POSITIONERS

Electro Pneumatic & Pneumatic Positioner

ROTEX

Engineering For The Future

ROTEX
Engineering For The Future

POSITIONERS

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?

SEE HOW

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 BALANCE SPRING MECHANISM	ADAPTABILITY
– High performance Nickel flapper	– High repeatability and linearity	– Positioner can be easily converted from direct acting to reverse acting and vice versa
– Unique rocker mechanism to give low dead band	– Critically designed springs avail a wide range of zero and span setting	– SS cam for long life
– Non sliding parts		– Unique clamping mechanism

ELECTRO-PNEUMATIC POSITIONER RTX1000

TECHNICAL SPECIFICATIONS

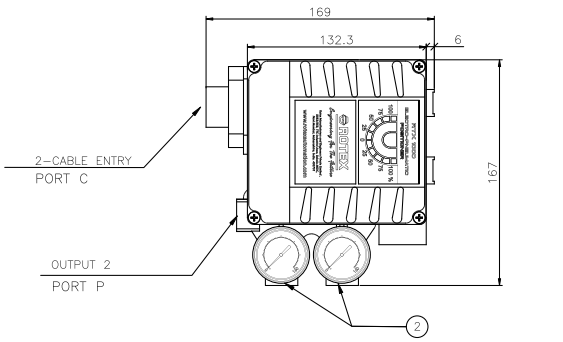
TYPE	LINEAR		ROTARY	
Operation	Single Acting	Double Acting	Single Acting	Double Acting
Supply Pressure	0.3 bar above actuator requirment (minimum 1.4 bar and maximum 7 bar)			
Input Signal	4 to 20 mA DC constant current with maximum 30 VDC			
Stroke	10 - 150 mm		0 - 90°	
Air Connection	1/4" BSP / NPT			
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 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	2.3 Kg	2.3 Kg	2.5 Kg	2.5 Kg

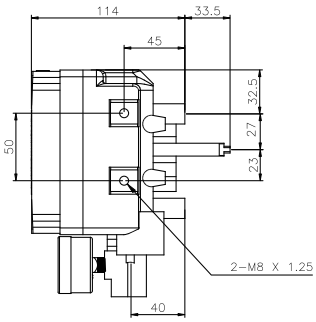
EXD POSITIONER WITH TRANSMITTER

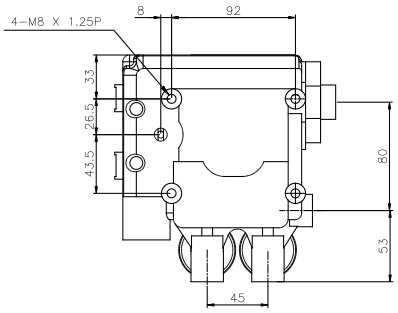
ELECTRO-PNEUMATIC POSITIONER RTX1000 R DRAWING

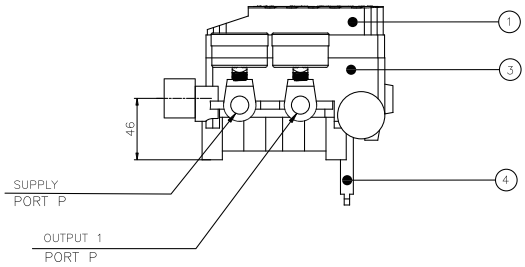
DIMENSION DETAILS

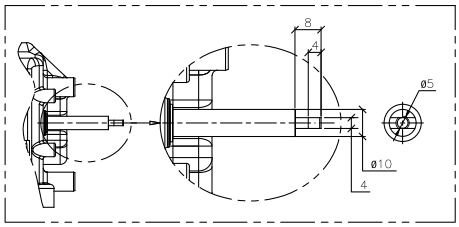
Rotary Weatherproof









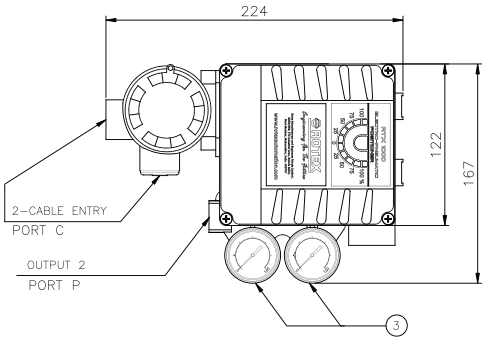


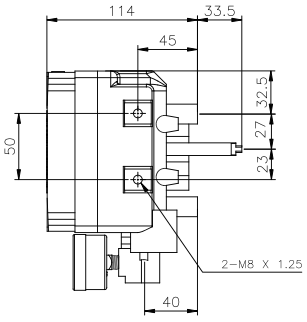
CABLE ENTRY OPTION	
CODE	PORT SIZE
4R	1/2" NPT
3M	M20x1.5P

