# THE SMARTEST POSITIONER
# ROTEX **POSIDAPT**™ SERIES







ROTEX

*Engineering For The Future*

INTRODUCING THE
**SMARTEST POSITIONER**

ROTEX

THE FUTURE OF
**POSITIONING TECHNOLOGY**

# ROTEX **POSIDAPT**™ PRIME & **POSIDAPT**™ ELITE SERIES

WITH BACKLIT LCD DISPLAY




Guiding Your Way To
**Superior Performance!**

# Are You Encountering Setbacks With Your Current Positioner?




Operational efficiency and reliability are paramount in today's demanding industrial environments. Common issues such as failure of products due to failure of internal components or the inevitable wear and tear of systems due to external environmental conditions can significantly hinder productivity and increase maintenance costs. Such issues demand a reliable, long term solution.

At Rotex, we understand the critical challenges faced in harsh operational environments along with the inconveniences faced while operating the devices. Which is why, Rotex Positioners are engineered with resilience in mind, offering a reliable solution which is not only robust but also user friendly. With Rotex, you can trust that your operations will run smoothly, efficiently and with minimal downtime, allowing you to focus on what truly matters - optimizing your process and achieving your operational goals.

Why
Rotex

# Invest 10 Extra Minutes. Unlock a Lifetime of Excellence with Rotex Positioners!

## PERFORMANCE

**High Precision with Unique PID Loop:**
Achieve superior control and operational efficiency with Rotex's advanced PID control loops.

**Universal Model for All Applications:**
Reduce inventory costs with a versatile, universal model that fits a wide range of applications.

## VERSATILITY

## EASE OF USE

**Simple Mounting with Blind Mount™ Feature:**
Enjoy hassle-free installation with Blind Mount™ contactless technology, plus save time with direct initiation of auto-calibration—no pre-setting required.

**Clear Visibility with Backlit LCD Display:**
Operate with ease, thanks to a large, backlit LCD display that provides clear, readable assistance during use, even in challenging lighting conditions.

## USER-FRIENDLY DISPLAY

## SAFETY

**Proactive Diagnostics for Plant Safety:**
Enhance plant safety with advanced diagnostics that predict potential failures, enabling predictive diagnostics and reducing significant maintenance cost and downtime.

**Encapsulated Electronics:**
Improved Reliability and Performance of electronics, protection against moisture, humidity and vibrations.

## RELIABILITY

## MAINTENANCE

**Modular Design for Easy Upkeep:**
Simplify repairs and upkeep with a modular design featuring minimal parts, ensuring efficient and easy maintenance.

**Enhanced Durability and Precision:**
Utilize contactless feedback technology to minimize wear and tear, ensuring precise operation and reducing the risk of friction-related issues over time.

## CONTACTLESS FEEDBACK

smartest

Elevate your Control and
Guarantee Performance with
**Rotex POSIDAPT™ Positioners**




RTX 5-7-8-9




RTX 3-4

# 01

## RTX 3-4 Series

### POSIDAPT® *prime*

Basic Parameters with Auto-Calibration

### POSIDAPT® *elite*

Advanced Parameters and Basic Diagnostics with Auto-calibration, Alerts and Counters, Offline Tests (Dynamic Response Test, Dead band Test), HART.

| Model | Basic Parameters | Servo Health Test | Advance Parameters | HART # | Alerts & Basic Diagnostics | Position Transmitter | Basic Diagnostics |
|---|---|---|---|---|---|---|---|
| Prime | ● | ● | ● | ● | ● | ● | ● |
| Elite | ● | ● | ● | ● | ● | ● | ● |

#HART 7 with backward compatibility upto HART 5. DTM framework version upto 2.0 supported

# 02

## RTX 3-4 Features

### LCD DISPLAY

- Back-lit LCD display for better readability
- Reversible LCD display can rotate 180 degrees based on mounting direction
- No abbreviation or short form used
- User friendly interface
- On-screen display of diagnostics
- Structured menu for parameters, setups and diagnostics

### SUPERIOR FUNCTIONALITY

- Contactless feedback with patented algorithm
- Blind Mount™ eliminates the need to orient mounting angle

### MODULAR DESIGN

- Plug and play option for Position Transmitter module
- Fewer modules make it easy to install, operate and maintain
- Fewer number of internal components and moving parts, increased reliability and life span
- IP 66 enclosure

### ENCASULATED ELECTRONICS

- Epoxy Potted Electronics
- Protection against moisture, humidity and vibration
- Long-life, no failure of electronics

### PRECISERVO™

- Metal to metal contact, low friction and high sensitivity
- Has built in feedback sensor
- Can accommodate wide variety of actuator volumes without need of flow control valve or volume booster
- Better reliability and functionality with Flapper Technology

### GAUGE BLOCK

- External optional gauge block














ILLUMINATE YOUR OPERATIONS WITH A

**BACKLIT LCD DISPLAY - ENHANCED CLARITY**

**SUPERIOR PERFORMANCE!**




FLIP THE DISPLAY TO EXPERIENCE

**PERFECT CLARITY FROM ANY ANGLE.**

READ CLEARLY, OPERATE CONFIDENTLY!






# 03

## RTX 5-7-8-9 Series

### POSIDAPT® ipst

Advanced Partial Stroke Test, Extended Partial Stroke Test, Emergency Shutdown Test, Alerts and Counters, Online and Offline Tests, Advanced Parameters and Extended Diagnostics (with Pressure Sensors), External ESD SOV Test (Based servo valve module), Remote Mount (Optional), HART/Foundation Fieldbus.

### POSIDAPT® ultra

Advanced Parameters and Extended Diagnostics (with Pressure Sensors), Alerts and Counters, Advanced Online and Offline Tests (Step Response Test, Dynamic Response Test, Deadband Test, Valve Signature Test), Advance Partial Stroke Test, Remote Mount (Optional), Fail Freeze (Optional), HART[4]/Foundation Fieldbus.

### POSIDAPT® super

Advanced Parameters and Advanced Diagnostics (with Pressure Sensors), Alerts and Counters, Advanced Offline Test (Step Response Test, Dynamic Response Test, Deadband Test, Valve Signature Test), Extended Partial Stroke Test, Remote Mount (Optional), Fail Freeze (Optional), HART/Foundation Fieldbus.

