

POSITIONERS

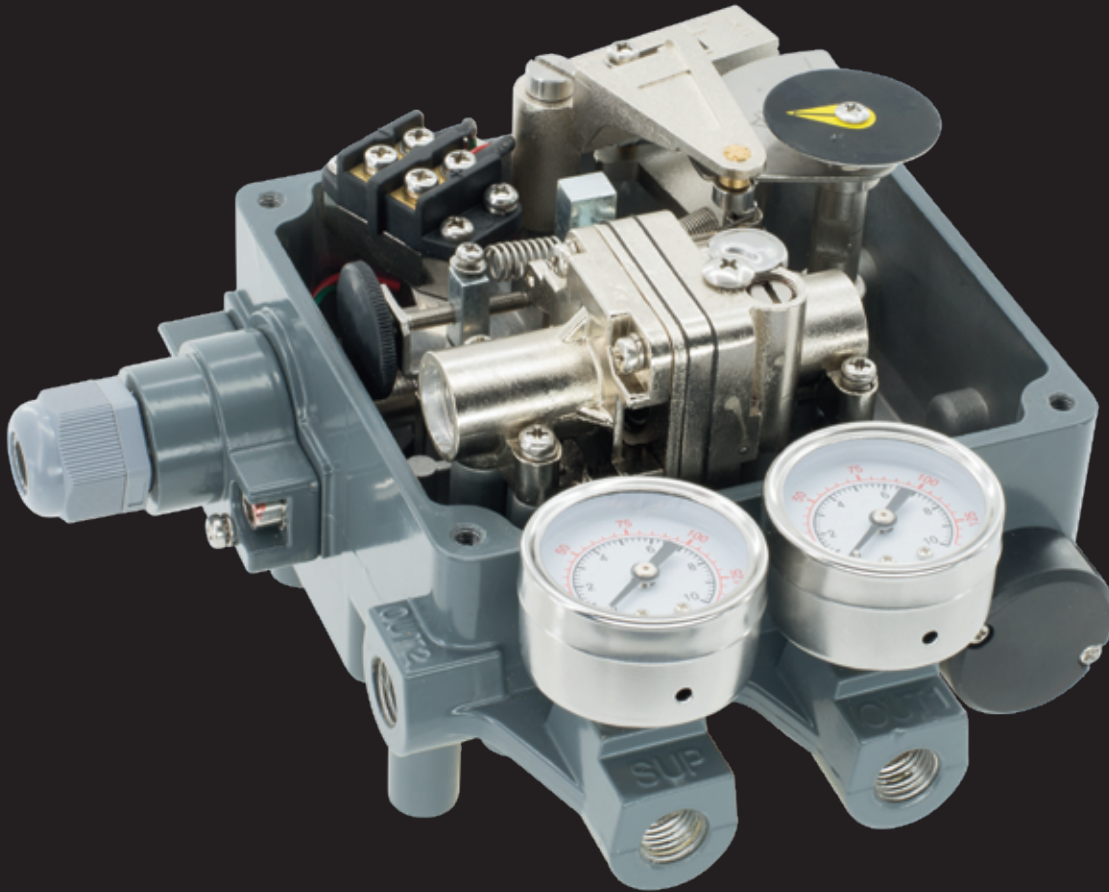
Electro Pneumatic & Pneumatic Positioner



 **ROTEX**

Engineering For The Future

FEATURES



- ✓ Unique polymer diaphragms developed by Rotex offer long life and prevent malfunctioning of the device.
- ✓ Rotex poppet has all of its internal moving parts in Stainless Steel (SS). This helps fight corrosion and offers an improved surface finish, ensuring long-term repeatability.
- ✓ Rotex has the least air consumption as compared to other positioner manufactures. The metal spool and metal poppet ensure minimum leakage.
- ✓ Rotex high temperature elastomer and class H E/P coil promise resistance to high temperature applications.
- ✓ Rotex has a strong service team across the globe and provides spares for all the items, leading to low installation and maintenance cost.

WHY ROTEX POSITIONERS?



Does your positioner start to malfunction over a period?



Do you need to reset the zero and the span often?



Do you lose air over and above the theoretically calculated value?



Does your positioner fail in moderately high temperature zones?



Do you get spares and service when needed?



PRODUCT RANGE



WEATHER PROOF - (RTX 1000 R)



WEATHER PROOF + PTR - (RTX 1000 - R + PTR)
EXPLOSION PROOF - (RTX 1000 E - R)



EXPLOSION PROOF - (RTX 1000 E - R + EXD PTR)



WEATHER PROOF - (RTX 1000 L)



WEATHER PROOF + PTR - (RTX 1000 - L + PTR)
EXPLOSION PROOF - (RTX 1000 E - L)



EXPLOSION PROOF - (RTX 1000 E - L + EXD PTR)



WEATHER PROOF - (RTX 1200 R)



WEATHER PROOF - (RTX 1200 L)



WEATHER PROOF - (RTX 1200 L + EXD PTR)

PRODUCT RANGE



IPTR



SMART Positioner

Also Available:

- Smart Positioner in SS

FEATURES SUMMARY

Type	Pneumatic Positioner		Electro Pneumatic Positioner		SMART Positioner			
Model	RTX 1200	RTX 1200 + PTR	RTX 1000	RTX 1000 + PTR	RTX 7	RTX 8	RTX 9	RTX 5 (IPST)
HARDWARE								
Technology	Flapper Nozzle							
Local Buttons	×	Only for PTR	×	Only for PTR	✓	✓	✓	✓
LCD Display	×	×	×	×	✓	✓	✓	✓
Double Acting / Single	✓	✓	✓	✓	✓	✓	✓	✓
Rotary / Linear	✓	✓	✓	✓	✓	✓	✓	✓
Feedback	×	✓	×	✓	✓	✓	✓	✓
Fail Safe	✓	✓	✓	✓	✓	✓	✓	✓
Fail Freeze	×	×	×	×	✓	✓	✓	×
IP Rating	IP 66							
Natural gas Capability	×	×	×	×	✓	✓	✓	✓
Enclosure Material	Al	Al	Al	Al	Al/SS			
Remote Mounting	×	×	×	×	✓	✓	✓	✓
Operation	Poppet	Poppet	Poppet	Poppet	Servo			
Exhaust Port	×	×	×	×	✓	✓	✓	✓
Encapsulated Electronics	×	×	×	×	✓	✓	✓	✓
DIAGNOSTICS								
No Dead Zone	×	×	×	×	✓	✓	✓	✓
Alerts	×	×	×	×	✓	✓	✓	✓
Pressure Sensor	×	×	×	×	×	✓	✓	✓
Partial Stroke Test	×	×	×	×	✓	✓	✓	✓
Online Diagnostics	×	×	×	×	×	×	✓	✓
Offline Test	×	×	×	×	×	✓	✓	✓
Basic Diagnostics	×	×	×	×	✓	✓	✓	✓

On Request, Electronics for PTR is Encapsulated

Al - Aluminium Alloy

SS - Stainless Steel

PTR - Position Transmitter

FEATURES SUMMARY

Type	Pneumatic Positioner		Electro Pneumatic Positioner		SMART Positioner			
Model	RTX 1200	RTX 1200 + PTR	RTX 1000	RTX 1000 + PTR	RTX 7	RTX 8	RTX 9	RTX 5 (IPST)
FEEDBACK MODULE								
Analog 4-20 mA	×	✓	×	✓	✓	✓	✓	✓
LCD Display	×	✓	×	✓	Built-in	Built-in	Built-in	Built-in
Push Button For Setting	×	✓	×	×	Built-in	Built-in	Built-in	Built-in
21 Freely Configurable Setpoint	×	✓	×	×	Built-in	Built-in	Built-in	Built-in
COMMUNICATION								
Hart 7	×	×	×	×	✓	✓	✓	✓
CERTIFICATION								
Explosion Proof	✓	✓	✓	✓	✓	✓	✓	✓
Intrinsically Safe	N/A	✓	✓	✓	✓	✓	✓	✓
ATEX / IECEx	×	×	×	×	✓	✓	✓	✓
CuTR	✓	✓	✓	✓	✓	✓	✓	✓
SIL Certified	✓	✓	✓	✓	✓	✓	✓	✓
Peso	N/A	N/A	✓	✓	✓	✓	✓	✓