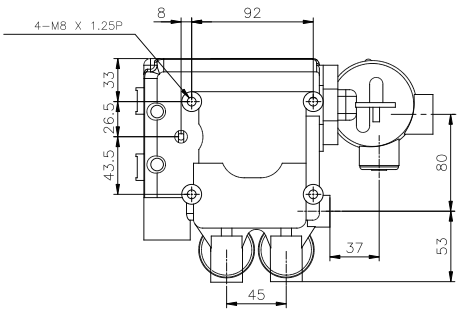
PNEUMATIC PORT OPTION	
CODE	PORT SIZE
2R	1/4" NPT
2G	1/4" BSP

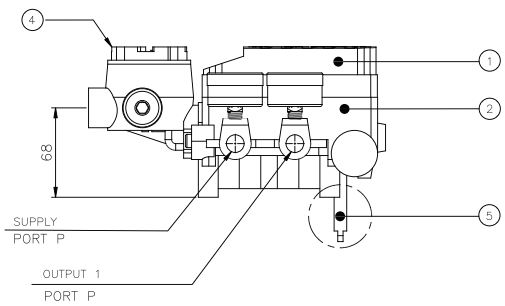
NO.	PART NAME	MATERIAL	QTY
1	TOP COVER	ADC12	1
2	PRESSURE GAUGE	SS304	2
3	HOUSING	ADC12	1
4	SHAFT	SS304	1

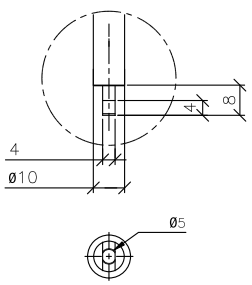
Rotary Weatherproof + PTR / Explosion Proof











CABLE ENTRY OPTION	
CODE	PORT SIZE
4R	1/2" NPT
3M	M20x1.5P

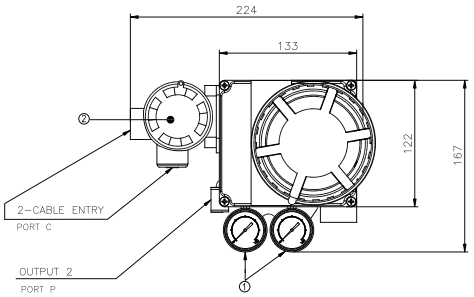
PNEUMATIC PORT OPTION	
CODE	PORT SIZE
2R	1/4" NPT
2G	1/4" BSP

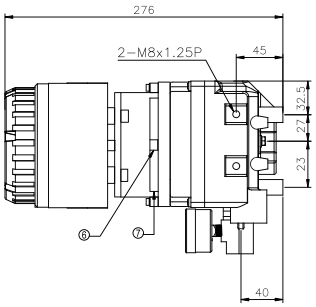
NO.	PART NAME	MATERIAL
1	TOP COVER	ADC12
2	HOUSING	ADC12
3	PRESSURE GAUGE	SS304
4	HOUSING	ADC12
5	SHAFT	SS304

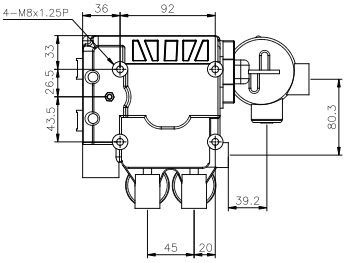
ELECTRO-PNEUMATIC POSITIONER RTX1000 R DRAWING

