a basic electro-pneumatic system, Rotork Instruments provides the supply regulator, E/P positioner, high flow boosters for double-acting actuator and the lock up relays for failsafe operation.

Part	Description	Page
A	Filter Regulator	6
B	Volume Booster	8
C	Lock Up Relay	9
D	E/P Positioner	7

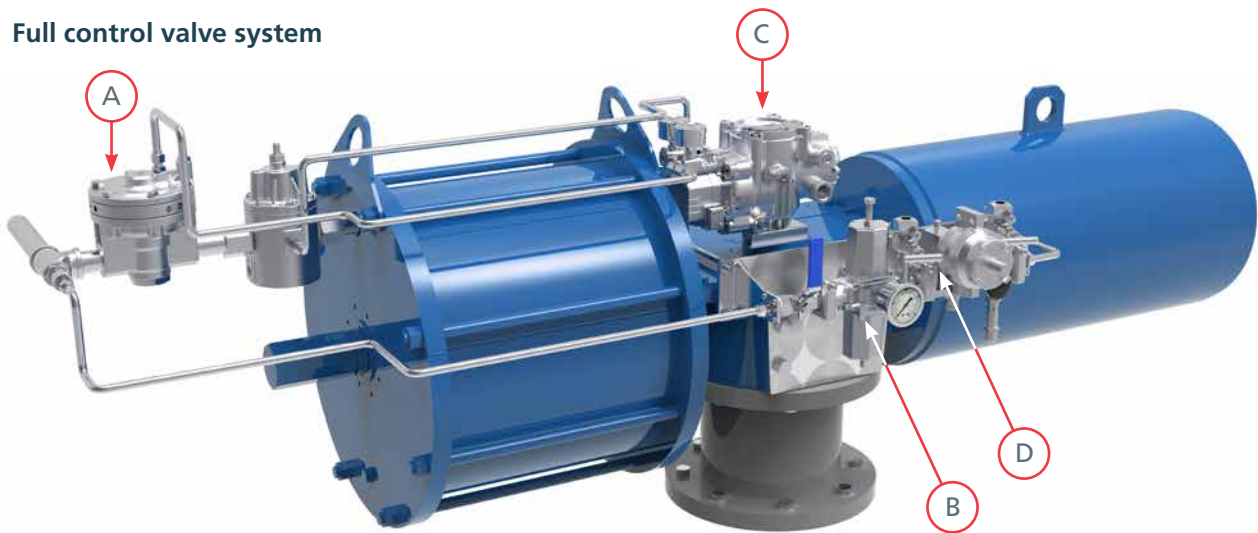
### On/Off valve system



On/Off valve system uses simple pneumatic supply regulator, solenoid and switch box indication. This instrumentation control package is supplied by Rotork Instruments.

Part	Description	Page
A	Switch Box	7
B	Filter Regulator	6
C	3/2 Solenoid Valve	6
D	Quick Exhaust	9

### Full control valve system



This fully actuated control system uses a Rotork Instruments package with filter regulator supplying the smart positioner and a booster provide fast response. Additionally, the second circuit facilitates emergency shutdown capability.

Part	Description	Page
A	Volume Booster	8
B	Complete Pneumatic Manifold	6
C	Smart Valve Positioner	7
D	Quick Exhaust	9

# Performance Data – Valve Control Products

## Pressure Regulators



## Solenoid Valves



Product Series	M10	M63/YT220	3500/3550	3575	M100	Model 70	1900s	1500/1600	1750
Function	Precision Regulator	Filter Regulator	Filter Regulator	Filter Regulator	High Flow Regulator	Direct Acting Solenoid	Direct Acting	Spool Valve	Poppet Valve
Material	Aluminium	Aluminium	Stainless Steel	Stainless Steel	Aluminium	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Max Supply Pressure psi (bar)	500 (35)	300 (20)	290 (20)	290 (20)	500 (35)	290 (20)	290 (20)	290 (20)	290 (20)
Valve type	N/A	N/A	N/A	N/A	N/A	Direct Acting	Direct Acting	Spool Valve	Poppet Valve
Configuration	N/A	N/A	N/A	N/A	N/A	3/2 - NO, NC or Univ	3/2 NO, NC or Divert	3/2 or 5/2	3/2-NC, NO, div, changeover
Flow Capacity (Cv)	1	0.5	2.4 up to 8	Up to 45	18	up to 2.2	0.86	up to 1.2	1.2 (1/4") up to 110 (3")
Exhaust Capacity (Cv)	0.1	0.02	0.07	0.07	1	N/A	N/A	N/A	N/A
Maximum Output Pressure psi (bar)	400 (28)	120 (8)	180 (12)	180 (12)	150 (10)	180 (12)	180 (12)	180 (12)	180 (12)
Temperature Range	-40 to 93 °C (-40 to 200 °F)	-51 to 82 °C (-60 to 180 °F)	-20 to 80 °C (-4 to 176 °F)	-20 to 80 °C (-4 to 176 °F)	-40 to 93 °C (-40 to 200 °F)	-20 to 60 °C (-4 to 140 °F)	-50 to 40 °C (-58 to 104 °F)	-20 to 180 °C (-4 to 356 °F)	-20 to 180 °C (-4 to 356 °F)
Output Pressure Var for change in supply pressure	0.10%	1.25%	N/A	N/A	0.10%	N/A	N/A	N/A	N/A
Pipe Size NPT	1/4, 3/8, 1/2	1/4	1/4, 1/2, 3/4, 1	1 1/2, 2	1, 1 1/2	1/2	1/2	1/2	1/2