ELECTRO-PNEUMATIC POSITIONER

RTX1000

FEATURES

- Compact design and rugged construction
- Vibration resistant because of its unique design and construction
- Quick and ultra-precise response of the torque motor
- Split range control can be easily adopted by change in few internal components
- Simple to convert from direct acting to reverse acting or vice versa
- Low hysteresis increases overall efficiency
- Excellent performance under vibration up to 4g (3mm amplitude)
- High life of diaphragm and zero maintenance
- Stable, fast and accurate response with change in supply pressure due to unique poppet and diaphragm valve design
- The springs exhibit a stable force along with a highly balance diaphragm
- Various orifice size option available for different volume of actuator to prevent from hunting and also for controlling speed
- Easy and precise calibration with wide range of zero and span adjustment
- All the internal parts hard anodized
- Bright visual indicator on both flat and high dome type positioners
- Internal and external mounting of the position transmitter and limit switch made possible and easy
- No component is exposed, thus preventing from corrosion in hazardous environment.
- Split range control can be easily set using zero and span setting
- IP 66 protection
- CE certified



TORQUE

- High performance Nickel flapper
- Unique rocker mechanism to give low dead band
- Non sliding parts

HIGH BALANCE SPRING MECHANISM

- High repeatability and linearity
- Critically designed springs avail a wide range of zero and span setting

ADAPTABILITY

- Positioner can be easily converted from direct acting to reverse acting and vice versa
- SS cam for long life
- Unique damping mechanism

ELECTRO-PNEUMATIC POSITIONER**RTX1000****TECHNICAL SPECIFICATIONS**

TYPE	LINEAR		ROTARY	
Operation	Single Acting	Double Acting	Single Acting	Double Acting
Supply Pressure	0.3 bar above actuator requirement (minimum 1.4 bar and maximum 7 bar)			
Input Signal	4 to 20 mA DC constant current with maximum 30 VDC			
Stroke	10 - 150 mm		0 - 90°	
Air Connection	1/4" BSP / NPT			
Explosion Proof	CMRI / TRCU / ATEX*			
Protection	IP 66			
Cam	Linear / Equal / Square / Square root			
Ambient Temperature	-40 °C to +120 °C, see ordering code			
Linearity	± 1%	± 2%	± 1%	± 2%
Hysteresis	±1%	±1%	±1%	±1%
Sensitivity	± 0.2%	± 0.5%	± 0.5%	± 0.5%
Repeatability	± 0.5%	± 0.5%	± 0.5%	± 0.5%
Internal Bleeding	3 lpm (supply pressure 1.4 kgf / cm2), 11 Imp (supply pressure 4.0 kgf / cm2)			
Flow Capacity	80 lpm (supply pressure 1.4 kgf / cm2), 200 Imp (supply pressure 4.0 kgf / cm2)			
Material	Aluminium Die Casting			
Weight	2.3 Kg	2.3 Kg	2.5 Kg	2.5 Kg

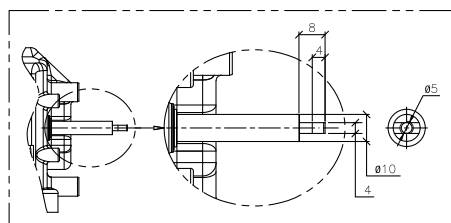
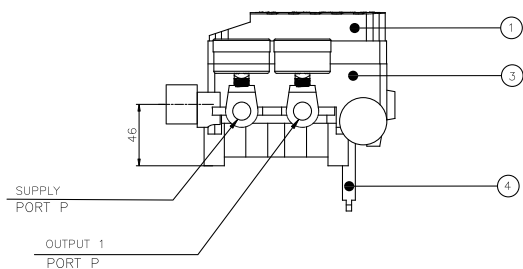
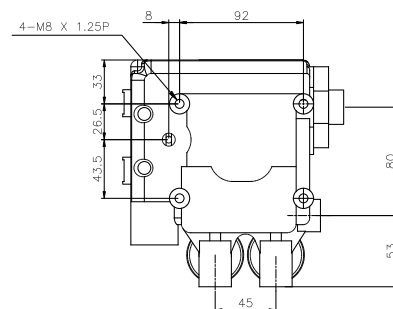
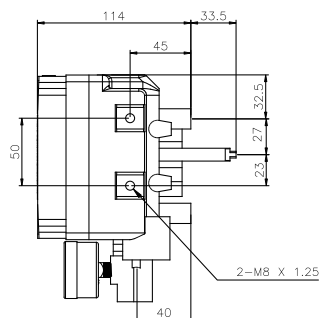
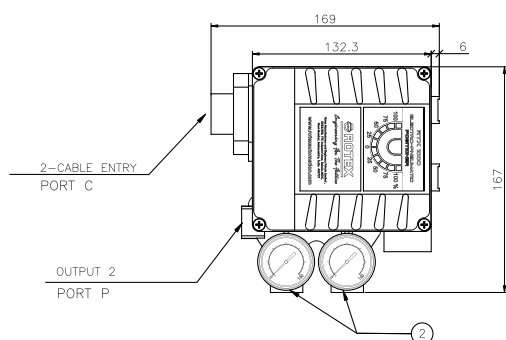
EXD POSITIONER WITH TRANSMITTER

ELECTRO-PNEUMATIC POSITIONER

RTX1000 R DRAWING

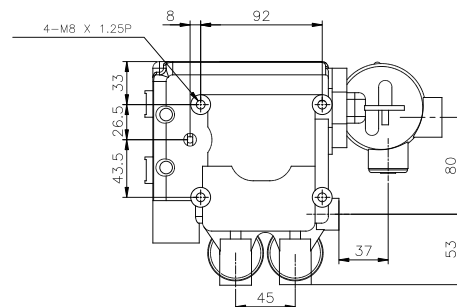
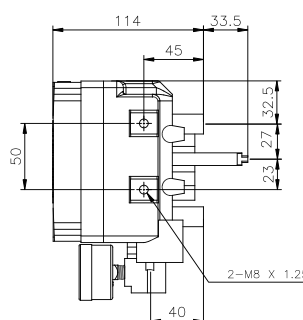
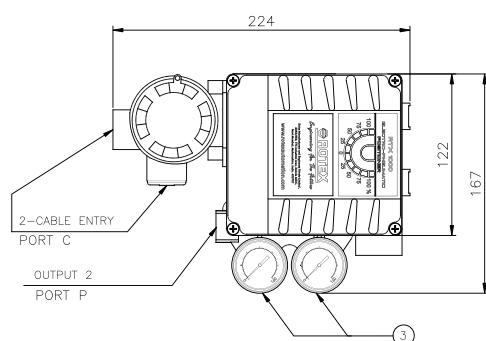
DIMENSION DETAILS

Rotary Weatherproof



CABLE ENTRY OPTION			
CODE		PORT SIZE	
4R		1/2" NPT	
3M		M20x1.5P	
PNEUMATIC PORT OPTION			
CODE		PORT SIZE	
2R		1/4" NPT	
2G		1/4" BSP	
NO.	PART NAME	MATERIAL	QTY
1	TOP COVER	ADC12	1
2	PRESSURE GAUGE	SS304	2
3	HOUSING	ADC12	1
4	SHAFT	SS304	1

