

# rotork®

Keeping the World Flowing  
for Future Generations



## Valve positioners and accessories



A photograph of an industrial facility, likely a refinery or chemical plant. The scene is dominated by large, silver, cylindrical storage tanks and a complex network of pipes and conduits. Yellow safety railings are visible on the platforms and ladders. In the foreground, there are several large, industrial actuators or valve positioners mounted on concrete bases. These units are labeled with model numbers: '651 P 3012 A', '651 P 3012 B', and '651 P 3012'. The background shows more of the facility under a clear blue sky.

Rotork offers a comprehensive range of valve positioners for all actuator types.

The positioner offering covers solutions from conventional pneumatic and electro-pneumatic to advanced smart positioners, allowing our customers to always find an optimised solution to meet their needs.

Rotork is a market-leading global provider of mission-critical flow control and instrumentation solutions for the industrial actuation and flow control markets. These include oil and gas, water and wastewater, power, chemical process and industrial applications.

Customers rely on us for innovative, high quality and dependable solutions for managing the flow of liquids, gases and powders. We help customers around the world to improve efficiency, reduce emissions, minimise their environmental impact and assure safety.

Our reliability record is second to none. Our products are designed with safety and performance at their core and are put through vigorous testing and certified to international standards. Our products are certified for use in the world's most dangerous, and hazardous areas.

## Partnering with us provides the following:

- Assured safety and reliability
- Industry leading accuracy and efficiency
- Proven technology that works with all network control systems
- Product range with solutions to suit every application
- Assistance with plant planning, development and maintenance through our local support services
- We have innovative research and development centers throughout the world

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## Valve positioner features summary

**rotork®**



| Type            | P/P                           | E/P            |                | Smart   |               |         |
|-----------------|-------------------------------|----------------|----------------|---------|---------------|---------|
| Model           | YT-1200                       | YT-1000        | YT-1050        | YT-2500 | YT-2550       | YT-2600 |
| Page            | 27                            | 28             |                | 22      |               | 24      |
| Certification   | Flame proof                   | -              | ✓              | -       | ✓             | ✓       |
|                 | Intrinsically safe            | -              | ✓              | ✓       | -             | -       |
|                 | ATEX/IECEX                    | -              | ✓              | ✓       | ✓             | ✓       |
|                 | FM/CSA                        | -              | ✓              | -       | -             | -       |
|                 | KCs                           | -              | ✓              | ✓       | ✓             | ✓       |
|                 | CCC/NEPSI                     | -              | ✓              | ✓       | ✓             | -       |
|                 | TIIS                          | -              | ✓              | -       | -             | -       |
|                 | EMC                           | -              | ✓              | ✓       | -             | ✓       |
|                 | SIL certified                 | -              | -              | -       | -             | -       |
| Hardware        | Technology                    | Bellocs        | Torque motor   |         | Piezo         |         |
|                 | Local buttons                 | -              | -              |         | ✓             |         |
|                 | LCD display                   | -              | -              |         | ✓             |         |
|                 | Single / double               | ✓              | ✓              |         | ✓             |         |
|                 | Linear / rotary               | ✓              | ✓              |         | ✓             |         |
|                 | Feedback                      | Spring-return  | Spring-return  |         | Potentiometer |         |
|                 | Position feedback             | -              | -              |         | -             |         |
|                 | Fail-safe                     | ✓              | ✓              |         | ✓             |         |
|                 | Fail-freeze                   | -              | -              |         | ✓             |         |
|                 | Natural gas capability        | -              | -              |         | -             |         |
|                 | IP rating                     | IP66           | IP66           |         | IP66          |         |
|                 | NEMA rating                   | -              | NEMA 4X        |         | -             |         |
|                 | Enclosure material            | Aluminium      | Aluminium      | STS316  | Aluminium     | STS316  |
| Diagnostics     | Mounting error                | -              | -              |         | ✓             |         |
|                 | Supply air check              | -              | -              |         | ✓             |         |
|                 | Range error                   | -              | -              |         | ✓             |         |
|                 | Partial stroke test           | -              | -              |         | -             |         |
|                 | Dashboard                     | -              | -              |         | -             |         |
|                 | Premium online diagnostics    | -              | -              |         | -             |         |
|                 | Enhanced diagnostics          | -              | -              |         | -             |         |
| Feedback option | 4-20 mA analogue output       | ✓ <sup>1</sup> | ✓              |         | ✓             |         |
|                 | Mechanical switches           | ✓ <sup>1</sup> | ✓ <sup>1</sup> |         | -             |         |
|                 | Proximity sensors             | ✓ <sup>1</sup> | ✓ <sup>1</sup> |         | -             |         |
|                 | Digital output (or TR output) | -              | -              |         | ✓             |         |
| Comm.           | HART®                         | -              | -              |         | Ver. 5        |         |
|                 | Profibus®                     | -              | -              |         | -             |         |
|                 | Foundation Fieldbus®          | -              | -              |         | -             |         |

### Notes:

1. Available for rotary version only. In case of hazardous Ex installation area external mount through limit switch box is required.

2. EMC only for YT-3301, not for YT-3303.

3. Available with potentiometer feedback.

## Valve positioner features summary



| Smart            |                   |                            |                |                            |                            |         |                            |         |
|------------------|-------------------|----------------------------|----------------|----------------------------|----------------------------|---------|----------------------------|---------|
| RTP-4400         | YT-3100           | YT-3300                    | YT-3350        | YT-3301/2/3                | YT-3700                    | YT-3750 | YT-3400                    | YT-3450 |
| 10               | 12                | 14                         |                | 16                         | 18                         |         | 20                         |         |
| ✓                | -                 | -                          | -              | -                          | -                          | -       | ✓                          | ✓       |
| ✓                | ✓                 | ✓                          | ✓              | ✓                          | ✓                          | ✓       | -                          | -       |
| ✓                | ✓                 | ✓                          | ✓              | ✓                          | ✓                          | ✓       | ✓                          | ✓       |
| -                | -                 | ✓                          | ✓              | ✓                          | ✓                          | ✓       | ✓                          | ✓       |
| -                | ✓                 | ✓                          | ✓              | ✓                          | ✓                          | ✓       | ✓                          | ✓       |
| -                | ✓                 | ✓                          | ✓              | ✓                          | ✓                          | ✓       | ✓                          | ✓       |
| -                | -                 | -                          | -              | -                          | -                          | -       | -                          | -       |
| -                | -                 | ✓                          | ✓              | ✓ <sup>2</sup>             | ✓                          | ✓       | ✓                          | ✓       |
| -                | -                 | ✓                          | ✓              | ✓                          | ✓                          | ✓       | ✓                          | ✓       |
| Torque motor     | Torque motor      | Torque motor               |                | Torque motor               | Torque motor               |         | Torque motor               |         |
| ✓                | ✓                 | ✓                          | ✓              | ✓                          | ✓                          | ✓       | ✓                          | ✓       |
| ✓                | ✓                 | ✓                          | ✓              | ✓                          | ✓                          | ✓       | ✓                          | ✓       |
| ✓                | ✓                 | ✓                          | ✓              | ✓                          | ✓                          | ✓       | ✓                          | ✓       |
| ✓                | ✓                 | ✓                          | ✓              | ✓                          | ✓                          | ✓       | ✓                          | ✓       |
| Linkage-less NCS | NCS               | NCS                        |                | Potentiometer              | NCS                        |         | NCS                        |         |
| ✓                | -                 | -                          | -              | -                          | -                          | -       | -                          | -       |
| ✓                | ✓                 | ✓                          | ✓              | ✓                          | ✓                          | ✓       | ✓                          | ✓       |
| -                | -                 | -                          | -              | -                          | -                          | -       | -                          | -       |
| -                | -                 | North America markets only |                | North America markets only | North America markets only |         | North America markets only |         |
| IP66             | IP66              | IP66                       |                | IP66                       | IP66                       |         | IP66                       |         |
| -                | -                 | NEMA 4X                    |                | NEMA 4X                    | NEMA 4X                    |         | NEMA 4X                    |         |
| Aluminium        | Aluminium/plastic | Aluminium                  | STS316         | Aluminium                  | Aluminium                  | STS316  | Aluminium                  | STS316  |
| ✓                | ✓                 | ✓                          | ✓              | ✓                          | ✓                          | ✓       | ✓                          | ✓       |
| ✓                | ✓                 | ✓                          | ✓              | ✓                          | ✓                          | ✓       | ✓                          | ✓       |
| ✓                | ✓                 | ✓                          | ✓              | ✓                          | ✓                          | ✓       | ✓                          | ✓       |
| ✓                | -                 | ✓                          | ✓              | ✓                          | ✓                          | ✓       | ✓                          | ✓       |
| ✓                | -                 | -                          | -              | -                          | -                          | -       | -                          | -       |
| ✓                | -                 | -                          | -              | -                          | -                          | -       | -                          | -       |
| Advanced         | -                 | -                          | -              | -                          | ✓                          | ✓       | ✓                          | ✓       |
| ✓                | ✓                 | ✓                          | ✓              | -                          | ✓                          | ✓       | ✓                          | ✓       |
| -                | -                 | ✓ <sup>3</sup>             | ✓ <sup>3</sup> | -                          | ✓                          | ✓       | -                          | -       |
| -                | -                 | ✓ <sup>3</sup>             | ✓ <sup>3</sup> | -                          | ✓                          | ✓       | -                          | -       |
| ✓                | -                 | -                          | -              | -                          | ✓                          | ✓       | ✓                          | ✓       |
| Ver. 7           | -                 | Ver. 7                     |                | Ver. 7                     | Ver. 7                     |         | Ver. 7                     |         |
| -                | -                 | ✓                          | ✓              | -                          | -                          | -       | -                          | -       |
| -                | -                 | ✓                          | ✓              | -                          | -                          | -       | -                          | -       |

### Application guide

|                                                                                                                                                                                                                            |                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Compact and lightweight design for modulating applications</b> <ul style="list-style-type: none"> <li>• Fail safe</li> <li>• Modulating functions</li> <li>• PID control</li> <li>• Optional 4-20mA feedback</li> </ul> | <b>Fail freeze applications</b> <ul style="list-style-type: none"> <li>• Zero air consumption</li> <li>• Modulating functions</li> <li>• PID control</li> <li>• Optional 4-20mA feedback</li> </ul> | <b>Extended features for all applications</b> <ul style="list-style-type: none"> <li>• Fail safe</li> <li>• HART DD &amp; DTM</li> <li>• Non-contact sensor</li> <li>• Basic PST capabilities</li> </ul> <p>YT-3300 only:</p> <ul style="list-style-type: none"> <li>• Profibus, FF comm.</li> </ul> <p>YT-3400 only:</p> <ul style="list-style-type: none"> <li>• Enhanced diagnostic</li> <li>• Digital I/O comm.</li> <li>• NE107 alarms log</li> </ul> | <b>Enhanced diagnostic and PST for control and on-off valves</b> <ul style="list-style-type: none"> <li>• Fail safe</li> <li>• Enhanced diagnostic</li> <li>• HART DD &amp; DTM</li> <li>• Digital I/O comm.</li> <li>• NE107 alarms log</li> <li>• Non-contact sensor</li> </ul> | <b>High-end intelligent positioner with premium online diagnostics</b> <ul style="list-style-type: none"> <li>• Premium online diagnostics features with dashboard and valve signature</li> <li>• Linkage-less NCS</li> <li>• HART DD &amp; DTM</li> <li>• High pneumatic capacity</li> <li>• Dual certification</li> </ul> |
| <b>YT-3100</b><br>                                                                                                                        | <b>YT-2500</b><br>                                                                                                 | <b>YT-3300</b><br>                                                                                                                                                                                                                                                                                                                                                        | <b>YT-3700</b><br>                                                                                                                                                                              | <b>RTP-4000</b><br>Premium online diagnostics<br>                                                                                                                                                                                        |
| <b>Safe area and Hazardous area: Intrinsically safe protection</b><br> Ex ia                                                            | <b>YT-2600</b><br>                                                                                                | <b>YT-3400</b><br>                                                                                                                                                                                                                                                                                                                                                       | <b>YT-3400</b><br>Enhanced diagnostic option<br>                                                                                                                                               | <b>Hazardous area: Flameproof protection</b><br> Ex d                                                                                                                                                                                  |

### Technical guide

|                                                                                                                                                                                                                                                     |                                                                                                                                           |                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Torque motor / flapper nozzle technology</b> <ul style="list-style-type: none"> <li>• Extremely reliable</li> <li>• Responsive and precise</li> <li>• High resistance to humidity and contaminated air</li> <li>• Low air consumption</li> </ul> | <b>Piezo valve technology</b> <ul style="list-style-type: none"> <li>• Fail freeze (fail last)</li> <li>• Zero air consumption</li> </ul> | <b>Torque motor / flapper nozzle technology</b> <ul style="list-style-type: none"> <li>• Extremely reliable</li> <li>• Responsive and precise</li> <li>• High resistance to humidity and contaminated air</li> <li>• Low air consumption</li> </ul> | <b>Torque motor / flapper nozzle technology</b> <ul style="list-style-type: none"> <li>• Extremely reliable</li> <li>• Responsive and precise</li> <li>• High resistance to humidity and contaminated air</li> <li>• Low air consumption</li> </ul> | <b>Linkageless non-contact position feedback</b> <ul style="list-style-type: none"> <li>• Designed for harsh environments</li> <li>• Potted electronics</li> <li>• Magnet-based position sensing, no mechanical linkages</li> <li>• High capacity with optimised supply air consumption</li> </ul> |
| <b>YT-3100</b><br>                                                                                                                                               | <b>YT-2500</b><br>                                     | <b>YT-3300</b><br>                                                                                                                                               | <b>YT-3700</b><br>                                                                                                                                              | <b>RTP-4000</b><br>Premium online diagnostics<br>                                                                                                                                                             |
| <b>YT-2600</b><br>                                                                                                                                               | <b>YT-3400</b><br>                                     | <b>YT-3400</b><br>Enhanced diagnostic option<br>                                                                                                                |                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                    |
| <b>Low temperature application down to -30 °C</b>                                                                                                                                                                                                   |                                                                                                                                           | <b>Arctic temperature application down to -55 °C</b>                                                                                                                                                                                                |                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                    |



### HART communication

The HART Communication Protocol (Highway Addressable Remote Transducer) is a hybrid, analogue and digital, industrial automation protocol.

HART provides two simultaneous communication channels: the 4-20 mA analogue signal and a digital signal. The 4-20 mA signal communicates the primary measured value. Additional device information is communicated using a superimposed digital signal on the analogue one.

Rotork can offer a complete positioner portfolio from fail-freeze (fail-last) to fail-safe devices, all including easy handling and commissioning via HART communication protocol.

- Device Description (DD) and Device Type Manager (DTM) files allow the Rotork device to be incorporated into asset management systems
- Up to 63 devices on each network



### Profibus Process Automation (PA)

Profibus manages equipment via a process control system in process automation applications.

The PA variant is designed for use in hazardous areas (Ex zones 0 and 1). The Physical Layer, with over the bus power, limits current flow so that explosive conditions are not created, even if a malfunction occurs. The number of devices attached to a Profibus PA segment is limited by this feature. However, PA uses the same protocol as Profibus DP, and can be linked to a Profibus DP network using a coupler device.

The much faster Profibus DP acts as a backbone network for transmitting process signals to the controller. This means that Profibus DP and Profibus PA can work tightly together, especially in hybrid applications where process and factory automation networks operate side by side.

- Electronic Device Description (EDD) and Device Type Manager (DTM) files allow the Rotork device to be incorporated into asset management systems
- General Station Description (GSD) guarantees device interoperability with all Profibus PLCs



### Foundation Fieldbus

Foundation Fieldbus is a bi-directional communications protocol used for communications among field devices and the control system.

It utilises twisted pair or fibre media to communicate between multiple nodes (devices) and the controller. The controller requires only one communication point to communicate with up to 32 nodes, this is a significant improvement over the standard 4-20 mA communication method which requires a separate connection point for each communication device on the controller system.

- Device Description (DD) files describe the device capabilities to the host system
- Fully compliant with IEC61158-2 standard

### Online diagnostics

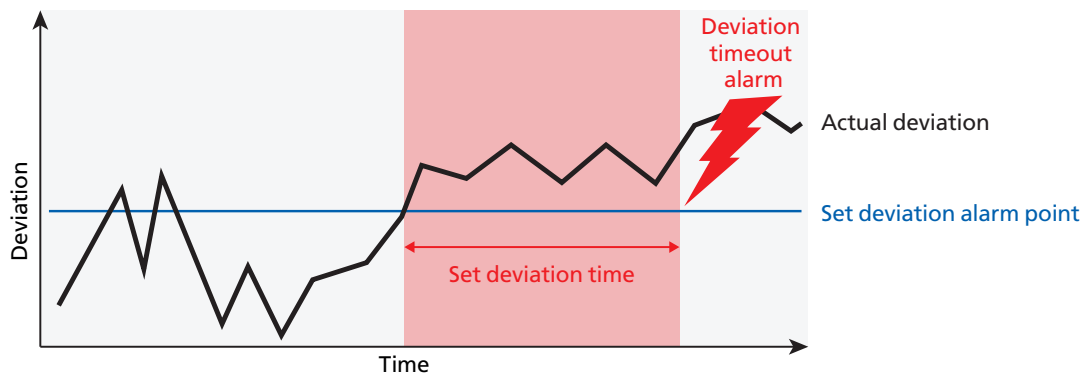
These digital smart positioners employ continuous monitoring and graphic display of valve position, setpoint target vs time and internal circuit board temperature vs time.

Steady state deviation online analysis can detect:

- Friction in the valve or actuator
- Leakage in pneumatics
- Insufficient supply pressure



A deviation time out alarm occurs when the difference between the target position and the actual position exceeds the preset deviation alarm point (for more than the preset deviation time).



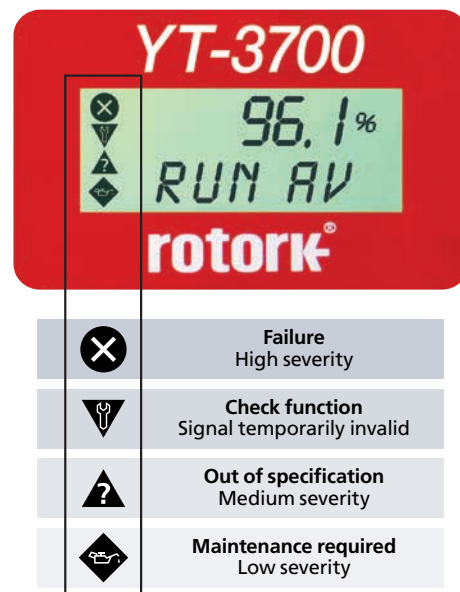
### Alarms

Embedded memory can store up to 11 PST test results and up to 20 alarm logs. Through DTM, the history of files will be easy to detect and the valve system integrity easily verified.

Examples of user-configurable alarm/status based on NE107 status signal:

- Critical NVM failure
- Travel sensor failure
- RAM defect
- Drive signal
- Temperature signal
- Deviation
- Travel accumulator
- Cycle counter
- Full close/open count
- PST failure
- Auto calibration failure

Note: Alarm severity can be set by an operator



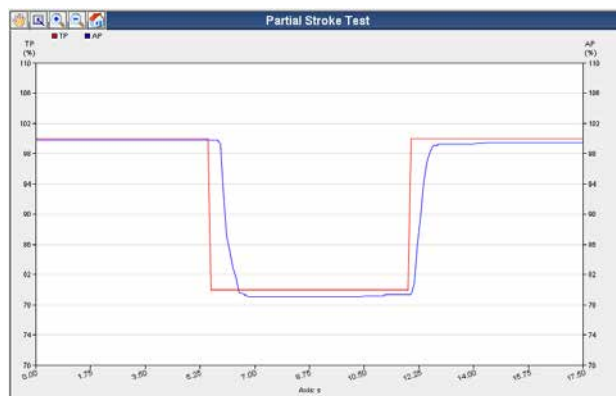
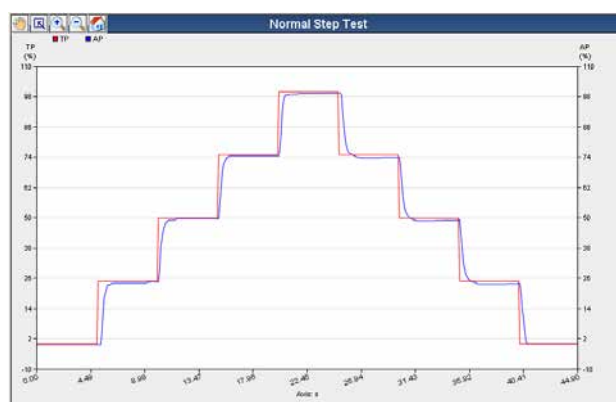
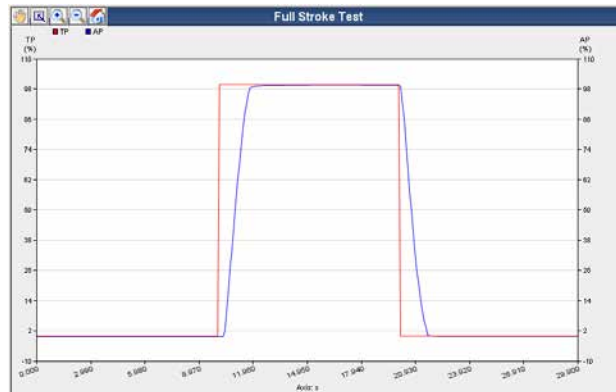
Explanation of on-screen icons

### Offline diagnostics

Automated package tests, checking integrity and dynamic behaviour:

- Valve signature
- 25% step test
- Large step test
- Performance step test

These tests provide data to validate system performances. The system allows a reference to be set for further analysis highlighting performance shifts for predictive maintenance.



### Partial Stroke Test (PST) capabilities

#### Automated PST functionality:

Configurable parameters

- PST interval [days]
- Position tolerance [%]
- PST start position [%]
- Target position [%]
- PST time out limit [sec]
- Target position hold time [sec]
- PST ramp up/down [%/sec] to reduce risks of overshooting system

#### Test activation via:

- Local positioner menu
- Remote DI control push button
- Remote HART® connection

### Product line compatibility

Enhanced diagnostic capabilities are available for YT-3700, YT-3750, YT-3400 and YT-3450 series.

The above compatibility ensures enhanced diagnostics is available for use in safe and hazardous areas, using intrinsically safe or Ex d explosionproof protection methods. Aluminium or stainless steel construction materials provide flexibility to meet application demands.



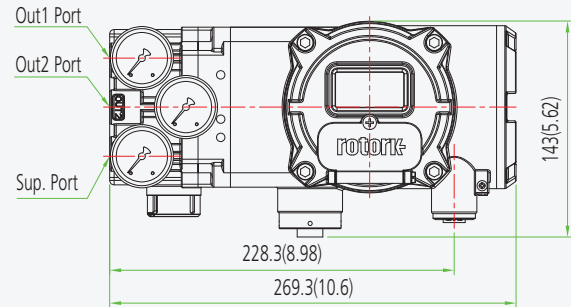
## Next-generation intelligent valve positioners

### Design features

- **Simple installation and commissioning.** Easy setup and integration with all control systems.
- **Reliable operation.** Contactless position feedback with no mechanical wear and built-in intelligence using internal pressure sensors.
- **Rugged construction.** Engineered for operation in harsh environments.
- **Digitalisation.** Advanced online diagnostics enable predictive maintenance.
- **Data accessibility.** Seamless integration with all main DCS and AMS systems through configurable Digital Output and Input options.
- **Energy savings.** High capacity combined with optimised supply air consumption.
- **Simple system design.** High capacity reduces the need for volume boosters and accessories.