## Valve Control Manifolds



Product Series	Pneumatic	IMPACT Manifold	SMART-LOC® Manifold
Function	Manifold	Manifold	Manifold
Material	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel
Max Supply Pressure psi (bar)	290 (20)	290 (20)	290 (20)
Valve type	Variable	Variable	Variable
Configuration	Special	Special	Special

# Performance Data – Valve Position and Indication Products

## Valve Positioners



Product Series	1200	1000/1050	2500	3300	3301	3350	3400	3450
Function	All Pneumatic	Electro Pneumatic	Smart Positioner	Smart Positioner	Smart Remote Mount Positioner	Smart Positioner	Smart Positioner	Smart Positioner
Material	Aluminium	Aluminium or Stainless Steel	Aluminium	Aluminium	Aluminium	Stainless Steel	Aluminium	Stainless Steel
Input Signal	4-20 mA DC	4-20 mA DC	4-20 mA DC	4-20 mA DC	4-20 mA DC	4-20 mA DC	4-20 mA DC	4-20 mA DC
Linearity	+/- 1% FS	+/- 1% FS	+/- 0.5 % FS	+/- 0.5 % FS	+/- 0.5 % FS	+/- 0.5 % FS	+/- 0.5 % FS	+/- 0.5 % FS
Hysteresis	+/- 1% FS	+/- 1% FS	+/- 0.5 % FS	+/- 0.5 % FS	+/- 0.5 % FS	+/- 0.5 % FS	+/- 0.5 % FS	+/- 0.5 % FS
Sensitivity	+/- 0.2 % FS	+/- 0.2 % FS	+/- 0.2 % FS	+/- 0.2 % FS	+/- 0.2 % FS	+/- 0.2 % FS	+/- 0.2 % FS	+/- 0.2 % FS
Repeatability	+/- 0.5 % FS	+/- 0.5 % FS	+/- 0.3% FS	+/- 0.3% FS	+/- 0.3% FS	+/- 0.3% FS	+/- 0.3% FS	+/- 0.3% FS
Actuation	Pneumatic	Electro-Pneumatic	Smart	Smart	Smart	Smart	Smart	Smart
Communication	N/A	N/A	HART®; Fieldbus®	HART®	HART®	HART®	HART®	HART®
Autocalibration	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Enclosure rating	CE	ATEX, FM, CSA, KCS, Nepsi	CE, ATEX, IECEX, IEC, KCS,	ATEX, IECEX, IEC, KCS, Nepsi	ATEX, IECEX, IEC, KCS	ATEX, IECEX, IEC, KCS, Nepsi	CE, ATEX, IECEX, IEC, CSA, KCS,	CE, ATEX, IECEX, IEC, CSA, KCS,

## Position Indication



Product Series	ES	SM	SF/SS	HW	SX	SK/SQ	SY/SW	Bolt Switch
UL Hazardous Location	PENDING		✓	✓	✓	✓	✓	✓
ATEX/IECEX	✓		✓		✓	✓	✓	✓
Material AL - Aluminium SS - Stainless Steel	AL/SS	Nickel Plated AL	AL/SS	AL	AL	AL/SS	AL/SS	SS

### Available Switch Options

Magnetic Proximity SPDT or DPDT	✓	✓	✓	✓	✓	✓	✓	✓
Solid State Inductive Proximity		✓	✓	✓	✓	✓	✓	
AS-i interface with Proximity Switches		✓	✓	✓	✓	✓	✓	
DeviceNet				✓	✓		✓	
4-20 mA Transmitter			✓	✓	✓		✓	
Integrated Solenoid Valve				✓				

# Performance Data – Volume Boosters/Hydraulic Solenoid Valves

## Volume Boosters



Product Series	M20	M305	M4500	M325	M310	M315	M4800	200XLR
Material	Aluminium	Stainless Steel	Aluminium	Stainless Steel	Aluminium	Stainless Steel	Aluminium	Aluminium
Maximum Supply Pressure psi (bar)	250 (17)	150 (10)	250 (17)	150 (10)	150 (10)	150 (10)	250 (17)	250 (17)
Maximum Outlet Pressure psi (bar)	150 (10)	100 (7)	150 (10)	100 (7)	100 (7)	100 (7)	150 (10)	150 (10)
Forward Flow Capacity (Cv)	1.0	1.2	3.0	2.7	4.9	4.9	9.0	18.0
Exhaust Capacity (cv)	1.0	1.3	3.0	2.1	5.2	5.2	9.0	18.0
Temperature Range	-40 to 93 °C (-40 to 200 °F)	-20 to 70 °C (-4 to 158 °F)	-40 to 93 °C (-40 to 200 °F)	-20 to 70 °C (-4 to 158 °F)	-20 to 70 °C (-4 to 158 °F)	-20 to 70 °C (-4 to 158 °F)	-40 to 93 °C (-40 to 200 °F)	-40 to 93 °C (-40 to 200 °F)
Output pressure accuracy	+/- 1.0 % FS	+/- 1.0 % FS	+/- 3.0 % FS	+/- 1.0 % FS	+/- 1.0 % FS	+/- 1.0 % FS	+/- 0.5% FS	+/- 0.5% FS
Pipe Size NPT	1/4"; 3/8"; 1/2"	1/4"	3/8"; 1/2"; 3/4"	1/2"	3/4"	3/4"	3/4"; 1"	1 1/2"