Rotary Weatherproof + PTR / Explosion Proof



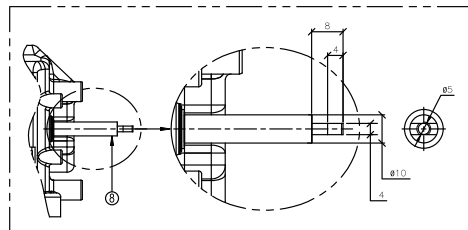
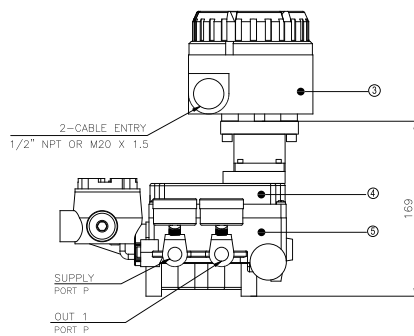
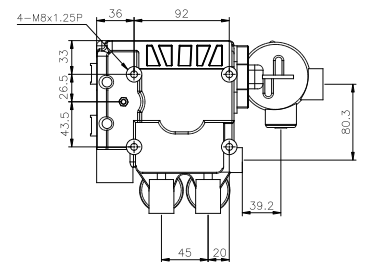
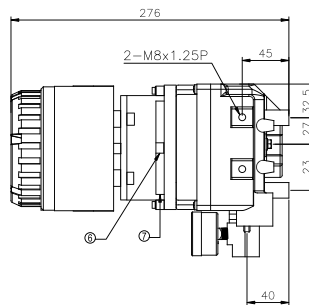
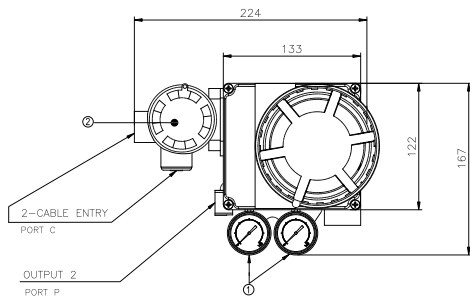
CABLE ENTRY OPTION		
CODE	PORT SIZE	
4R	1/2" NPT	
3M	M20x1.5P	
PNEUMATIC PORT OPTION		
CODE	PORT SIZE	
2R	1/4" NPT	
2G	1/4" BSP	
NO.	PART NAME	MATERIAL
1	TOP COVER	ADC12
2	HOUSING	ADC12
3	PRESSURE GAUGE	SS304
4	HOUSING	ADC12
5	SHAFT	SS304

ELECTRO-PNEUMATIC POSITIONER

RTX1000 R DRAWING

DIMENSION DETAILS

Rotary Explosion Proof + PTR



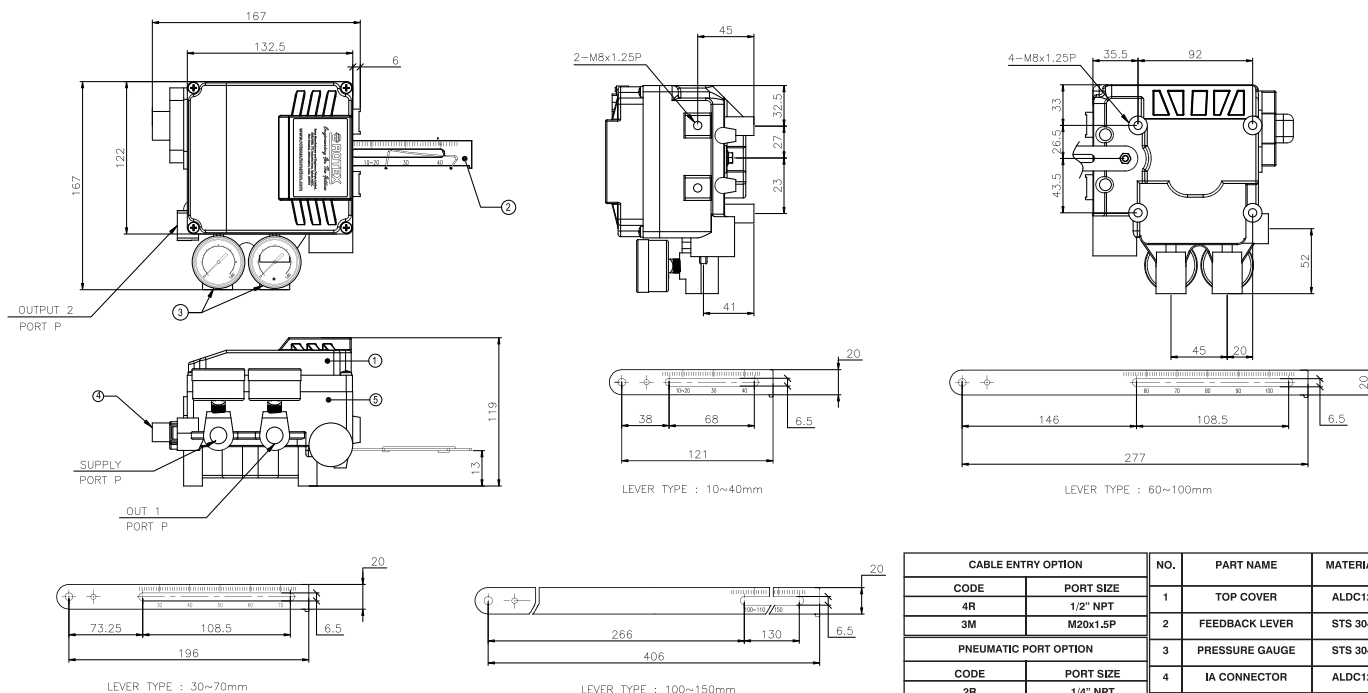
CABLE ENTRY OPTION			
CODE		PORT SIZE	
4R		1/2" NPT	
3M		M20x1.5P	
PNEUMATIC PORT OPTION			
CODE		PORT SIZE	
2R		1/4" NPT	
2G		1/4" BSP	
NO.	PART NAME	MATERIAL	QTY
1	PRESSURE GAUGE	SS304	2
2	JUNCTION BOX	ADC12	1
3	PTR	ADC12	1
4	TOP COVER	ADC12	1
5	HOUSING	ADC12	1
6	ADAPTER	ADC12	1
7	BRACKET BLOCK	ADC12	1
8	MAIN SHAFT	SS304	1