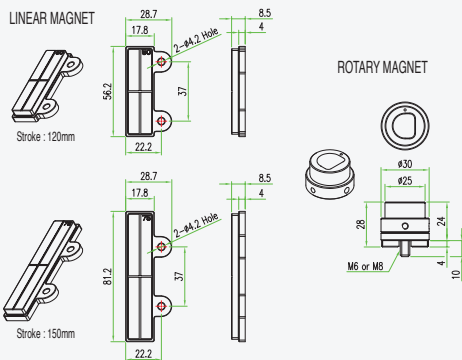
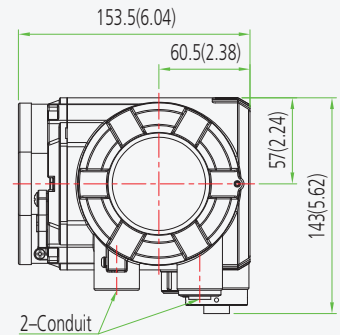
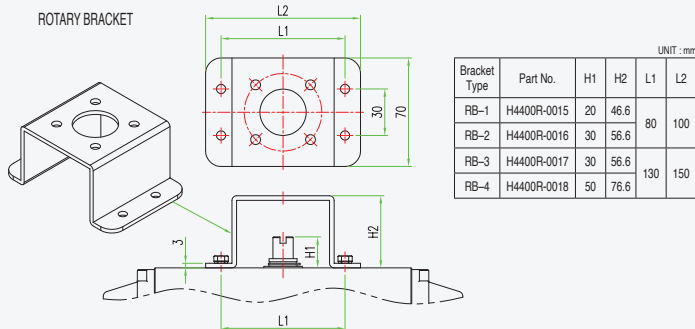


### RTP-4000 aluminium enclosure

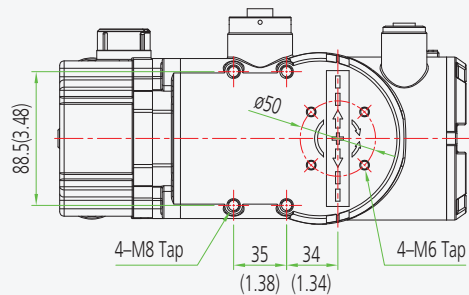


### RP-4000 bracket & magnet

(ordered separately)



| Magnet Type           | Part No.    |
|-----------------------|-------------|
| Linear (120mm stroke) | H4400L-0007 |
| Linear (150mm stroke) | H4400L-0008 |
| Rotary (M6)           | H4400R-0013 |
| Rotary (M8)           | H4400R-0014 |



Dimensions: mm (Inches ")

| Item type                          |               | RTP-4000                                                                                                                                                                                                                                         |
|------------------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power supply                       |               | Loop powered from 4-20 mA control signal                                                                                                                                                                                                         |
| Min. operating current             |               | 3.8 mA                                                                                                                                                                                                                                           |
| Load voltage                       |               | 11.0 VDC at 20 mA DC<br>10.0 VDC at 4 mA DC                                                                                                                                                                                                      |
| Input impedance                    |               | Max. 550 $\Omega$ at 20 mA DC                                                                                                                                                                                                                    |
| Control system compliance voltage  |               | 28 VDC max.                                                                                                                                                                                                                                      |
| Protection                         |               | Over current protection<br>Reverse polarity protection                                                                                                                                                                                           |
| Digital communication              |               | HART 7                                                                                                                                                                                                                                           |
| 4-20 mA analog output (optional)   |               | One isolated output signal: 4-20mA<br>Supply voltage: 9-28 VDC<br>NAMUR NE43: Failure high (> 21 mA) or Failure low (< 3.6 mA).                                                                                                                  |
| Discrete switch input (optional)   |               | One isolated input<br>Max. supply voltage: 30 VDC, Max. 4 mA<br>OFF at 0-5 VDC<br>ON at 10-30 VDC                                                                                                                                                |
| Discrete switch output (optional)  |               | Two isolated outputs<br>Maximum supply voltage: 30 VDC<br>Max. ON state current $\leq$ 1 A<br>ON state voltage drop $\leq$ 1 V<br>OFF state current: $\leq$ 0.1 mA                                                                               |
| Wire size                          |               | 14-26 AWG                                                                                                                                                                                                                                        |
| LUI usable range                   |               | -40 to +85 °C. LCD is not readable below -40 °C. The LCD PCBA supports 180° rotation. Four flame proof push buttons                                                                                                                              |
| Acting type                        |               | Single or Double                                                                                                                                                                                                                                 |
| Supply pressure                    |               | 1.4 to 9 bar (0.14 to 0.9 MPa).<br>Do not exceed actuator rating.                                                                                                                                                                                |
| Flow capacity                      |               | 195 LPM / 413 SCFH (avg.) at 1.4 bar supply pressure<br>550 LPM / 1165 SCFH (avg.) at 5.5 bar supply pressure                                                                                                                                    |
| Steady-state air consumption       | Single-acting | 2.4 LPM (avg.) at 4 bar supply                                                                                                                                                                                                                   |
|                                    | Double-acting | 2.7 LPM (avg.) at 4 bar supply                                                                                                                                                                                                                   |
| Supply medium                      |               | Air or nitrogen. It must be clean, dry and free of corrosive contaminants.                                                                                                                                                                       |
| Air quality                        |               | According to ISA7.0.0.1 or ISO8573-1<br>Oil content: Class 3 (< 1 ppm)<br>Solid particles: Class 6 (size $\leq$ 5 microns)<br>Pressure dew point: At least 10°C below minimum anticipated ambient temperature to ensure no risk of condensation. |
| Input signal or air supply failure | Single        | Actuator output 1 vents to atmosphere                                                                                                                                                                                                            |
|                                    | Double        | Actuator output 1 vents to atmosphere and actuator output 2 goes to supply pressure                                                                                                                                                              |
| Operating ambient temperature      | Standard      | -40 to +85 °C (-40 to +185 °F)                                                                                                                                                                                                                   |
|                                    | Arctic option | -55 to +85 °C (-67 to +185 °F)                                                                                                                                                                                                                   |
| Storage/transport temperature      |               | Same as the ambient temperature                                                                                                                                                                                                                  |
| Relative humidity                  |               | 0-90 % non-condensing                                                                                                                                                                                                                            |
| Humidity effect                    |               | IEC61514-2<br>< 0.3% for 48 hours at 40 °C and 93 % RH                                                                                                                                                                                           |
| Temperature effect                 |               | Typ. 0.01% / °C over -40 to +85°C                                                                                                                                                                                                                |
| Vibration                          |               | ANSI/ISA-75.13.01                                                                                                                                                                                                                                |
| EMC emissions and immunity         |               | Emissions: Class A (IEC 61000-6-4)<br>Immunity: Performance Criteria A (IEC 61000-4 series)                                                                                                                                                      |
| Usable altitude                    |               | Up to 2,000 m                                                                                                                                                                                                                                    |
| Linearity                          |               | $\pm$ 0.5% F.S.                                                                                                                                                                                                                                  |
| Hysteresis                         |               | $\pm$ 0.5% F.S.                                                                                                                                                                                                                                  |
| Sensitivity                        |               | $\pm$ 0.3% F.S.                                                                                                                                                                                                                                  |
| Repeatability                      |               | $\pm$ 0.3% F.S.                                                                                                                                                                                                                                  |

| Item type                                                 |        | RTP-4000                                                                                                         |
|-----------------------------------------------------------|--------|------------------------------------------------------------------------------------------------------------------|
| Stroke range                                              | Linear | 6-120 mm, 6-150 mm                                                                                               |
|                                                           | Rotary | 55-110°                                                                                                          |
| Output characteristics                                    |        | Linear, Quick Open, EQ %, User Set (9 or 21 points)                                                              |
| Housing and cover material                                |        | Low copper aluminum alloy (copper < 0.4%)<br>Polyester powder coating                                            |
| Electrical enclosure protection                           |        | IP66                                                                                                             |
| Magnet holder, magnet bracket and rotary mounting bracket |        | Stainless Steel 316L                                                                                             |
| Air connection                                            |        | Supply pressure: ¼ NPT<br>Out pressure: ¼ NPT<br>Exhausts: ¾ NPT (pending)<br>Tubing: ¾ inch (10 mm) recommended |
| Cable entry                                               |        | M20x1.5P or ½ NPT                                                                                                |
| Gauge connection                                          |        | ¾ NPT                                                                                                            |
| Weight                                                    |        | 4.95 kg (10.91 lbs)<br>5.15 kg (11.35 lbs), including 3 pressure gauges                                          |

## Product code

RPT-4400 S - D - 4 - 2 - 1 - A - 1 - S

### Acting type

S = Single  
D = Double

### Explosion protection

D = ATEX, IECEx, UKCA<sup>1</sup>  
Z<sup>1</sup> = NEPSI, CCC  
K<sup>1</sup> = KCs  
A<sup>1</sup> = FM, CSA  
P<sup>1</sup> = PESO  
B<sup>1</sup> = INMETRO  
E<sup>1</sup> = EAC  
U<sup>1</sup> = ECAS

### Conduit & air connection

4 = M20x1.5P - ¼ NPT  
5 = ½ NPT - ¼ NPT

### Communication

2 = HART protocol communication

### Input/Output

0 = None  
1 = 4-20 mA analogue output  
2 = Discrete switch input and output  
3 = 4-20 mA analogue output + discrete switch input and output

### Diagnostics

A = Advanced  
P = Premium

### Pressure gauge

0 = None  
1 = Three pressure gauges

### Ambient operating temperature

S = -40 to 85 °C (-40 to 185 °F)  
L = -55 to 85 °C (-67 to 185 °F)

Notes:

1. Certification pending.

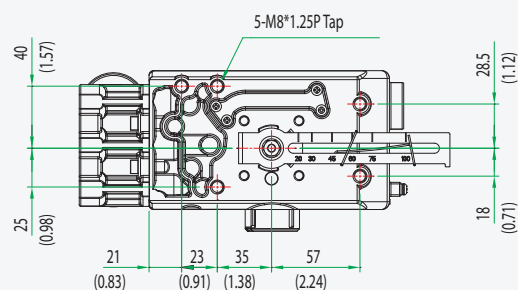
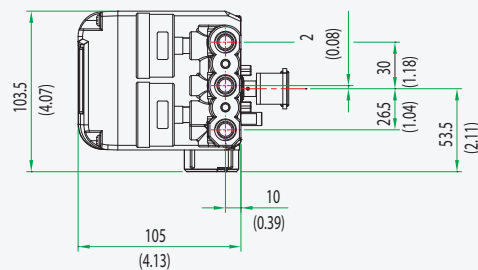
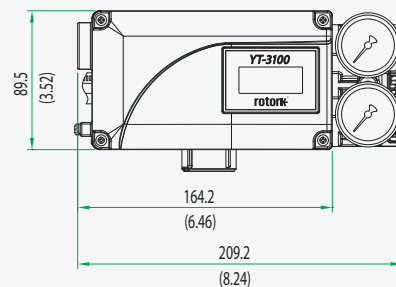
## Compact smart positioner YT-3100

### Design features

- **Compact.** Reliable and precise smart positioner, for linear and quarter-turn rotary actuators. Both single- and double-acting layouts are available.
- **Gauge manifold.** An option to keep the unit as compact as possible when gauges are not required.
- **Smart management system.** A clear and easy to navigate menu with four push buttons.
- **Visual self diagnostic.** Rated to NE107 standard for a user friendly and simplified troubleshooting process.
- **Analogue Output.** 4-20 mA analogue output completes the package, assuring full process control.
- **Non-contact sensor** for increased performance for high frequency operating valves and an enhanced lifetime.



YT-3100 aluminium enclosure  
with polycarbonate cover



Dimensions: mm (Inches ")

## Compact smart positioner YT-3100

| Item Type                 |             | YT-3100                                                                                                                       |
|---------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------|
| Input signal              |             | 4 to 20 mA DC                                                                                                                 |
| Supply pressure           |             | 0.14 to 0.7 MPa = 1.4 to 7 bar = 20 to 102 psi                                                                                |
| Stroke                    | Linear type | 10 to 150 mm (0.4 to 6")                                                                                                      |
|                           | Rotary type | 55 to 110°                                                                                                                    |
| Impedance                 |             | Max. 500 Ω @ 20 mA DC                                                                                                         |
| Air connection            |             | Rc ¼, ¼ NPT                                                                                                                   |
| Gauge connection          |             | ⅜ NPT                                                                                                                         |
| Conduit                   |             | G ½                                                                                                                           |
| Operating temp.           |             | -30 to +85 °C (-22 to +185 °F)                                                                                                |
| Linearity                 |             | ±0.5% F.S.                                                                                                                    |
| Hysteresis                |             | ±0.5% F.S.                                                                                                                    |
| Sensitivity               |             | ±0.2% F.S.                                                                                                                    |
| Repeatability             |             | ±0.3% F.S.                                                                                                                    |
| Air consumption           |             | Below 2 LPM (sup = 0.14 MPa)<br>Below 0.07 CFM (sup = 20 psi)                                                                 |
| Flow capacity             |             | 70 LPM (sup = 0.14 MPa)<br>2.47 CFM (sup = 20 psi)                                                                            |
| Output characteristics    |             | Linear, EQ%, quick open, user set                                                                                             |
| Material                  |             | Housing: aluminium diecasting<br>Cover: polycarbonate                                                                         |
| Ingress protection        |             | IP66<br>(excluding the pressure gauges)                                                                                       |
| Explosion protection type |             | <b>ATEX / IECEx / CCC / NEPSI / KCs</b><br>Ex ia IIC T5/T6 Gb<br><br>Ambient temp.<br>-30 to +60 °C (T5) / -30 to +40 °C (T6) |
| Weight                    |             | 1.7 kg (3.7 lb)                                                                                                               |

### Product code

**YT-3100 - L - S - N - 2 - 1 - 1 - 1 - S**

#### Model

YT-3100 = Aluminium housing  
and polycarbonate cover

#### Motion type

L = Linear  
R = Rotary

#### Acting type

S = Single  
D = Double

#### Explosion protection

N = Non-explosion proof  
i = Intrinsically safe KCs, ATEX, IECEx, NEPSI  
Z = Intrinsically safe CCC, NEPSI

#### Lever type

Linear Rotary  
0 = 10 to 40 mm 5 = NAMUR  
1 = 20 to 100 mm  
2 = 90 to 150 mm

#### Conduit & air connection

1 = G ½ - Rc ¼  
2 = G ½ - ¼ NPT

#### Gauges block

0 = NONE  
1 = Gauges block

#### Options

0 = NONE  
1 = 4-20 mA Analogue Output

#### Operating temp. (non-explosion proof)<sup>1</sup>

S = -30 to +85 °C (-22 to +185 °F)

#### Notes:

1. This option is just the normal operating temperature of the product and is not related to explosion protection temperature. See certificates for explosion protection temperature.

## Torque motor technology with communications

### Design features

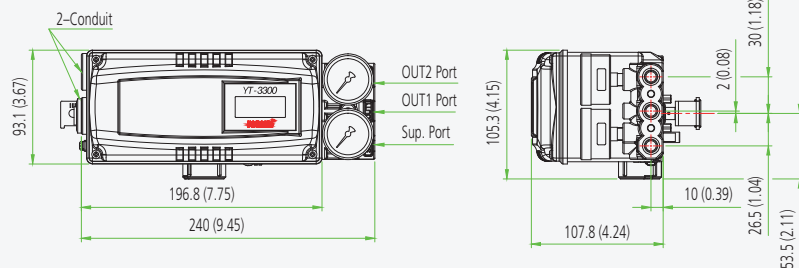
- **Auto calibration.** Simple menu structure with options to auto-calibrate all parameters or zero and end points only.
- **LCD display.** Alphanumeric digital display for process values and calibration.
- **Partial Stroke Test (PST).** Fully-adjustable Partial Stroke Test. All functionality can be performed and selected locally, through push buttons, or remotely with communication protocol.
- **Analogue Output.** Analogue and digital feedback signals with 4-20 mA, mechanical and proximity switch options.
- **PID control.** Pre-calibrated and user-configurable variables via front panel pushbutton menu.
- **Auto / manual switch.** Enables closed-loop automatic valve position control or manual positioning via the A/M switch. The manual mode is useful for troubleshooting, calibration, system testing or as a manual bypass.
- **HART® communication.** Allows commands, position feedback and diagnostics to be sent digitally over the current loop.
- **Profibus Process Automation (PA).** Manages equipment via a process control system in process automation applications. The PA variant is designed for use in hazardous areas (Ex zones 0 and 1). The Physical Layer, with over the bus power, limits current flows so that

explosive conditions are not created, even if a malfunction occurs. The number of devices attached to a PA segment is limited by this feature. However, PA uses the same protocol as DP, and can be linked to a DP network using a coupler device. The much faster DP acts as a backbone network for transmitting process signals to the controller. This means that DP and PA can work tightly together, especially in hybrid applications where process and factory automation networks operate side by side.

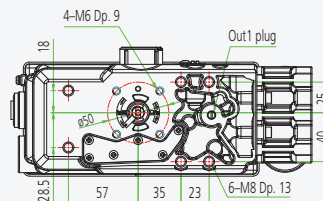
- **Foundation Fieldbus.** A bi-directional communications protocol used for communications among field devices and the control system. It utilises twisted pair or fibre media to communicate between multiple nodes (devices) and the controller. The controller requires only one communication point to communicate with up to 32 nodes, this is a significant improvement over the standard 4-20 mA communication method which requires a separate connection point for each communication device on the controller system.
- **Front panel pushbuttons for configuration.** Four robust and positive acting pushbuttons for field configuration.
- **Non-contact sensor** for increased performance for high frequency operating valves and an enhanced lifetime.



YT-3300 aluminium enclosure



YT-3350 STS316 enclosure



Dimensions: mm (Inches ")

| Item type                 |                         | YT-3300                                                                                                                                                                                              | YT-3350             |
|---------------------------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Input signal              |                         | 4-20 mA DC                                                                                                                                                                                           |                     |
| Supply pressure           |                         | 0.14 to 0.7 MPa / 1.4 to 7 bar / 20 to 102 psi                                                                                                                                                       |                     |
| Stroke                    | Linear type             | 10 to 150 mm (0.4 to 6")                                                                                                                                                                             |                     |
|                           | Rotary type             | 55 to 110°                                                                                                                                                                                           |                     |
| Impedance                 |                         | Max. 500 Ω @ 20 mA DC                                                                                                                                                                                |                     |
| Air connection            |                         | Rc ¼, ¼ NPT, G ¼                                                                                                                                                                                     | ¼ NPT               |
| Gauge connection          |                         | 1/8 NPT                                                                                                                                                                                              |                     |
| Conduit                   |                         | G ½, M20, ½ NPT                                                                                                                                                                                      | G ½                 |
| Operating temp.           | Standard type           | -30 to +85 °C (-22 to +185 °F)                                                                                                                                                                       |                     |
|                           | Low temp. Type          | -40 to +85 °C (-40 to +185 °F)                                                                                                                                                                       |                     |
|                           | Arctic temp. Type       | -55 to +85 °C (-67 to +185 °F)                                                                                                                                                                       |                     |
| Linearity                 |                         | ±0.5% F.S.                                                                                                                                                                                           |                     |
| Hysteresis                |                         | ±0.5% F.S.                                                                                                                                                                                           |                     |
| Sensitivity               |                         | ±0.2% F.S.                                                                                                                                                                                           |                     |
| Repeatability             |                         | ±0.3% F.S.                                                                                                                                                                                           |                     |
| Air consumption           |                         | Below 2 LPM (sup = 0.14 Mpa)<br>Below 0.07 CFM (sup = 20 psi)                                                                                                                                        |                     |
| Flow capacity             |                         | 70 LPM (sup = 0.14 MPa) 2.47 CFM (sup = 20 psi)                                                                                                                                                      |                     |
| Output characteristics    |                         | Linear, EQ%, Quick Open, User Set (5, 21 Points)                                                                                                                                                     |                     |
| Material                  |                         | Aluminium Diecasting                                                                                                                                                                                 | Stainless Steel 316 |
| Ingress protection        |                         | NEMA 4X, IP66<br>(excluding the pressure gauges)                                                                                                                                                     |                     |
| Explosion protection type |                         | <b>ATEX / IECEx / UKEX / CCC / NEPSI / INMETRO</b><br>Ex ia IIC T5/T6 Gb<br>Ex ia IIIC T100°C/T85°C Db                                                                                               |                     |
|                           |                         | <b>KCs</b><br>Ex ia IIC T6/T5<br>Ex iaD IIIC T85°C/T100°C                                                                                                                                            |                     |
|                           |                         | <b>CSA</b><br>CSA certificate                                                                                                                                                                        |                     |
|                           |                         | <b>FM</b><br>Class I, Div 1, Groups A, B, C & D<br>Class I, Zone 0 AEx ia IIC<br>Class II/III, Div 1, Groups E, F & G<br>Class I/II/III, Div 2, Groups A, B, C, D, F & G<br>NEMA Type 4X, IP66, IP54 |                     |
|                           |                         | <b>PESO (YT-3300 only)</b><br>Ex ia IIC T6/T5 Gb<br>Ambient temp.:<br>-40 to +60 °C (T5) / -40 to +40 °C (T6)                                                                                        |                     |
| SIL                       |                         | SIL2 and SIL3<br>Non-interference device statement for SIS                                                                                                                                           |                     |
| Communication (option)    |                         | HART (ver.7)<br>Profibus PA <sup>1</sup><br>Foundation Fieldbus <sup>1</sup>                                                                                                                         |                     |
| L/S rating                | Mechanical type (Omron) | 125 VAC, 3 A / 30 VDC, 2 A                                                                                                                                                                           |                     |
|                           | Proximity type (P&F)    | 8.2 VDC, 8.2 mA                                                                                                                                                                                      |                     |
| Weight                    |                         | 2 kg (4.4 lb)                                                                                                                                                                                        | 5.1 kg (11.2 lb)    |

## Product code

**YT-3300 - L - S - N - 2 - 4 - 2 - 4 - S**

### Model

YT-3300 = Aluminium housing  
YT-3350 = Stainless steel housing

### Motion type

L = Linear  
R = Rotary

### Acting type

S = Single  
D = Double

### Explosion protection

N = Non-explosion proof  
i = Intrinsically safe ATEX, IECEx, KCs, NEPSI, INMETRO, PESO (YT-3300 only)  
A = Intrinsically safe CSA, FM  
AG = Intrinsically safe CSA, FM - tapped exhaust  
Z = Intrinsically safe CCC, NEPSI

### Lever type

| Linear           | standard type | Rotary       | fork type |
|------------------|---------------|--------------|-----------|
| 0 = 10 to 40 mm  |               | 1 = M6 x 34L |           |
| 1 = 20 to 100 mm |               | 2 = M6 x 63L |           |
| 2 = 90 to 150 mm |               | 3 = M8 x 34L |           |
| 3 = 16 to 30 mm  |               | 4 = M8 x 63L |           |
| 4 = 16 to 60 mm  |               | 5 = NAMUR    |           |
| 5 = 16 to 100 mm | adaptor type  |              |           |
| 6 = 90 to 150 mm |               |              |           |

### Conduit & air connection

1 = G ½ - Rc ¼ (N/A for YT-3350)  
2 = G ½ - ¼ NPT  
3 = G ½ - G ¼ (N/A for YT-3350)  
4 = M20 - ¼ NPT (N/A for YT-3350)  
5 = ½ NPT - ¼ NPT (N/A for YT-3350)

### Communications

0 = None  
2 = HART protocol communication  
3 = Profibus PA<sup>1</sup>  
4 = Foundation Fieldbus<sup>1</sup>

### Output options

0 = None  
1 = 4-20 mA Analogue Output  
2<sup>2</sup> = Limit switch (2ea) - mechanical type  
3<sup>3</sup> = Limit switch (2ea) - proximity type  
4<sup>2</sup> = 4-20 mA Analogue Output + limit switch (2ea) - mechanical type  
5<sup>3</sup> = 4-20 mA Analogue Output + limit switch (2ea) - proximity type

### Operating temp. (non-explosion proof)<sup>4</sup>

S = -30 to +85 °C (-22 to +185 °F)  
L = -40 to +85 °C (-40 to +185 °F)  
A = -55 to +85 °C (-67 to +185 °F) (Non-explosion proof only)

#### Notes:

- Only available for N, i (ATEX/IECEx only) of explosion protection and 0 of output options. Potentiometer feedback sensor is only applicable. Arctic temperature option is not available.
- Only S, L of operating temperature are available for 2, 4 of output options. This option is only available with potentiometer feedback sensor.
- Only S of operating temperature is available for 3, 5 of output options. This option is only available with potentiometer feedback sensor.
- This option is just the normal operating temperature of the product and is not related to explosion protection temperature. See certificates for explosion protection temperature.

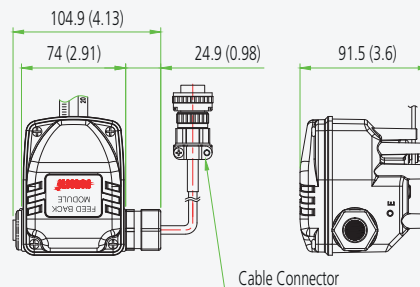
## Torque motor technology with communications

### Design features

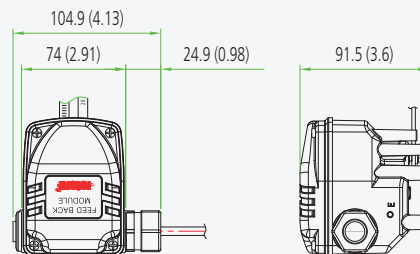
- **Auto calibration.** Simple menu structure with options to auto calibrate all parameters or zero and end points only.
- **LCD display.** Alphanumeric digital display for process values and calibration.
- **Partial Stroke Test (PST).** Fully adjustable Partial Stroke Test. All functionality can be performed and selected locally, through push buttons, or remotely with communication protocol.
- **Analogue Output.** Analogue 4-20 mA position feedback option.
- **PID control.** Pre-calibrated and user-configurable variables via front panel pushbutton menu.
- **Auto / manual switch.** Enables closed-loop automatic valve position control or manual positioning via the A/M switch. The manual mode is useful for troubleshooting, calibration, system testing or as a manual bypass.
- **HART® communication.** Allows commands, position feedback and diagnostics to be sent digitally over the current loop.
- **Front panel pushbuttons for configuration.** Four robust and positive acting pushbuttons for field configuration.
- **Remote Mounting Option (YT-3301/YT-3302).** Remote sensor via cable to enable the positioner to be mounted away from extreme temperature.