## Hydraulic Solenoid Valves



Product Series	DN2 (Ball Seated)	DN2 (Cartridge)	DN3	DN5	DN6/DN40	DN10	DN15	DN25
Flow Rate	1 l/min	1 l/min	5 l/min	20 l/min	15-700 l/min	50 l/min	100 l/min	200 l/min
Available Approvals	ATEX Zone 1, Zone 0 Intrinsicly Safe	ATEX, UL, CSA, IECEx, GOST (R), Inmetro	ATEX, UL, CSA, IECEx, GOST (R), Inmetro	ATEX, UL, CSA, IECEx, GOST (R), Inmetro	N/A	ATEX, UL, CSA, IECEx, GOST (R), Inmetro	ATEX, UL, CSA, IECEx, GOST (R), Inmetro	ATEX, UL, CSA, IECEx, GOST (R), Inmetro
SIL Capability	2	3	2 and 3	2	N/A	2	2	2
Media	Mineral Oils, Water Glycols and Synthetic fluids	Mineral Oils, Water Glycols and Synthetic fluids	Mineral Oils, Water Glycols, Methanol and Fresh Water, Air, Natural Gas, and Nitrogen	Mineral Oils, Water Glycols and Synthetic fluids	Filtered Fresh Water for Hydro Electric Power Plants	Mineral Oils, Water Glycols and Synthetic fluids	Mineral Oils, Water Glycols and Synthetic fluids	Mineral Oils, Water Glycols and Synthetic fluids
Pressure Range (bar)	0 - 690	0 - 690	0 - 1140	0 - 690	0 - 320	0 - 690	0 - 400	0 - 517
Power Consumption	<1 Watt 3.5 Watts	3.5 Watts 8 Watts	3.5 Watts 8 Watts	3.5 Watts 8 Watts	30 Watts	3.5 Watts 8 Watts	3.5 Watts 8 Watts	3.5 Watts 8 Watts



# Other Valve Control Accesories

## Other Valve Control Accesories



Product Series	M3550 (filter)	T6100/TX17850	YT400S/YT405	YT520S/YT525S	4500 Valve Series
Function	Filtration	Proportional Pressure Control	Position Lock	Pressure Snap	Quick Exhaust
Material	Stainless steel	Aluminium	Aluminium or Stainless steel	Aluminium or Stainless steel	Stainless steel
Temperature Range	-20 to 80 °C (-4 to 176 °F)	-40 to 72 °C (-40 to 162 °F)	-20 to 70 °C (-4 to 158 °F)	-20 to 70 °C (-4 to 158 °F)	-20 to 70 °C (-4 to 158 °F)
Signal Pressure	N/A	N/A	20 to 105 psi (1.4 to 7 bar)	20 to 105 psi (1.4 to 7 bar)	180 (12)
Max Supply Pressure	290 (20)	120 (8)	150 (10)	150 (10)	180 (12)
Maximum Output pressure	290 (20)	120 (8)	105 (7)	N/A	180 (12)
Differential Pressure	N/A	N/A	< 1.5 psi (0.1 bar)	N/A	15 psi (1 bar)
Flow Capacity	Up to 45	9 SCFM (254 l/m)	Up to 1.8	Up to 1.8	Up to 388 SCFM (11,000 l/m)
Pipe size NPT	1/4" up to 2"	1/4"	1/4", 3/8"	1/4", 3/8"	1/4" up to 1"



## Valve Control Pneumatic Products

### Pneumatic valves



Designed and constructed of 316 stainless steel our ranges of pneumatic components are ideally suited for both hazardous areas and industrial use.

#### Pressure regulators, spool and poppet valves

- Manual or auto drain
- 40, 25 or 5 (option) micron filters
- High flow capacities
- Many ranges available from 2 to 12 bar
- NACE compliant units available
- 3/2 and 5/2 function spool valves (poppet 3/2 only)
- Air pilot or solenoid pilot
- Direct solenoid operated
- Low temperature units available

For further details see [www.rotork.com/midland](http://www.rotork.com/midland)

### Pneumatic volume boosters



Rotork volume boosters meet all the requirements of a precision device including accuracy, sensitivity, fast response, stability, drift-free settings, low output droop, Supply pressure effect immunity, high forward & exhaust Flow capacity.