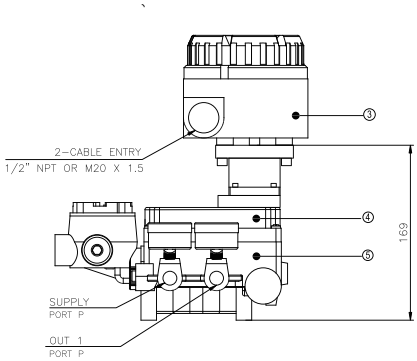
DIMENSION DETAILS

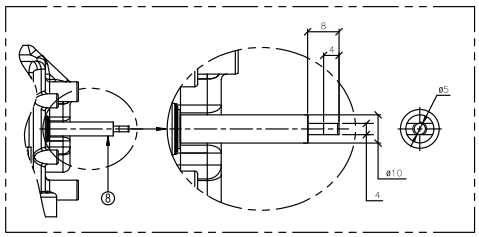
Rotary Explosion Proof + PTR











CABLE ENTRY OPTION	
CODE	PORT SIZE
4R	1/2" NPT
3M	M20x1.5P

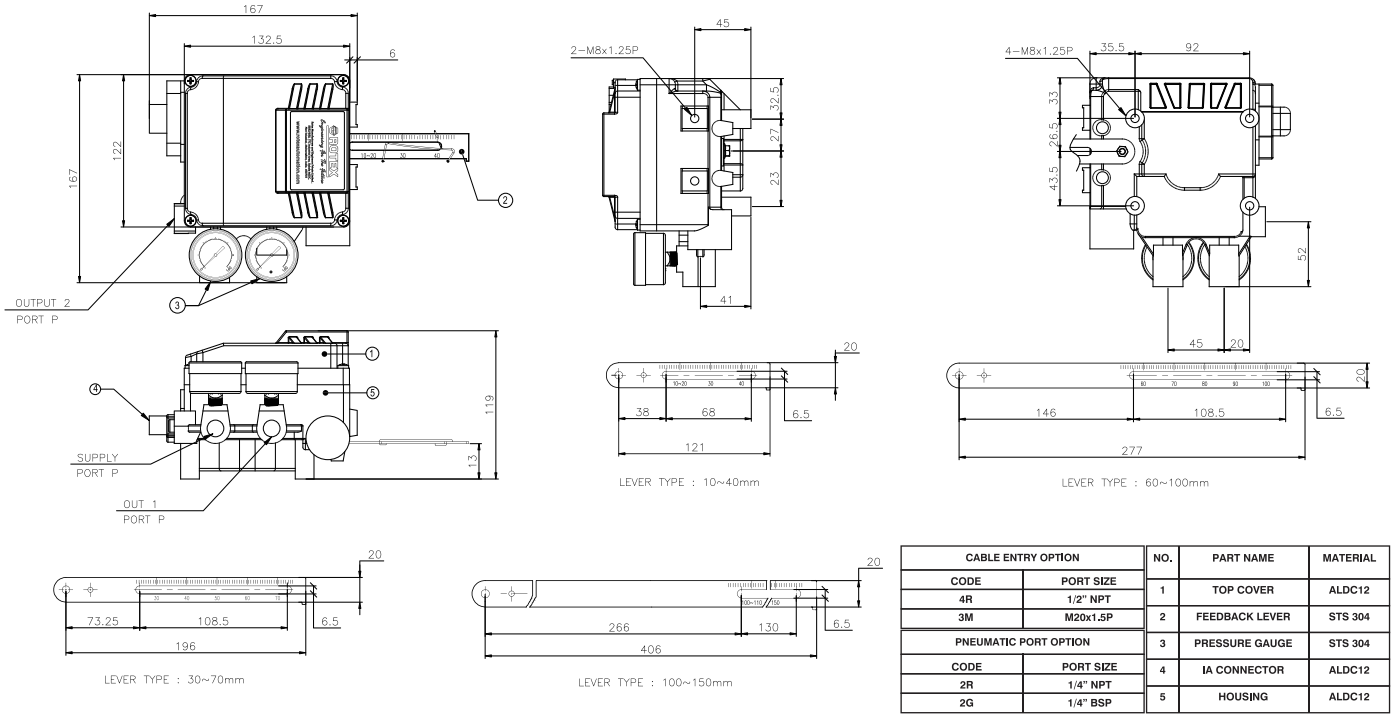
PNEUMATIC PORT OPTION	
CODE	PORT SIZE
2R	1/4" NPT
2G	1/4" BSP