ELECTRO-PNEUMATIC POSITIONER

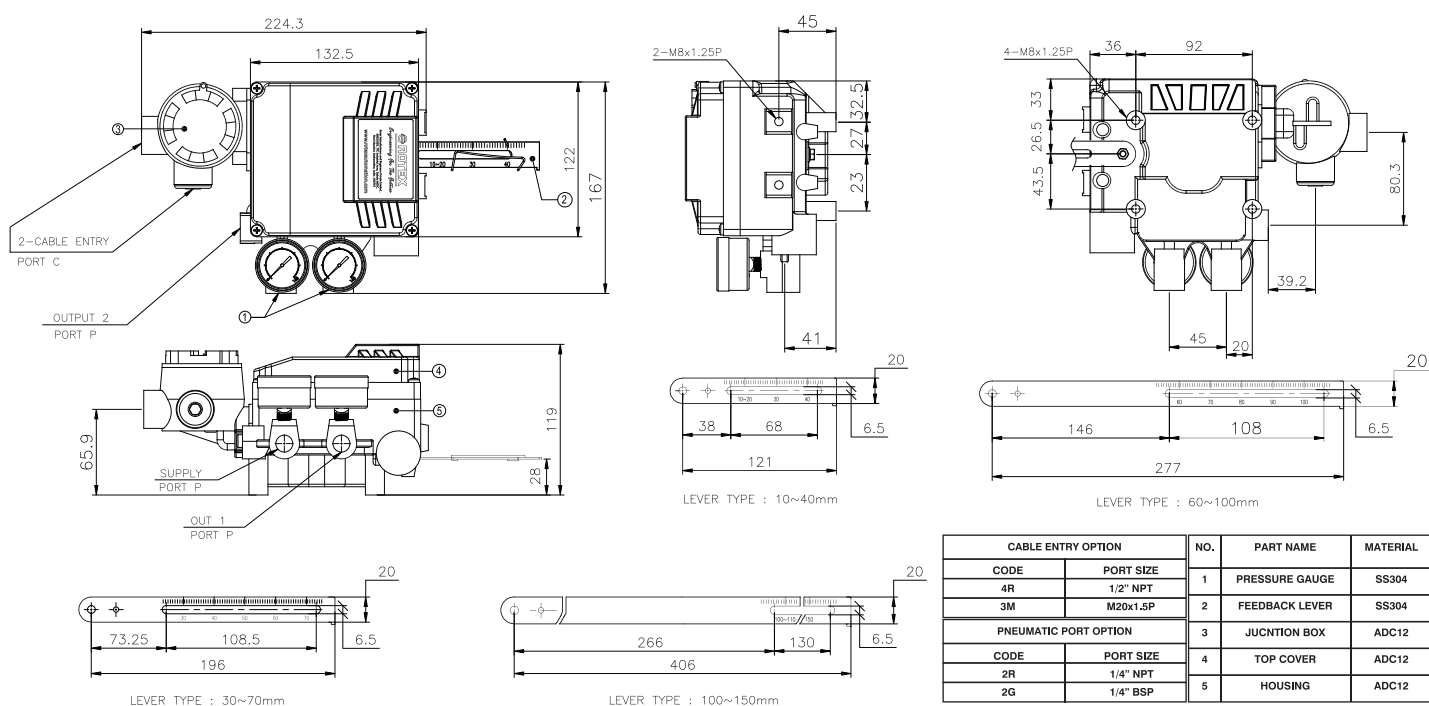
RTX1000 L DRAWING

DIMENSION DETAILS

Linear Weatherproof



Linear Weatherproof + PTR / Explosion Proof

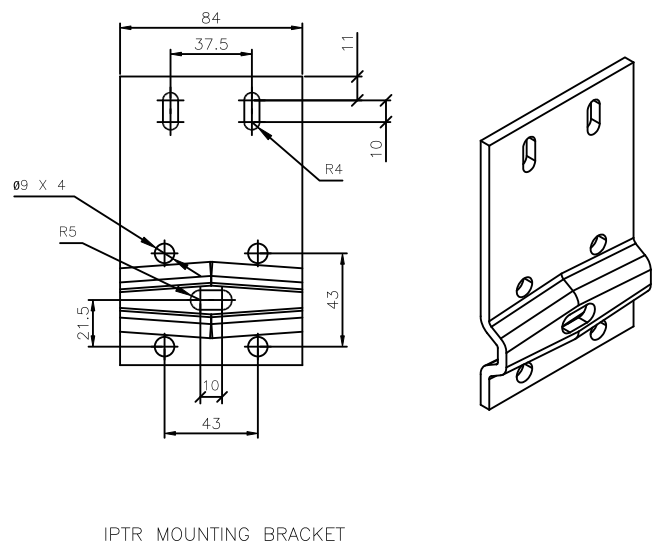
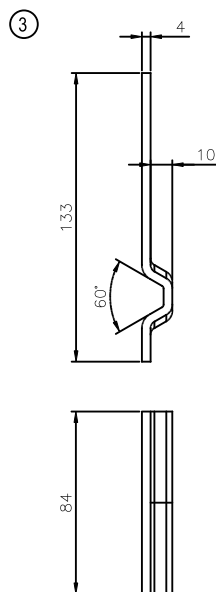
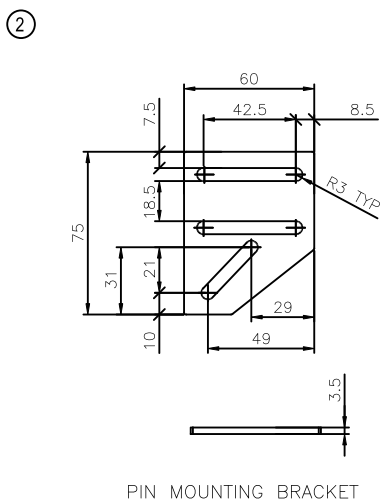
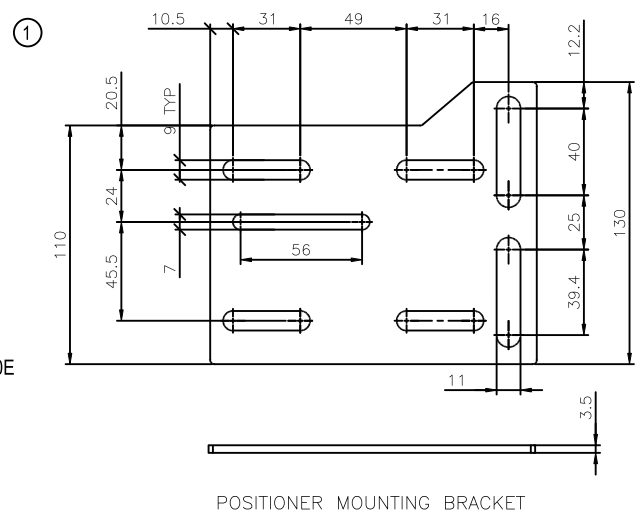
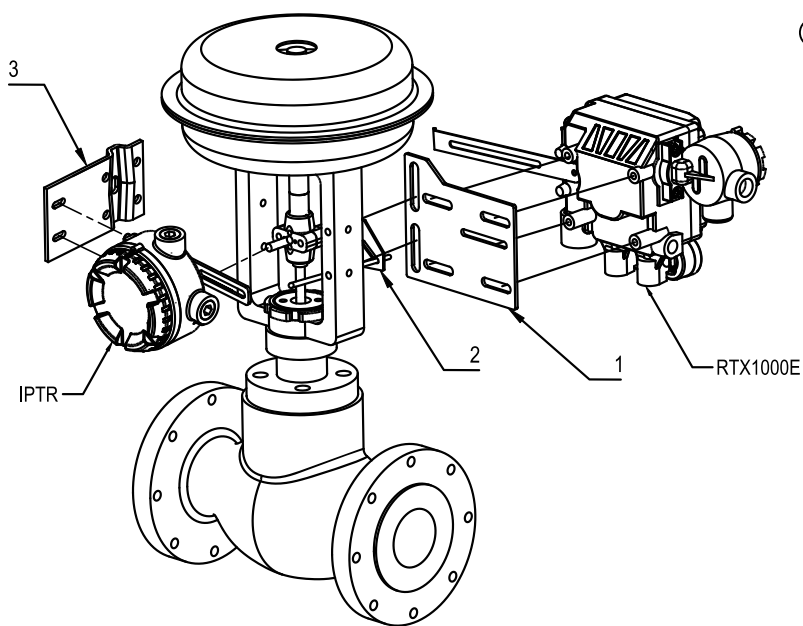


ELECTRO-PNEUMATIC POSITIONER

RTX1000 L DRAWING

DIMENSION DETAILS

Linear Explosion Proof + PTR



ELECTRO-PNEUMATIC POSITIONER

RTX1000

ORDERING CODE

1

MODEL

Weatherproof	RTX 1000
Explosion Proof	RTX 1000E
Explosion Proof Intrinsically Safe	RTX 1000I