### POSIDAPT® expert

Advanced Parameters and Basic Diagnostics, Alerts and Counters, Offline Tests (Step Response Test, Dynamic Response Test, Deadband Test, Basic Partial Stroke Test, Remote Mount (Optional), Fail Freeze (Optional), HART/Foundation Fieldbus.

| Model | Emergency Shutdown Test | Basic Parameters | Alerts & Basic Diagnostics | Advanced Offline Test | Servo Health Test | Advanced Diagnostics | Advance Parameters | Extended Diagnostics | Offline Test | HART[4]/FF Compatible | Online Test | Solenoid Valve Test | Basic Partial Stroke Test | Advanced Partial Stroke Test | Extended Partial Stroke Test |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IPST | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ● | ● |
| Ultra | ○ | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ○ |
| Super | ○ | ● | ● | ● | ● | ● | ● | ○ | ● | ● | ○ | ○ | ○ | ○ | ● |
| Expert | ○ | ● | ● | ○ | ● | ○ | ● | ○ | ● | ● | ○ | ○ | ● | ○ | ○ |

[4]HART 7 with backward compatibility upto HART 5. DTM framework version upto 2.0 supported

# 04

## RTX 5-7-8-9 Features

### LCD DISPLAY

- Large LCD display for readability
- No abbreviation or short form used
- User friendly interface
- On-screen display of diagnostics, alarms and error messages
- Structured menu for parameters, setups and diagnostics

### SUPERIOR FUNCTIONALITY

- Contactless feedback, with patented algorithm
- Linkageless feedback for Rotary applications *(on request)*
- Blind Mount™, eliminates the need to orient mounting angle
- Advanced diagnostics and Extended Diagnostics
- Special Partial Stroke Test device for On-Off applications with Linkageless / Non-contact sensing

### MODULAR DESIGN

- Plug and play option for Alarm module
- Fewer modules make it easy to install, operate and maintain
- Fewer number of internal components and moving parts, increased reliability and life span
- IP 66 enclosure

### ENCAPSULATED ELECTRONICS

- Epoxy Potted Electronics
- Protection against moisture, humidity and vibration
- Long-life, no failure of electronics

### PRECISERVO™

- Metal to metal contact, low friction and high sensitivity
- Has built in feedback sensor
- Can accommodate wide variety of actuator volumes without need of flow control valve or volume booster
- Better reliability and functionality with Flapper Technology

### SPECIAL SOLUTIONS

- Fail Freeze feature on Air and/or Power failure
- Remote mount feature up to 50m

### GAUGE BLOCK

- Inbuilt gauge block
- Protected for life









# 05

## Ease of Use

"Designed with the user in mind,
for faster setup and simplified operations!"

### LCD DISPLAY

- LCD display for better readability
- No abbreviation or short forms used.
- Operator does not need to refer to the instruction manual for setting or calibration
- User friendly interface
- On-screen display of diagnostics, alarms and error messages
- Structured menu for parameters, setups and diagnostics
- Internal gauges enclosed for safety and protection

### PUSH BUTTON ON DEVICE

- Four push buttons enable ease of navigation
- Push button support following function
  - Configuration
  - Calibration
  - Allows termination of tests
  - Manual operation









# 06

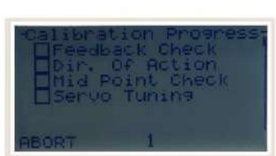
## Contactless Feedback

"Can start anywhere and end anywhere
No Dead Zone! No 'Quadrants' To Align!"

- 360° position sensing with freely rotating non-contact feedback shaft
- No dead angle. Can start anywhere and end anywhere
- Simple installation. Can be mounted on any type of actuator
- Can control valve travel up to 359 degrees
- Contactless, high resolution feedback
- Blind-Mount™, no need to orient mounting angle or direction
- De-linked mounting option for high vibration / cyclic application
- Same device for rotary and linear application, double acting or single acting
- Extensive selection of mounting kits for various kind of actuators
- Mounting as per Namur, VDI/VDE 3845 and DIN/IEC 534
- Linkage-less mounting available for Rotary application

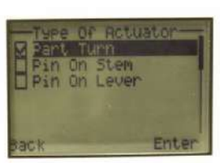


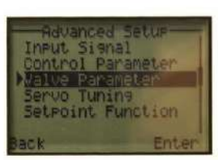
- Sensor
  (Mounted and epoxy potted from inside the housing)
- Contactless shaft





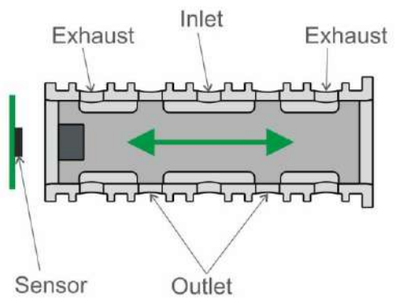


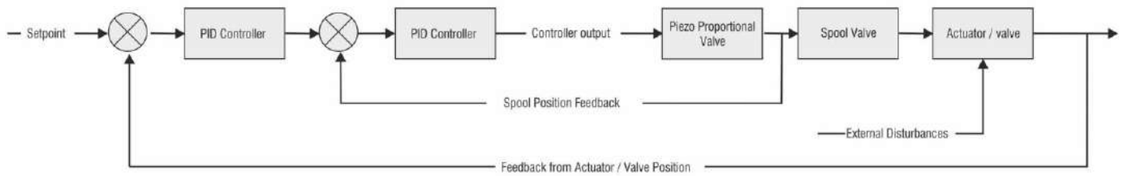


# 07

## PRECISERVO™




"Intelligent PID loop eliminates overshoot, undershoot, hysteresis and hunting!"

"Suitable for versatile applications, meeting your most basic to advanced needs!"

- Adaptive intelligent dual PID loop and guarantees high accuracy, lower dead band and extremely steady performance of positioner
- Metal to metal contact with precise manufacturing ensures low friction and high sensitivity and negligible hysteresis
- The Rotex Preciservo™ valve, equipped with an intelligent PID loop, has the ability to adjust and fine-tune its orifice, eliminating the need for a volume booster or flow control valve when calibrating actuators of varying sizes.
- Diminutive steady state bleed rate: 0.037 SCFM @ 4 bar
- Built in self-health check ensures best performance and reliability
- Innovative Flapper Technology ensures reliable performance even in harsh working environment

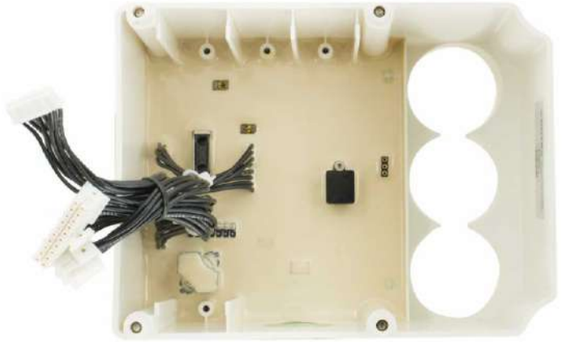


AVAILABLE IN 4 DIFFERENT MODULES TO MEET A VARIETY OF APPLICATIONS -

- **Module 1**: Double Acting or Spring Return for fail safe or fail close (same servo)
- **Module 2**: Single Acting Reverse with Solenoid Valve Testing (Normally Open)
- **Module 3**: Single Acting Direct with Solenoid Valve Testing (Normally Close)
- **Module 4**: Stay-Put / Fail Freeze

# 08

## Encapsulated Electronics





"Rotex encapsulates all electronic modules to prevent corrosion and electronic failures!"