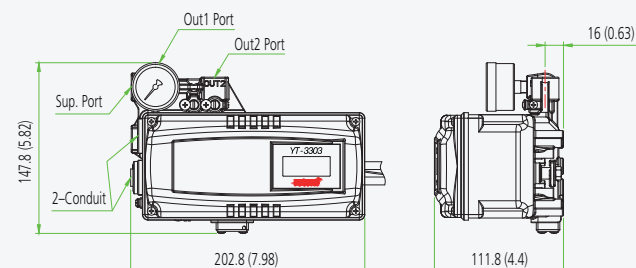
### YT-3301 remote mounting option



### YT-3302 remote mounting option



### YT-3303 left side mounting option



Dimensions: mm (Inches ")

| Item type                 |                   | YT-3301 / 3302                                                                                                                                                                                                                                                                                                                                                                                                                                                          | YT-3303                                 |
|---------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Input signal              |                   | 4-20 mA DC                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                         |
| Supply pressure           |                   | 0.14 to 0.7 MPa / 1.4 to 7 bar / 20 to 102 psi                                                                                                                                                                                                                                                                                                                                                                                                                          |                                         |
| Stroke                    | Linear type       | 10 to 150 mm (0.4 to 6")                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         |
|                           | Rotary type       | 55 to 110°                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                         |
| Impedance                 |                   | Max. 500 Ω @ 20 mA DC                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                         |
| Air connection            |                   | Rc ¼, ¼ NPT, G ¼                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                         |
| Gauge connection          |                   | ⅛ NPT                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                         |
| Conduit                   |                   | G ½, M20, ½ NPT                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                         |
| Operating temp.           | Standard type     | -30 to +85 °C (-22 to +185 °F)                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                         |
|                           | Low temp. Type    | -40 to +85 °C (-40 to +185 °F)                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                         |
|                           | Arctic temp. Type | -55 to +85 °C (-67 to +185 °F)                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                         |
|                           | Remote sensor     | -55 to +120 °C (-67 to +248 °F)                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                         |
| Linearity                 |                   | ±0.5% F.S.                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                         |
| Hysteresis                |                   | ±0.5% F.S.                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                         |
| Sensitivity               |                   | ±0.2% F.S.                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                         |
| Repeatability             |                   | ±0.3% F.S.                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                         |
| Air consumption           |                   | Below 2 LPM (sup = 0.14 Mpa)<br>Below 0.07 CFM (sup = 20 psi)                                                                                                                                                                                                                                                                                                                                                                                                           |                                         |
| Flow capacity             |                   | 70 LPM (sup = 0.14 MPa) 2.47 CFM (sup = 20 psi)                                                                                                                                                                                                                                                                                                                                                                                                                         |                                         |
| Output characteristics    |                   | Linear, EQ%, quick open, user set (5, 18 points)                                                                                                                                                                                                                                                                                                                                                                                                                        |                                         |
| Material                  |                   | Aluminium diecasting                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                         |
| Ingress protection        |                   | IP66, IP54 (YT-3301)<br>IP66 (YT-3302)                                                                                                                                                                                                                                                                                                                                                                                                                                  | IP66<br>(excluding the pressure gauges) |
| Explosion protection type |                   | <b>ATEX / IECEx / NEPSI / INMETRO / UKEX / CCC</b><br>Ex ia IIC T5/T6 Gb<br>Ex ia IIIC T100°C/T85°C Db<br><b>KCs</b><br>Ex ia IIC T5/T6<br>Ex iaD IIIC T100°C/T85°C<br><b>CSA</b><br>CSA certificate<br><b>FM</b><br>Class I, Div 1, Groups A, B, C & D<br>Class I, Zone 0 Aex ia IIC<br>Class II/III, Div 1, Groups E, F & G<br>Class I/II/III, Div 2, Groups A, B, C, D, F & G<br>NEMA Type 4X, IP66, IP54<br>Ambient temp.:<br>-40 to +60°C (T5) / -40 to +40°C (T6) |                                         |
| SIL                       |                   | SIL2 and SIL3<br>Non-interference device statement for SIS                                                                                                                                                                                                                                                                                                                                                                                                              |                                         |
| Communication (option)    |                   | HART (ver.7)                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                         |
| Weight                    | Body              | 2.2 kg (4.9 lb) /<br>2.5 kg (5.5 lb)                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2 kg (4.4 lb)                           |
|                           | Remote sensor     | 1 kg (2.1 lb)                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -                                       |

## Product code

**YT-3301 - L - S - N - 2 - 4 - 2 - 1 - S - (1)**

### Model

YT-3301 = Aluminium housing with remote sensor  
 YT-3302 = Aluminium housing with remote sensor  
 YT-3303 = Aluminium housing with right side lever

### Motion type

L = Linear  
 R = Rotary

### Acting type

S = Single  
 D = Double

### Explosion protection

N = Non-explosion proof  
 i = Intrinsically safe ATEX, IECEx, KCs, NEPSI, INMETRO, UKEX, PESO  
 A = Intrinsically safe CSA, FM  
 AG = Intrinsically safe CSA, FM - tapped exhaust  
 Z = Intrinsically safe CCC, NEPSI

### Lever type

| Linear            | Rotary                        |           |
|-------------------|-------------------------------|-----------|
| 1 = 10 to 40 mm   | 1 = M6 X 34L (YT-3303 only)   | fork type |
| 2 = 20 to 70 mm   | 2 = M6 X 63L (YT-3303 only)   |           |
| 3 = 50 to 100 mm  | 3 = M8 X 34L (YT-3303 only)   |           |
| 4 = 100 to 150 mm | 4 = M8 X 63L (YT-3303 only)   |           |
|                   | 5 = NAMUR (YT-3301/3302/3303) |           |

### Conduit & air connection

1 = G ½ - Rc ¼  
 2 = G ½ - ¼ NPT  
 3 = G ½ - G ¼  
 4 = M20 - ¼ NPT  
 5 = ½ NPT - ¼ NPT

### Communications

0 = None  
 2 = HART protocol communication

### Output options

0 = None  
 1 = 4-20 mA Analog Output

### Operating temp. (non-explosion proof)<sup>1</sup>

S = -30 to +85 °C (-22 to +185 °F)  
 L = -40 to +85 °C (-40 to +185 °F)  
 A = -55 to +85 °C (-67 to +185 °F) (Non-explosion proof only)

### Cable length (YT-3301/3302 only)

Standard cable length is 5 m.  
 1 = 5 m  
 2 = 10 m  
 3 = 15 m  
 4 = 20 m

### Notes:

1. This option is just the normal operating temperature of the product and is not related to explosion protection temperature. See certificates for explosion protection temperature.

## Digital smart positioner with enhanced diagnostics

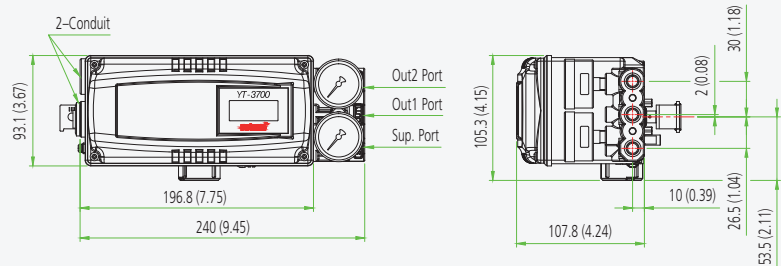
### Design features

- **Enhanced diagnostic** (including offline and online) to fully check the integrity of the system. Valve signature, advanced step tests and Partial Stroke Testing (PST) can be operated from local or remote positions. Device Description (DD) and Device Type Manager (DTM) files allow for full software compatibility.
- **Visual diagnostic info** to NE107 standard for a user-friendly analysis with a severity alarm scale and a clear visual identification locally on the display or remotely through HART®.

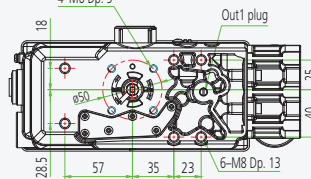
- **Digital input/output configurable** depending on the application and customer preferences. Multiple options are available e.g. start a pre-set PST event or receive error alarms, tailoring interaction with the device as necessary.
- **Auto tuning** functionality.
- **Non-contact sensor** for increased performance for high frequency operating valves and an enhanced lifetime.



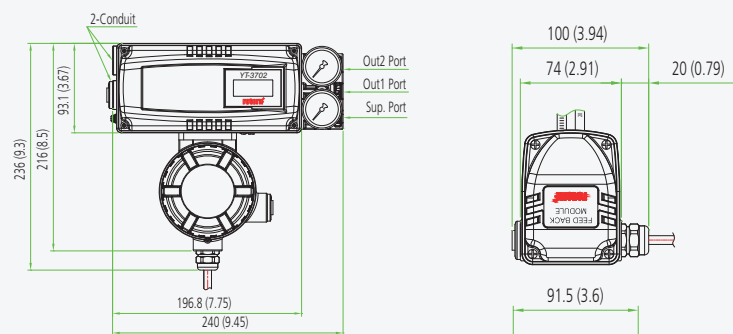
### YT-3700 aluminium enclosure



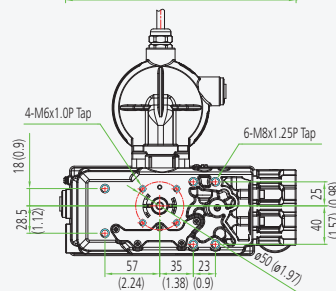
### YT-3700 aluminium enclosure with limit switches and dome indicator



### YT-3702 remote mounting option



### YT-3750 STS316 enclosure



Dimensions: mm (Inches " )

| Item type                 |                         | YT-3700 / 3702                                                                                                  | YT-3750             |
|---------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------|---------------------|
| Input signal              |                         | 4-20 mA DC                                                                                                      |                     |
| Supply pressure           |                         | 0.14 to 0.7 MPa = 1.4 to 7 bar = 20 to 102 psi                                                                  |                     |
| Stroke                    | Linear type             | 10 to 150 mm (0.4 to 6")                                                                                        |                     |
|                           | Rotary type             | 55 to 110°                                                                                                      |                     |
| Impedance                 |                         | Max. 500 Ω @ 20 mA DC                                                                                           |                     |
| Air connection            |                         | Rc ¼, ¼ NPT, G ¼                                                                                                | ¼ NPT               |
| Gauge connection          |                         | 1/8 NPT                                                                                                         |                     |
| Conduit                   |                         | G ½, M20, ½ NPT                                                                                                 | G ½                 |
| Operating temp.           | Standard type           | -30 to +85 °C (-22 to +185 °F)                                                                                  |                     |
|                           | Low temp. Type          | -40 to +85 °C (-40 to +185 °F)                                                                                  |                     |
|                           | Arctic temp. Type       | -55 to +85 °C (-67 to +185 °F)                                                                                  |                     |
|                           | LCD                     | withstands -55 to +85 °C (-67 to +185 °F) only visible above -40 °C (-40 °F)                                    |                     |
|                           | Remote sensor           | -55 to +120 °C (-67 to +248 °F)                                                                                 |                     |
| Linearity                 |                         | ±0.5% F.S.                                                                                                      |                     |
| Hysteresis                |                         | ±0.5% F.S.                                                                                                      |                     |
| Sensitivity               |                         | ±0.2% F.S.                                                                                                      |                     |
| Repeatability             |                         | ±0.3% F.S.                                                                                                      |                     |
| Air consumption           |                         | Below 2 LPM (sup = 0.14 MPa)<br>Below 0.07 CFM (sup = 20 psi)                                                   |                     |
| Flow capacity             |                         | 70 LPM (sup = 0.14 MPa)<br>2.47 CFM (sup = 20 psi)                                                              |                     |
| Output characteristics    |                         | Linear, EQ%, quick open, user set (5, 21 points)                                                                |                     |
| Material                  |                         | Aluminium diecasting                                                                                            | Stainless steel 316 |
| Ingress protection        |                         | IP66, NEMA 4X<br>(excluding the pressure gauges)                                                                |                     |
| Explosion protection type |                         | <b>ATEX / IECEx / CCC / UKEX</b><br>Ex ia IIC T5/T6 Gb<br>Ex ia IIIC T100°C/T85°C Db                            |                     |
|                           |                         | <b>NEPSI</b><br>Ex ia IIC T5/T6 Gb<br>Ex iaD 21 T100/T85                                                        |                     |
|                           |                         | <b>FM / CSA</b><br>Intrinsically Safe. Refer to the product manual for details.                                 |                     |
|                           |                         | <b>KCs</b><br>Ex ia IIC T5/T6<br>Ex ia IIIC T100°C/T85°C                                                        |                     |
|                           |                         | <b>PESO</b><br>Ex ia IIC T5T6 Gb<br>Ambient temp.:<br>-40 to +60 °C (T5) / -40 to +40 °C (T6)                   |                     |
| SIL                       |                         | SIL2 and SIL3<br>Non-interference device statement for SIS                                                      |                     |
| Communication (option)    |                         | HART (ver.7)                                                                                                    |                     |
| L/S rating                | Mechanical type (Omron) | AC 125 V, 3 A / DC 30 V, 2 A<br>(YT-3702 is not available)                                                      |                     |
|                           | Proximity type (P&F)    | DC 8.2 V 8.2 mA<br>(YT-3702 is not available)                                                                   |                     |
| Weight                    |                         | 2 kg (4.4 lb) /<br>3.1 kg (6.8 lb)                                                                              | 5.1 kg (11.2 lb)    |
| Digital input             |                         | Low level control voltage 0 to 5 VDC<br>High level control voltage 10 to 28 VDC<br>Max current < 4 mA           |                     |
| Digital output            |                         | Supply voltage 5 to 28 VDC<br>Low level current < 1 mA<br>High level current > 2.2 mA @5 VDC,<br>< 14mA @28 VDC |                     |

## Product code

**YT-3700 - L - S - N - 2 - 4 - 2 - 4 - S - (1)**

### Model

YT-3700 = Aluminium housing  
YT-3702 = Aluminum housing with remote NCS  
YT-3750 = Stainless steel housing

### Motion type

L = Linear  
R = Rotary (in case of a switches request the device will have visual position indicator as standard)

### Acting type

S = Single  
D = Double

### Explosion protection

N = Non-explosion proof (YT-3702 is N only)  
i = Intrinsically safe ATEX, IECEx, KCs, NEPSI, UKEX, PESO  
A = Intrinsically safe CSA, FM  
AG = Intrinsically safe CSA, FM - tapped exhaust  
Z = Intrinsically safe CCC, NEPSI

### Lever type

Linear Rotary  
0 = 10 to 40 mm (YT-3700/3750) 5 = NAMUR  
1 = 20 to 100 mm (YT-3700/3750)  
2 = 90 to 150 mm (YT-3700/3750)  
1 = 10 to 40 mm (YT-3702 only)  
2 = 20 to 70 mm (YT-3702 only)  
3 = 50 to 100 mm (YT-3702 only)  
4 = 100 to 150 mm (YT-3702 only)

### Conduit & air connection

1 = G ½ - Rc ¼ (N/A for YT-3750)  
2 = G ½ - ¼ NPT  
3 = G ½ - G ¼ (N/A for YT-3750)  
4 = M20 - ¼ NPT (N/A for YT-3750)  
5 = ½ NPT - ¼ NPT (N/A for YT-3750)

### Communication protocols

2 = HART communication

### Output options

0 = None (digital I/O are built-in)  
1 = 4-20 mA feedback (digital I/O are built-in)  
4¹ = 4-20 mA feedback + limit switch (2ea) - mechanical type (potentiometer drive without digital I/O communication)  
5² = 4-20 mA feedback + limit switch (2ea) - proximity type (potentiometer drive without digital I/O communication)

### Operating temp. (non-explosion proof)³

S = -30 to +85 °C (-22 to +185 °F)  
L = -40 to +85 °C (-40 to +185 °F)  
A = -55 to +85 °C (-67 to +185 °F) (Non-explosion proof only)

### Cable length (YT-3702 only)

Standard cable length is 5 m.  
1 = 5 m  
2 = 10 m  
3 = 15 m  
4 = 20 m

### Notes:

1. Only S, L of operating temperature are available for 4 of output options. This option is only available with potentiometer feedback sensor.
2. Only S of operating temperature is available for 5 of output options. This option is only available with potentiometer feedback sensor.
3. This option is just the normal operating temperature of the product and is not related to explosion protection temperature. See certificates for explosion protection temperature.

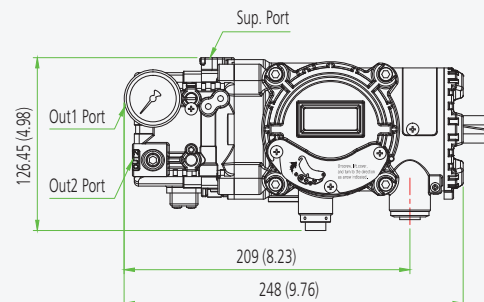
## Torque motor technology with communications

### Design features

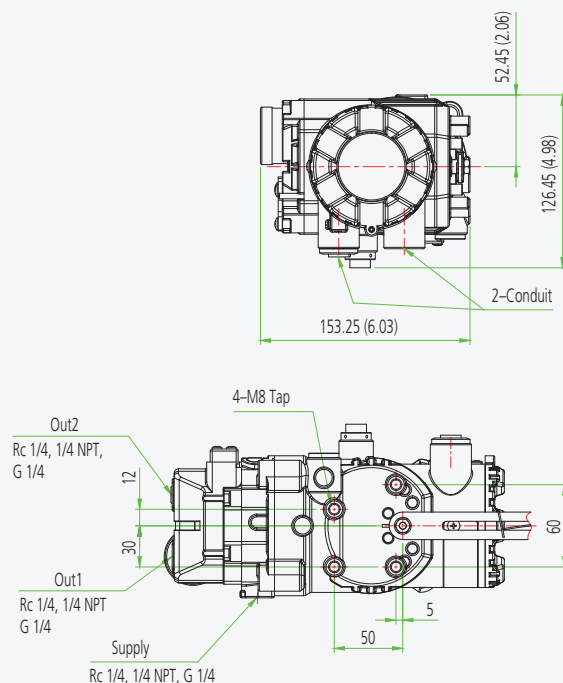
- **Enhanced diagnostic** (including offline and online) to fully check the integrity of the system. Valve signature, advanced step tests and Partial Stroke Testing (PST) can be operated from local or remote positions. Device Description (DD) and Device Type Manager (DTM) files allow for full software compatibility.
- **Visual diagnostic info** to NE107 standard for a user-friendly analysis with a severity alarm scale and a clear visual identification locally on the display or remotely through HART®.
- **Digital input/output configurable** depending on the application and customer preferences. Multiple options are available e.g. start a pre-set PST event or receive error alarms, tailoring interaction with the device as necessary.
- **Auto tuning** functionality.
- **Non-contact sensor** for increased performance for high frequency operating valves and an enhanced lifetime.



### YT-3400 aluminium enclosure



### YT-3450 STS316 enclosure



Dimensions: mm (Inches ")

| Item type                 |                   | YT-3400                                                                                                                                                               | YT-3450             |
|---------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Input signal              |                   | 4-20 mA DC                                                                                                                                                            |                     |
| Supply pressure           |                   | 0.14 to 0.7 MPa / 1.4 to 7 bar / 20 to 102 psi                                                                                                                        |                     |
| Stroke                    | Linear type       | 10 to 150 mm (0.4 to 6")                                                                                                                                              |                     |
|                           | Rotary type       | 55 to 110°                                                                                                                                                            |                     |
| Impedance                 |                   | Max. 450 $\Omega$ @ 20 mA DC                                                                                                                                          |                     |
| Air connection            |                   | Rc 1/4, 1/4 NPT, G 1/4                                                                                                                                                | 1/4 NPT             |
| Gauge connection          |                   | 1/8 NPT                                                                                                                                                               |                     |
| Conduit                   |                   | G 1/2, 1/2 NPT, M20                                                                                                                                                   | G 1/2               |
| Operating temp.           | Standard type     | -30 to +85 °C (-22 to +185 °F)                                                                                                                                        |                     |
|                           | Low temp. Type    | -40 to +85 °C (-40 to +185 °F)                                                                                                                                        |                     |
|                           | Arctic temp. Type | -55 to +85 °C (-67 to +185 °F)                                                                                                                                        |                     |
| Linearity                 |                   | ±0.5% F.S.                                                                                                                                                            |                     |
| Hysteresis                |                   | ±0.5% F.S.                                                                                                                                                            |                     |
| Sensitivity               |                   | ±0.2% F.S.                                                                                                                                                            |                     |
| Repeatability             |                   | ±0.3% F.S.                                                                                                                                                            |                     |
| Air consumption           |                   | Below 2 LPM (sup = 0.14 MPa)<br>Below 0.08 CFM (sup = 20 psi)                                                                                                         |                     |
| Flow capacity             |                   | 70 LPM (sup = 0.14 MPa)<br>2.47 CFM (sup = 20 psi)                                                                                                                    |                     |
| Output characteristics    |                   | Linear, EQ%, quick open, user set (5 or 21 points)                                                                                                                    |                     |
| Material                  |                   | Aluminium diecasting                                                                                                                                                  | Stainless steel 316 |
| Ingress protection        |                   | NEMA 4-4X, IP66 (excluding the pressure gauges)                                                                                                                       |                     |
| Explosion protection type |                   | <b>ATEX / IECEx / UKEX / CCC / NEPSI</b><br>Ex db IIC T5/T6 Gb<br>Ex tb IIIC T85°C/T100°C Db                                                                          |                     |
|                           |                   | <b>KCs</b><br>Ex d IIC T5/T6 IP66<br>Ex tb IIIC T85°C/T100°C (YT-3450 only)                                                                                           |                     |
|                           |                   | <b>CSA</b><br>Ex db IIC Gb T5 or T6<br>Class I, Division 1, Groups C, D<br>Class II, Division 1, Groups E, F and G<br>Ex tb IIIC Db T100°C/T85°C<br>Type 4, 4X ; IP66 |                     |
|                           |                   | <b>FM</b><br>Class I, Div 1, Groups ABCD; T6/T5<br>Class II/III, Div 1, Groups EFG; T6/T5<br>Class I, Zone 1, AEx db IIC T6/T5<br>Zone 21 AEx tb IIIC<br>Type 4X/IP66 |                     |
|                           |                   | <b>INMETRO</b><br>Ex db IIC T5/T6 Gb IP66<br>Ex tb IIIC T100°C/T85°C Db IP66                                                                                          |                     |
|                           |                   | <b>PESO</b><br>Ex db IIC T5/T6 Gb<br><br>Ambient temp.:<br>-40 to +70 °C (T6) / -40 to +80 °C (T5)                                                                    |                     |
| SIL                       |                   | SIL2 and SIL3<br>Non-interference device statement for SIS                                                                                                            |                     |
| Communication (option)    |                   | HART (ver.7)                                                                                                                                                          |                     |
| Weight                    |                   | 3.4 kg (7.5 lb)                                                                                                                                                       | 7.0 kg (15.4 lb)    |

## Product code

**YT-3400 - L - S - C - 2 - 4 - 2 - 3 - S**

### Model

YT-3400 = Aluminium housing  
YT-3450 = Stainless steel housing

### Motion type

L = Linear  
R = Rotary

### Acting type

S = Single  
D = Double

### Explosion protection

N = Non-explosion proof  
C<sup>1</sup> = ATEX, IECEx, KCs, NEPSI, INMETRO, ECAS, UKEX, PESO  
A = CSA, FM  
AG = CSA, FM - tapped exhaust  
Z = CCC, NEPSI

### Lever type

| Linear            | Rotary       |
|-------------------|--------------|
| 1 = 10 to 40 mm   | 1 = M6 x 34L |
| 2 = 20 to 70 mm   | 2 = M6 x 63L |
| 3 = 50 to 100 mm  | 3 = M8 x 34L |
| 4 = 100 to 150 mm | 4 = M8 x 63L |
|                   | 5 = NAMUR    |

### Conduit & air connection

1 = G 1/2 - Rc 1/4 (N/A for FM and CCC or YT-3450)  
2 = G 1/2 - 1/4 NPT (N/A for FM and CCC)  
3 = G 1/2 - G 1/4 (N/A for FM and CCC or YT-3450)  
4 = M20 - 1/4 NPT (N/A for YT-3450)  
5 = 1/2 NPT - 1/4 NPT

### Communication

0 = None  
2 = HART protocol communication  
5 = HART with enhanced diagnostic capabilities & DI/DO

### Output options<sup>4</sup>

0 = None  
1 = 4-20 mA Analogue Output  
2 = Limit switch (2ea)<sup>2</sup>  
3 = 4-20 mA Analogue Output + limit switch (2ea)<sup>2</sup>

### Operating temp. (non-explosion proof)<sup>3</sup>

S = -30 to +85 °C (-22 to +185 °F)  
L = -40 to +85 °C (-40 to +185 °F)  
A = -55 to +85 °C (-67 to +185 °F) (Non-explosion proof only)

#### Notes:

- Please put the name of the certificate in a purchase order.
- Limit switch (or digital output): DC 24V (50mA) and transistor type.
- This option is just the normal operating temperature of the product and is not related to explosion protection temperature.  
See certificates for explosion protection temperature.
- Output options 2 and 3 are not selectable when communication option 5 is selected. Communication option 5 includes digital I/O and digital output is configurable to software limit switch.

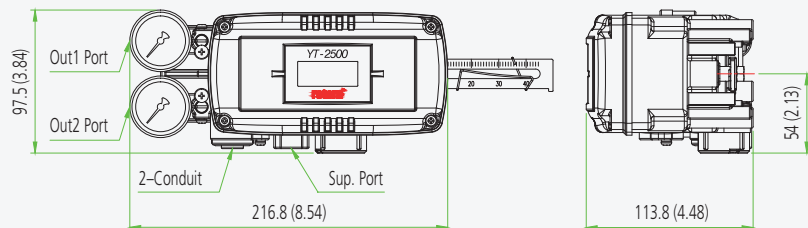
## Piezo technology with communications

### Design features

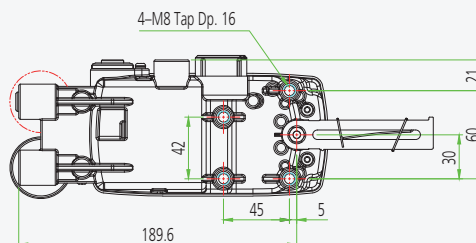
- **Fail-freeze and fail-safe functions.** Enables the valve to maintain the last position (fail-freeze) or move to a pre-determined position (fail-safe) on the loss of electrical power supply or the pneumatic supply air.
- **Auto calibration.** Simple menu structure with options to auto calibrate all parameters or zero and end points only.
- **LCD display.** Alphanumeric digital display for process values and calibration.
- **Low air consumption level.** Almost zero air leakage.
- **Analogue Output.** Analogue feedback signals with 4-20 mA, mechanical and proximity switch options.
- **PD control.** Pre-calibrated and user-configurable variables via front panel pushbutton menu.
- **HART® communication.** Allows commands, position feedback and diagnostics to be sent digitally over the current loop.
- **Front panel pushbuttons for configuration.** Four robust and positive acting pushbuttons for field configuration.