2

TYPE

Rotary	R
Linear	L

3

ACTUATING TYPE

Double Acting	D
Single Acting	S

4

ORIFICE

NIL	0
1 mm	1
2 mm	2

5

FEEDBACK LEVER

10 - 40 [⊕]	L1
30 - 70 [⊕]	L2
60 - 70 [⊕]	L3
100 - 150 [⊕]	L4
NAMUR [⊕]	R0

6

PNEUMATIC PORT CONNECTION

1/4" BSP	2G
1/4" NPT	2R

7

CONDUIT ENTRY

1/2" NPT	4R
M20	3M

8

TEMPERATURE

-20 + 120 °C	AV
-20 + 80 °C	ST
-40 + 80 °C	HN
-60 + 80 °C	LT

9

INDICATOR

Flat Indicator	FD
High Dome	HD
Nil ^①	ND

10

POSITION TRANSMITTER (PTR)

NIL	N
Inbuilt PTR [⊕]	C
External PTR (Exd)	E

11

CERTIFICATES

TRCU	G
CMRI	C
None	*

12

SPECIAL CUSTOMIZATION

None	*
Special Customization	SUXX

Note:

⊕ For type Rotary | ⊕ For type Linear

① For type Linear, Indicator will be Nil (Table 9)

Gauges shall be of Diameter 40mm as standard

⊕ Inbuilt PTR available only for Weatherproof RTX1000 and Explosion Proof Intrinsically safe RTX1000I

PNEUMATIC POSITIONER

RTX1200

FEATURES

- Special low pressure diaphragm direct acting valve ensures quick and precise response to minor changes in signal pressure
- Low hysteresis increases overall efficiency
- Excellent performance under vibration up to 4g (3mm amplitude)
- High life of diaphragm and zero maintenance
- Wide range of zero and span adjustment for easy and precise calibration
- Split range control can be easily set using zero and span setting
- Compact design, rugged construction with a rigid ISO 5211 with mounting bracket
- Stable, fast and accurate response with change in supply pressure due to unique poppet and diaphragm valve design
- All internal parts are hard anodized
- Bright visual indicator on both flat and high dome type positioners
- Internal and external mounting of the position transmitter
- Orifice option prevents from hunting and also for controlling speed
- Simple to convert from direct acting to reverse acting or vice versa
- IP 66 protection
- CE certified



FLAPPER

- Extremely high sensitivity
- Lower dead-band and hysteresis
- Excellent response to Poppet

RIGID CONNECTING PORTS

- Available in NPT / BSP
- Heavy duty cast pads ensure rugged application

PNEUMATIC POSITIONER

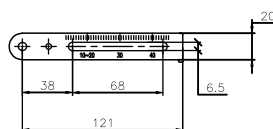
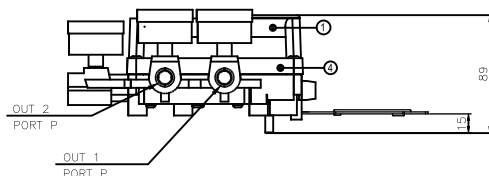
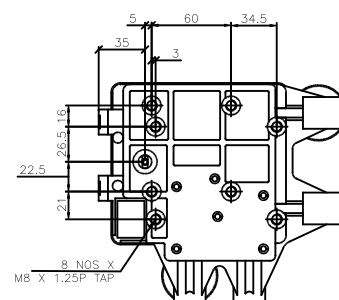
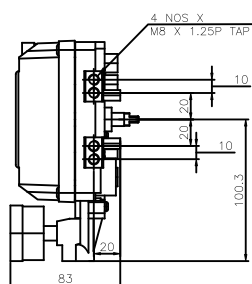
RTX1200

TECHNICAL SPECIFICATIONS

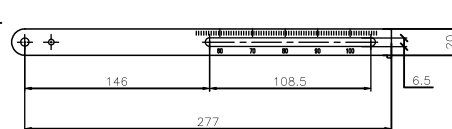
TYPE	LINEAR		ROTARY	
Operation	Single Acting	Double Acting	Single Acting	Double Acting
Supply Pressure	1.4 - 8.0 kgf / cm2 (20 - 120 psi)			
Input Signal	0.2 - 1.0 kgf / cm2 (3 - 15psi)			
Stroke	10 - 150 mm		0 - 90°	
Air Connection	1/4" BSP / NPT			
Explosion Proof	Not Applicable			
Protection	IP 66			
Cam	Linear / Equal / Square / Square root			
Ambient Temperature	-40 °C to +120 °C, see ordering code			
Linearity	± 1%	± 2%	± 1%	± 2%
Hysteresis	±1%	±1%	±1%	±1%
Sensitivity	± 0.2%	± 0.5%	± 0.5%	± 0.5%
Repeatability	± 0.5%	± 0.5%	± 0.5%	± 0.5%
Internal Bleeding	3 lpm (supply pressure 1.4 kgf / cm2), 11 lmp (supply pressure 4.0 kgf / cm2)			
Flow Capacity	80 lpm (supply pressure 1.4 kgf / cm2), 200 lmp (supply pressure 4.0 kgf / cm2)			
Material	Aluminium Die Casting			
Weight	1.8 Kg	1.8 Kg	1.9 Kg	1.9 Kg

RTX1200 DRAWING

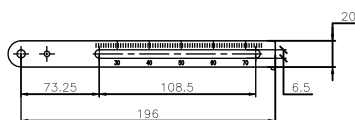
DIMENSION DETAILS

[illegible]

LEVER TYPE : 10~40mm



LEVER TYPE : 60~100mm

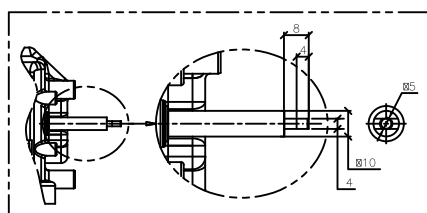
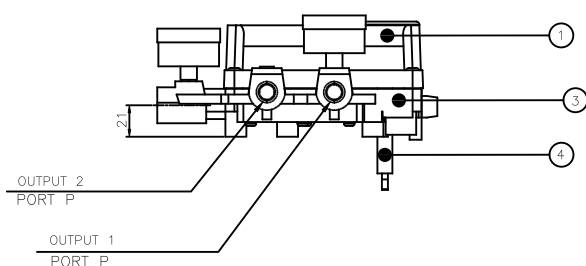
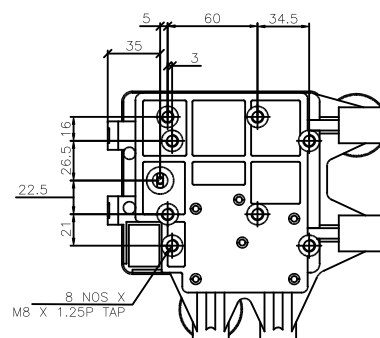
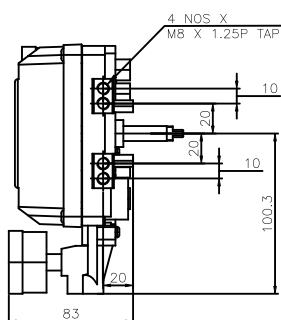


LEVER TYPE : 30~70mm



LEVER TYPE : 100~150mm

PNEUMATIC PORT P OPTIONS		
CODE		PORT SIZE
2R		1/4" NPT
2G		1/4" BSP
NO.	PART NAME	MATERIAL
1	TOP COVER	ALDC12
2	FEEDBACK LEVER	SS304
3	PRESSURE GUAGE	SS304
4	HOUSING	ALDC12

[illegible]