MAJOR FAILURES ARE SEEN IN ELECTRONICS MAINLY DUE TO MOIST INSTRUMENT AIR OR EXTERNAL HUMIDITY, DAMAGING THE EXPOSED ELECTRONIC PARTS.

- Rotex encapsulates all electronic modules to prevent corrosion and electronic failures!
- Housing is designed from engineered resin Makralon , that can withstand harsh, corrosive and moisture laden ® environments. This gives complete protection of electronics and gauges




- Actuator exhaust is not released inside the housing. The exhaust is connected to the port on the body. Port is threaded to allow piping to external locations which keeps the surrounding clean and contamination free
- Ideal for pharmaceutical and clean room application
- Applications like using Natural Gas in the positioner are only possible with such an arrangement. Rotex offers this unique feature

Optimize your Operations with our Advanced Positioners: Engineered for Excellence, Designed for Precision, Reliable in every Application.

"Pre-fitted gauges are enclosed in an IP66 enclosure, which ensures that they are not damaged during transit for commissioning, providing higher reliability!"

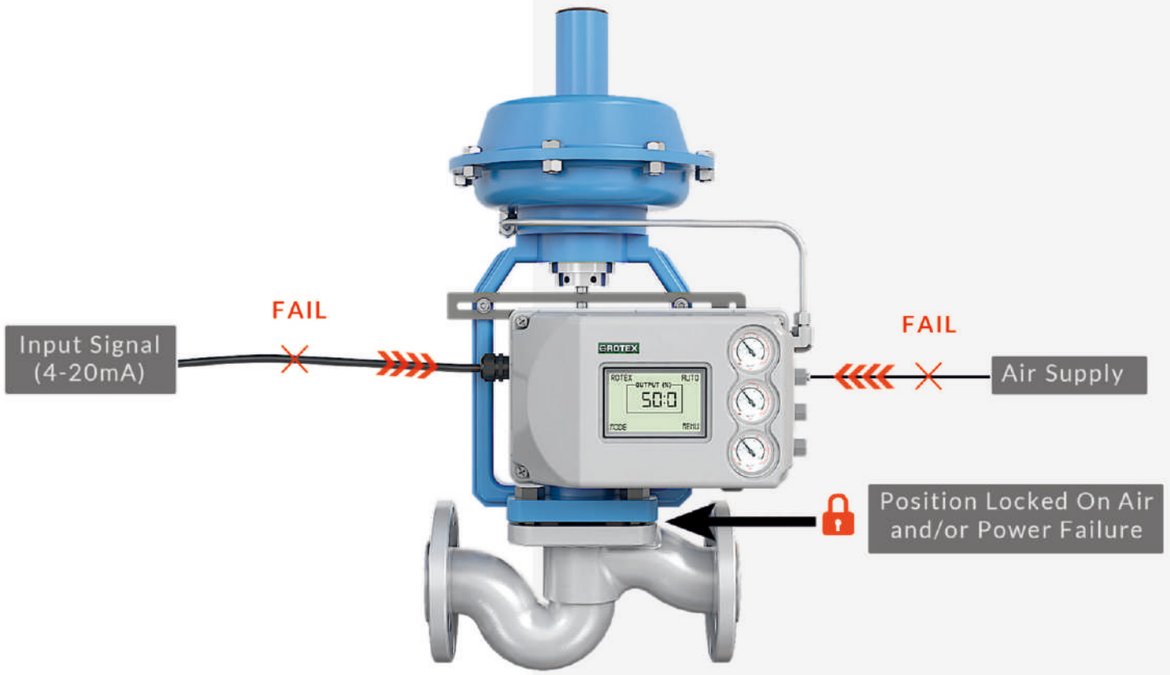
- **Innovative Design:** Compact, modular, and reliable with fewer internal parts
- **High Protection:** Rated up to IP66, with intrinsic safety options.
- **Durable Build:** Available in full aluminium or stainless steel enclosures
- **Flexible Installation:** Supports remote mounting and fits any actuator type
- **Robust Performance:** Operates in a wide temperature range, tolerant to vibration and impact
- **Efficient Operation:** Low energy and air consumption, with high control accuracy
- **Dynamic Stability:** Rapid response to control signals with precise feedback
- **Easy Setup:** Quick calibration with extensive mounting kits for most actuators
- **Versatile Applications:** Tailored to meet various customer needs, including fail freeze and remote mount features
- **Enhanced Safety:** Predictive and preventative maintenance with diagnostic features to ensure plant safety
- **High Flow Capacity:** CV of 0.7 allows compatibility with more actuator sizes
- **Standard Mounting:** Compatible with Namur, VDI/VDE 3845, and DIN/IEC 534 standards
- **Universal Device:** Ideal for both linear and rotary applications, ensuring ease of mounting

09

## Fail Freeze / Fail-in-place

### "Ensuring steady control through power loss and signal disruptions!"

- Robust fail-freeze capability ensuring "Fail-in-Place" on power and/or signal failure.
- Auto Calibration feature with contactless technology
- High precision and accuracy for precise control of valve positioning for all sizes
- Flapper – Nozzle technology offers reliable performance in harsh industrial environments.
- User-friendly interface for convenient operation and monitoring.
- Flexible configuration options to suit various application requirements.
- Achieve optimal efficiency with negligible air consumption during standby mode.
- Advanced diagnostics and Remote Mount capability available