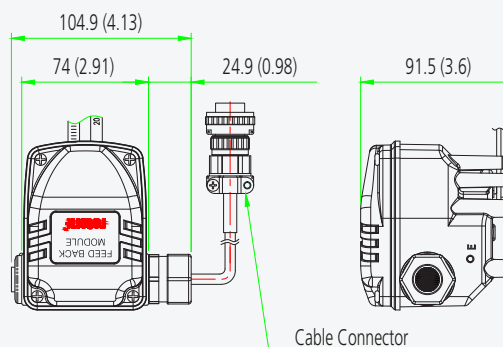
### YT-2500 aluminium enclosure



### YT-2550 stainless steel enclosure



### YT-2501 remote mounting option



Dimensions: mm (Inches ")

| Item type                 |                         | YT-2500                                                                                                                   | YT-2550             | YT-2501                  |
|---------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------|
| Input signal              |                         | 4-20 mA DC                                                                                                                |                     |                          |
| Supply pressure           |                         | 0.14 to 0.7 MPa = 1.4 to 7 bar = 20 to 102 psi                                                                            |                     |                          |
| Stroke                    | Linear type             | 10 to 150 mm (0.4 to 6")                                                                                                  |                     |                          |
|                           | Rotary type             | 55 to 110°                                                                                                                |                     |                          |
| Impedance                 |                         | Max. 500 Ω @ 20 mA DC                                                                                                     |                     |                          |
| Air connection            |                         | Rc ¼",<br>¼ NPT, G ¼"                                                                                                     | ¼ NPT               | Rc ¼",<br>¼ NPT, G ¼"    |
| Gauge connection          |                         | ¼ NPT                                                                                                                     |                     |                          |
| Conduit                   |                         | G ½", ½ NPT,<br>M20x1.5P                                                                                                  | G ½"                | G ½", ½ NPT,<br>M20x1.5P |
| Operating temp.           | Positioner              | -30 to +80 °C (-22 to +176 °F) <sup>1</sup>                                                                               |                     |                          |
|                           | Remote sensor           | -55 to +120 °C (-67 to +248 °F)                                                                                           |                     |                          |
| Linearity                 |                         | ±0.5% F.S.                                                                                                                |                     |                          |
| Hysteresis                |                         | ±0.5% F.S.                                                                                                                |                     |                          |
| Sensitivity               |                         | ±0.2% F.S.                                                                                                                |                     |                          |
| Repeatability             |                         | ±0.3% F.S.                                                                                                                |                     |                          |
| Air consumption           | Fail-freeze             | 0.01 LPM (sup = 0.14 MPa)<br>0 CFM (sup = 20 psi)                                                                         |                     |                          |
|                           | Fail-safe               | 0.06 LPM (sup = 0.14 MPa)<br>0.002 CFM (sup = 20 psi)                                                                     |                     |                          |
| Flow capacity             | Fail-freeze             | 60 LPM (sup = 0.14 MPa)<br>2.12 CFM (sup = 20 psi)                                                                        |                     |                          |
|                           | Fail-safe               | 40 LPM (sup = 0.14 MPa)<br>1.41 CFM (sup = 20 psi)                                                                        |                     |                          |
| Output characteristics    |                         | Linear, EQ%, Quick Open, User Set<br>(5 or 18 Points)                                                                     |                     |                          |
| Material                  |                         | Aluminium diecasting                                                                                                      | Stainless steel 316 | Aluminium diecasting     |
| Ingress protection        |                         | IP66<br>(excluding the pressure gauges)                                                                                   |                     |                          |
| Explosion protection type |                         | <b>ATEX / IECEx / CCC</b><br>Ex ia IIC T5/T6 Gb<br>Ex ia IIIC T100°C/T85°C Db                                             |                     |                          |
|                           |                         | <b>KCs</b><br>Ex ia IIC T5/T6<br>Ex iaD IIIC T100°C/T85°C                                                                 |                     |                          |
|                           |                         | <b>NEPSI</b><br>Ex ia IIC T5/T6 Gb<br>Ex iaD 21 T100/T85<br><br>Ambient temp.:<br>-30 to +40 °C (T6) / -30 to +60 °C (T5) |                     |                          |
| Communication (option)    |                         | HART (ver.5)                                                                                                              |                     |                          |
| L/S rating                | Mechanical type (Omron) | AC 125 V, 3 A<br>DC 30 V, 2 A                                                                                             |                     | -                        |
|                           | Proximity Type (P&F)    | DC 8.2 V 8.2 mA                                                                                                           |                     | -                        |
| Weight                    | Body                    | 1.5 kg (3.3 lb)                                                                                                           | 2.9 kg (6.4 lb)     | 1.6 kg (3.4 lb)          |
|                           | Linear remote sensor    | -                                                                                                                         | -                   | 0.6 kg (1.3 lb)          |
|                           | Rotary remote sensor    | -                                                                                                                         | -                   | 1.0 kg (2.1 lb)          |

## Product code

**YT-2501 - L - S - N - 2 - 4 - 2 - 3 - S - (1)**

### Model

YT-2500 = Aluminium housing  
YT-2550 = Stainless steel housing  
YT-2501 = Aluminium housing with remote sensor

### Motion type

L = Linear  
R = Rotary

### Acting type

S = Single  
D = Double

### Explosion protection

Check certification restrictions.  
N = Non-explosion proof  
i = ATEX, IECEx, KCs, NEPSI  
Z = CCC, NEPSI

### Lever type

| Linear            | Rotary                         |
|-------------------|--------------------------------|
| 1 = 10 to 40 mm   | 1 = M6 x 34L (N/A for YT-2501) |
| 2 = 20 to 70 mm   | 2 = M6 x 63L (N/A for YT-2501) |
| 3 = 50 to 100 mm  | 3 = M8 x 34L (N/A for YT-2501) |
| 4 = 100 to 150 mm | 4 = M8 x 63L (N/A for YT-2501) |
|                   | 5 = NAMUR                      |

### Conduit & air connection

1 = G ½ - Rc ¼ (N/A for YT-2550)  
2 = G ½ - ¼ NPT  
3 = G ½ - G ¼ (N/A for YT-2550)  
4 = M20 - ¼ NPT (N/A for YT-2550)  
5 = ½ NPT - ¼ NPT (N/A for YT-2550)

### Communications

0 = None  
2 = HART protocol communication

### Output options

0 = None  
1 = 4-20 mA Analogue Output  
2 = Limit switch - mechanical type  
(YT-2500L, R and YT-2550R only)  
3 = Limit switch - proximity type  
(YT-2500L, R and YT-2550R only)<sup>1</sup>  
4 = 4-20 mA Analogue Output + limit switch (2ea) - mechanical type  
(YT-2500L, R and YT-2550R only)  
5 = 4-20 mA Analogue Output + limit switch (2ea) - proximity type<sup>1</sup> (YT-2500L, R and YT-2550R only)<sup>1</sup>

### Fail option

F = Fail-freeze  
S = Fail-safe

### Cable length (YT-2501 only)

Standard cable length is 5 m.  
1 = 5 m  
2 = 10 m  
3 = 15 m  
4 = 20 m

### Notes:

1. Inductive proximity limit switch internal type: -25 to +80 °C (-13 to 176 °F).

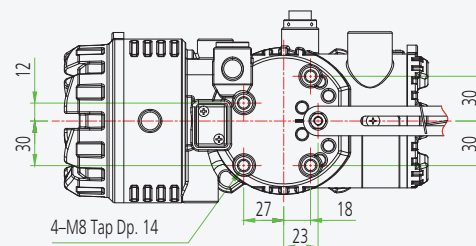
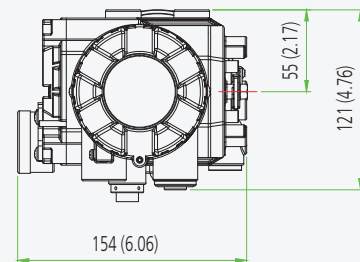
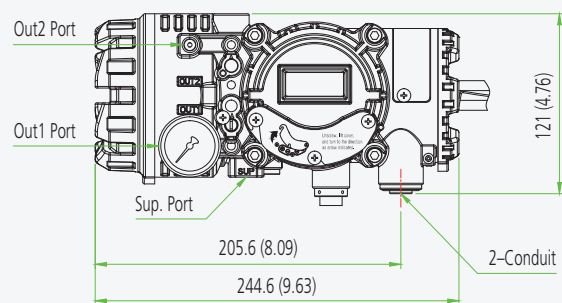
### Piezo technology with communications

#### Design features

- **Fail-freeze and fail-safe functions.** Enables the valve to maintain the last position (fail-freeze) or move to a pre-determined position (fail-safe) on the loss of electrical power supply or the pneumatic supply air.
- **Explosionproof / flameproof housing.** Global certification for Zone 1 and Division 1 installations
- **Auto calibration.** Simple menu structure with options to auto-calibrate all parameters or zero and end points only.
- **LCD display.** Alphanumeric digital display for process values and calibration.
- **Low air consumption level.** Almost zero air leakage.
- **Analogue Output.** Analogue feedback signals with 4-20 mA, transistor switch options.
- **PD control.** Pre-calibrated and user-configurable variables via front panel pushbutton menu.
- **HART® communication.** Allows commands, position feedback and diagnostics to be sent digitally over the current loop.
- **Front panel pushbuttons for configuration.** Four robust and positive acting pushbuttons for field configuration.



YT-2600 aluminium Ex d positioner



Dimensions: mm (Inches ")

| Item type                 |             | YT-2600                                                              |
|---------------------------|-------------|----------------------------------------------------------------------|
| Input signal              |             | 4-20 mA DC                                                           |
| Supply pressure           |             | 0.14 to 0.7 MPa = 1.4 to 7 bar = 20 to 102 psi                       |
| Stroke                    | Linear type | 10 to 150 mm (0.4 to 6")                                             |
|                           | Rotary type | 55 to 110°                                                           |
| Impedance                 |             | Max. 450 Ω @ 20 mA DC                                                |
| Air connection            |             | Rc ¼, ¼ NPT, G ¼                                                     |
| Gauge connection          |             | 1/8 NPT                                                              |
| Conduit                   |             | G ½, ½ NPT, M20x1.5P                                                 |
| Operating temp.           |             | -30 to +80 °C (-22 to +176 °F)                                       |
| Linearity                 |             | ±0.5% F.S.                                                           |
| Hysteresis                |             | ±0.5% F.S.                                                           |
| Sensitivity               |             | ±0.2% F.S.                                                           |
| Repeatability             |             | ±0.3% F.S.                                                           |
| Air consumption           | Fail-freeze | 0.01 LPM (sup = 0.14 MPa)<br>0.002 CFM (sup = 20 psi)                |
|                           | Fail-safe   | 0.06 LPM (sup = 0.14 MPa)<br>0.002 CFM (sup = 20 psi)                |
| Flow capacity             | Fail-freeze | 60 LPM (sup = 0.14 MPa)<br>1.77 CFM (sup = 20 psi)                   |
|                           | Fail-safe   | 40 LPM (sup = 0.14 MPa)<br>1.41 CFM (sup = 20 psi)                   |
| Output characteristics    |             | Linear, EQ%, quick open, user set<br>(5 or 18 points)                |
| Material                  |             | Aluminium diecasting                                                 |
| Ingress protection        |             | IP66<br>(excluding the pressure gauges)                              |
| Explosion protection type |             | <b>ATEX, IECEx, KCs</b><br>Ex db IIC T5/T6<br>Ex tb IIC T100°C/T85°C |
|                           |             | <b>CCC</b><br>Ex db IIC T5/T6 Gb<br>Ex tb IIC T85°C/T100°C Db        |
|                           |             | Ambient temp.:<br>-30 to +70 °C (T6) / -30 to +80 °C (T5)            |
| Communication (option)    |             | HART (ver.5)                                                         |
| Weight                    |             | 3.0 kg (6.61 lb)                                                     |

## Product code

**YT-2600 - L - S - C - 2 - 4 - 2 - 3 - S**

### Model

YT-2600 = Aluminium housing

### Motion type

L = Linear  
R = Rotary

### Acting type

S = Single  
D = Double

### Explosion protection

C = ATEX, IECEx, KCs  
Z = CCC

### Lever type

| Linear            | Rotary       |
|-------------------|--------------|
| 1 = 10 to 40 mm   | 1 = M6 x 34L |
| 2 = 20 to 70 mm   | 2 = M6 x 63L |
| 3 = 50 to 100 mm  | 3 = M8 x 34L |
| 4 = 100 to 150 mm | 4 = M8 x 63L |
|                   | 5 = NAMUR    |

### Conduit & air connection

1 = G ½ - Rc ¼ (N/A for CCC)  
2 = G ½ - ¼ NPT (N/A for CCC)  
3 = G ½ - G ¼ (N/A for CCC)  
4 = M20x1.5P - ¼ NPT  
5 = ½ NPT - ¼ NPT

### Communications

0 = None  
2 = HART protocol communication

### Output options

0 = None  
1 = 4-20 mA Analogue Output  
2 = Limit switch (2ea)<sup>1</sup>  
3 = 4-20 mA Analogue Output + limit switch (2ea)<sup>1</sup>

### Fail option

F = Fail-freeze  
S = Fail-safe

#### Notes:

1. Limit switch: DC 24 V (50 mA) and transistor type.

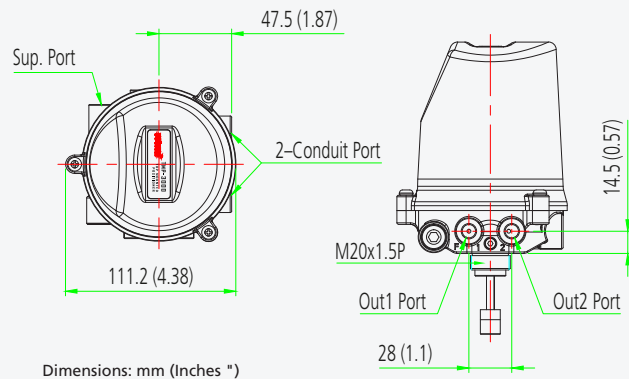
## Solenoid technology

### Design features

- **Vertical mounting.** Easy to mount installation.
- **Fail-freeze and fail-safe function.** Enables the valve maintain the last position (fail-freeze) or move to a pre-determined position (fail-safe) on the loss of electrical power supply or the pneumatic supply air.
- **LCD display.** Backlit alphanumeric digital display for process values and calibration.



- **Analogue Output.** 4-20 mA output option.
- **Auto calibration.** Simple menu structure with options to auto calibrate all parameters or zero and end points only.
- **Low air consumption level.** Almost zero air leakage.
- **Front panel pushbuttons for configuration.** Positive acting pushbuttons for field configuration.



| Item type              | TMP-3000                                                                                                           |
|------------------------|--------------------------------------------------------------------------------------------------------------------|
| Power supply           | 24 VDC $\pm$ 10%<br>More than 4W (167mA @24V) with single-acting<br>More than 5.8W (242mA @24V) with double-acting |
| Input signal           | 0-20 mA, 4-20 mA, 0-5 V, 0-10 V                                                                                    |
| Analogue Output        | 4-20 mA                                                                                                            |
| Output characteristics | Linear, EQ%, quick open, user set (5 or 21 points)                                                                 |
| Operating temp.        | -10 to +60 °C (+14 to +140 °F)                                                                                     |
| Supply pressure        | 0 to 0.7 MPa / 0 to 7 bar / 0 to 102 psi                                                                           |
| Air consumption        | 0 LPM (0 psi)                                                                                                      |
| Flow capacity          | 20 / 50 LPM (0.7 / 1.77 CFM)                                                                                       |
| Filtering size         | 5 micron                                                                                                           |
| Acting type            | Single 2 solenoid valves<br>Double 4 solenoid valves                                                               |
| Stroke                 | 5 to 40 mm (0.2 to 1.6")                                                                                           |
| Air connection         | G 1/8 (Ø 6 mm tube)                                                                                                |
| Conduit                | 2-M16 x 1.5P (with screw terminals)                                                                                |
| Ingress protection     | IP67                                                                                                               |
| Body material          | PPS                                                                                                                |
| Cover material         | PC                                                                                                                 |
| Weight                 | 750 g (1.7 lb)                                                                                                     |

### Product code

**TMP-3000 - S - N - G - 1 - 0 - F**

#### Model

TMP-3000 = Smart positioner

#### Acting type

S = Single  
D = Double

#### Explosion protection

N = Non-explosion proof

#### Conduit & air connection

G = M16 x 1.5 - G 1/8

#### Flow capacity

1 = 20 LPM  
2 = 50 LPM

#### Output options

0 = None  
1 = 4-20 mA Analogue Output

#### Fail option

F = Fail-freeze  
S = Fail-safe

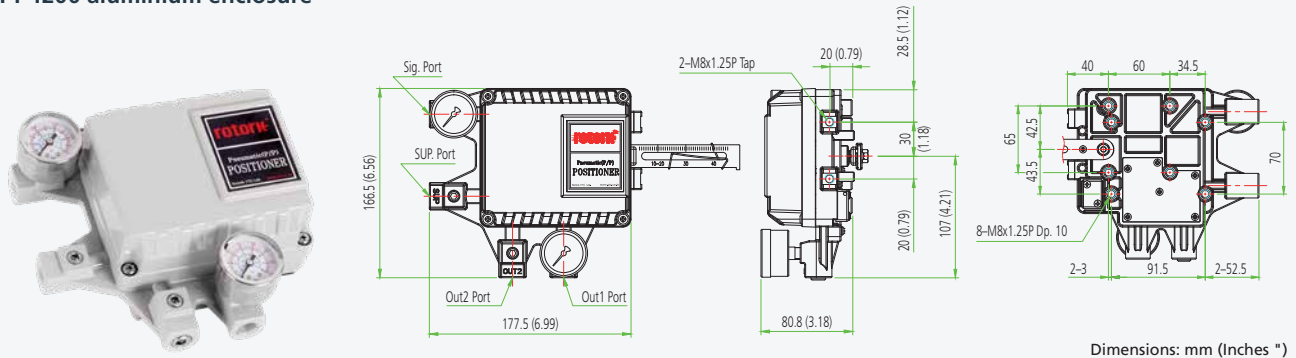
# Pneumatic-pneumatic positioner YT-1200

## Design features

- **Simple zero and span adjustment.** Internal hand dials and locking screws for 0.1 to 1 MPa range adjustments.
- **Reverse and direct-acting settings.** Full and ½ split range setting by simple adjustment.
- **High vibration resistant.** No resonance between 5 to 200 Hz.
- **Auto / manual switch.** Internal adjustment with lock screw safety.



## YT-1200 aluminium enclosure



|                    |             | YT-1200L & YT-1200R                                 |             |
|--------------------|-------------|-----------------------------------------------------|-------------|
| Item type          |             | Single                                              | Double      |
| Input signal       |             | 0.02 to 0.1 MPa / 0.2 to 1 bar / 3 to 14.5 psi      |             |
| Supply pressure    |             | 0.14 to 0.7 MPa / 1.4 to 7 bar / 20 to 102 psi      |             |
| Stroke             | Linear type | 10 to 150 mm (0.4 to 6")                            |             |
|                    | Rotary type | 55 to 100°                                          |             |
| Air connection     |             | Rc ¼, ¼ NPT                                         |             |
| Gauge connection   |             | 1/8 NPT                                             |             |
| Ingress protection |             | IP66<br>(excluding the pressure gauges)             |             |
| Linearity          | Linear type | ± 1% F.S.                                           | ± 2% F.S.   |
|                    | Rotary type | ± 2% F.S.                                           |             |
| Hysteresis         |             | ±1% F.S.                                            |             |
| Sensitivity        | Linear type | ± 0.2% F.S.                                         | ± 0.5% F.S. |
|                    | Rotary type | ± 0.5% F.S.                                         |             |
| Repeatability      |             | ± 0.5% F.S.                                         |             |
| Air consumption    |             | 2.5 LPM (sup = 0.14 MPa)<br>0.08 CFM (sup = 20 psi) |             |
| Flow capacity      |             | 80 LPM (sup = 0.14 MPa)<br>2.83 CFM (sup = 20 psi)  |             |
| Material           |             | Aluminium diecasting                                |             |
| Weight             |             | 1.7 kg (3.1 lb)                                     |             |

### Notes:

1. Only S, L of operating temperature is available
2. Only S of operating temperature is available

## Product code

YT-1200R - S - 1 - 1 - 2 - S - (0)

### Model

YT-1200L = Linear positioner  
YT-1200R = Rotary positioner

### Acting type

S = Single  
D = Double

### Lever type

|                   |              |
|-------------------|--------------|
| Linear            | Rotary       |
| 1 = 10 to 40 mm   | 1 = M6 x 34L |
| 2 = 30 to 70 mm   | 2 = M6 x 63L |
| 3 = 60 to 100 mm  | 3 = M8 x 34L |
| 4 = 100 to 150 mm | 4 = M8 x 63L |
|                   | 5 = NAMUR    |

### Orifice type

1 = Φ1  
2 = Φ2  
3 = None

### Air connection

1 = Rc ¼  
2 = ¼ NPT

### Ambient temp.

S = -20 to +70 °C (-4 to +158 °F)  
H = -20 to +120 °C (-4 to +248 °F)  
L = -40 to +70 °C (-40 to +158 °F)

### Option (rotary only)

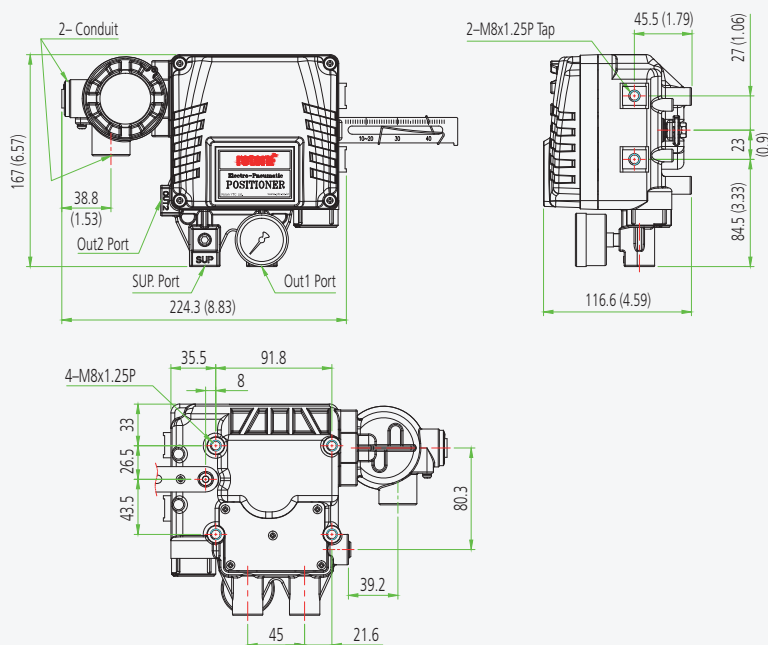
0 = None  
1 = Dome cover  
2 = 4-20 mA Analogue Output - SPTM-5V (non-explosion proof)<sup>1</sup>  
3 = 4-20 mA Analogue Output - SPTM-6V (flameproof enclosure)<sup>1</sup>  
4 = Limit switch – YT-850 (non-explosion proof)<sup>2</sup>  
5 = Limit switch – YT-870 (flameproof enclosure)<sup>2</sup>  
6 = 4-20 mA Analogue Output + limit switch(2ea) – YT-870 (flameproof enclosure)<sup>2</sup>

## Design features

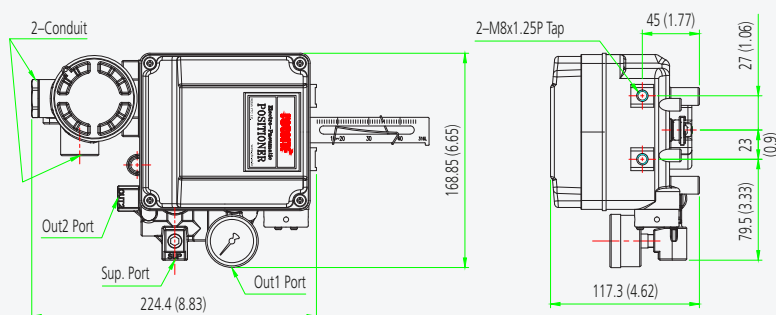
- **Simple zero and span adjustment.** Internal hand dials and locking screws for 4-20 mA range adjustments.
- **Reverse and direct-acting settings.** Full and ½ split range setting by simple adjustment.
- **High vibration resistant.** No resonance between 5 to 200 Hz.
- **Internal Analogue Output.** Available on weatherproof model only.
- **Auto / manual switch.** Internal adjustment with lock screw safety.