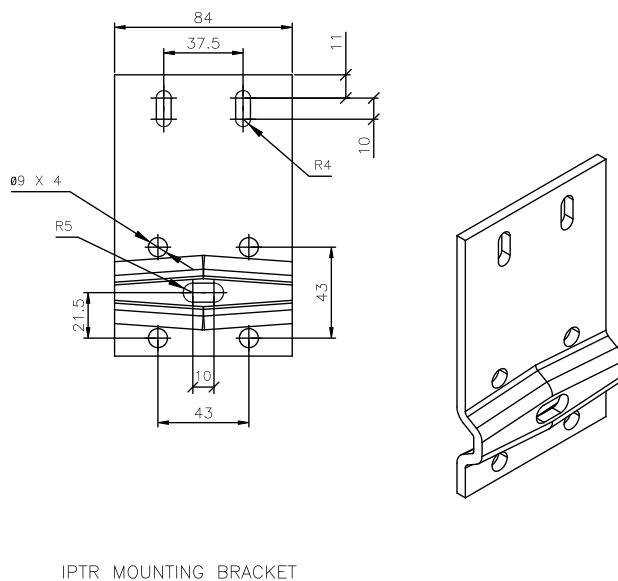
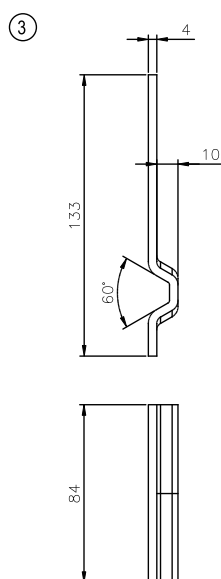
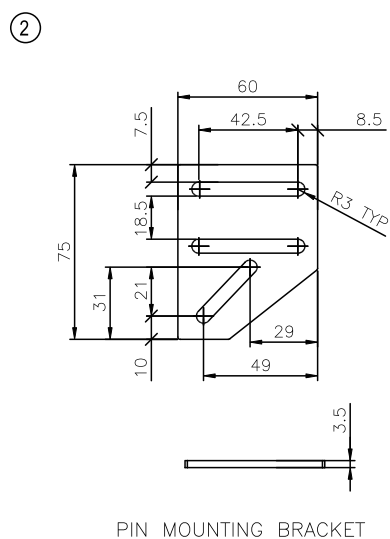
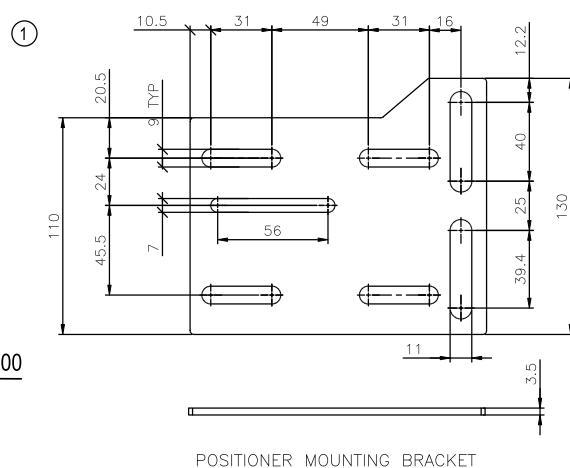
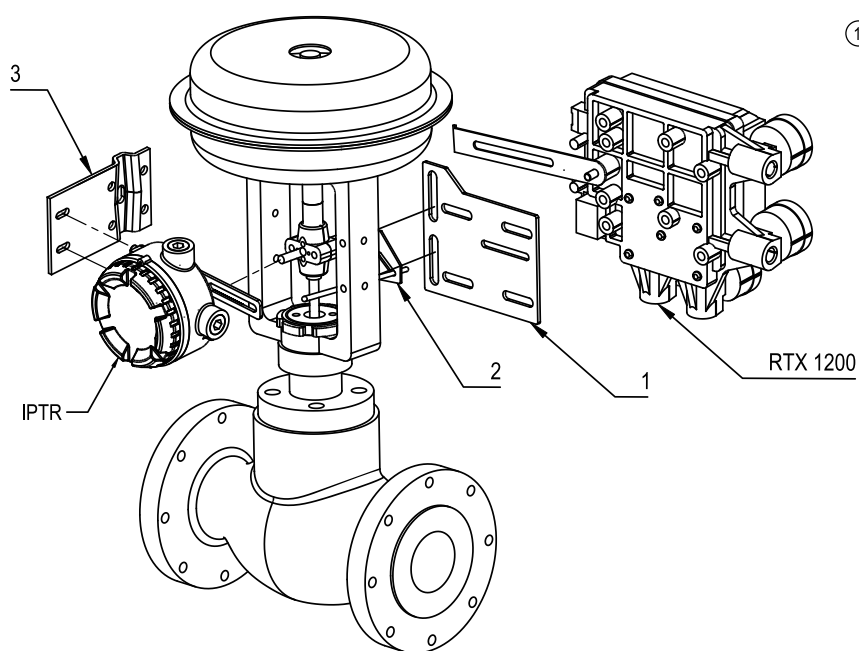
PNEUMATIC PORT P OPTIONS			
CODE		PORT SIZE	
2R		1/4" NPT	
2G		1/4" BSP	
NO.	PART NAME	MATERIAL	QTY
1	TOP COVER	ADC12	1
2	PRESSURE GAUGE	SS304	4
3	HOUSING	ADC12	1
4	SHAFT	SS304	1

PNEUMATIC POSITIONER

RTX1200 DRAWING

DIMENSION DETAILS

RTX 1200 LINEAR V2 + IPTR



PNEUMATIC POSITIONER

RTX1200

ORDERING CODE

1

MODEL

Weatherproof	RTX 1200
--------------	----------

2

TYPE

Rotary	R
Linear #	L

3

ACTUATING TYPE

Double Acting	D
Single Acting	S

4

ORIFICE

NIL	0
1 mm	1
2 mm	2

5

FEEDBACK LEVER

10 - 40 #	L1
30 - 70 #	L2
60 - 100 #	L3
100 - 150 #	L4
NAMUR ⊕	R0

6

PNEUMATIC PORT CONNECTION

1/4" BSP	2G
1/4" NPT	2R

7

TEMPERATURE

-20 + 120 °C	AV
-20 + 80 °C	ST
-40 + 80 °C	HN
-60 + 80 °C	LT

8

INDICATOR

Flat Indicator	FD
High Dome	HD
Nil ①	ND

9

POSITION TRANSMITTER (PTR)

NIL	N
Inbuilt PTR	C
External PTR (Exd)	E

10

SPECIAL CUSTOMIZATION

None	*
Special Customization	SUXX

Note:

⊕ For type Rotary | ⊕ For type Linear

① For type Linear, Indicator will be Nil (Table 8)

Gauges shall be of Diameter 40mm as standard

POSITION TRANSMITTER (IPTR)

FEATURES

- Contactless position feedback
- Extremely reliable under vibration
- Life is practically infinite, as compared to a potentiometer, which wears every time it moves
- Microcontroller based transmitter, extremely reliable with high performance chip
- Easy to set, by just pushing set buttons
- Digital display for easy readability
- 21 freely configurable set points, for 4 - 20mA output for variable span
- Weatherproof, flameproof and explosion proof available
- IP 67 rating
- Available in Aluminium and Stainless steel



POSITION TRANSMITTER (IPTR)

SPECIFICATIONS

Type	Weatherproof / Flameproof
Field Calibration	Auto calibration with stroke settings
Custom Set Point	21 freely configurable set points
Position Sensing	Contactless
Indication	LCD Display - Current (mA) and Position (%)
Setup	Push Button on device
Conduit Entry	1/2" NPT (F) or M20
Temperature	-20 °C to +60 °C (Standard), -40 °C to +80 °C (On Request)