- Max supply pressure: 1,700 kPa (250 psi)
- Max output pressure: 1,050 kPa (150 psi)
- Flow capacity: 77 to 2,550 m<sup>3</sup>/hr (45 to 1,500 SCFM)
- Exhaust capacity: 12.8 to 552.5 m<sup>3</sup>/hr (7.5 to 325 SCFM)
- Cv flow coefficients of 1 to 18 in both forward and exhaust
- Sensitivity: As low as 0.64 cmWC (0.25 inWC)
- Pipe sizes NPT: ¼" to 1½"

See PUB103-003 for further details.

### Modular pneumatic controls



IMPACT (International Modular Pneumatic Actuator Control Technology) is a high integrity, modular pneumatic actuator control assembly in 316L stainless steel used for the control and sequencing of process valve actuators on oil and gas facilities and pipelines.

- Range of circuits available designed to request
- Units will interface with all global pneumatic actuators
- Simplifies valve automation reducing potential failure
- Ideal for both hazardous area and industrial use
- Lighter, stronger & eliminates joining pipework and fittings
- Reduction in CAPEX & OPEX over panel mounted assemblies
- IP66/67 ingress protection

For further details see [www.rotork.com/midland](http://www.rotork.com/midland)

### Pneumatic relays



Rotork pneumatic relays meet all the requirements of a precision device including accuracy, sensitivity and fast response.

- Max signal pressure: 1,050 kPa (150 psi)
- Max supply pressure: 1,700 kPa (250 psi)
- Max output pressure: 1,050 kPa (150 psi)
- Flow capacity: 24 to 255 m<sup>3</sup>/hr (14 to 150 SCFM)
- Sensitivity: As low as 0.32 cmWC (0.13 inWC)
- Pipe sizes NPT: ¼" to ¾"

See PUB103-004 for further details.

## Valve Positioners

### Smart positioners for valve automation

#### YT-3000 series



YT-3000 series for linear and quarter-turn actuators have flexible stroke range and rotational capability, automated set-up and calibration, and HART protocol operation. Suitable for all applications in hostile environments.

- Aluminium or stainless steel enclosures for standard or Ex IIC T5-T6 explosionproof applications
- Auto calibration and 4 button local control
- LCD display
- HART communication and feedback signal
- Limit switches and feedback signal
- 0.5% linearity

For further details see [www.ytc.co.kr](http://www.ytc.co.kr)

### Electro-pneumatic (E/P) valve positioners

#### YT-1000 series



YT-1000 series for pneumatic valve actuators. The E/P positioners easily adjust zero and span points and are available with a variety of feedback and limit switch indication options in standard or explosionproof versions.

- Aluminium or stainless enclosures – designed for durability and high performance in high vibration environments
- Proven testing of over 1 million cycles
- 4-20 mA input signal provides quarter-turn or up to 150 mm linear stroke
- 1% linearity with 0.5% repeatability
- Fast internal response for efficient valve packages and low air consumption for economical use
- Simple 1/2 split range adjustment

For further details see [www.ytc.co.kr](http://www.ytc.co.kr)

### Pneumatic to pneumatic (P/P) valve positioners

#### YT-1200 series



YT-1200 series positioners for pneumatic valve actuators. Available with a variety of limit switch and PTM options, the positioner handles basic pneumatic valve actuation with ease.

- 2% linearity with 0.5% repeatability
- Designed for high vibration environments and extreme temperature of -40 to 120 °C (-40 to 248 °F)
- Tested for over 2 million cycles operation
- No resonance from 5 to 200 Hz
- Simple zero / span, direct / reverse & split range selections
- Auto and manual switch operation
- Economical operation due to less air consumption

For further details see [www.ytc.co.kr](http://www.ytc.co.kr)

### Valve positioner accessories



Rotork also provides a variety of pneumatic accessories to complete the valve actuation package including volume boosters, lock up valves and snap acting relays.

- Available in aluminium or stainless steel bodies
- Cv rates as high as 5.24
- Single and double-acting configurations
- ¼" up to ¾" ports available
- Fixed deadband and by-pass control boosters for stability
- Compact size products

For further details see [www.ytc.co.kr](http://www.ytc.co.kr)

## Valve Position Indication

### General purpose & intrinsically safe limit switchboxes

SS  
SP  
SB  
SF



*This is a small selection of general purpose switchboxes*

Limit switchboxes with local & remote position indication can be fitted with mechanical switches or proximity sensors.

- Polymer, aluminium or stainless steel enclosures
- Corrosion resistant enclosures NEMA 4/4X (IP65)
- Intrinsically Safe (IS) certification option; SIL 3 rated models available; Certification options: UL, CE
- AS-i interface capable
- Split shaft design available on most models
- Tool free adjustable 3 degree cams
- SPDT or DPDT mechanical, proximity, or NOVA switch options
- 4-20 mA analogue transmitter available on most models
- Integral mounting brackets available on most models

*For further details see [www.soldo.net](http://www.soldo.net)*

### Integral solenoid valve limit switchboxes

HW



HW compact limit switch control unit with visual and remote electrical indication; internal solenoid valve(s) for valve control; integral NAMUR mounting kit.