## YT-1000 aluminium enclosure



## YT-1050 STS316 enclosure



Dimensions: mm (Inches ")

## Electro-pneumatic positioners YT-1000 / YT-1050

| Item type                 |                                                                                | YT-1000                                                                              | YT-1050             |
|---------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------|
| Input signal              |                                                                                | 4-20 mA DC                                                                           |                     |
| Impedance                 |                                                                                | 250 ± 15 Ω                                                                           |                     |
| Supply pressure           |                                                                                | 0.14 to 0.7 MPa = 1.4 to 7 bar = 20 to 102 psi                                       |                     |
| Stroke                    | Linear type                                                                    | 10 to 150 mm (0.4 to 6")                                                             |                     |
|                           | Rotary type                                                                    | 55 to 100°                                                                           |                     |
| Air connection            |                                                                                | Rc ¼, ¼ NPT, G ¼                                                                     | ¼ NPT               |
| Gauge connection          |                                                                                | ⅛ NPT                                                                                |                     |
| Conduit                   |                                                                                | G(NPT) ½, M20                                                                        | G ½, ½ NPT          |
| Explosion protection type | <b>ATEX / IECEx:</b><br>(II 2 G) Ex dmb IIB T5,<br>Ex ia IIC T6 (YT-1000 only) |                                                                                      |                     |
|                           | <b>INMETRO:</b><br>(II 2 G) Ex dmb IIB T5                                      |                                                                                      |                     |
|                           | <b>UKEX:</b><br>II 2G Ex db mb IIB T5 Gb, NEMA 4X                              |                                                                                      |                     |
|                           | <b>KCs</b>                                                                     | <b>KCs</b>                                                                           |                     |
|                           | Ex dmb IIB T5/T4 /                                                             | Ex dmb IIB T5                                                                        |                     |
|                           | Ex dmb IIC T5 /                                                                |                                                                                      |                     |
|                           | Ex ia IIB T6 Gb                                                                |                                                                                      |                     |
|                           | <b>CSA</b>                                                                     |                                                                                      |                     |
|                           | (Class I, Zone 1)                                                              |                                                                                      |                     |
|                           | Ex dm IIB T5                                                                   |                                                                                      |                     |
| Explosion protection type | <b>FM</b>                                                                      |                                                                                      |                     |
|                           | CL I, Div 1,                                                                   |                                                                                      |                     |
|                           | Groups C, D T5;                                                                |                                                                                      |                     |
|                           | CL II, III, Div 1,                                                             |                                                                                      |                     |
|                           | Groups E, F, G T5;                                                             |                                                                                      |                     |
|                           | Type 4X                                                                        |                                                                                      |                     |
|                           | <b>CCC, NEPSI</b>                                                              | <b>CCC</b>                                                                           |                     |
|                           | Ex db mb IIB T5 Gb                                                             | Ex d mb IIB T5 Gb                                                                    |                     |
|                           | Ex db mb IIC T6 Gb                                                             |                                                                                      |                     |
|                           | Ex ia IIC T6 Gb                                                                |                                                                                      |                     |
| Explosion protection type | <b>TIIS</b>                                                                    |                                                                                      |                     |
|                           | Ex dmb IIB T5                                                                  |                                                                                      |                     |
|                           | <b>NEPSI</b>                                                                   | <b>NEPSI</b>                                                                         |                     |
|                           | Ex d mb IIB T5 Gb                                                              | Ex d mb IIB T5 Gb                                                                    |                     |
|                           | Ex d mb IIC T6 Gb                                                              |                                                                                      |                     |
|                           | Ex ia IIC T6 Ga                                                                |                                                                                      |                     |
|                           | <b>PESO</b>                                                                    | <b>PESO</b>                                                                          |                     |
|                           | Ex db mb IIB T5 Gb                                                             | Ex db mb IIB T5 Gb                                                                   |                     |
|                           | Ex ia IIC T6 Gb                                                                |                                                                                      |                     |
|                           |                                                                                |                                                                                      |                     |
| Ingress protection        |                                                                                | YT-1000: IP66, TYPE 4X (FM)<br>YT-1050: IP66<br>(excluding the pressure gauges)      |                     |
| Linearity                 | Single                                                                         | ± 1% F.S.                                                                            |                     |
|                           | Double                                                                         | ± 2% F.S.                                                                            |                     |
| Hysteresis                |                                                                                | ± 1% F.S.                                                                            |                     |
| Sensitivity               | Single                                                                         | ± 0.2% F.S.                                                                          |                     |
|                           | Double                                                                         | ± 0.5% F.S.                                                                          |                     |
| Repeatability             |                                                                                | ± 0.5% F.S.                                                                          |                     |
| Air consumption           |                                                                                | 2.5 LPM (sup = 0.14 MPa)<br>0.8 CFM (sup = 20 psi)                                   |                     |
| Flow capacity             |                                                                                | 80 LPM (sup = 0.14 MPa)<br>2.83 CFM (sup = 20 psi)                                   |                     |
| Material                  |                                                                                | Aluminium diecasting                                                                 | Stainless steel 316 |
| Weight                    |                                                                                | YT-1000L: 2.7 kg (6.1 lb)<br>YT-1000R: 2.8 kg (6.2 lb)<br>YT-1050: 5.71 kg (12.6 lb) |                     |

### YT-1000L Product code

YT-1000 - L - S - N - 1 - 1 - 4 - S - 0

#### Model

YT-1000 = Aluminium

#### Motion type

L = Linear

#### Acting type

S = Single D = Double

#### Explosion protection<sup>1</sup>

N = Non-explosion proof  
M<sup>2</sup> = Ex db mb IIB T5 Gb: ATEX, IECEx, KCs, NEPSI, UKEX, PESO  
T = Ex db mb IIB T5 Gb: INMETRO  
A = Ex d m IIB T5: CSA  
F = Flameproof enclosure & encapsulation: FM  
C = Ex dmb IIC T5: KCs  
X = Ex dmb IIB T5: TIIS  
Z<sup>3</sup> = Ex db mb IIB T5 Gb: CCC, NEPSI  
B<sup>4</sup> = Ex db mb IIC T6 Gb: CCC, NEPSI  
G = Ex ia IIC T6 Gb: CCC, NEPSI  
i = Ex ia IIC T6 Gb: ATEX, IECEx, KCs, UKEX, PESO

#### Lever type

Linear  
1 = 10 to 40 mm  
2 = 30 to 70 mm  
3 = 60 to 100 mm  
4 = 100 to 150 mm

#### Orifice type

1 = Φ1 2 = Φ2 3 = None

#### Conduit & air connection

1 = G ½ - Rc ¼ (N/A for FM, CSA)  
2 = G ½ - ¼ NPT (N/A for FM, CSA)  
3 = G ½ - G ¼ (N/A for FM, CSA)  
4 = M20 - ¼ NPT  
5 = ½ NPT - ¼ NPT

#### Operating temp. (non-explosion proof)<sup>5</sup>

S = -20 to +70 °C (-4 to +158 °F)  
H = -20 to +120 °C (-4 to +248 °F)  
L = -40 to +70 °C (-40 to +158 °F)

#### Option

0 = None  
2<sup>6</sup> = 4-20 mA Analogue Output (internal, without LCD, non-explosion proof)  
3<sup>7</sup> = 4-20 mA Analogue Output with LCD (internal with LCD, non-explosion proof)

#### YT-1000L Notes:

- M (except KCs), T, F, X, Z, B, G, i are only available for operating temperature S. M (only KCs) is only available for operating temperature S and H. A, C are only available operating temperature S and L.
- Please put the name of the certificate in a purchase order.
4. Z and B are only available for conduit & air connection 4 and 5.
- This option is just the normal operating temperature of the product and is not related to explosion protection temperature. See certificates for explosion protection temperature.
- 6,7. Only available for operating temperature S and L.

See page 30 for YT-1000R and YT-1050 product code charts.

## YT-1000R Product code

YT-1000 - R - S - N - 1 - 1 - 4 - S - 0 - 0

### Model

YT-1000 = Aluminium

### Motion type

R = Rotary

### Acting type

S = Single D = Double

### Explosion protection<sup>1</sup>

N = Non-explosion proof  
M<sup>2</sup> = Ex db mb IIB T5 Gb: ATEX, IECEx, KCs, NEPSI, UKEX, PESO  
T = Ex db mb IIB T5 Gb: INMETRO  
A = Ex d m IIB T5: CSA  
F = Flameproof enclosure & encapsulation: FM  
C = Ex dmb IIC T5: KCs  
X = Ex dmb IIB T5: TIS  
Z<sup>3</sup> = Ex db mb IIB T5 Gb: CCC, NEPSI  
B<sup>4</sup> = Ex db mb IIC T6 Gb: CCC, NEPSI  
G = Ex ia IIC T6 Gb: CCC, NEPSI  
i = Ex ia IIC T6 Gb: ATEX, IECEx, KCs, UKEX, PESO

### Lever type

1 = M6 X 34L  
2 = M6 X 63L  
3 = M8 X 34L  
4 = M8 X 63L  
5 = NAMUR

### Orifice type

1 = Φ1 2 = Φ2 3 = None

### Conduit & air connection

1 = G ½ - Rc ¼ (N/A for FM, CSA)  
2 = G ½ - ¼ NPT (N/A for FM, CSA)  
3 = G ½ - G¼ (N/A for FM, CSA)  
4 = M20 - ¼ NPT  
5 = ½ NPT - ¼ NPT

### Operating temp. (non-explosion proof)<sup>5</sup>

S = -20 to +70 °C (-4 to +158 °F)  
H = -20 to +120 °C (-4 to +248 °F)  
L = -40 to +70 °C (-40 to +158 °F)

### Option 1

0 = None (std)  
1<sup>6</sup> = Dome cover

### Option 2

0 = None  
1<sup>7</sup> = 4-20 mA Analogue Output (internal, without LCD, non-explosion proof)  
2<sup>8</sup> = 4-20 mA Analogue Output (external, SPTM-6V, explosion proof)  
3<sup>9</sup> = Limit switch (2ea, internal, non-explosion proof)  
4<sup>10</sup> = Limit switch (2ea, external, YT-850 (non-explosion proof) or YT-870 (explosion proof))  
5<sup>11</sup> = 4-20 mA Analogue Output + limit switch (2ea) (internal, non-explosion proof)  
6<sup>12</sup> = SPTM + limit switch (2ea) (external, YT-870, explosion proof)

### YT-1000R Notes:

- M (except KCs), T, F, X, Z, B, G, i are only available for operating temperature S. M (only KCs) is only available for operating temperature S and H. A, C are only available operating temperature S and L.
- Please put the name of the certificate in a purchase order.
- Z and B are only available for conduit & air connection 4 and 5.
- This option is just the normal operating temperature of the product and is not related to explosion protection temperature. See certificates for explosion protection temperature.
- 1 in **Option 1** + 0 in **Option 2** is available for Explosion protection M (ATEX, IECEx, KCs and NEPSI only), A, C, Z, B, G, i (ATEX, IECEx and KCs only) and N.
- There is also with LCD type. So if you would like to order this, please fill in "4-20 mA Analog Output (Internal, With LCD)" on the order form.
- Only available for operating temperature S and L.
- The nameplate of the external product, SPTM-6V, is KCs+NEPSI. The conduit entries of SPTM-6V is G ½. For NEPSI it is ½ NPT. SPTM-6V (Explosion protection for Ex d IIC) is certified with KCs and NEPSI so this option is available for Explosion protection M (KCs and NEPSI only), C, i (KCs only) and N. This option is only available for 0 in **Option 1**.

## YT-1050 Product code

YT-1050 - L - S - N - 1 - 1 - 2 - S

### Model

YT-1050 = STS316

### Motion type

L = Linear R = Rotary

### Acting type

S = Single D = Double

### Explosion protection<sup>13</sup>

N = Non-explosion proof  
M<sup>14</sup> = Ex db mb IIB T5 Gb: ATEX, IECEx, KCs, UKEX, PESO  
T = Ex db mb IIB T5 Gb: INMETRO  
Z = Ex db mb IIB T5 Gb: CCC, NEPSI

### Lever type

| Linear            | Rotary       |
|-------------------|--------------|
| 1 = 10 to 40 mm   | 1 = M6 X 34L |
| 2 = 30 to 70 mm   | 2 = M6 X 63L |
| 3 = 60 to 100 mm  | 3 = M8 X 34L |
| 4 = 100 to 150 mm | 4 = M8 X 63L |
|                   | 5 = NAMUR    |

### Orifice type

1 = Φ1 2 = Φ2 3 = None

### Conduit & air connection

1 = G ½ - R ¼ (N/A for CCC)  
5 = ½ NPT - ¼ NPT (CCC only)

### Operating temp. (non-explosion proof)<sup>15</sup>

S = -20 to +70 °C (-4 to +158 °F)  
H = -20 to +120 °C (-4 to +248 °F)  
L = -40 to +70 °C (-40 to +158 °F)

9,10,11,12. Only available for operating temperature S, and 1 in **Option 1**.

10. Mechanical switch (SPDT) is only available for YT-850. The conduit entry of YT-850 is G ½.

10,12. Mechanical switch (SPDT) and Inductive proximity (Autonics) are available for YT-870.

YT-870 has two types of nameplates, KCs+ATEX+IECEx+CSA and CCC.

The conduit entry of YT-870 is G ¾. For CSA and CCC it is ½ NPT.

YT-870 (Explosion protection for Ex d IIC) is certified with KCs, ATEX, IECEx, CSA and CCC so this option is available for Explosion protection M (ATEX, IECEx and KCs only), A, C, Z, B, G, i (ATEX, IECEx and KCs only) and N.

### YT-1050 Notes:

- M (except KCs), T and Z are only available for operating temperature S. M (only KCs) is only available for operating temperature S and H.
- Please put the name of the certificate in a purchase order.
- This option is just the normal operating temperature of the product and is not related to explosion protection temperature. See certificates for explosion protection temperature.

## Design features

- **Flameproof housing (YT-940)** for Zone 1 installation.
- **High accuracy and sensitivity** with pressure sensor.
- **Analogue PID control.** High resolution proportional control
- **No effect from mounting orientation**

| Item type                 |             | YT-930                                                                      | YT-940                                                                                                                                                                                                                                                                                                                                |
|---------------------------|-------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input signal              |             | 4-20 mA DC                                                                  |                                                                                                                                                                                                                                                                                                                                       |
| Output pressure           | Standard    | [1] 0.02 to 0.1 MPa (0.2 to 1.0 bar)                                        |                                                                                                                                                                                                                                                                                                                                       |
|                           | Multi-range | [2] 0.00 to 0.12 MPa (0 to 1.2 bar)                                         |                                                                                                                                                                                                                                                                                                                                       |
|                           |             | [3] 0.04 to 0.2 MPa (0.4 to 2.0 bar)                                        |                                                                                                                                                                                                                                                                                                                                       |
|                           |             | [4] 0.00 to 0.23 MPa (0 to 2.3 bar)                                         |                                                                                                                                                                                                                                                                                                                                       |
| Supply pressure           | Standard    | [1] 0.13 to 0.16 MPa (1.3 to 1.6 bar)                                       |                                                                                                                                                                                                                                                                                                                                       |
|                           | Multi-range | [2] 0.14 to 0.16 MPa (1.4 to 1.6 bar)                                       |                                                                                                                                                                                                                                                                                                                                       |
|                           |             | [3] 0.22 to 0.24 MPa (2.2 to 2.4 bar)                                       |                                                                                                                                                                                                                                                                                                                                       |
|                           |             | [4] 0.25 to 0.27 MPa (2.5 to 2.7 bar)                                       |                                                                                                                                                                                                                                                                                                                                       |
| Explosion protection type |             | <b>ATEX, IECEx</b><br>Ex ia IIC T5/T6 Gb,<br>Ex ia IIIC T100°C/<br>T85°C Db | <b>FM, CSA</b><br>Class I Division 1 Groups A,B,C,D<br>Class II, III Division 1 Groups E,F,G<br>Class I Zone 1 AEx d IIC<br>T6 Ta=-40°C to + 75°C,<br>T5 Ta=-40°C to + 85°C,<br>Type 4X, IP66<br><br>Zone 21 AEx tb IIIC T85°C Ta=-<br>40°C to +75°C, T100°C Ta=-<br>40°C to +85°C, Type 4X, IP66<br><br><b>KCs</b><br>Ex d IIC T5/T6 |
| Air consumption           |             | Below 2 LPM (sup = 0.14 MPa)<br>Below 0.08 CFM (sup = 20 psi)               |                                                                                                                                                                                                                                                                                                                                       |
| Flow capacity             |             | 70 LPM (sup = 0.14 MPa) 2.47 CFM (sup = 20 psi)                             |                                                                                                                                                                                                                                                                                                                                       |
| Explosion temp.           |             | -40 to +60 °C (T5) /<br>-40 to +40 °C (T6)                                  | -40 to +85 °C (T5) /<br>-40 to +75 °C (T6)                                                                                                                                                                                                                                                                                            |
| Operating temp.           |             | -40 to +85 °C (-22 to +185 °F)                                              |                                                                                                                                                                                                                                                                                                                                       |
| Linearity                 |             | ±0.5% F.S.                                                                  |                                                                                                                                                                                                                                                                                                                                       |
| Hysteresis                |             | ±0.5% F.S.                                                                  |                                                                                                                                                                                                                                                                                                                                       |
| Sensitivity               |             | ±0.2% F.S.                                                                  |                                                                                                                                                                                                                                                                                                                                       |
| Repeatability             |             | ±0.3% F.S.                                                                  |                                                                                                                                                                                                                                                                                                                                       |
| Air connection            |             | Rc ¼, ¼ NPT                                                                 |                                                                                                                                                                                                                                                                                                                                       |
| Conduit                   |             | G ½                                                                         |                                                                                                                                                                                                                                                                                                                                       |
| Ingress protection        |             | IP66                                                                        | Type 4X, IP66<br>(excluding the pressure gauges)                                                                                                                                                                                                                                                                                      |
| Impedance                 |             | Max. 390Ω @20mA DC                                                          | Max. 390Ω @20mA DC                                                                                                                                                                                                                                                                                                                    |
| Material                  |             | Aluminium diecasting                                                        |                                                                                                                                                                                                                                                                                                                                       |
| Weight                    |             | 1.6 kg (3.53 lb)                                                            | 2.5 kg (5.6 lb)                                                                                                                                                                                                                                                                                                                       |



YT-930

YT-940



## Product code

YT-930 - N - 1 - 1 - L - 0 - 0

### Model

YT-930 = Intrinsically safety type  
YT-940 = Flameproof type

### Explosion protection

YT-930  
N = Non-explosion proof  
i = ATEX, IECEx

YT-940  
C = KCs, FM, CSA

### Output pressure

1 = 0.02 to 0.1 MPa  
2 = 0.00 to 0.12 MPa  
3 = 0.04 to 0.2 MPa  
4 = 0.00 to 0.23 MPa

### Conduit - air connection

1 = G 1/2 - Rc 1/4  
2 = G 1/2 - 1/4 NPT

### Operating temp. (non-explosion proof)<sup>1</sup>

L = -40 to +85 °C (-40 to +185 °F)

### Option

0 = None  
1 = 4-20 mA Analogue Output

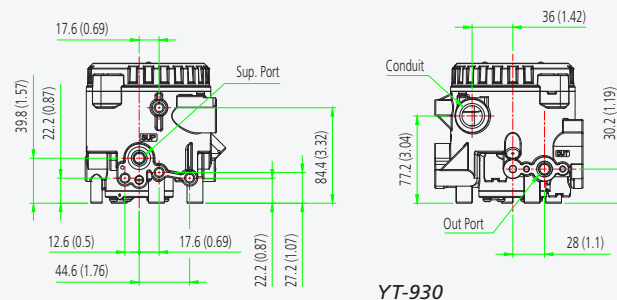
### Gauge

0 = None  
1<sup>2</sup> = 0 to 0.2 MPa  
2<sup>3</sup> = 0 to 0.4 MPa

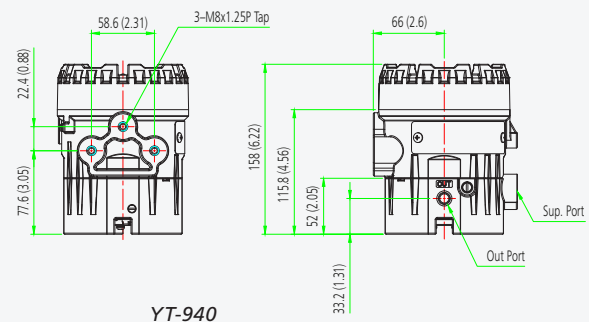
### Notes:

1. This option is the normal operating temperature of the product and is not related to explosion protection temperature. See certificates for explosion protection temperature.
2. For 1 or 2 in output pressure option.
3. For 3 or 4 in output pressure option.

## Dimensions: mm (Inches ")



YT-930



YT-940

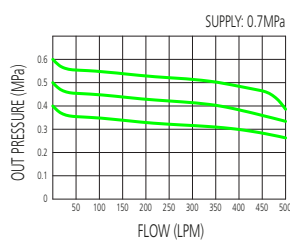
## Air filter regulators YT-200 / YT-205 / YT-220 / YT-225

### Design features

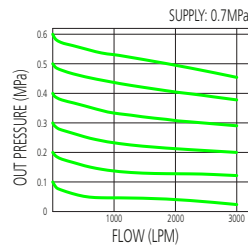
- **Stable output and repeatability.** Provides constant control under variable flow rates and supply pressures.
- **Relief flow capability.** Discharges pressure if outer pressure is higher than set pressure.
- **Light weight and compact size.** Reduces installation costs.
- **Five micron filter.** Protects pneumatic instruments from dirty air.
- **Manual or auto draining option**



YT-200 / YT-205 flow (LPM)



YT-220 / YT-225 flow (LPM)



### Product code

YT-200 - A - N - 0 - 1 - 0

#### Model

YT-200 = Aluminium 1/4"  
YT-205 = Stainless steel 1/4"  
YT-220 = Aluminium 1/2"  
YT-225 = Stainless steel 1/2"

#### Adjustable range

A = 0 to 0.42 MPa  
B = 0 to 0.84 MPa

#### Connection type

P = Rc (N/A for YT-205 and YT-225)  
N = NPT

#### Gauge

0 = None  
1 = 0 to 0.4 MPa  
2 = 0 to 1.0 MPa

#### Ambient temperature

1 = -20 to +70 °C (-4 to +158 °F)  
2 = -20 to +120 °C (-4 to +248 °F)  
3 = -40 to +70 °C (-40 to +158 °F)  
4 = -50 to +70 °C (-58 to +158 °F)

#### Option

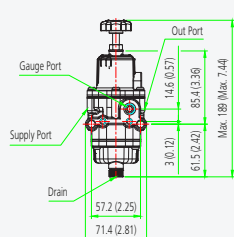
0 = Manual drain  
1 = Auto drain<sup>1</sup>

#### Notes:

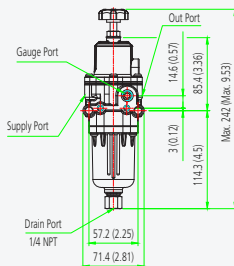
1. Only "1" of operating temp. is available

| Item type             | YT-200                                                                        | YT-220             | YT-205              | YT-225             |
|-----------------------|-------------------------------------------------------------------------------|--------------------|---------------------|--------------------|
| Max. Supply pressure  | 1.7 MPa = 17 bar = 246.5 psi                                                  |                    |                     |                    |
| Max. output pressure  | 0.42 MPa (A Type), 0.84 MPa (B Type)<br>60.9 psi (A Type), 121.8 psi (B Type) |                    |                     |                    |
| Air connection        | Rc 1/4,<br>1/4 NPT                                                            | Rc 1/2,<br>1/2 NPT | 1/4 NPT             | 1/2 NPT            |
| Gauge connection      | Rc 1/4,<br>1/4 NPT                                                            | Rc 1/4,<br>1/4 NPT | 1/4 NPT             | 1/4 NPT            |
| Operating temp.       | -20 to +70 °C (-4 to +158 °F) (standard type)                                 |                    |                     |                    |
| Min. filtering size   | 5 micron                                                                      |                    |                     |                    |
| Material              | Aluminium diecasting                                                          |                    | Stainless steel 316 |                    |
| Weight (manual drain) | 0.62 kg<br>(1.4 lb)                                                           | 0.88 kg<br>(2 lb)  | 1.5 kg<br>(3.3 lb)  | 2.2 kg<br>(4.8 lb) |

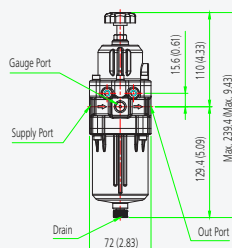
Dimensions: mm (Inches ")



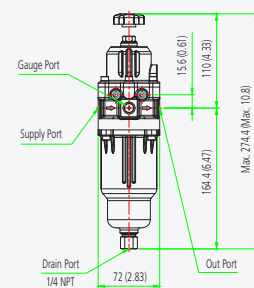
YT-200/205 manual drain



YT-200/205 auto drain



YT-220/225 manual drain



YT-220/225 auto drain

## Design features

- **Large flow capacity.** Specifically designed to be used in conjunction with valve positioners.
- **Optimal sensitivity.** Reacts to sudden change in supply pressure.
- **Fixed deadband.** Provides accurate and stable final positioning of the valve.
- **Internal bypass control.** Improves system stability.