CHARACTERISTICS

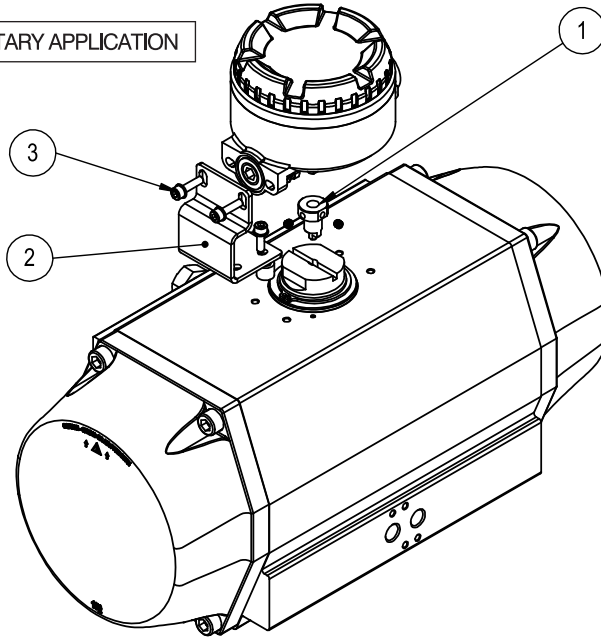
Accuracy	0.3% of full scale
Repeatability	0.2% of full scale
Hysteresis	0.3% of full scale
Linearity	0.2% of full scale
Supply Voltage	24V DC + / - 10% (Loop feedback)
Supply Connection	Screw Terminal (Standard), M8 socket 3/4 pin (M) (optional)
Operating Range	3.6 - 21mA
Influence Of Temperature	0.35% / 10 °K
Transmission Error	< 0.3%
Electromagnetic	CE, directive EMC 89 / 336 / EEC Compatibility

POSITION TRANSMITTER

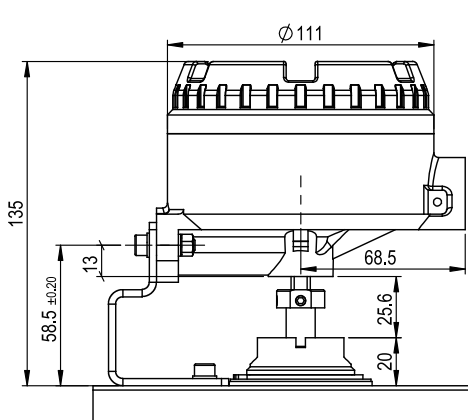
(IPTR) DRAWING

DIMENSION DETAILS

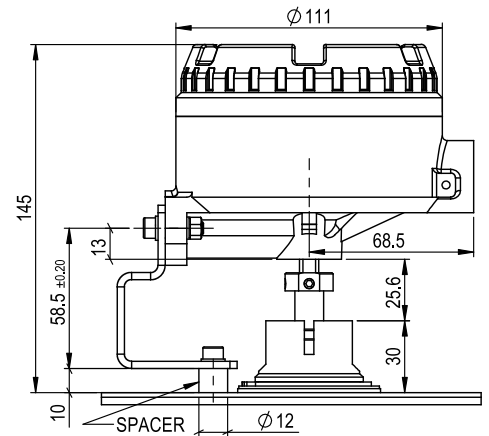
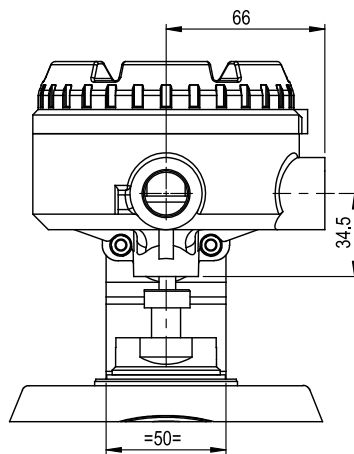
IPTR ASSEMBLY FOR ROTARY APPLICATION



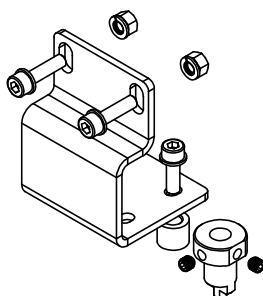
NO.	PART DESCRIPTION	QTY
1	COUPLER	1
2	BRACKET	1
3	BOLTS	2 + 2



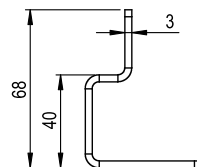
ACTUATOR PINION HEIGHT 20MM



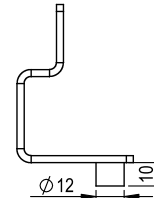
ACTUATOR PINION HEIGHT 30MM



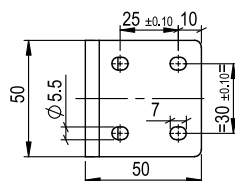
KIT FOR ROTARY ACTUATOR



BRACKET FOR PINION
HEIGHT 20MM



BRACKET WITH SPACER
FOR PINION
HEIGHT 30MM

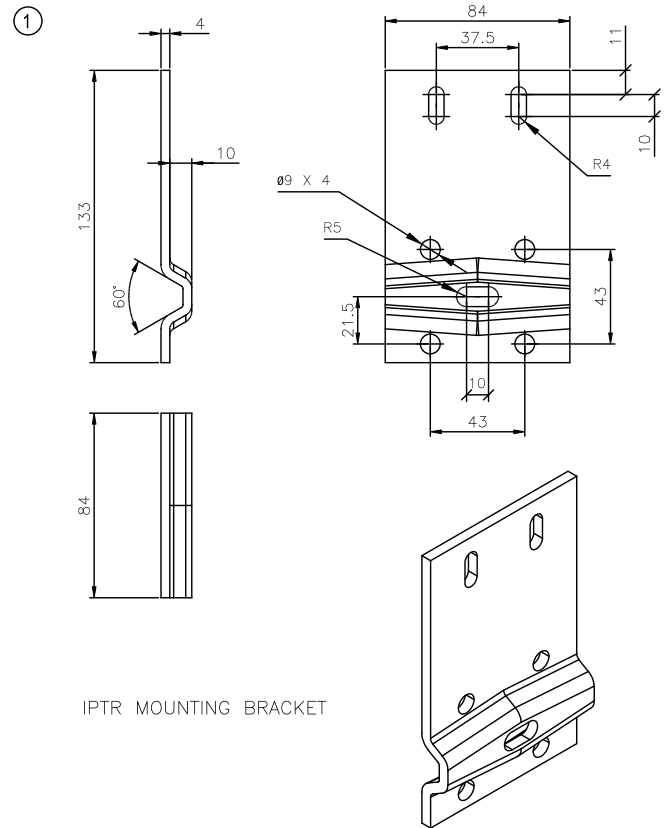
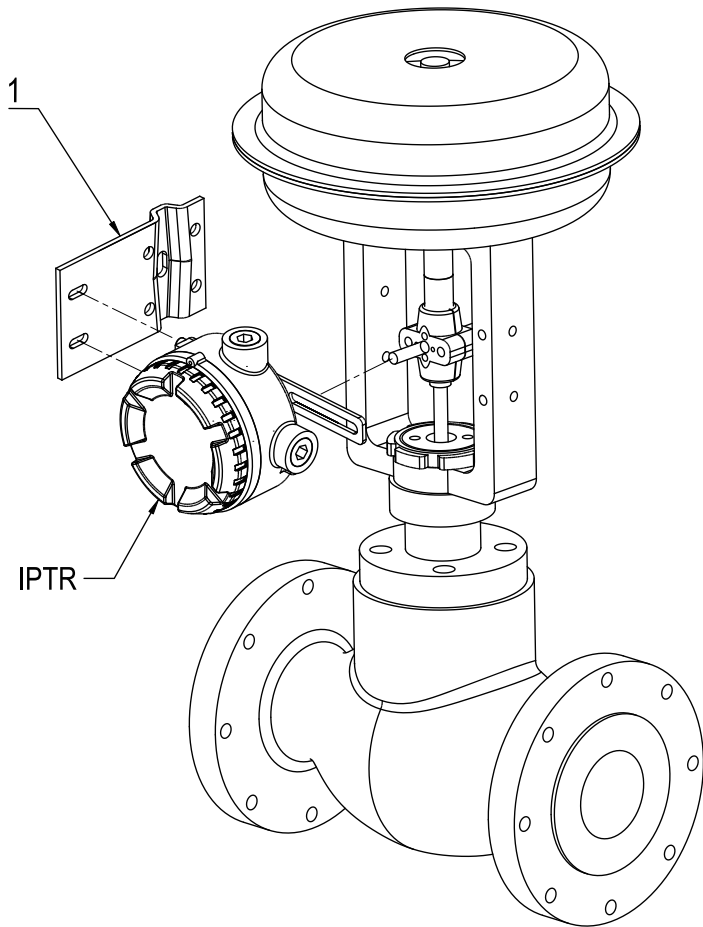