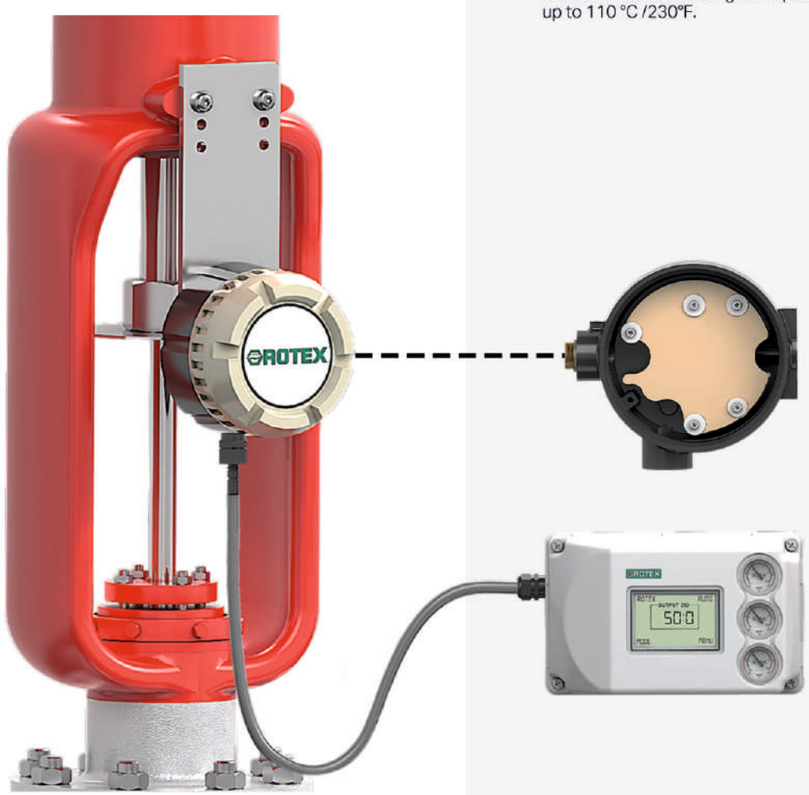



10

## Remote Mount

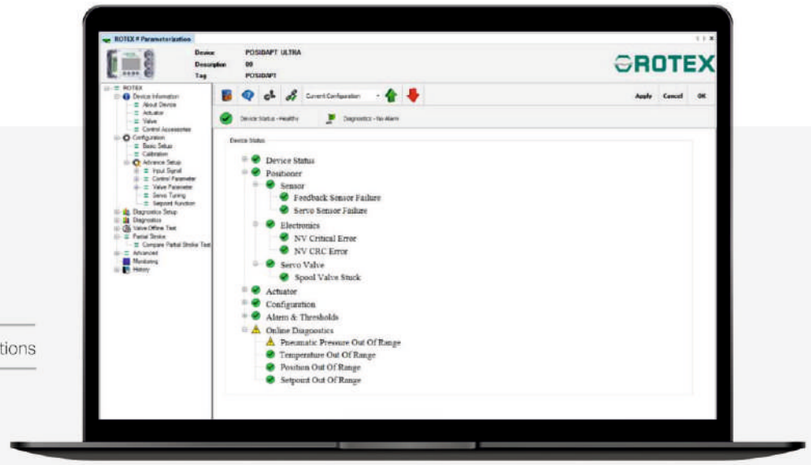
### "Remote control, maximum reliability: The ultimate solution for the extreme environments!"

- IP 67 compact Remote Mount with non-contact feedback.
- Can be mounted at a distance of up to 50 M.
- Ideal for extreme environments and harsh conditions - high temperature, vibration, frequency or difficult to reach locations.
- ROTEX shielded cable and circular connectors ensure better connectivity and integrity.
- No additional power supply required for the sensor.
- Remote Mount unit along with special Rotex cable can withstand up to 110 °C /230°F.



# 11

# Diagnostics




- Fine tuning for better performance
- Logical trend and histogram
- Diagnostics with errors and recommendations
- Alarm based on different threshold
- Offline test
- Online monitoring
- On screen notification up to last 3 alarms or errors
- Recorded data history for 25 years based on averaging method

## DIAGNOSTICS CAN IDENTIFY THE FOLLOWING

### VALVE FAULTS

- Valve clogging
- Valve seat/valve build-ups
- Seat erosion
- Increase in friction
- Leakage through bushing, covers, connections
- Valve tightness

### EXTERNAL FAULTS

- Unexpected change in supply pressure, (sudden drop or increase)
- Change in rate of flow or change in ΔP across the valve

### ACTUATOR FAULTS

- Friction
- Spring failure
- Leakage throug bushing, diaphragm seals, covers connections

### POSITIONER FAILURE

- Electronics failure
- Servo valve fault
- Pressure sensor failure
- Feedback sensor failure

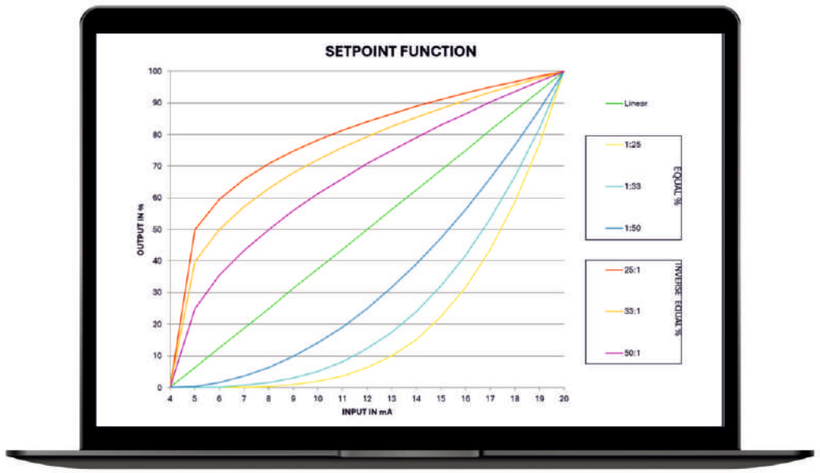
- Monitoring parameters can be configured with three different threshold levels.
- Each threshold level can be classified based on severity and generates a digital feedback signal, once triggered.
- Colour code represents nature of severity. (can be communicated on HART to control system) This enables users to take necessary preventive action.
- Diagnostics communication and alarm status in accordance with NE107

**NO EVENTS**

**PRIMARY**
Maintenance Required

**SECONDARY**
Maintenance Demanded

**TERTIARY**
Immediate maintenance or repair needed







### ADVANTAGES OF CONFIGURABLE SETPOINT

**Standard Setpoint Curves:** Choose from 7 pre-built curves (e.g., linear, quick-opening, equal percentage) to match most process needs, optimizing flow control and minimizing variability.

**Custom Setpoints:** For advanced or critical applications, configure up to 21 custom setpoints for precise control tailored to specific flow requirements.

**Enhanced Control & Efficiency:** Predefined and customizable curves improve control, optimize process performance, and enhance energy efficiency.