## Product code

YT-300 - N - 1

### Model

YT-300 = Aluminium 1/4"  
YT-305 = Stainless steel 1/4"  
YT-320 = Aluminium 1/2"  
YT-325 = Stainless steel 1/2"  
YT-310 = Aluminium 3/4"  
YT-315 = Stainless steel 3/4"

### Connection type

(YT-305/325/310/315 are only available in NPT connection)  
P = Rc  
N = NPT

### Ambient temperature

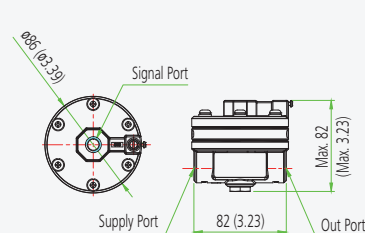
1' = -20 to +70 °C (-4 to +158 °F)  
2 = -20 to +120 °C (-4 to +248 °F)  
3 = -40 to +70 °C (-40 to +158 °F)  
4 = -60 to +70 °C (-76 to +158 °F)

### Notes:

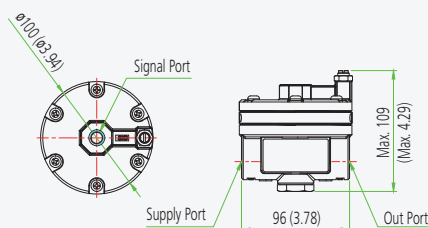
1. Standard products with NBR rubber (ambient temperature range option 1) deteriorate quickly and are easily damaged when exposed to natural environments (sunlight, ozone, snow, rain, etc.). Therefore, it is highly recommended to use high-temperature (ambient temperature range option 2) or low-temperature (ambient temperature range option 3) options with silicone rubber when using the product outdoors.

| Item type                     |                        | YT-300<br>YT-305                                 | YT-320<br>YT-325    | YT-310<br>YT-315    |
|-------------------------------|------------------------|--------------------------------------------------|---------------------|---------------------|
| Max. supply pressure          |                        | 1 MPa = 10 bar = 145 psi                         |                     |                     |
| Max. signal / output pressure |                        | 0.7 MPa = 7 bar = 102 psi                        |                     |                     |
| Signal/output pressure ratio  |                        | 1:1                                              |                     |                     |
| Flow capacity (Cv)            | Exhaust                | 1.32                                             | 2.08                | 5.24                |
|                               | Output                 | 1.19                                             | 2.72                | 4.91                |
| Supply/output connection      |                        | Rc 1/4,<br>1/4 NPT                               | Rc 1/2,<br>1/2 NPT  | 3/4<br>NPT          |
| Signal connection             |                        | Rc 1/4, 1/4 NPT                                  |                     | 1/4 NPT             |
| Linearity                     |                        | ±1% F.S.                                         |                     |                     |
| Operating temp.               |                        | -20 to +70 °C (-4 to +158 °F)<br>(standard type) |                     |                     |
| Material                      | YT-300, YT-320, YT-310 | Aluminium diecasting                             |                     |                     |
|                               | YT-305, YT-325, YT-315 | Stainless steel 316                              |                     |                     |
| Weight                        | YT-300 YT-320 YT-310   | 0.51 kg<br>(1.1 lb)                              | 0.77 kg<br>(1.7 lb) | 1.9 kg<br>(4.2 lb)  |
|                               | YT-305 YT-325 YT-315   | 1.4 kg<br>(3 lb)                                 | 1.9 kg<br>(4.2 lb)  | 4.6 kg<br>(10.1 lb) |

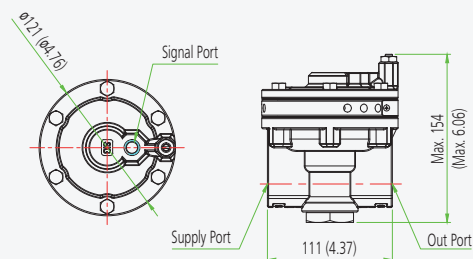
Dimensions: mm (Inches ")



YT-300/305



YT-320/325



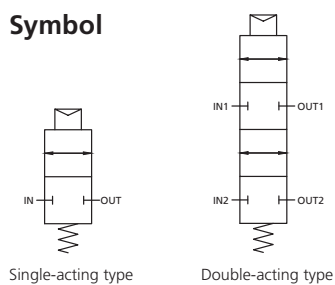
YT-310/315

## Lock-up valves YT-400 / YT-405 / YT-430 / YT-435

### Design features

- **Compact size.** No bracket is required.
- **Optimal sensitivity.** Detects small variation of the pressure - below 0.01 MPa.

### Symbol



YT-400S

YT-405D

YT-430S

YT-435D



| Item type                     |        | YT-400                                         | YT-405              | YT-430               | YT-435              |
|-------------------------------|--------|------------------------------------------------|---------------------|----------------------|---------------------|
| Signal pressure               |        | 0.14 to 0.7 MPa = 1.4 to 7 bar = 20 to 102 psi |                     |                      |                     |
| Max. supply pressure          |        | Max. 1 MPa = 10 bar = 145 psi                  |                     |                      |                     |
| Signal pressure setting range |        | 0.14 to 0.7 MPa = 7 bar = 102 psi              |                     |                      |                     |
| Hysteresis                    |        | Below 0.01 MPa = 0.1 bar = 1.45 psi            |                     |                      |                     |
| Operating temp.               |        | -20 to +70 °C (-4 to +158 °F) (standard type)  |                     |                      |                     |
| Flow capacity (Cv)            |        | 0.9                                            |                     | 1.8                  |                     |
| Air connection                |        | Rc 1/4, 1/4 NPT                                | 1/4 NPT             | 3/8 NPT              |                     |
| Signal connection             |        | Rc 1/4, 1/4 NPT                                | 1/4 NPT             | 1/4 NPT              |                     |
| Material                      |        | Aluminium diecasting                           | Stainless steel 316 | Aluminium diecasting | Stainless steel 316 |
| Weight                        | Single | 0.47 kg (1.1 lb)                               | 1.3 kg (2.2 lb)     | 1.5 kg (3.3 lb)      | 3.3 kg (7.3 lb)     |
|                               | Double | 0.66 kg (1.5 lb)                               | 1.5 kg (3.3 lb)     | 2.7 kg (6 lb)        | 5.8 kg (12.8 lb)    |

### Product code

**YT-400 - S - P - 1**

#### Model

YT-400 = Aluminium 1/4"  
 YT-405 = Stainless steel 1/4"  
 YT-430 = Aluminium 3/8"  
 YT-435 = Stainless steel 3/8"

#### Acting type

S = Single  
 D = Double

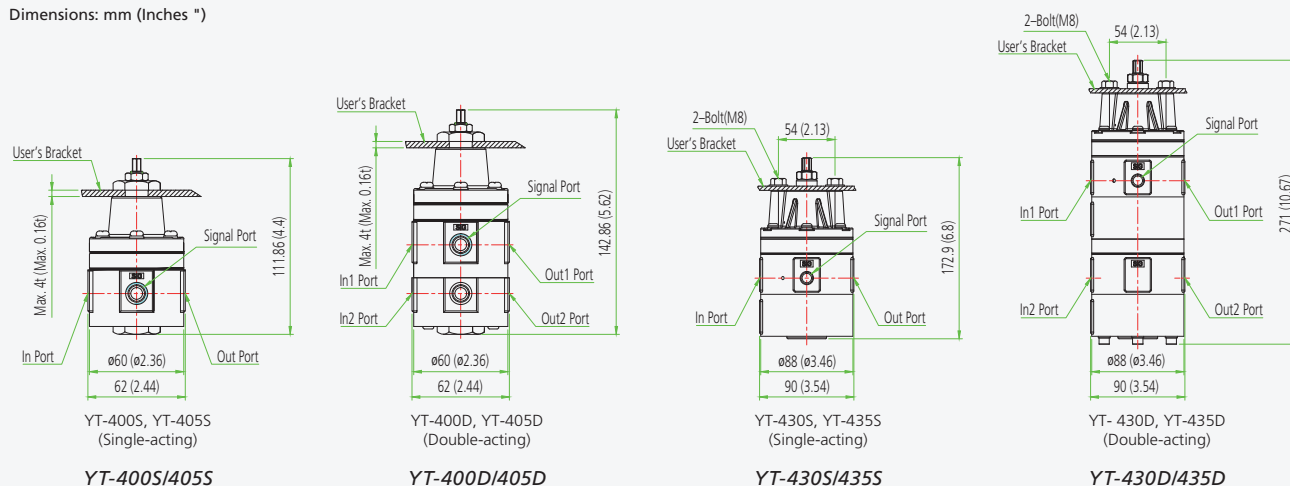
#### Connection type

(YT-405/430/435 are only available in NPT connection)  
 P = Rc  
 N = NPT

#### Ambient temperature

1 = -20 to +70 °C (-4 to +158 °F)  
 2 = -20 to +120 °C (-4 to +248 °F)  
 3 = -40 to +70 °C (-40 to +158 °F)  
 4 = -50 to +70 °C (-58 to +158 °F)

Dimensions: mm (Inches ")

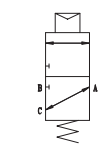


## Snap acting relays YT-520 / YT-525 / YT-530 / YT-535

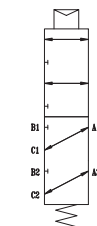
### Design features

- **Rugged and reliable design.** Suitable for all environments.
- **Designed for valve actuation.** Changes the direction of the supply air to a 'fail-safe' circuit, or fail-freeze in its last known position, on sudden loss of supply air pressure.

### Symbol



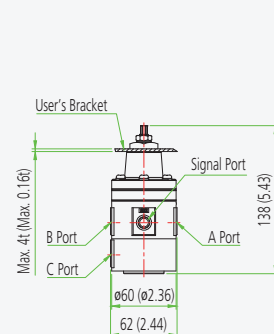
Single-acting type



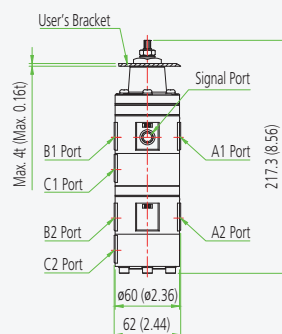
Double-acting type

| Item type            | YT-520                                         | YT-525              | YT-530               | YT-535              |
|----------------------|------------------------------------------------|---------------------|----------------------|---------------------|
| Hysteresis           | Below 0.01 MPa = 0.1 bar = 1.45 psi            |                     |                      |                     |
| Signal pressure      | 0.14 to 0.7 MPa = 1.4 to 7 bar = 20 to 102 psi |                     |                      |                     |
| Max. supply pressure | 1 MPa = 10 bar = 145 psi                       |                     |                      |                     |
| Operating temp.      | -20 to +70 °C (-4 to +158 °F) (standard type)  |                     |                      |                     |
| Signal connection    | ¼ NPT                                          |                     |                      |                     |
| A, B, C connection   | ¼ NPT                                          |                     | ¾ NPT                |                     |
| Flow capacity (Cv)   | 0.9                                            |                     | 1.8                  |                     |
| Material             | Aluminium diecasting                           | Stainless steel 316 | Aluminium diecasting | Stainless steel 316 |
| Weight               | Single                                         | 0.71 kg (1.6 lb)    | 1.7 kg (3.8 lb)      | 3.3 kg (7.3 lb)     |
|                      | Double                                         | 1.3 kg (2.9 lb)     | 3.1 kg (6.9 lb)      | 5.8kg (12.8 lb)     |

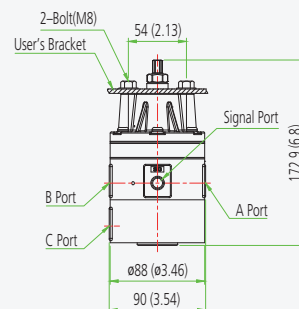
Dimensions: mm (Inches ")



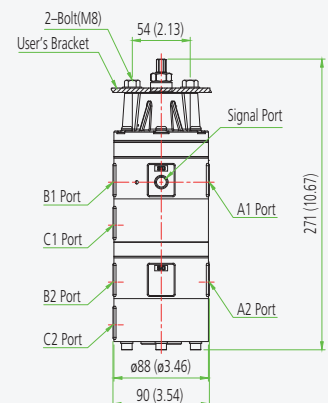
YT-520S/525S



YT-520D/525D



YT-530S/535S



YT-530D/535D

YT-520S

YT-525D

YT-530S

YT-535D



### Product code

YT-520 - S - 2 - 1

#### Model

YT-520 = Aluminium ¼"  
YT-525 = Stainless steel ¼"  
YT-530 = Aluminium ¾"  
YT-535 = Stainless steel ¾"

#### Acting type

S = Single  
D = Double

#### Connection type

2 = NPT

#### Ambient temp.

1 = -20 to +70 °C (-4 to +158 °F)  
2 = -20 to +120 °C (-4 to +248 °F)  
3 = -40 to +70 °C (-40 to +158 °F)  
4 = -50 to +70 °C (-58 to +158 °F)

## Position transmitter SPTM-5V

### Design features

- **Convenient wiring: two wire type.**
- **High accuracy and reliability.** Stable output and repeatability.
- **Simple change for RA v.s. DA action setting.**
- **Smart setting.** Easy setting of zero and span by pressing the buttons (two or five points setup).



SPTM-5V



| Item type                 | SPTM-5VL                                                                            | SPTM-5VR    |
|---------------------------|-------------------------------------------------------------------------------------|-------------|
| Input type                | 2 Wire                                                                              |             |
| Input stroke              | 10 to 150 mm                                                                        | 55 to 100 ° |
| Output signal             | 4-20 mA DC                                                                          |             |
| Load resistance           | $R_{L\leq} \frac{V_s[v] - 9[v]}{I [mA]}$                                            |             |
| Supply voltage            | 9 to 28 VDC                                                                         |             |
| Conduit                   | G 1/2                                                                               |             |
| Operating temp.           | -40 to +85 °C (-40 to +185 °F)                                                      |             |
| Linearity                 | ±1% F.S.                                                                            |             |
| Hysteresis                | ±0.2% F.S.                                                                          |             |
| Sensitivity               | ±0.2% F.S.                                                                          |             |
| Explosion protection type | <b>NEPSI</b><br>Ex ia IIC T5 Gb<br>Ambient temp.:<br>-40 to +60 °C (-40 to +140 °F) |             |
| Ingress protection        | IP67                                                                                |             |
| Material                  | Aluminium diecasting                                                                |             |
| Weight                    | 0.6 kg (1.3 lb)                                                                     |             |

### Product code

SPTM-5V - L - N - 1 - 0

**Model**  
SPTM-5V

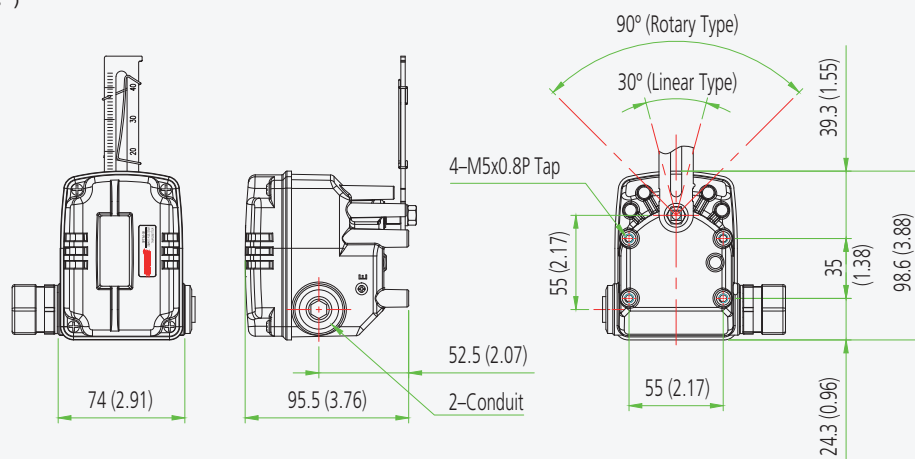
**Motion type**  
L = Linear  
R = Rotary

**Explosion protection**  
N = Non-explosion proof  
Z = NEPSI

**Lever type**  
 Linear  
 1 = 10 to 40 mm  
 2 = 20 to 70 mm  
 3 = 50 to 100 mm  
 4 = 100 to 150 mm  
 Rotary  
 1 = Standard lever  
 2 = NAMUR

**Option**  
0 = None      1 = With LCD

Dimensions: mm (Inches ")





## Limit switch box YT-850

### Design features

- **Visual position indicator.** 360° viewing angle.
- **Multiple output signals.** Eight contacts of terminal ports.
- **Universal compatibility.** Suitable for any rotary motion actuator <IS05211>.
- **Easy configuration.** Simple adjustment of cam position.
- **Dual conduit entries.** Separate connections for power and signal cables.



YT-850



| Item type          |    | YT-850M                                                  | YT-850P                         |
|--------------------|----|----------------------------------------------------------|---------------------------------|
| Switch type        |    | Mechanical switch (2xSPDT)                               | Inductive proximity sensor      |
|                    |    | SS5GL (Omron)                                            | PSN17-5DNU (Autonics, NPN type) |
| Switch rating      | AC | 250 V 3 A<br>125 V 5 A                                   | -                               |
|                    | DC | 250 V 0.2 A, 125 V 0.4 A,<br>30 V 4 A, 14 V 5 A, 8 V 5 A | 12 - 24 VDC                     |
| Ingress protection |    | IP67                                                     |                                 |
| Ambient temp.      |    | -25 to +70 °C (-13 to +158 °F)                           |                                 |
| Conduit entry      |    | ½ NPT, G ½, M20x1.5P                                     |                                 |
| Terminal           |    | 8 points                                                 |                                 |
| Mounting bracket   |    | NAMUR VDI / VDE 3845, ISO 5211                           |                                 |
| Material           |    | Aluminium diecasting                                     |                                 |
| Weight             |    | 880 g (1.94 lb)                                          |                                 |

### Product code

YT-850 - M - 1 - 0

#### Model

YT-850 = Weatherproof aluminium

#### Switching type

M = Mechanical switch

P = Inductive proximity type

#### Conduit

1 = ½ NPT

3 = G ½

4 = M20x1.5P

#### Bracket type

0 = None

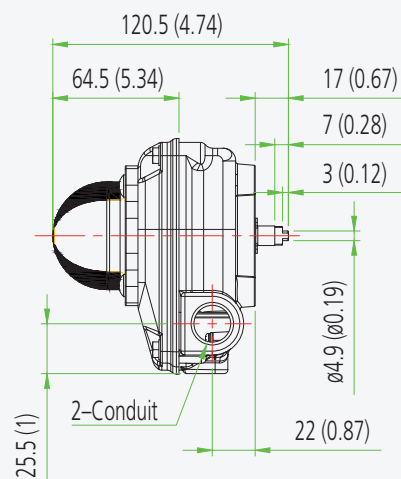
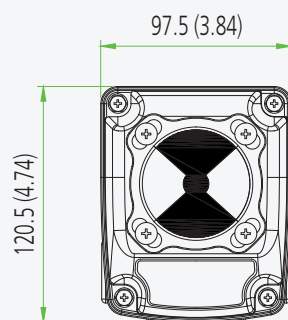
1 = ST-1 (30\*80,H20)

2 = ST-2 (30\*80,H30)

3 = ST-3 (30\*130,H30)

4 = ST-4 (30\*130,H50)

Dimensions: mm (Inches ")



## Limit switch boxes YT-870 / YT-875

### Design features

- **Visual position indicator.** 360° viewing angle.
- **Multiple output signals.** Eight contacts of terminal ports.
- **Universal compatibility.** Suitable for rotary actuators (ISO 5211).
- **Easy configuration.** Simple adjustment of cam position.
- **Dual conduit entries.** Separate power & signal cable connections.

| Item type                    |        | YT-870M<br>YT-875M                                                                                                                                                             | YT-870P<br>YT-875P                        |                               | YT-870D<br>YT-875D                                                    |
|------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------|-----------------------------------------------------------------------|
| Switch type                  |        | Mech. switch<br>(2 x SPDT)                                                                                                                                                     | Inductive proximity<br>sensor             |                               | Mech. switch<br>(2 x DPDT)                                            |
|                              |        | SS5GL<br>(Omron)                                                                                                                                                               | PSN17-<br>5DNU<br>(Autonics,<br>NPN type) | NJ2-V3-N<br>(P&F,<br>NC type) | DZ-10G-1B<br>(Omron)                                                  |
| Switch<br>rating             | AC     | 250 V 5 A<br>125 V 5 A                                                                                                                                                         | -                                         | -                             | 125 V or<br>250 V 10A                                                 |
|                              | DC     | 250 V 0.2 A,<br>125 V 0.4 A,<br>30 V 4 A,<br>14 V 5 A,<br>8 V 5 A                                                                                                              | 12 - 24 V                                 | 8.2 V                         | 125 V 0.5 A,<br>250 V 0.25 A,<br>30 V 10 A,<br>14 V 10 A,<br>8 V 10 A |
| Ingress protection           |        | Type 4, 4X, IP 67                                                                                                                                                              |                                           |                               |                                                                       |
| Explosion<br>protection type |        | <b>ATEX, IECEx</b><br>Ex db IIC T6. Ex tb IIIC T85°C                                                                                                                           |                                           |                               |                                                                       |
|                              |        | <b>CSA (also available in USA)</b><br>Ex db IIC T6. Class I, Zone 1, AEx db IIC T6.<br>Class II, Division 1, Groups E, F and G, Ex tb IIIC T85°C.<br>Zone21, AEx tb IIIC T85°C |                                           |                               |                                                                       |
|                              |        | <b>KCs</b><br>Ex d IIC T6. Ex tb IIIC T85°C                                                                                                                                    |                                           |                               |                                                                       |
|                              |        | <b>CCC</b><br>Ex d IIC T6 Gb. Ex tD A21 IP67 T85°C                                                                                                                             |                                           |                               |                                                                       |
| Ambient temp.                |        | -20 to +60 °C (-4 to +140 °F)                                                                                                                                                  |                                           |                               |                                                                       |
| Conduit entry                |        | YT-870: ¾ NPT, G ¾, M20x1.5P, ½ NPT<br>YT-875: ¾ NPT                                                                                                                           |                                           |                               |                                                                       |
| Terminal                     |        | YT-870D, 875D = 12 points<br>YT-870M, 870P, 875M, 875P = 8 points                                                                                                              |                                           |                               |                                                                       |
| Mounting bracket             |        | NAMUR VDI / VDE 3845, ISO 5211                                                                                                                                                 |                                           |                               |                                                                       |
| Material<br>and<br>weight    | YT-870 | Aluminium diecasting: 1.5 kg (3.3 lb)                                                                                                                                          |                                           |                               |                                                                       |
|                              | YT-875 | Stainless steel 316: 3.5 kg (7.7 lb)                                                                                                                                           |                                           |                               |                                                                       |



YT-870

YT-875



### Product code

YT-870 - M - 1 - 0 - 0 -

#### Model

YT-870 = Flameproof aluminium  
YT-875 = Flameproof stainless steel

#### Switching type

M = Mechanical type (2 x SPDT)  
P = Inductive proximity type<sup>1</sup>  
D = Mechanical type (2 x DPDT)

#### Conduit

1 = ¾ NPT  
2 = G ¾ (YT-870 only, NA for CCC)  
3 = M20x1.5P (YT-870 only)  
4 = ½ NPT (YT-870 only)

#### Bracket type

0 = None  
1 = ST-1 (30\*80, H20)  
2 = ST-2 (30\*80, H30)  
3 = ST-3 (30\*130, H30)  
4 = ST-4 (30\*130, H50)

#### Option

0 = None  
1 = 4-20 mA Analogue Output<sup>2</sup>

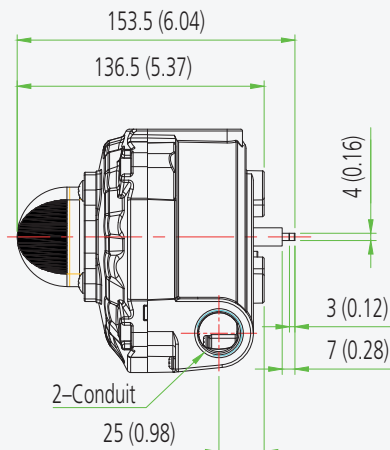
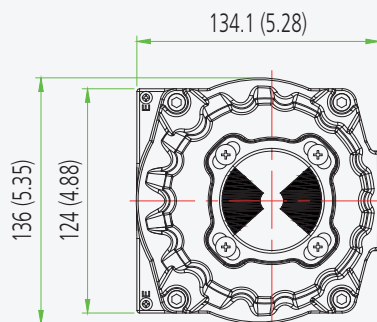
#### Explosion protection

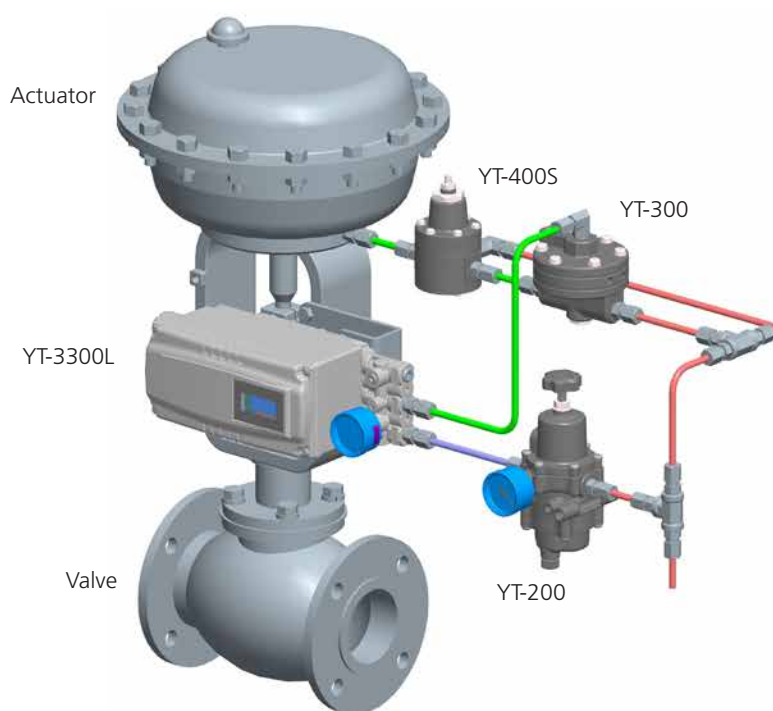
Blank = ATEX, IECEx, CSA, KCs  
Z = CCC

#### Notes:

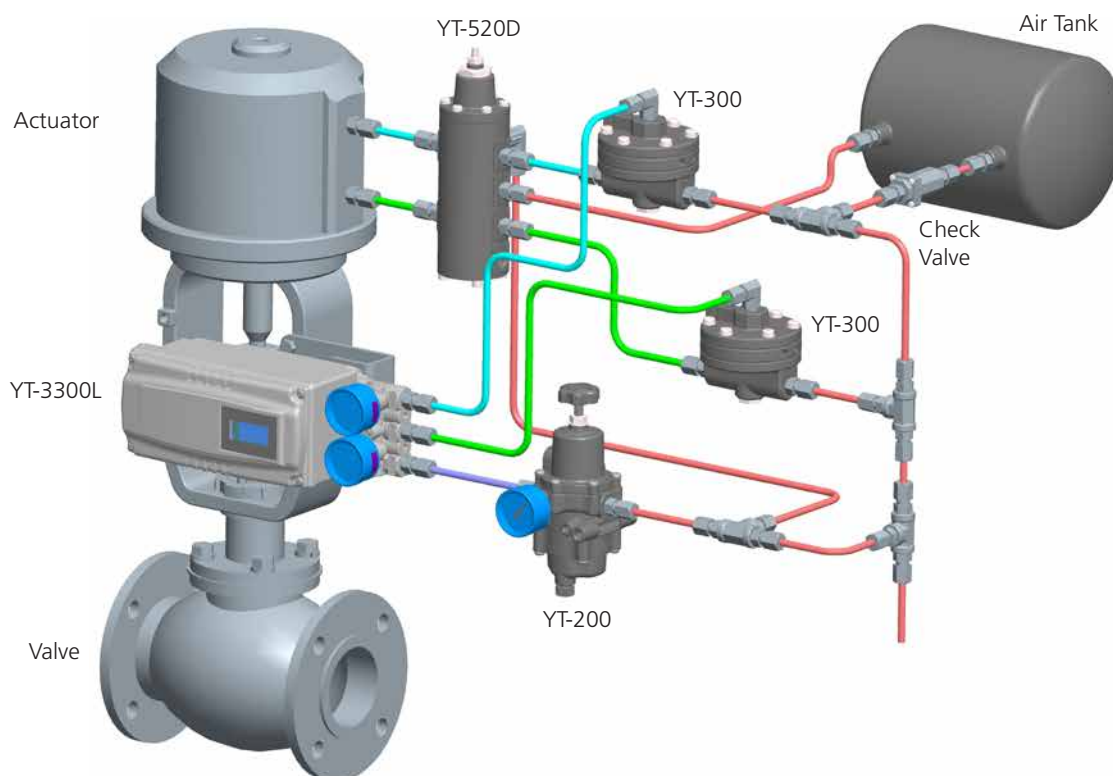
1. Standard type is PSN17-5DNU (Autonics, NPN type), but PSN17-5DPU (Autonics, PNP) and NJ2-V3-N (P&F, NC type) are also available. 2. Only M of switching type is available.