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

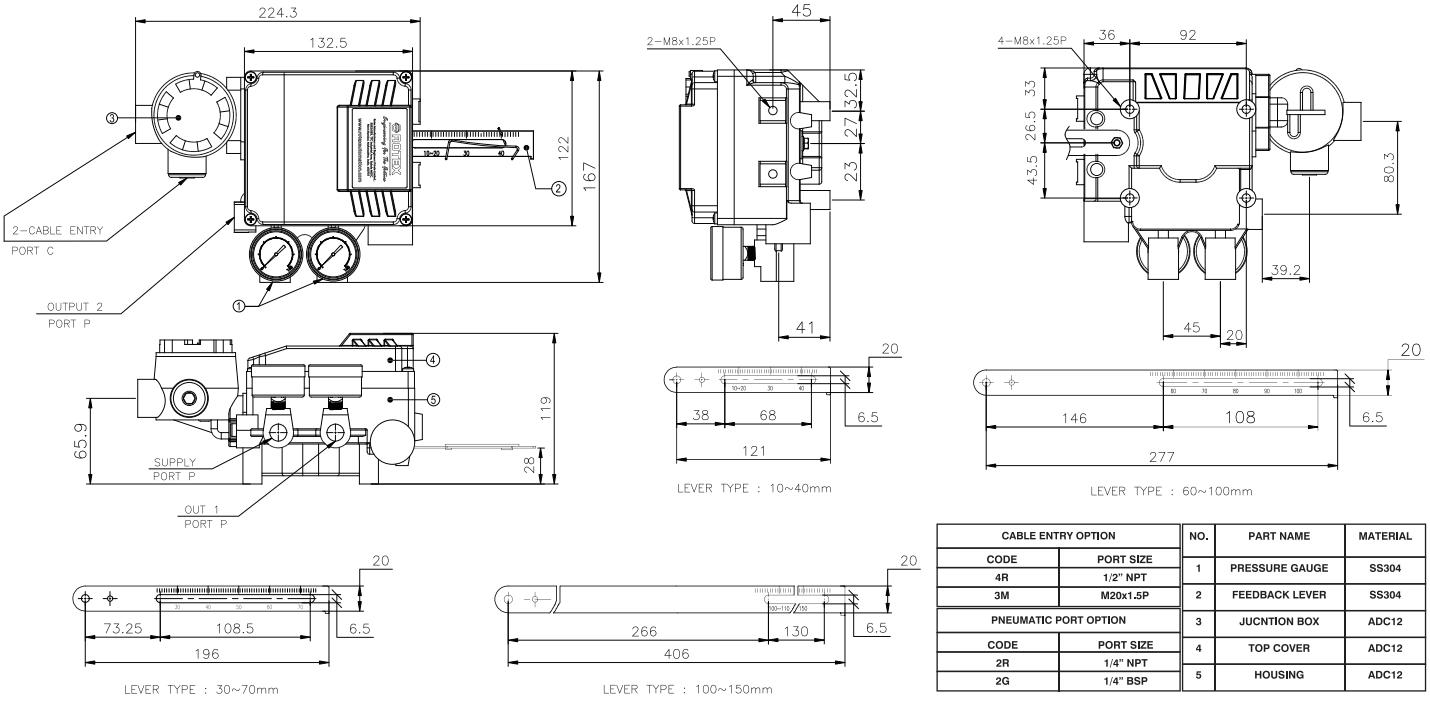
DIMENSION DETAILS

Linear Weatherproof



CABLE ENTRY OPTION		NO.	PART NAME	MATERIAL
CODE	PORT SIZE			
4R	1/2" NPT	1	TOP COVER	ALDC12
3M	M20x1.5P	2	FEEDBACK LEVER	STS 304
PNEUMATIC PORT OPTION		3	PRESSURE GAUGE	STS 304
CODE	PORT SIZE	4	IA CONNECTOR	ALDC12
2R	1/4" NPT	5	HOUSING	ALDC12
2G	1/4" BSP			