- Aluminium enclosure – designed to meet NEMA 4/4X (IP65)
- AS-i interface or DeviceNet capable
- Split shaft design
- Tool free adjustable 3 degree cams
- SPDT or DPDT mechanical, proximity, or NOVA switch options
- 4-20 mA analogue transmitter available on most models
- 3 position and dribble control options
- Integral mounting brackets

*For further details see [www.soldo.net](http://www.soldo.net)*

### Explosionproof limit switchboxes

SY  
SX  
SQ  
SW



*This is a small selection of explosionproof switchboxes*

Hazardous location aluminium or stainless steel limit switchboxes suitable for use in a wide range of industrial environments including indoor and outdoor applications.

- Aluminium or stainless steel enclosures
- Explosionproof certification; Certification options: UL, ATEX, INMETRO, CCOE, GOST, IECEx, SIL
- AS-i interface or DeviceNet capable
- Split shaft design
- Tool free adjustable 3 degree cams
- SPDT or DPDT mechanical, proximity, or NOVA switch options
- 3 position and dribble control options
- 4-20 mA analogue transmitter available on most models
- Integral mounting brackets available on most models

*For further details see [www.soldo.net](http://www.soldo.net)*

### Bolt proximity sensors

BOLT Switches



The BOLT switch is a threaded body proximity switch for remote electrical indication of linear and rotary valve / actuator position. The NOVA BOLT has a patented sensing system able to sense any ferromagnetic material in any size.

- Aluminium or stainless steel enclosures
- Certification: UL Class I, Div 1, Groups A-D; Class II Div 2, Groups E-F; Class III, Div 1; NEMA 4, 4X, 7 & 9; Explosionproof Ex II 2 GD EEx d IIC T6; Waterproof IP68
- NOVA BOLT - snap acting proximity sensor
- Subsea bolt switch up to 300 barg
- SPST or SPDT inert gas hermetically sealed contacts
- 1/2" NPT cable entry or M20x1.5. No lead seals required

*For further details see [www.soldo.net](http://www.soldo.net)*



# Pneumatic and Hydraulic Valve Control

## Precision pressure regulators



Rotork manufactures a complete line of precision pneumatic regulators including pressure reducing, back pressure and vacuum models.

- Max supply pressure: 41,368 kPa (6,000 psi)
- Max output pressure: 20,684 kPa (3,000 psi)
- Flow capacity: 4 to 2,550 m<sup>3</sup>/hr (2.5 to 1,500 SCFM)
- Sensitivity: As low as 0.127 cmWC (0.05 inWC)
- Supply pressure effect: As low as 0.05% of change in supply pressure
- Pipe sizes (NPT): 1/16" to 1 1/2"

See PUB103-001 for further details.

## Electro-pneumatic transducers



Rotork manufactures piezo-electric and feed-and-bleed versions that are extremely resistant to shock, vibration, and changes in positional orientation.

- Accuracy: As low as + 0.15% full scale
- Repeatability: As low as + 0.1% full scale
- Max supply pressure: 1,380 kPa (200 psi)
- Max output pressure: 1,050 kPa (150 psi)
- Flow capacity: 15.3 to 1,189 m<sup>3</sup>/hr (9 to 700 SCFM)
- Pipe sizes NPT: 1/4" to 1"

See PUB103-002 for further details.

## Hydraulic valves & manifolds



Custom engineered solutions: direct solenoid operated, low pressure air / hydraulic logic control of wellhead controls, BOP skids, chemical injection valves and partial stroking circuitry.

### DN series of hydraulic valves

Designed for severe offshore environments and certified for Zone 0, 1 and Class 1 Division1 hazardous areas. These low power consumption units are constructed from 316L stainless steel. NACE compliance available. Low temp. -50 °C (-58 °F)

### Multi-station manifold systems

Compact, space saving systems minimise pipework, reduce system costs and are tailored to client specifications. 316L stainless steel with flow rates up to 200 l/min (45 g/min).

For further details see [www.rotork.com/midland](http://www.rotork.com/midland)