Dimensions: mm (Inches ")



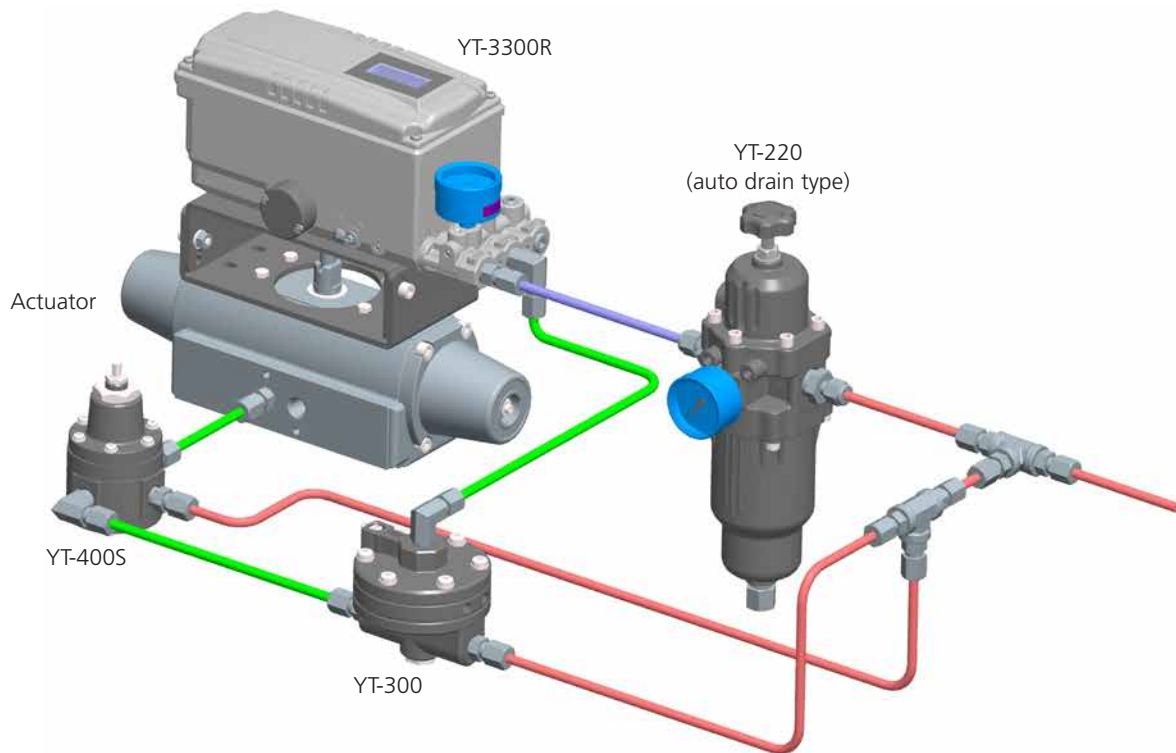


**YT-3300L (single-acting) application example**

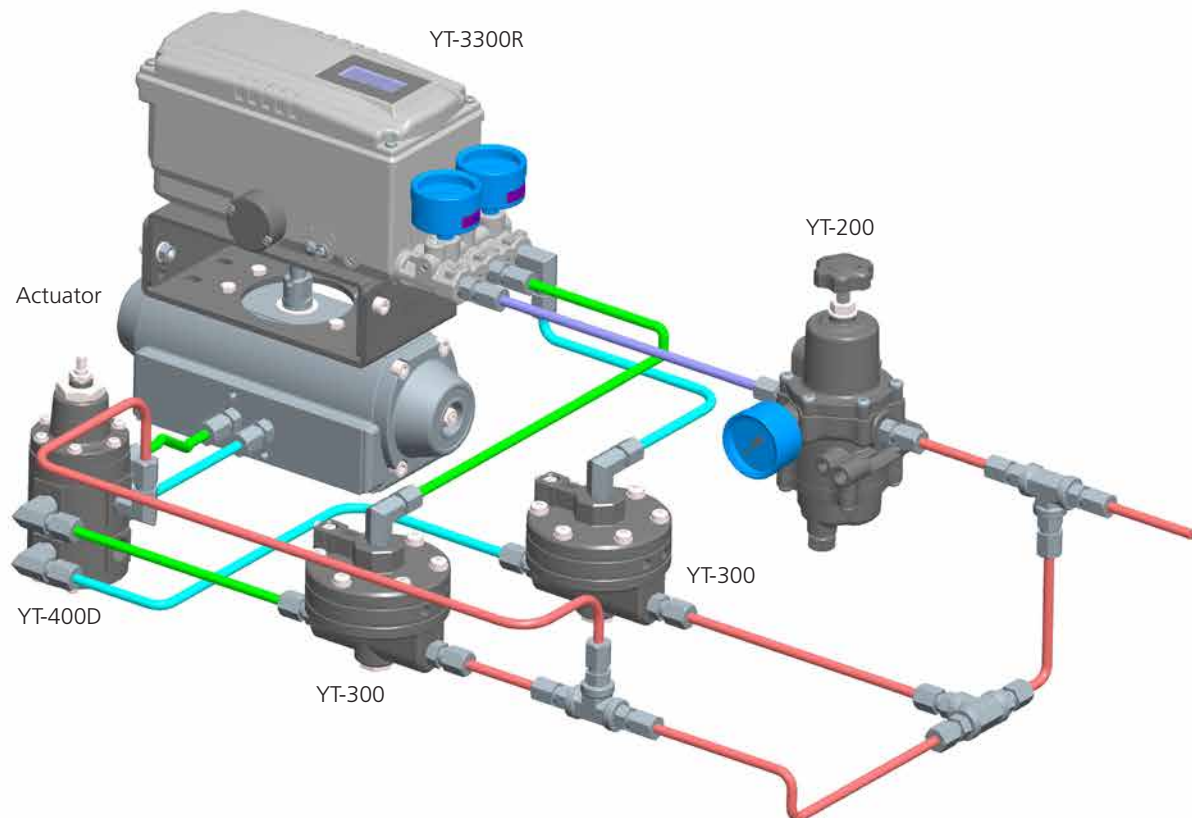


**YT-3300L (double-acting) application example**

## Examples for installation (rotary type)

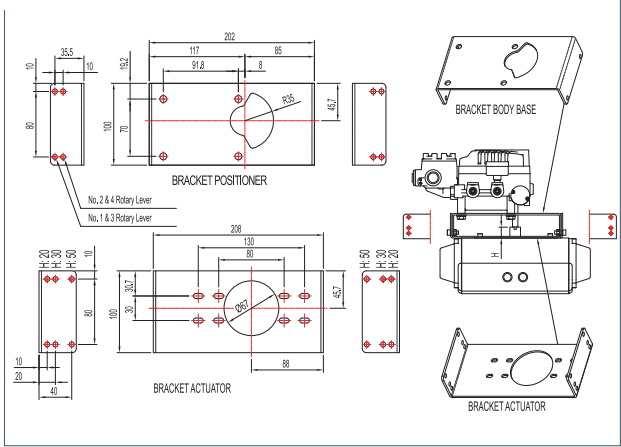


**YT-3300R (single-acting) application example**

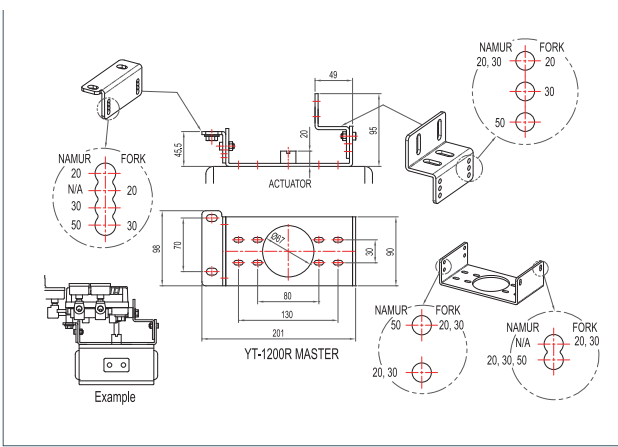


**YT-3300R (double-acting) application example**

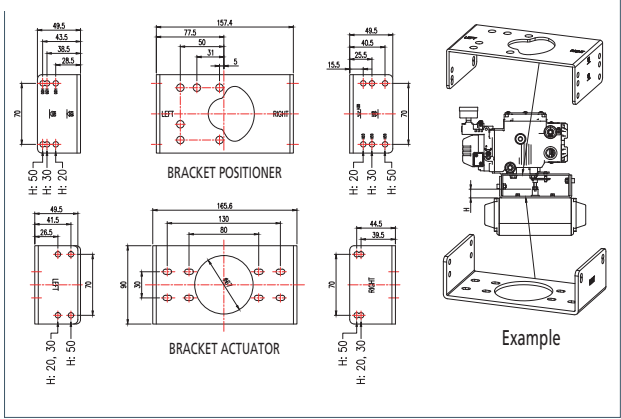
## YT-1000R bracket series



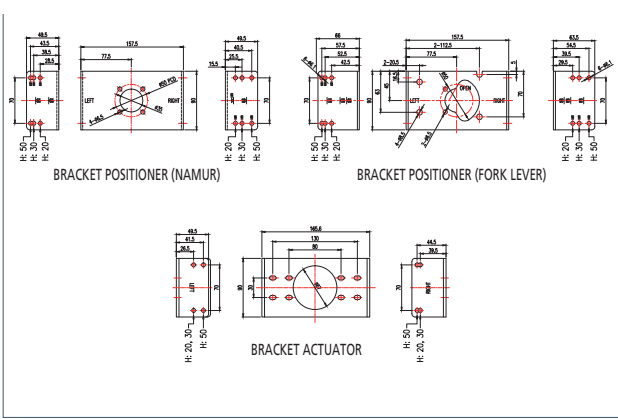
## YT-1200R bracket series



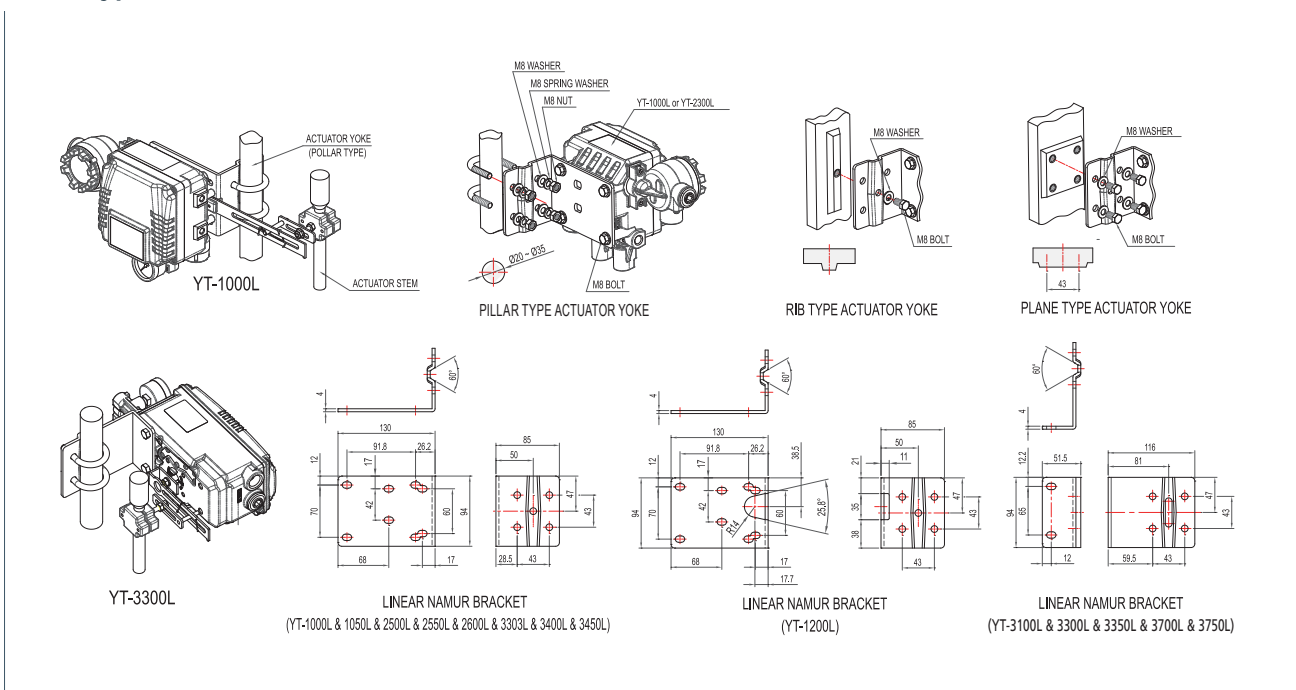
**YT-2500R & 2550R & 2600R & 3303R  
& 3400R & 3450R bracket series**



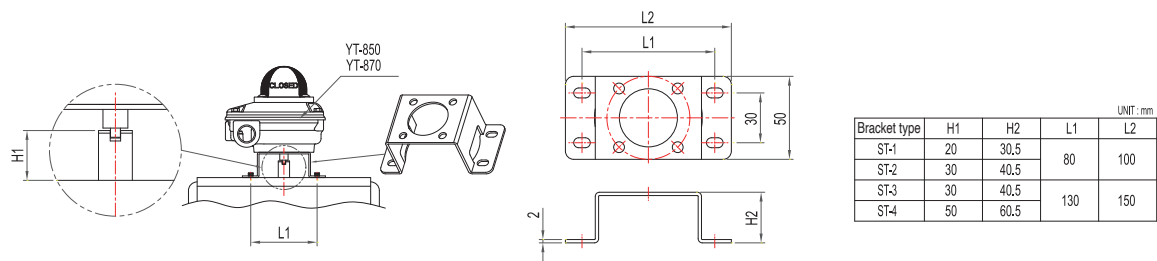
**YT-3100R & 3300R & 3350R & 3700  
& 3750 bracket series**



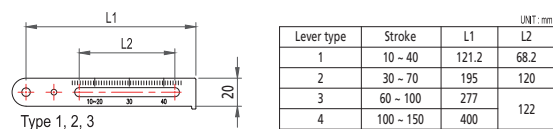
### Linear type NAMUR bracket series



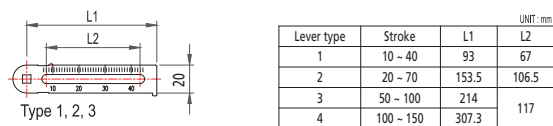
## YT-850 & 870 & 875 bracket series



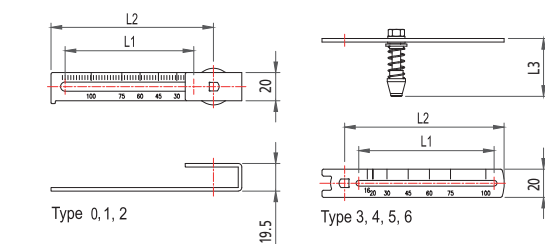
## Lever series



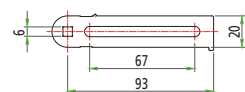
YT-1000 & 1200 linear type



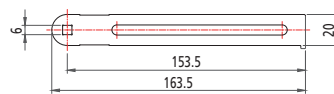
YT-2500, 2550, 2600, 3302, 3303, 3400, 3450, 3702, SPTM-5V, SPTM-6V, SPTM-65V linear type



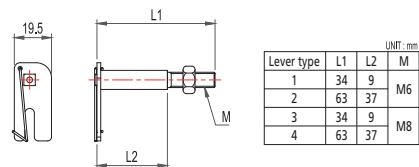
YT-3100, 3300 & 3350 & 3700 & 3750 linear type



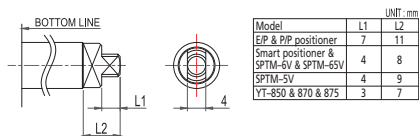
SPTM-5V rotary standard lever type



SPTM-6V & SPTM-65V rotary standard lever type



Rotary fork lever type

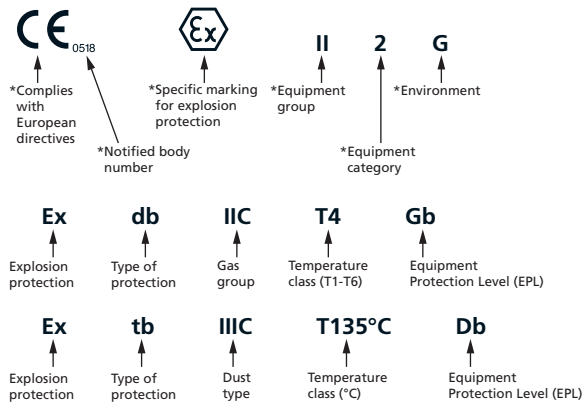


Rotary NAMUR lever type

## Appendix A: Equipment certification requirements for hazardous locations

### ATEX & IECEx

#### Typical ATEX & IECEx marking [\*ATEX only]



#### Protection concepts

| Type of Protection                                    | Symbol                  | Typical IEC EPL | Typical zone(s)                    | IEC standard | Basic concept of protection                                                                                   |
|-------------------------------------------------------|-------------------------|-----------------|------------------------------------|--------------|---------------------------------------------------------------------------------------------------------------|
| Electrical equipment for gases, vapours and mists (G) |                         |                 |                                    |              |                                                                                                               |
| General requirements                                  | -                       | -               | -                                  | IEC 60079-0  | -                                                                                                             |
| Optical radiation                                     | Op pr<br>Op sh<br>Op is | Gb<br>Ga<br>Ga  | 1, 2<br>0, 1, 2<br>0, 1, 2         | IEC 60079-28 | Protection against ignitions from optical radiation                                                           |
| Increased safety                                      | eb<br>ec                | Gb<br>Gc        | 1, 2<br>2                          | IEC 60079-7  | No arcs, sparks or hot surfaces. Enclosure IP54 or better                                                     |
| Type 'n' (non-sparking)                               | nA                      | Gc              | 2                                  | IEC 60079-15 |                                                                                                               |
| Flameproof                                            | da<br>db<br>dc          | Ga<br>Gb<br>Gc  | 0, 1, 2<br>1, 2<br>2               | IEC 60079-1  | Contain the explosion, quench the flame                                                                       |
| Type 'n' (enclosed break)                             | nC                      | Gc              | 2                                  | IEC 60079-15 |                                                                                                               |
| Quartz / sand filled                                  | q                       | Gb              | 1, 2                               | IEC 60079-5  | Quench the flame                                                                                              |
| Intrinsic safety                                      | ia<br>ib<br>ic          | Ga<br>Gb<br>Gc  | 0, 1, 2<br>1, 2<br>2               | IEC 60079-11 | Limit the energy of sparks and surface temperatures                                                           |
| Type 'n' (sealing & hermetic sealing)                 | nC                      | Gc              | 2                                  | IEC 60079-15 |                                                                                                               |
| Type 'n' (restricted breathing)                       | nR                      | Gc              | 2                                  | IEC 60079-15 | Keep the flammable gas out                                                                                    |
| Encapsulation                                         | ma<br>mb<br>mc          | Ga<br>Gb<br>Gc  | 0, 1, 2<br>1, 2<br>2               | IEC 60079-18 |                                                                                                               |
| Electrical equipment for combustible dusts (D)        |                         |                 |                                    |              |                                                                                                               |
| General requirements                                  | -                       | -               | -                                  | IEC 60079-0  | -                                                                                                             |
| Optical radiation                                     | Op pr<br>Op sh<br>Op is | Db<br>Da<br>Da  | 21, 22<br>20, 21, 22<br>20, 21, 22 | IEC 60079-28 | Protection against ignitions from optical radiation                                                           |
| Enclosure                                             | ta<br>tb<br>tc          | Da<br>Db<br>Dc  | 20, 21, 22<br>21, 22<br>22         | IEC 60079-31 | Standard protection for dusts, rugged tight enclosure                                                         |
| Intrinsic safety                                      | ia<br>ib<br>ic          | Da<br>Db<br>Dc  | 20, 21, 22<br>21, 22<br>22         | IEC 60079-11 | Limit the energy of sparks and surface temperatures                                                           |
| Encapsulation                                         | ma<br>mb<br>mc          | Da<br>Db<br>Dc  | 20, 21, 22<br>21, 22<br>22         | IEC 60079-18 | Protection by encapsulation of incandescent parts                                                             |
| Electrical equipment for combustible dusts (D)        |                         |                 |                                    |              |                                                                                                               |
| General requirements                                  | -                       | -               | -                                  | EN 13463-1   | -                                                                                                             |
| Flow restricted enclosure                             | fr                      | -               | -                                  | EN 13463-2   | Relies on tight seals, closely matched joints and tough enclosures to restrict the breathing of the enclosure |
| Flameproof enclosure                                  | d                       | -               | -                                  | EN 13463-3   |                                                                                                               |
| Constructional safety                                 | c                       | -               | 0, 1, 2<br>20, 21, 22              | EN 13463-5   | Ignition hazards eliminated by good engineering methods                                                       |
| Control of ignition source                            | b                       | -               | -                                  | EN 13463-6   | Control equipment fitted to detect malfunctions                                                               |