**Reduced Wear & Improved Stability:** Tailored responses decrease equipment wear, boost system stability, and ensure consistent valve behavior across diverse applications.

### ADVANTAGES OF PERFORMANCE CONTROL

**Flexible Response Tuning:** Adjust valve speed to setpoint for rapid or precise control. Choose "Quickest" for fast responses or "Fine Control" for accuracy with minimal overshoot.

**Adaptability to Process Needs:** Tailor valve dynamics to different processes. Fast settings for time-critical tasks and slower settings for sensitive applications ensure optimal performance.

**Minimized Process Disturbances:** Fine-tuning reduces overshoot and rapid movements, leading to smoother control and enhanced process stability.

**Improved System Stability:** Control valve dynamics to reduce oscillations and maintain consistent process outcomes, even under varying load conditions.

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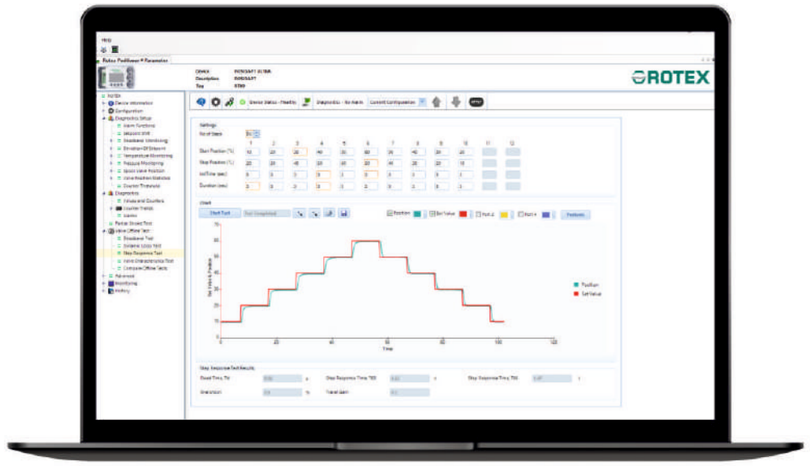
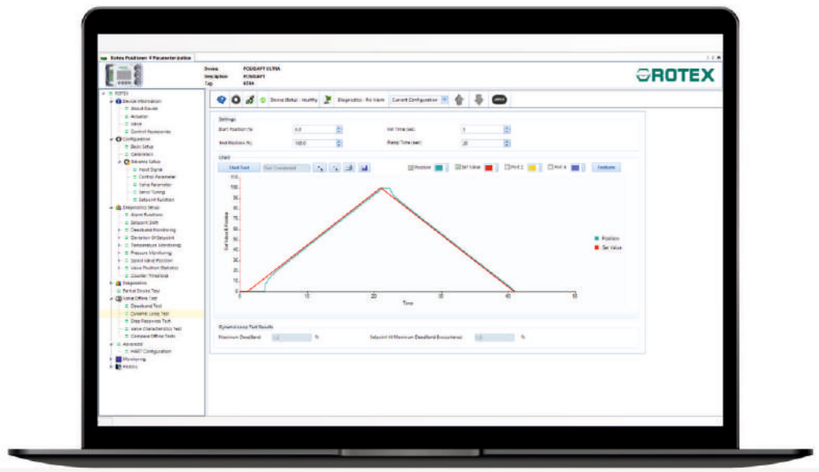
# Offline Test And Online Diagnostics





### STEP RESPONSE TEST

Step response test provides information about the friction of the valve and actuator. It provides dead time (time required for the valve to respond to the given change of setpoint), response time for it to reach 63% and 86 % of the specified step change. It also detects overshoots, if any. The result can be compared over the course of time for detailed analysis.

### DYNAMIC LOOP TEST

Dynamic loop test provides information on dynamic dead band of the valve assembly. The valve will open or close with change in the input setpoint.

### VALVE CHARACTERISTIC TEST

Valve characteristic test is a method which identifies various parameters and operating conditions of the valve assembly. It analyses the static and dynamic condition of the valve. During the test, it records data at various positions. This data can be compared over the course of time to analyse maintenance or repair requirements.

### DEAD BAND TEST

Dead band test identifies how accurately the valve can achieve the desired setpoint. This test can give a fair conclusion on stiction and sensitivity of the assembly.

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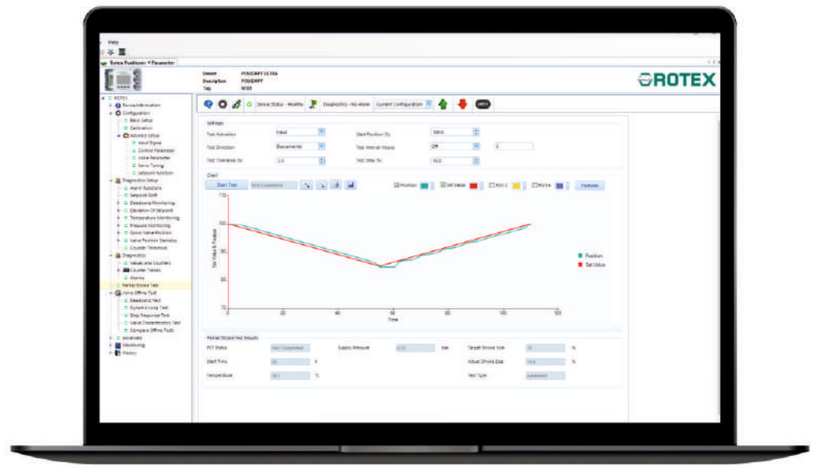
# Partial Stroke Test



Partial Stroke Test (PST) is a method to check, detect and ensure availability of safety function on demand. PST physically moves the valve to a predefined position, without affecting or disturbing the current process requirement.

Partial stroke test can prevent unexpected failure of safety function and provides information on current health status of valve, actuator and positioner.

Rotex Posidapt™ Smart Positioner performs self-health test prior to initialisation of partial stroke test, ensuring additional safety and process availability on demand.

### PARTIAL STROKE TEST CAN BE INITIATED THROUGH

- Handheld device
- Remote push button or binary input
- DTM/EDD using asset management system
- Pre-defined configured time interval

ROTEX POSIDAPT™ Smart Positioner has safety or demand as priority. Any other demands override the test.