## Valve control ancillary products

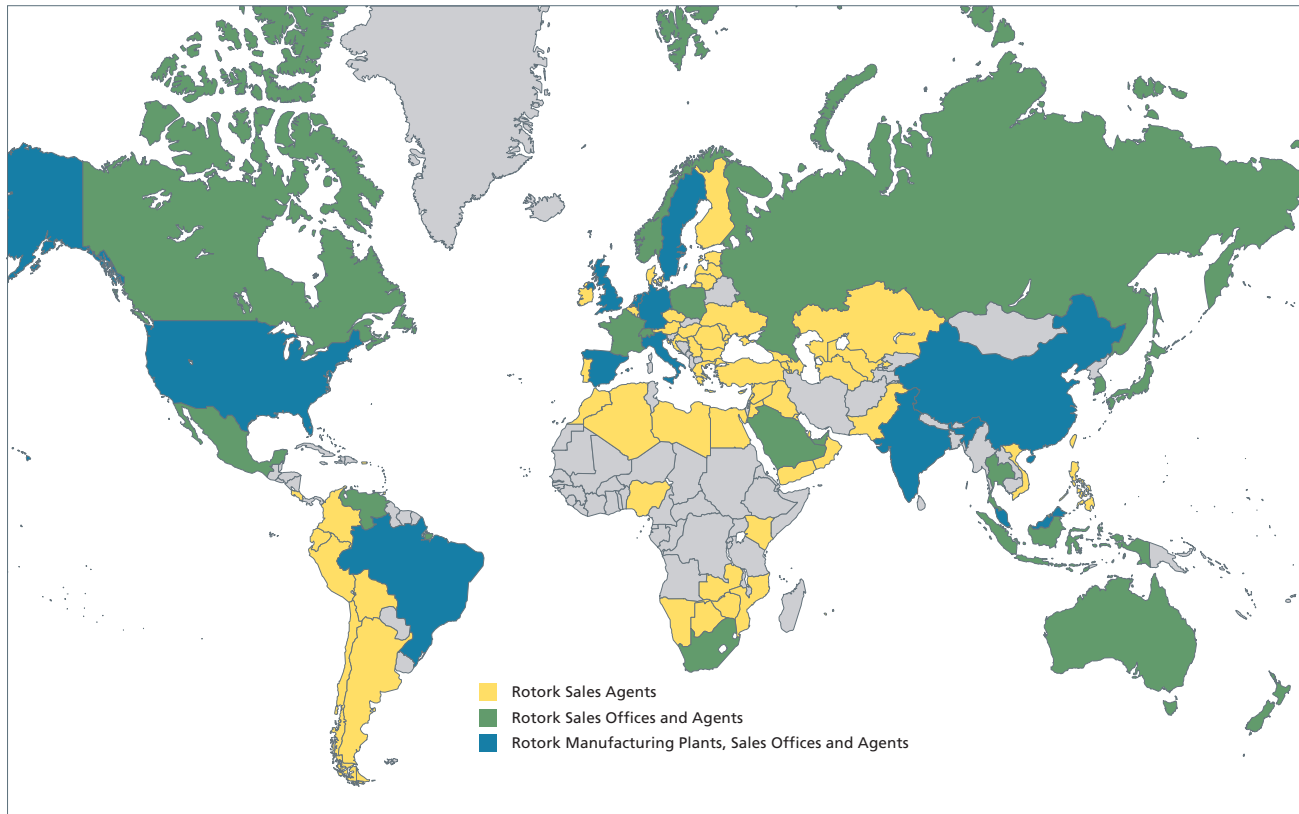


In addition to pneumatic and hydraulic system controlling valves, Rotork Midland offers a host of ancillary valves for directional flow control, quick exhaust, switch valves, and assorted other functional valve components for the control panel.

- Working pressures up to 12 bar
- -20 to +70°C (-4 to +158 °F) standard ranges
- 3/2 (1.0 Cv) and 5/2 (1.2 Cv) switches
- Uni and bi-directional flow regulators
- Needle and quick exhaust valves up to 11 Cv
- Thermal fuses and visual indicators
- Breathers and silencers

For further details see [www.rotork.com/midland](http://www.rotork.com/midland)

## Worldwide Manufacturing and Support



Rotork Instruments maintains manufacturing and dedicated facilities in USA, England, Italy, Brazil, India, China, Singapore and Korea.

The Rotork global sales and service network supports all Rotork Instruments products. This network is the biggest global actuation support organisation in the world with direct sales offices and agents in all industrialized countries.

Customer service and field support provides quick and effective response to customer requirements.

The Rotork Site Services network is represented throughout the world and provides valuable service and assistance to all industries. For more information see page 18.



# Instruments

## Precision Control and Indication

### rotork® Fairchild

The Rotork Fairchild range of industrial control products offers one of the largest varieties of precision pneumatic and electro-pneumatic control devices available for process, machine tool, robotic and OEM applications. Rotork Fairchild products are valued by customers for their advanced capabilities including:

#### Precise and accurate

From miniature regulators, embedded within medical equipment, to transducers in industrial robots and pipelines, our products provide the degree of control that each different application demands.

#### High flow, high pressure

Rotork has always been at the forefront with products that handle the most demanding duties. Our ranges include models which are designed to handle exceptionally high pressure and deliver the greatest flow rates.

#### Safe and non-reactive

From explosionproof units which carry volatile gases, through to specialised polymer-based components which are optimised for medical applications, we offer a wide range of products to meet the most exacting requirements.



The Soldo® range of limit switchboxes, proximity sensors, and accessories offers a variety of options. Soldo specialises in the design and manufacture of control accessories for valve automation, providing high quality products and services that guarantee a link between the control room and automated process valves. Product development programmes ensure Soldo is always ready for new markets and applications and able to meet or exceed customer requirements. Soldo products are valued by customers for their advanced design and capabilities including:

#### Versatile

From cost effective, when price is a concern, to corrosion resistant and explosionproof, when harsh environments are encountered, Soldo products provide the protection and automation that each application demands.