NOTE : NO SPACER IS REQUIRED FOR 20 MM PINION HEIGHT

POSITION TRANSMITTER (IPTR) DRAWING

DIMENSION DETAILS

IPTR ASSEMBLY FOR LINEAR APPLICATION



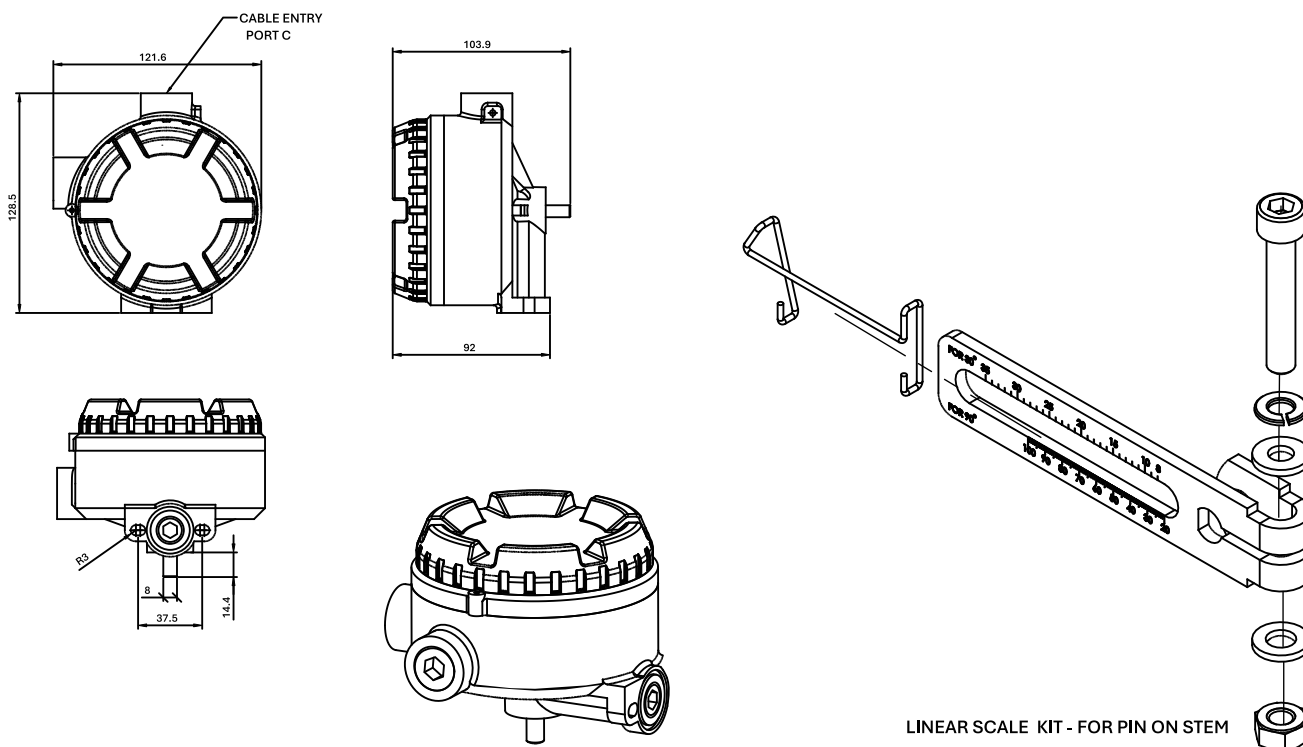
NOTE: CONSULT FACTORY FOR IPTR MOUNTING BRACKET FOR LINEAR APPLICATION

POSITION TRANSMITTER

(IPTR) DRAWING

DIMENSION DETAILS

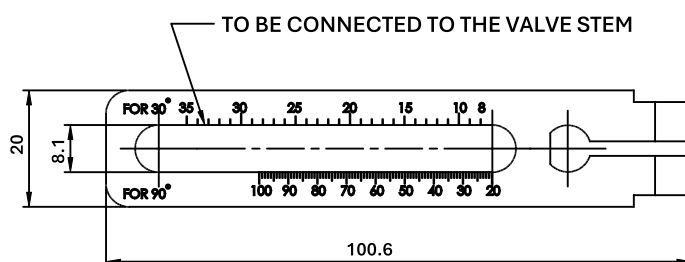
I PTR ASSEMBLY FOR LINEAR APPLICATION



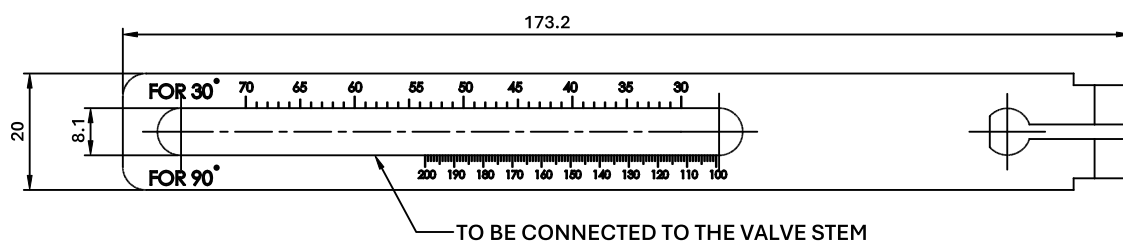
CABLE ENTRY C OPTIONS

CODE	PORT SIZE
4R	1/2" NPT
3M	M20 X 1.5P

NO.	PART NAME	MATERIAL
1	TOP COVER	ADC12
2	HOUSING	ADC12
3	FEEDBACK LEVER	SS304
4	LEVER SHAFT	SS304



LINEAR SCALE TYPE 1 (20 - 100 MM STROKE) DETAIL VIEW



LINEAR SCALE TYPE 2 (100 - 200 MM STROKE) DETAIL VIEW

POSITION TRANSMITTER (IPTR)

ORDERING CODE

1		2		3	
MODEL		CONDUIT ENTRY		BODY & COVER	
Weatherproof	IPTR W	1/2" NPT (F)	4R	Aluminium	*
Flameproof	IPTR X	3/4" NPT (F)	6R	CF8M	SS
		M20X1,5 (F)	3M		
4		5			
BRACKET		CERTIFICATE			
Standard Bracket	*	None	*		
Rotary Bracket	RC 006	CMRI	C		

Note:

⊗ Default

SS - STAINLESS STEEL

NOTES

[illegible]

NOTES

[illegible]

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