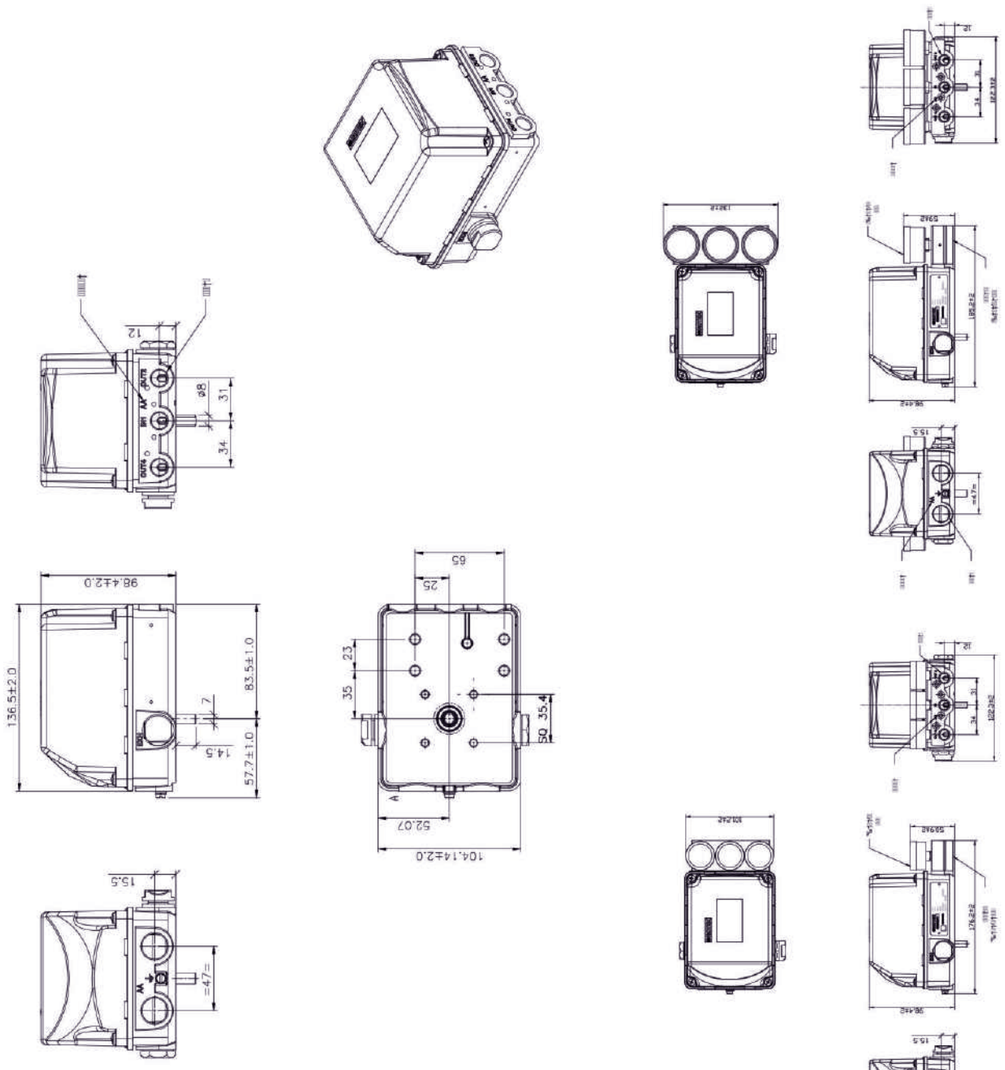
### TEST WILL BE ABORTED AND RETURNED TO NORMAL OPERATION IN CASE OF

- Partial stroke fails
- Push button is held >5 seconds
- Safety DEMAND occurs

Partial stroke test results can be saved and compared over the course of time.

# 14

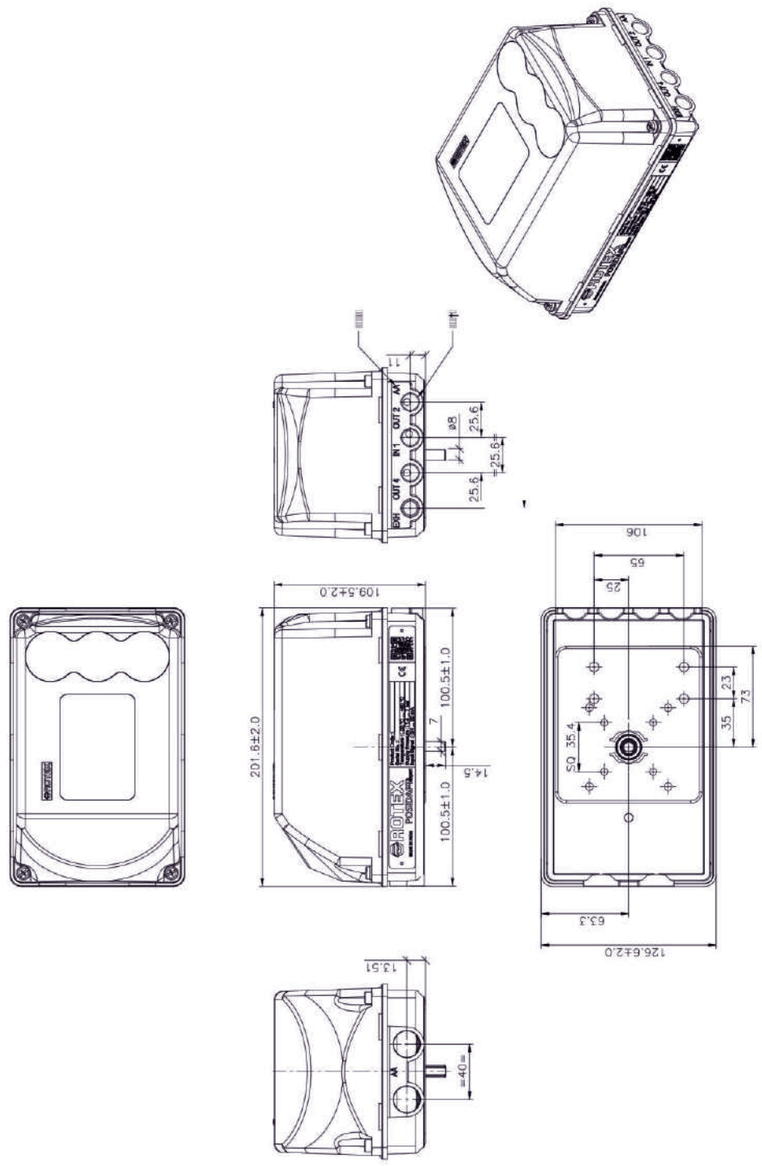
## Dimension Details
## Series 3-4




All dimensions in mm

# 15

## Dimension Details
## Series 5-7-8-9




All dimensions in mm

# 16

# Technical Specifications

| Overview | |
|---|---|
| General | Microprocessor based electrionic positioner |
| | Loop powered, no external power supply required |
| | External 24V DC option available (Only in RTX 5-8-9) |
| | Blind mount |
| | Suitable for rotary and linear valves. |
| | Actuator connections in accordance with VDI/VDE 3845 and IEC 60534-6 standards |
| | Extensive selection of mounting kits for various kind of actuators |
| Action | Double or single acting |
| Failsafe | Failsafe or Stay-put / Fail freeze (only available with RTX 7, RTX 8, RTX 9) |