#### Unique design features

Soldo units are a step above the competition with unique split shaft designs. This allows installation where space is a factor and where a low profile limit switchbox is not preferred. Soldo limit switches also have easy-set 3 degree cams for independent tool free adjustment.

#### Hassle free installation

Pre-wired PCB switch modules ensure installation is worry free and allows easy installation and wiring directly into terminal strips. The pre-wired boards are conformal coated for environmental protection. Soldo also offers a full line of mounting brackets for all models that do not come with an integral mounting kit.

### rotork® MIDLAND

Rotork Midland is internationally known as a manufacturer of 316 stainless steel control equipment with a reputation for high quality, reliability and innovation. Rotork Midland offers comprehensive solutions for filtration and regulation of compressed air and gases for the valve actuation industries:

#### Highest Quality

Using the finest quality stainless steels globally available, Rotork Midland oversees every detail and utilises state of the art quality systems. Our products are renowned for their superior leak proof design and high functionality, achieved through every employee's attention to detail throughout the process.

#### Reliability

Whether the application calls for high accuracy or simply rugged duty in extreme conditions, Rotork Midland has a proven track record for reliable field operation.

#### Innovation

As a worldwide market leader, Rotork Midland strives to provide innovative solutions to simplify the task of valve control packaging.



The YTC product line includes positioners from the base level pneumatic units all the way up to top level performance smart positioners. Available in both linear and rotary configurations, these positioner are highly engineered and quality built to provide dependable high performance.

#### Rugged and reliable

YTC designs utilise rugged torque motor style operation to provide reliability in harsh temperatures and environments. In addition, the heavy aluminium or stainless steel castings are designed for long-term use.

#### Versatile configurations

Whether the application calls for high accuracy automation or simply rugged duty in extreme conditions, YTC has numerous positioner alternatives and covers remote mount, super compact, and even angle seat valve stroke control. Valve monitoring is easy with the internal or external options available with any of the positioner units. YTC also provides a host of accessory products to allow complete pneumatic valve system specification.

#### Global acceptability

As a worldwide supplier, YTC has the track record, expertise and requisite pedigree to meet the needs of global engineering teams. Our R&D team designs for performance, quality and compactness, with an eye toward cost effective features.

## Engineering Capabilities

From the moment you first contact Rotork Instruments you benefit from industry leading expertise gained over several decades working at the forefront of pneumatic and limit switch technology. Our world class engineering team is committed to bringing the latest innovative technology and leading edge design methods to market while maintaining the Rotork name for reliability.

### Specialized Product Design:

- In-house prototyping for quick creation of concept designs provides immediate understanding of how a unit will function under given conditions for a customer's unique application
- 3D CAD modelling means our designs can be accurately manufactured, allowing for more complex forms to further optimise part geometry
- FMEA (Failure Modes and Effects Analysis) allow the design to be robust whilst maximizing the mapping of consumer requirements to the product

## Test Facilities – Quality & Safety

Rotork Instruments have extensive test facilities at global locations. We have a comprehensive set of test stands for testing pneumatic regulators, transducers, volume booster, relays, and limit switches. We carry out life cycle testing, pressure testing and environmental testing including climate chamber and salt-spray testing in-house.

For tests beyond our in-house capabilities, such as extremely high temperature testing, we can call on the resources of the wider Rotork Group. We also use third party facilities for procedures including nuclear, deep-sea hyperbaric and seismic/vibration testing.



*Test lab gauges.*



*High pressure compressor.*



*Salt spray testing equipment.*



*Discovery climatic chamber testing equipment.*



*Liquid media testing equipment.*



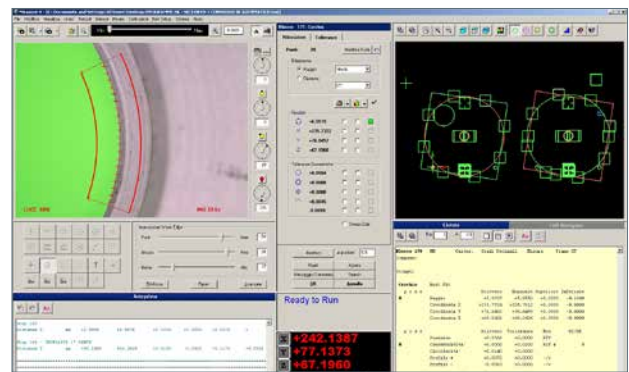
# Quality Assurance

Rotork products are designed and manufactured to the highest possible level of engineering – a principle which drives all areas of our business. To facilitate this objective a documented quality management system is established in accordance with ISO9001:2008. This quality management system embraces every aspect of the company's business and involves all personnel. All Rotork Instruments manufacturing plants are ISO certified.

### Rotork Instruments is committed to:

- Effectively communicating the importance of meeting customer needs throughout our organization
- Establishing appropriate levels of competency for all personnel
- Providing products that comply with all statutory and regulatory requirements
- Actively promoting our quality policy and helping personnel understand and implement the relevant aspects of the policy in their day-to-day responsibilities

We are also committed to quality objectives with measurable outputs that are established for relevant functions within the Rotork Instruments division. These are reviewed and monitored for effectiveness at management review meetings and form the basis for implementing improvement measures. Our quality policy, quality manual and procedural documents are periodically reviewed for adequacy and effectiveness.