### cCS Aus

#### Typical North American marking (CSA)

##### Class I, Division 1, Groups A,B,C,D T4



##### Class II, Division 1, Groups E,F,G



##### Class I, Zone 0, AEx ia IIC T4

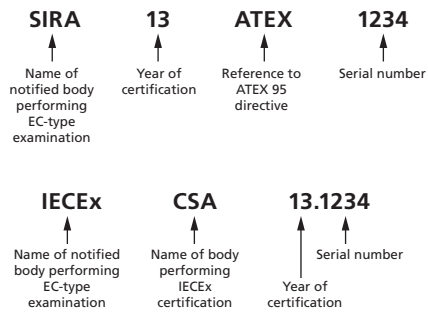


#### Protection concepts

| Type of protection                                                  | Code                                                  | Country                          | Class                                                                | Division / zone                                                                         | Standard                                                                                                                                  | Basic concept of protection                    |
|---------------------------------------------------------------------|-------------------------------------------------------|----------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| Electrical equipment for flammable gas, vapors and mists - Class I  |                                                       |                                  |                                                                      |                                                                                         |                                                                                                                                           |                                                |
| General requirements                                                | AEx<br>Ex                                             | US<br>CA<br>US<br>CA             | Class I<br>Class I<br>Class I<br>Class I                             | Division 1 & 2<br>Division 1 & 2<br>Zone 1 & 2<br>Zone 1 & 2                            | FM 3600<br>-<br>ISA 60079-0<br>CSA 60079-0                                                                                                |                                                |
| Increased safety                                                    | AEx e<br>Ex e                                         | US<br>CA                         | Class I<br>Class I                                                   | Zone 1<br>Zone 1                                                                        | ISA 60079-7<br>CSA C22.2 No. 60079-7                                                                                                      | No arcs, sparks or hot surfaces                |
| Non-incandive                                                       | (NI)<br>(NI)                                          | US<br>CA                         | Class I<br>Class I                                                   | Division 2<br>Division 2                                                                | ISA 12.12.01 / FM 3611<br>C22.2 No. 213                                                                                                   |                                                |
| Non-sparking                                                        | AEx nA<br>Ex nA                                       | US<br>CA                         | Class I<br>Class I                                                   | Zone 2<br>Zone 2                                                                        | ISA 60079-15<br>CSA C22.2 No. 60079-15                                                                                                    |                                                |
| Explosionproof                                                      | (XP)<br>(XP)                                          | US<br>CA                         | Class I<br>Class I                                                   | Division 1<br>Division 1                                                                | UL 1203 / FM 3615<br>C22.2 No. 30                                                                                                         | Contain the explosion and extinguish the flame |
| Flameproof                                                          | AEx d<br>AEx d<br>Ex d                                | US<br>US<br>CA                   | Class I<br>Class I<br>Class I                                        | Zone 1<br>Zone 1<br>Zone 1                                                              | ISA 60079-1<br>UL 1203 / FM 3615<br>CSA 60079-1                                                                                           |                                                |
| Enclosed break                                                      | AEx nC<br>Ex nC                                       | US<br>CA                         | Class I<br>Class I                                                   | Zone 2<br>Zone 2                                                                        | ISA 60079-15<br>CSA C22.2 No. 60079-15                                                                                                    |                                                |
| Intrinsic safety                                                    | (IS)<br>(IS)<br>AEx ia<br>AEx ib<br>EX ia<br>EX ib    | US<br>CA<br>US<br>US<br>CA<br>CA | Class I<br>Class I<br>Class I<br>Class I<br>Class I<br>Class I       | Division 1<br>Division 1<br>Zone 0<br>Zone 1<br>Zone 0<br>Zone 1                        | UL 913 / FM 3610<br>C22.2 No. 157<br>ISA 60079-11 / FM 3610<br>ISA 60079-11 / FM 3610<br>CSA C22.2 No. 60079-11<br>CSA C22.2 No. 60079-11 | Limit energy of sparks and surface temperature |
| Limited energy                                                      | AEx nC<br>Ex nL                                       | US<br>CA                         | Class I<br>Class I                                                   | Zone 2<br>Zone 2                                                                        | ISA 60079-15<br>CSA C22.2 No. 60079-15                                                                                                    |                                                |
| Restricted breathing                                                | AEx nR<br>Ex nR                                       | US<br>CA                         | Class I<br>Class I                                                   | Zone 2<br>Zone 2                                                                        | ISA 60079-15<br>CSA C22.2 No. 60079-15                                                                                                    |                                                |
| Encapsulated                                                        | AEx ma<br>AEx m<br>AEx mb                             | US<br>US<br>US                   | Class I<br>Class I<br>Class I                                        | Zone 0<br>Zone 1<br>Zone 1                                                              | ISA 60079-18<br>ISA 60079-18<br>CSA C22.2 No. 60079-18                                                                                    | Keep flammable gas out                         |
| Electrical equipment for flammable gas, vapors and mists - Class II |                                                       |                                  |                                                                      |                                                                                         |                                                                                                                                           |                                                |
| General requirements                                                | Ex                                                    | US<br>CA<br>US<br>CA<br>US       | Class II<br>Class II<br>Class II<br>Class II<br>Class II             | Division 1 & 2<br>Division 1 & 2<br>Division 1 & 2<br>Division 1 & 2<br>Zone 20, 21, 22 | FM 3600<br>CSA C22.2 No.0<br>FM 3600<br>CSA C22.2 No.0<br>ISA 60079-0                                                                     |                                                |
| Dust ignition proof                                                 | -                                                     | US<br>CA                         | Class II<br>Class II                                                 | Division 1<br>Division 1                                                                | UL 1203 / FM 3616<br>CSA C22.2 No. 25                                                                                                     | Keep combustible dust out                      |
| Dust protected                                                      | -                                                     | US<br>CA                         | Class II<br>Class II                                                 | Division 2<br>Division 2                                                                | ISA 12.12.01 / FM 3611<br>CSA C22.2 No. 25                                                                                                |                                                |
| Protection by enclosure                                             | AEx ta<br>AEx tb<br>AEx tc<br>Ex ta<br>Ex tb<br>Ex tc | US<br>US<br>US<br>CA<br>CA<br>CA | Class II<br>Class II<br>Class II<br>Class II<br>Class II<br>Class II | Zone 20<br>Zone 21<br>Zone 22<br>Zone 20<br>Zone 21<br>Zone 22                          | ISA 60079-31<br>ISA 60079-31<br>ISA 60079-31<br>CSA C22.2 No. 60079-31<br>CSA C22.2 No. 60079-31<br>CSA C22.2 No. 60079-31                |                                                |
| Encapsulation                                                       | AEx maD<br>AEx mbD                                    | US<br>US                         | -<br>-                                                               | Zone 20<br>Zone 21                                                                      | ISA 60079-18<br>ISA 60079-18                                                                                                              |                                                |
| Intrinsic safety                                                    | (IS)<br>(IS)<br>AEx iaD<br>AEx ibD<br>(IS)<br>(IS)    | US<br>CA<br>US<br>US<br>US<br>CA | Class II<br>Class II<br>Class II<br>Class II<br>Class II<br>Class II | Division 1<br>Division 1<br>Zone 20<br>Zone 21<br>Division 1<br>Division 1              | UL 913 / FM 3610<br>CSA C22.2 No. 157<br>ISA 60079-11<br>ISA 60079-11<br>UL 913 / FM 3610<br>CSA C22.2 No. 157                            | Limit energy of sparks and surface temperature |

## Appendix A: Equipment certification requirements for hazardous locations

### ATEX & IECEx certificate number



Suffixes: U – component certification  
 X – special conditions for safe use apply

### Apparatus groups [ATEX and IECEx]

| Group | Environment       | Location                    | Typical substance                                                                                                                                                                                          |
|-------|-------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I     |                   | Coal mining                 | Methane (Fire damp)                                                                                                                                                                                        |
| IIA   | Gases, vapours    | Surface and other locations | Acetic acid, acetone, ammonia, butane, cyclohexane, gasoline (petrol), kerosene, methane (natural gas) (non-mining), methanol (methyl alcohol), propane, propan-2-ol (iso-propyl alcohol), toluene, xylene |
| IIB   |                   |                             | Di-ethyl ether, ethylene, methyl ethyl ketone (MEK), propan-1-ol (n-propyl alcohol), ethanol (ethyl alcohol)                                                                                               |
| IIC   |                   |                             | Acetylene, hydrogen, carbon disulphide                                                                                                                                                                     |
| IIIA  | Combustible dusts | Surface and other locations | Combustible flyings                                                                                                                                                                                        |
| IIIB  |                   |                             | Non-conductive                                                                                                                                                                                             |
| IIIC  |                   |                             | Conductive                                                                                                                                                                                                 |

### Apparatus groups (US / CAN)

| Substance                                                                          | Hazard class                    | NEC 500 | NEC 505 |
|------------------------------------------------------------------------------------|---------------------------------|---------|---------|
| Acetylene                                                                          | Class I<br>Flammable gases      | Group A | IIC     |
| Hydrogen                                                                           |                                 | Group B | IIC     |
| Ethylene                                                                           |                                 | Group C | IIB     |
| Propane                                                                            |                                 | Group D | IIA     |
| Methane (mining)                                                                   |                                 | Group D | -       |
| Combustible metal dusts                                                            | Class II<br>Combustible dusts   | Group E | -       |
| Combustible carbonaceous dusts                                                     |                                 | Group F | -       |
| Combustible dusts not in group E or F<br>(Flour, grain, wood, plastics, chemicals) |                                 | Group G | -       |
| Combustible fibres and flyings                                                     | Class III<br>Fibres and flyings | -       | -       |

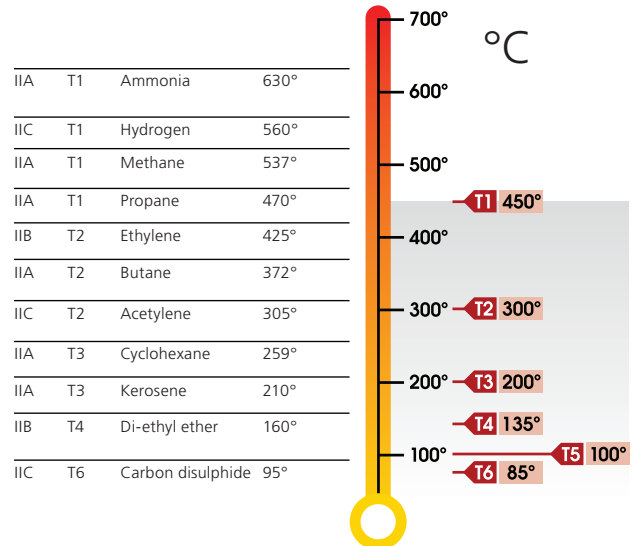
### Classification of divisions and zones

| Type of area                     | NEC and CEC* | ATEX and IEC           | Definitions                                                                                                          |
|----------------------------------|--------------|------------------------|----------------------------------------------------------------------------------------------------------------------|
| Continuous hazard                | Division 1   | Zone 0 / Zone 20 Cat 1 | A place in which an explosive atmosphere is continuously present                                                     |
| Intermittent hazard              | Division 1   | Zone 1 / Zone 21 Cat 2 | A place in which an explosive atmosphere is likely to occur in normal operation                                      |
| Hazard under abnormal conditions | Division 2   | Zone 2 / Zone 22 Cat 3 | A place in which an explosive atmosphere is not likely to occur in normal operation, but may occur for short periods |

\* On occasion the ATEX and IEC Zones may be used in the corresponding NEC and CEC system

### Temperature classification

Classification of maximum surface temperatures for Group II Electronic Equipment (T Class).



### Dusts typical ignition temperatures (°C)

| Dusts               | Cloud  | Layer      |
|---------------------|--------|------------|
| Aluminium           | 590 °C | >450 °C    |
| Coal dust (lignite) | 380 °C | 225 °C     |
| Flour               | 490 °C | 340 °C     |
| Grain dust          | 510 °C | 300 °C     |
| Methyl cellulose    | 420 °C | 320 °C     |
| Phenolic resin      | 530 °C | >450 °C    |
| Polythene           | 420 °C | (melts) °C |
| PVC                 | 700 °C | >450 °C    |
| Soot                | 810 °C | 570 °C     |
| Starch              | 460 °C | 435 °C     |
| Sugar               | 490 °C | 460 °C     |

### Ingress protection codes

| First number (protect from solid bodies) |                  | Second number (protect from water) |                      |
|------------------------------------------|------------------|------------------------------------|----------------------|
| 0                                        | No protection    | 0                                  | No protection        |
| 1                                        | Objects > 50mm   | 1                                  | Vertical drip        |
| 2                                        | Objects > 12.5mm | 2                                  | Angled drip          |
| 3                                        | Objects > 2.5mm  | 3                                  | Spraying             |
| 4                                        | Objects > 1.0mm  | 4                                  | Splashing            |
| 5                                        | Dust-protected   | 5                                  | Jetting              |
| 6                                        | Dust-tight       | 6                                  | Powerful jetting     |
|                                          |                  | 7                                  | Temporary immersion  |
|                                          |                  | 8                                  | Continuous immersion |

### Enclosure type ratings (NEMA / CSA / UL)

| Type      | Area             | Brief definition                                                |
|-----------|------------------|-----------------------------------------------------------------|
| 1         | Indoor           | General purpose                                                 |
| 2         | Indoor           | Protection against angled dripping water                        |
| 3, 3R, 3S | Indoor / outdoor | Protection against rain, snow                                   |
| 4, 4X     | Indoor / outdoor | Protection against rain, snow, hose directed water              |
| 5         | Indoor           | Protection against angled dripping water, dust, fibres, flyings |
| 6         | Indoor / outdoor | Protection against temporary submersion                         |
| 6P        | Indoor / outdoor | Protection against prolonged submersion                         |
| 12, 12K   | Indoor           | Protection against circulating dust, fibres, flyings            |
| 13        | Indoor           | Protection against circulating dust, fibres, flyings, seepage   |

## Appendix B: Certifications

| Product                      | Model number                                                           | Cert. type                                                                                      | Rating                                                                                                                                                                                     |
|------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Electro-pneumatic positioner | YT-1000 / 1050                                                         | ATEX/IECEX/UKEX/PESO                                                                            | Ex db mb IIB T5 Gb                                                                                                                                                                         |
|                              |                                                                        | INMETRO                                                                                         | Ex db mb IIB T5 Gb                                                                                                                                                                         |
|                              |                                                                        | FM                                                                                              | CL I, Div 1, Groups C,D T5; CL II, III, Div 1, E,F,G T5; Type 4X                                                                                                                           |
|                              |                                                                        | CSA                                                                                             | Ex d m IIB T5 Gb                                                                                                                                                                           |
|                              |                                                                        | CCC, NEPSI                                                                                      | Ex db mb IIB T5 Gb; Ex db mb IIC T6, Ex ia IIC T6 Gb                                                                                                                                       |
|                              |                                                                        | TIIS                                                                                            | Ex dmb IIB T5                                                                                                                                                                              |
|                              | YT-1000                                                                |                                                                                                 | Ex dmb IIB T5/T4                                                                                                                                                                           |
|                              |                                                                        | KCs                                                                                             | Ex dmb IIC T5<br>Ex ia IIC T6 Gb                                                                                                                                                           |
|                              |                                                                        | ATEX/IECEX/KCs/CCC/PESO                                                                         | Ex ia IIC T6 Gb                                                                                                                                                                            |
|                              |                                                                        | YT-1050                                                                                         | KCs                                                                                                                                                                                        |
|                              |                                                                        | NEPSI, CCC                                                                                      | Ex db mb IIB T5 Gb                                                                                                                                                                         |
| Smart positioner             | YT-3300 / 3350 / 3301 / 3302 / 3303 / 3400 / 3450 / 3700 / 3702 / 3750 | SIL                                                                                             | SIL2 / SIL3                                                                                                                                                                                |
|                              | YT-3300                                                                | PESO/NEPSI                                                                                      | Ex ia IIC T5/T6 Gb                                                                                                                                                                         |
|                              |                                                                        | ATEX/IECEX/UKEX                                                                                 | Ex ia IIC T5/T6 Gb, Ex ia IIIC T100°C/T85°C Db                                                                                                                                             |
|                              |                                                                        | INMETRO                                                                                         | Ex ia IIC T6/T5 Gb<br>Ex ia IIIC T85°C/T100°C Db IP66                                                                                                                                      |
|                              | YT-3300 / 3350 / 3301 / 3302 / 3303                                    | FM                                                                                              | Class I, Div 1, Groups ABCD; Class I, Zone 0 AEx ia IIC; Class II/III, Div 1, Groups EFG; Class I, II, III, Div 2, Groups ABCDFG; Type 4X/IP66 or IP54, T5 -40°C to 60°C, T6 -40°C to 40°C |
|                              |                                                                        |                                                                                                 | Class I, Division 1/2, Groups ABC and/or D T5/T6                                                                                                                                           |
|                              |                                                                        | CSA                                                                                             | Class II, Division 1/2, Groups EF and/or G T100°C/T85°C; Class III<br>Ex ia IIC T5/T6 Ga; Ex tb IIIC T100°C/T85°C Db IP66                                                                  |
|                              |                                                                        | CCC                                                                                             | Ex ia IIC T5/T6 Gb, Ex ia IIIC T85°C/T100°C Db                                                                                                                                             |
|                              |                                                                        | KCs                                                                                             | Ex ia IIC T5/T6 Gb, Ex iaD IIIC T100°C/T85°C                                                                                                                                               |
|                              |                                                                        | ATEX/IECEX/UKEX                                                                                 | Ex db IIC T5/T6, Ex tb IIIC T100°C/T85°C                                                                                                                                                   |
|                              |                                                                        |                                                                                                 | Class I Div 1, Groups ABCD; T6/T5                                                                                                                                                          |
|                              |                                                                        | FM                                                                                              | Class II, III Div 1, Groups EFG; T6/T5<br>Class I, Zone 1, AEx db IIC T6/T5<br>Zone 21 AEx tb IIIC; T85°C Ta= -40°C to +70°C, T100°C Ta= -40°C to +80°C; Type 4X/IP66                      |
|                              |                                                                        |                                                                                                 | Ex db IIC Gb T5 or T6; Class I, Div 1, Groups CD; Class II, Div 1, Groups EFG; Type 4X /IP66                                                                                               |
|                              | YT-3400 / 3450                                                         | CSA                                                                                             | Ex tb IIIC Db T85°C/T100°C                                                                                                                                                                 |
|                              |                                                                        | CCC                                                                                             | Ex db IIC T5/T6 Gb, Ex tb IIIC T85°C/T100°C Db                                                                                                                                             |
|                              |                                                                        | NEPSI                                                                                           | Ex db IIC T5/T6 Gb,<br>Ex tb IIIC T85°C/T100°C Db                                                                                                                                          |
|                              |                                                                        | INMETRO                                                                                         | Ex db IIC T5/T6 Gb IP66<br>Ex tb IIIC T100°C/T85°C Db IP66                                                                                                                                 |
|                              |                                                                        | PESO                                                                                            | Ex db IIC T5/T6 Gb                                                                                                                                                                         |
|                              | YT-3400                                                                | KCs                                                                                             | Ex d IIC T5/T6 IP66                                                                                                                                                                        |
|                              | YT-3450                                                                | KCs                                                                                             | Ex d IIC T5/T6, Ex tb IIIC T100°C/T85°C                                                                                                                                                    |
|                              |                                                                        |                                                                                                 | Ex db IIC T6/T5/T4 Gb, Ex tb IIIC T85°C/100°C/T135°C Db                                                                                                                                    |
| RTP-4400                     | ATEX/IECEX                                                             | Ex ia IIC T6/T5/T4 Ga, Ex ia IIIC T <sub>200</sub> 85°C/100°C/T135°C Da<br>Ta: -55 °C to +85 °C |                                                                                                                                                                                            |



## Appendix B: Certifications

| Product              | Model number                         | Cert. type          | Rating                                                                                                                                                                               |
|----------------------|--------------------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Smart positioner     | YT-2500 / 2550 / 2501                | ATEX/IECEX          | Ex ia IIC T5/T6 Gb, Ex ia IIIC T100°C/T85°C IP6X                                                                                                                                     |
|                      |                                      | CCC                 | Ex ia IIC T5/T6 Gb, Ex ia IIIC T85°C/T100°C D                                                                                                                                        |
|                      |                                      | NEPSI               | Ex ia IIC T5/T6 Gb, Ex iaD 21 T100/T85                                                                                                                                               |
|                      |                                      | KCs                 | Ex ia IIC T5/T6, Ex iaD IIIC T100°C/T85°C                                                                                                                                            |
|                      | YT-2600                              | ATEX/IECEX          | Ex db IIC T5/T6, Ex tb IIIC T100°C/T85°C                                                                                                                                             |
|                      |                                      | KCs                 | Ex d IIC T6/T5, Ex tb IIIC T85°C/T100°C                                                                                                                                              |
|                      |                                      | CCC                 | Ex db IIC T5/T6 Gb, Ex tb IIIC T85°C/T100°C Db                                                                                                                                       |
|                      | YT-3700 / 3750                       | ATEX/IECEX/<br>UKEX | Ex ia IIC T5/T6 Gb, Ex ia IIIC T100°C/T85°C Db IP 6x                                                                                                                                 |
|                      |                                      | CCC                 | Ex ia IIC T5/T6 Gb, Ex ia IIIC T85°C/T100°C Db                                                                                                                                       |
|                      |                                      | KCs                 | Ex ia IIC T6/T5, Ex ia IIIC T85°C/T100°C                                                                                                                                             |
|                      |                                      | FM                  | Class I, Div 1, Groups ABCD; Class I, Zone 0 AEx ia IIC; Class II/III, Div 1, Groups EFG; Class I, II, III, Div 2, Groups ABCDEFG, Zone 21 AEx tb IIIC T100°C...T85°C, Type 4X, IP66 |
|                      |                                      | CSA                 | Ex ia IIC T6/T5 Gb; Ex ia IIIC T85°C/T100°C Db, Class I, Div 1 and Div 2, Groups A, B, C, D T6/T5, Class II, Div 1 and Div 2, Groups E, F, G, T85°C/T100°C, Class III                |
|                      |                                      | PESO                | Ex ia IIC T5/T6 Gb                                                                                                                                                                   |
| IP converter         | YT-930                               | ATEX/IECEX          | Ex ia IIC T5/T6 Gb, Ex ia IIIC T100°C/T85°C Db                                                                                                                                       |
|                      | YT-940                               | FM                  | Class I, Div 1, Groups A, B, C, D; T6 Ta= -40°C to +75°C, T5 Ta = -40°C to +85°C; Type4X, IP66                                                                                       |
|                      |                                      |                     | Class II, III, Div 1, Groups E, F, G; T6, T5                                                                                                                                         |
|                      |                                      |                     | Class I, Zone 1, AEx d IIC T6, T5                                                                                                                                                    |
|                      |                                      | CSA                 | Zone 21 AEx tb IIC T85°C Ta= -40°C to +75°C, T100°C Ta= -40°C to 85°C, Type 4X, IP66                                                                                                 |
|                      |                                      |                     | Ex db IIC T5 or T6                                                                                                                                                                   |
|                      |                                      | KCs                 | Ex tb IIC T85°C/T100°C                                                                                                                                                               |
| Position transmitter | SPTM-5V                              | NEPSI               | Ex ia IIC T5 Gb                                                                                                                                                                      |
|                      | SPTM-6V / 65V                        | KCs                 | Ex d IIC T6 IP67                                                                                                                                                                     |
|                      |                                      | NEPSI               | Ex d IIC T6 Gb                                                                                                                                                                       |
| Limit switch         | YT-870 / 875                         | ATEX/IECEX          | Ex db IIC T6, Ex tb IIIC T85°C                                                                                                                                                       |
|                      |                                      | CSA                 | Ex db IIC T6                                                                                                                                                                         |
|                      |                                      |                     | Class I, Zone 1, AEx db IIC T6                                                                                                                                                       |
|                      |                                      |                     | Class II, Div 1, Groups: E, F and G, Ex tb IIC T85°C                                                                                                                                 |
|                      |                                      |                     | Zone 21, AEx tb IIC T85°C; Type 4, 4X; IP67                                                                                                                                          |
|                      |                                      | CCC                 | Ex db IIC T6 Gb, Ex tb IIIC T85°C Db                                                                                                                                                 |
| Volume booster       | YT-300 / 305 / 320 / 325 / 310 / 315 | KCs                 | Ex d IIC T6, Ex tb IIIC T85°C                                                                                                                                                        |
|                      |                                      | SIL                 | SIL2 / SIL3                                                                                                                                                                          |

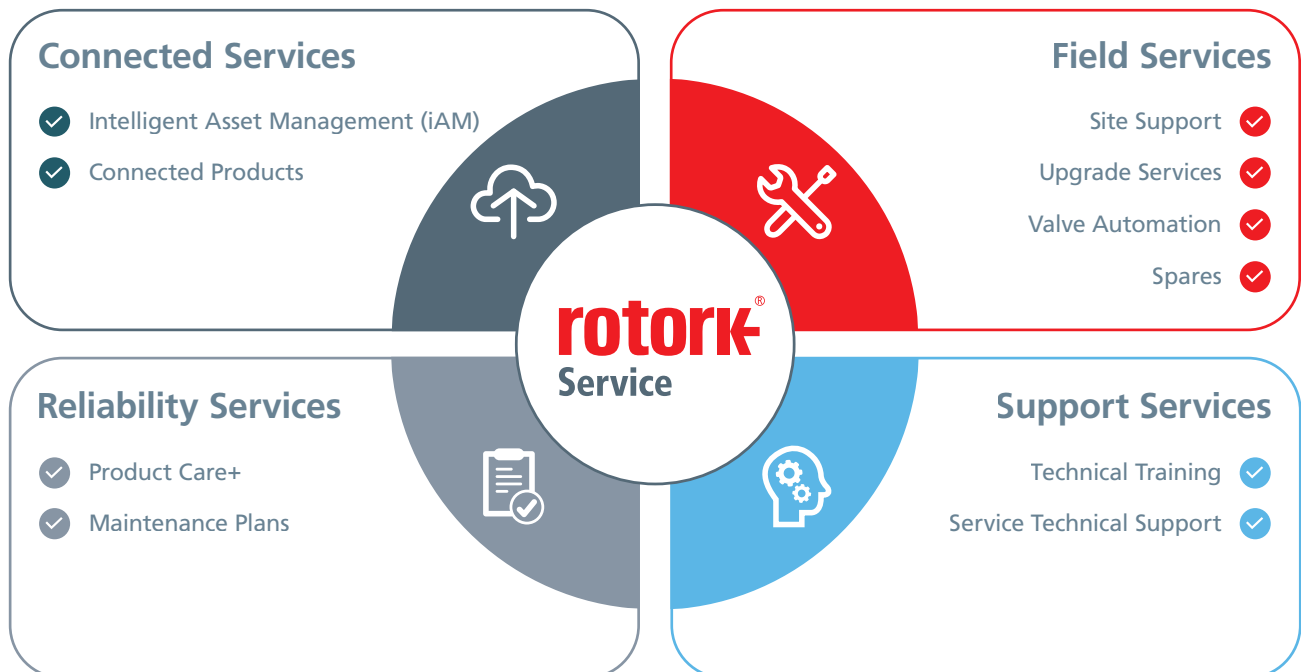
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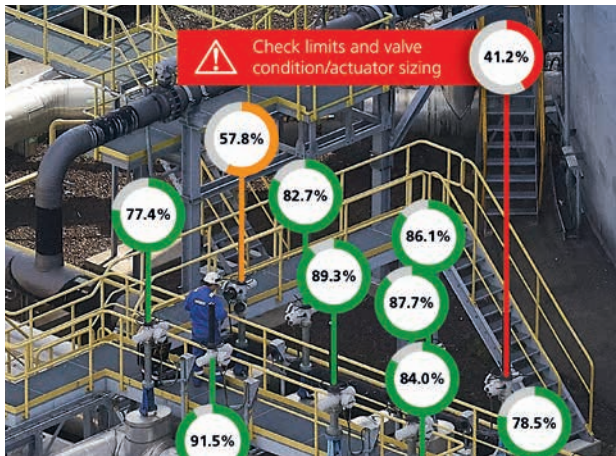




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Our focus on Full Lifecycle Experience provides world-class service and ensures the reliability of your Rotork products.





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Intelligent Asset Management (iAM) is a cloud-based system for intelligent Rotork actuators and the flow control equipment they operate. Effective asset management and maintenance are essential for maintaining site uptime.



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