| Actuator Travel Range | |
|---|---|
| Linear | 0 position can start anywhere, 3 to 200 mm, other strokes on request |
| Rotary | 0° can start anywhere, max. 359° |
| Measurement range | 0-359° with freely rotating contactless feedback shaft |
| Actuator travel time | 0 to 300 seconds (configurable in incremental steps of 60 Seconds) |
| Actuator travel limit | Freely configurable in 0% to 100% |
| Deadband time limit | 0 to 300 seconds (freely configurable, monitoring parameter until deviations reaches within deadband) |

| Environmental Condition | |
|---|---|
| Standard temperature range | -20 °C to +85 °C / -4 °F to +185 °F |
| Low temperature range | -40 °C to +85 °C / -40 °F to +185 °F<br>-60 °C or +85 °C / -76 °F to +185 °F |
| Influence of temperature on valve position | 0.35% / 10 °K |
| Influence of vibration on valve position: | < 1 % under 10g 5–85 Hz, 2.5 85-150 Hz<br>1.5g 150–280 Hz, 0.5g 280–1500 Hz |

| Construction / Enclosure | |
|---|---|
| Material* | 2 = Epoxy coated anodised aluminium housing and cover with Makrolon® (Polycarbonate) see through window |
| | 3 = Explosion proof aluminium housing and cover with Toughened Glass see through window |
| | 4 = Explosion proof stainless steel housing and cover with Toughened Glass see through window |
| | 6 = Intrisically safe, epoxy coated anodised aluminium housing and cover with Makrolon® (Polycarbonate) see through window |
| | 7 = Intrisically safe, stainless steel housing and cover with Toughened Glass see through window |
| | 8 = Stainless Steel housing and cover with Toughened Glass see through window |
| Protection Class | IP66 |
| Pneumatic pressure and exhaust port | G1/4"<br>1/4" NPT |
| Cable Gland | 1/2" NPT<br>M20 x 1.5 |

| Weight - RTX 3 and 4 (Without Gauge Block) | |
|---|---|
| Bare Positioner Material Option 2,6 | 1.8 kg / 4 lbs |
| Bare Positioner Material Option 3 | 4.9 kg / 10.8 lbs |
| External Gauge Block | 0.3 kg / 0.7 lbs |

| Weight - RTX 7, 8, 9 and 5 (With In-Built Gauges) | |
|---|---|
| Bare Positioner Material Option 2, 6 | 2.5 kgs / 5.5 lbs |
| Bare Positioner Material Option 3 | 6.6 kgs / 14.5 lbs |
| Bare Positioner Material Option 4,7,8 | 9.9 kgs / 21.9 lbs |
| Positioner Transmitter / Alarm Module | 0.08 kgs / 0.2 lbs |

| Pneumatics | |
|---|---|
| Supply pressure | 1.4 ... 8 bar / 24 ... 114 psi (10 bar on request) |
| Capacity with 4 bar / 60 psi | > 1 ... 41 Nm3/h / 0.5 ... 23 scfm (Servo controlled orifice) |
| Consumption with 4 bar / 60 psi (Steady State) | < 1 lpm / 0.037 scfm @ 4 bar |
| CV (RTX 3 and RTX 4) | 0.55 |
| CV (RTX 7, RTX 8, RTX 9, RTX 5) | 0.7 |

| Instrument Air | |
|---|---|
| Air Quality | In accordance to ISO 8573-1 |
| Solid Particles | Class 5 (maximum density 3 mg/m3, 5 µm filteration is recommended) |
| Humidity | Class 1 (dew point 10° C below minimum operating temperature) |
| Oil | Class 3 (Maximum concentration 5 mg/m3 or < 1 ppm) |

| Electronics & Electrical | |
|---|---|
| Supply Power | 4 ... 20 mA (2 wire system)<br>18 ... 30 VDC (4 wire system) (not available in RTX 3 & 4) |
| Signal | 4 ... 20 mA, 0 ... 20 mA (only with 4 wire system), both with or without HART signal |
| Minimum Signal | ≥ 3.6 mA |
| Current Max | 36 mA (with overload protection) |
| Load Voltage | 9.7 VDC @ 20mA (max 30 VDC) |
| Impedence | 485 O at 20 mA |
| Wire Cross Section | Screw terminals max. 2.5 mm2 (AWG 14), (For RTX 3&4 - 1.5 mm2) |

| Characteristic & Performance | |
|---|---|
| Characteristics | Linear, 1:25,1:33, 1:50, 25:1, 33:1, 50:1, and freely configurable |
| Deadband | Configurable from 0.1% to 10% |
| Hystersis | ≤ 0.5 % |
| Deviation | ≤ 0.5 % |

| Position Transmitter Module | |
|---|---|
| Output | 4 ... 20 mA (2 wire system) |
| Supply Voltage | 12 ... 30 VDC |
| Total Operating Range | 3.6 ... 21 mA |
| Transmission Error | ≤ 0.3 % |
| Influence of Temperature | 0.35% / 10° K |

| Alarm Module | (not available in RTX 3 & 4) |
|---|---|
| Supply Voltage | 12 ... 30 VDC |
| Max Supply Voltage | ≤ 35 VDC |
| Signal Current | ≥ 2.1 mA (Logically HIGH) |
| | ≤ 1.2 mA (Logically LOW) |
| Total Digital Output | 3 |
| Total Digital Input | 2^ |
| Voltage | 30 VDC |

| Communication | |
|---|---|
| | HART 5 & 7 (not available in RTX3) |
| | Foundation Fieldbus** (not available in RTX3 & 4) |
| | Profibus PA** (not available in RTX3 & 4) |

* RTX 3 and RTX 4 only available in options 2,3 and 6
** On request
*** Only available with RTX 7,8,9 and 5
^ 1 Digital input on board