Optical measurement software.



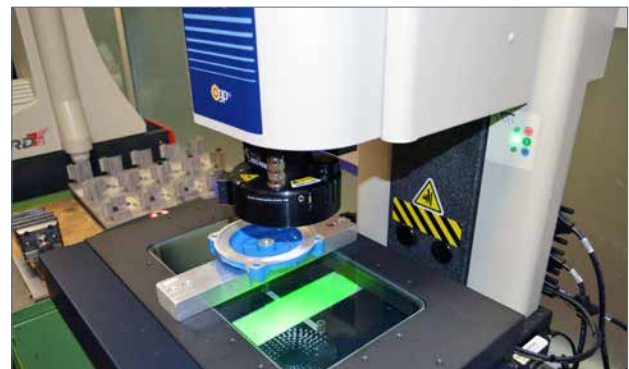
Every finished product goes through rigorous testing.



Sterile environments for sensitive electronics assembly.



Rotork Instruments works with all major certification bodies.



Automated quality control on the Soldo production line.

## Projects, Services and Retrofit

# rotork® Site Services

In each of our divisions, site services staff are dedicated to providing customer service and support, carrying out new installations and delivering retrofit projects. These teams are based out of service centres around the world and are complemented by factory-trained agents.

Our expert technicians support Rotork customers, allowing us to deliver on our promise of global solutions backed by local service.

Visit [www.rotork.com](http://www.rotork.com) to identify your nearest Rotork Site Services centre.

### Emergency and planned service

We provide a full range of actuator services, covering any type of actuator system or package in any location, including hazardous environments. Our services include installation, commissioning and upgrading as well as connection and installation of bus communication systems. We are also skilled at troubleshooting and repairing damaged or deteriorating assets. Depending on your requirements, we can offer guaranteed emergency response times or planned response.

### Health checks

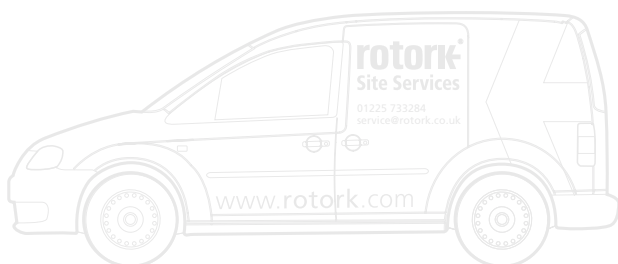
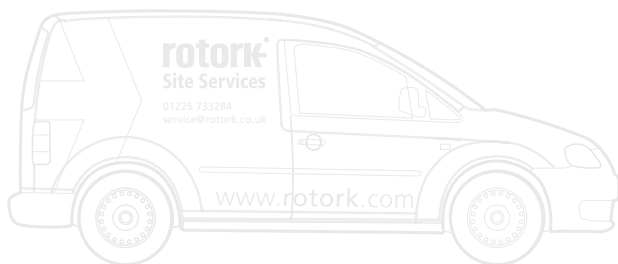
To help customers understand the state of their plant and assets, to better inform maintenance and replacement decisions, we offer full inspection and reporting. In addition to a detailed and intrusive inspection of the actuators, we offer extra insights from our original factory build data.

### Preventative maintenance

To maximise plant up-time and minimise operating costs we offer clients a range of preventative maintenance programmes. We tailor the service in every case to reflect the type of actuators in service, the availability of asset information and the criticality of the plant.

### Retrofitting actuator systems to existing valves

We have extensive experience to assemble complete packages by fitting Instruments and actuators to valves, penstocks and dampers that are already installed as part of existing plant. Whether customers are replacing obsolete actuators, changing power sources or motorising manual valves, we offer a tailor made solution to meet customers' specific requirements.





## Projects, Services and Retrofit

### Shutdown outages

For those customers who run tightly-scheduled shutdowns, we engage closely in the project to help meet demanding deadlines. A typical example might involve our staff removing large numbers of actuator packages, overhauling them in our workshops and re-commissioning them as part of the maintenance of a larger unit.

### Factory fitting of instrumentation and actuators to new valves

The careful assembly of valve, actuator, and instrumentation is critical to ensure that an automated valve performs correctly and reliably. Whilst this service is often carried out by valve manufacturers, where there is a need we can provide this service.

### Extended scope projects with instrumentation

This is a growing requirement and some of our service teams have the wide range of skills necessary to offer a "one-stop-shop" to automate part or all of a customer's process. Our capabilities cover all of the installation phases (scoping, design, procurement, manufacturing, installation, commissioning) on the broad scopes that typically surround actuation projects.



# rotork®

Keeping the World Flowing

[www.rotork.com](http://www.rotork.com)

A full listing of our worldwide sales and service network is available on our website.

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for more information on  
this product range



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As part of a process of on-going product development, Rotork reserves the right to amend and change specifications without prior notice. Published data may be subject to change. For the very latest version release, visit our website at [www.rotork.com](http://www.rotork.com)

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