# 17

## RTX 3-4
## Ordering Code

| A | |
|---|---|
| **Series** | |
| Posidapt | RTX |

| B | |
|---|---|
| **Model** | |
| Prime | 3 |
| Elite | 4 |

| C | |
|---|---|
| **Enclosure** | |
| Weatherproof Alunimum Cover and Housing | 2 |
| Ex d Alunimum Cover and Housing | 3 |
| Ex ia Alunimum Cover and Housing | 6 |

| D | |
|---|---|
| **Servo** | |
| Double Acting / Single Acting | 1 |

| E | |
|---|---|
| **Port Connection** | |
| 1/4" BSP | 2G |
| 1/4" NPT | 2R |

| F | |
|---|---|
| **Communication** | |
| None | * |
| Hart | H |

| G | |
|---|---|
| **Module** | |
| None | * |
| Position Transmitter (4...20 mA) | P |

| H | |
|---|---|
| **Cable Entry** | |
| 1/2"NPT (F) | 4R |
| M20X1.5 (F) | 3M |

| I | |
|---|---|
| **Temperature** | |
| -20 °C to +85 °C (-4 °F to 185 °F) | * |
| -40 °C to +85 °C (-40 °F to 185 °F) | FS |

| J | |
|---|---|
| **Certificates** | |
| None | * |
| ATEX | A |
| PESO | C |
| IECEx | I |

| K | |
|---|---|
| **Gauge Block** | |
| No Gauge Block | * |
| Gauge with 30 mm Gauges (SS) | G1 |
| Gauge with 40 mm Gauges (SS) | G2 |
| Gauge with 40 mm Gauges (MS) | G3 |

| **Accessories Ordering Code** | |
|---|---|
| None * | * |
| Coupler for rotary actuator ISO 5211 | RC001 |
| Linkage for stroke up to 100mm, pin on stem | PS100 |
| Linkage for stroke up to 200mm, pin on stem | PS200 |
| Linkage for stroke up to 100mm, pin on lever | PL100 |
| Linkage for stroke up to 200mm, pin on lever | PL200 |
| Bracket Type 1 KIT-MS | RC002 |
| Bracket Type 1 KIT-SS304 | RC003 |
| Bracket Type 2 KIT-MS | RC004 |
| Bracket Type 2 KIT Ss304 | RC005 |
| IPTR Mounting KIT for rotary actuator | RC006 |
| Coupler for SMART Positioner -cylinder application | RC007 |
| Linkage less shaft | SU06 |

**Notes:**
* Default; no character included in model number
** HART communication not available with POSIDAPT™ Prime

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Example:
RTX-3-2-1-2G-P-4R-A-G2
POSIDAPT™ Prime with Aluminium enclosure, single/double acting servo valve, pneumatic port connection of 1/4" ; BSP, built in position transmitter (4 to 20 mA), cable entry 1/2" ; NPT, -20 °C to +85 °C, ATEX certified, Gauge Block with 40 mm MS Gauges

# 18

## RTX 5-7-8-9
## Ordering Code

| A | |
|---|---|
| **Series** | |
| Posidapt | RTX |

| B | |
|---|---|
| **Model** | |
| IPST | 5 |
| Expert | 7 |
| Super | 8 |
| Ultra | 9 |

| C | |
|---|---|
| **Enclosure** | |
| Aluminium Cover, Aluminium Body | 2 |
| Ex d - Aluminium Cover, Aluminium Body | 3 |
| Ex d - Stainless Steel Cover, Stainless Steel Body | 4 |
| Ex ia - Aluminium Cover, Aluminium Body | 6 |
| Ex ia - Stainless Steel Cover, Stainless Steel Body | 7 |
| Stainless Steel Cover, Stainless Steel Body | 8 |

| D | |
|---|---|
| **Servo** | |
| Double Acting / Single Acting | 1* |
| Single Acting (Port 4)** | 2 |
| Single Acting (Port 2)** | 3 |
| Fail Freeze | 4 |

| E | |
|---|---|
| **Pneumatic Port Connection** | |
| 1/4" BSP | 2G |
| 1/4" NPT | 2R |

| F | |
|---|---|
| **Communication** | |
| None | * |
| Hart | H |
| Foundation Fieldbus | F |

| G | 0 |
|---|---|
| **Module** | 0 |
| None | * |
| Position Transmitter (4 to 20 mA) | P |
| Alarm (Digital I/O) | A |
| Position Transmitter (4 to 20 mA) + Alarm (Digital I/O) | B |

| H | |
|---|---|
| **Cable Entry** | |
| 1/2"NPT (F) | 4R |
| M20X1.5 (F) | 3M |

| I | |
|---|---|
| **Temperature** | |
| -20 °C to +85 °C (-4 °F to 185 °F) | * |
| -40 °C to +85 °C (-40 °F to 185 °F) | FS |
| -55 °C to +85 °C (-67 °F to 185 °F) | LT |

| J | |
|---|---|
| **Certificates##** | |
| None | * |
| ATEX | A |
| SIL 3 | S |
| PESO | C |
| IECEx | I |
| FM | F |
| TR CU | G |
| CSA | K |

| K | |
|---|---|
| **Remote Mount#** | |
| None | * |
| 3 metres | RM03 |
| 5 metres | RM05 |
| 7 metres | RM07 |
| 10 metres | RM10 |
| 20 metres | RM20 |
| 30 metres | RM30 |
| 50 metres | RM50 |

| **Accessories Ordering Code** | |
|---|---|
| Coupler for rotary actuator ISO 5211 | RC001 |
| Linkage for stroke up to 100mm, pin on stem | PS100 |
| Linkage for stroke up to 200mm, pin on stem | PS200 |
| Linkage for stroke up to 100mm, pin on lever | PL100 |
| Linkage for stroke up to 200mm, pin on lever | PL200 |
| Bracket Type 1 KIT-MS | RC002 |
| Bracket Type 1 KIT-SS304 | RC003 |
| Bracket Type 2 KIT-MS | RC004 |
| Bracket Type 2 KIT Ss304 | RC005 |
| IPTR Mounting KIT for rotary actuator | RC006 |
| Coupler for SMART Positioner -cylinder application | RC007 |
| Linkage less shaft | SU06 |

**Notes:**
## Multiple Certifications can be selected
* Default; no character included in model number
** Servo with external solenoid valve testing and available with IPST model only
# It is mandatory to use Rotex connectors and cables for Remote Mount version

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Example:
RTX-7-2-1-2G-H-P-4R-A
POSIDAPT™ Expert with Aluminium enclosure, single/double acting servo valve, pneumatic port connection of 1/4" BSP, HART Communication, built in position transmitter (4 to 20 mA), cable entry 1/2" NPT, ATEX certified

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