Linear Weatherproof + PTR / Explosion Proof

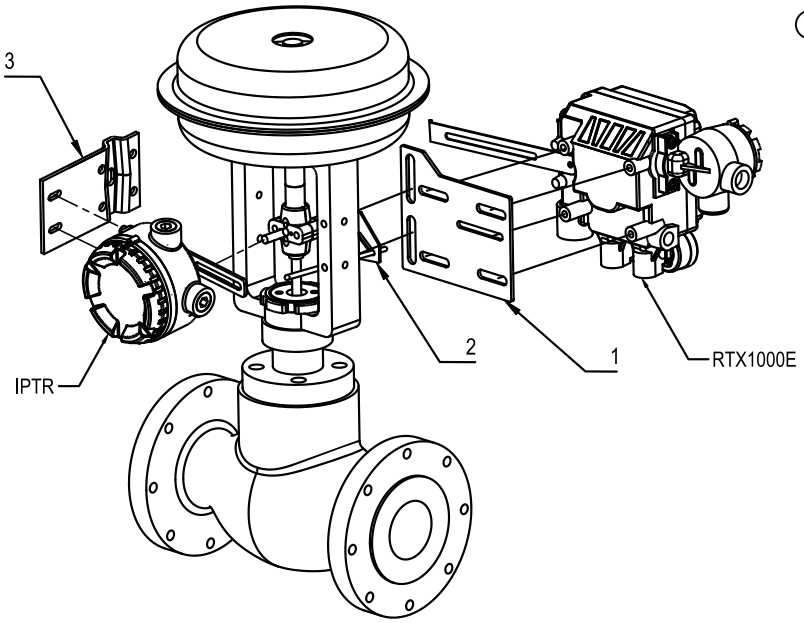


CABLE ENTRY OPTION		NO.	PART NAME	MATERIAL
CODE	PORT SIZE			
4R	1/2" NPT	1	PRESSURE GAUGE	SS304
3M	M20x1.5P	2	FEEDBACK LEVER	SS304
PNEUMATIC PORT OPTION		3	JUCNTION BOX	ADC12
CODE	PORT SIZE	4	TOP COVER	ADC12
2R	1/4" NPT	5	HOUSING	ADC12
2G	1/4" BSP			

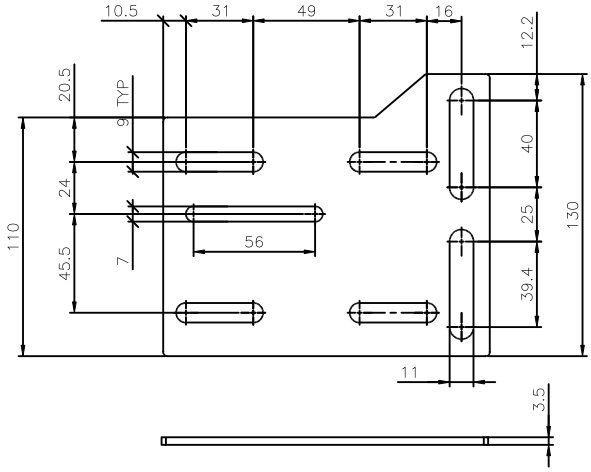
ELECTRO-PNEUMATIC POSITIONER RTX1000 L DRAWING

DIMENSION DETAILS

Linear Explosion Proof + PTR

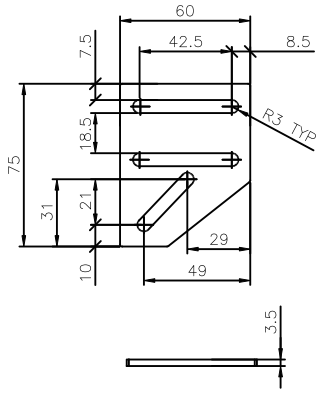


①



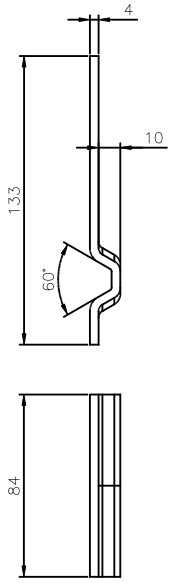
POSITIONER MOUNTING BRACKET

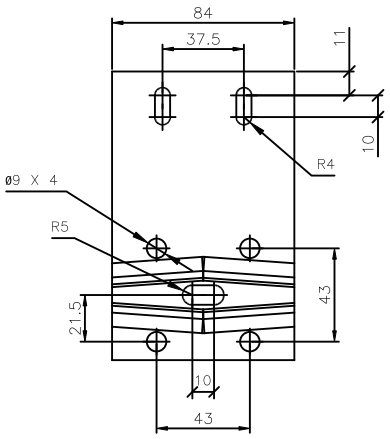
②

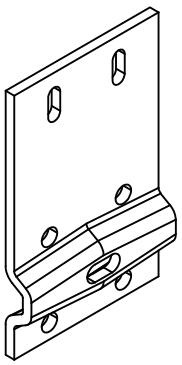


PIN MOUNTING BRACKET

③







IPTR MOUNTING BRACKET

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 Intrinstically 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	RIGID CONNECTING PORTS
– Extremely high sensitivity	– Avaliable in NPT / BSP
– Lower dead-band and hysteresis	– Heavy duty cast pads ensure rugged application
– Excellent response to Poppet	

PNEUMATIC POSITIONER RTX1200

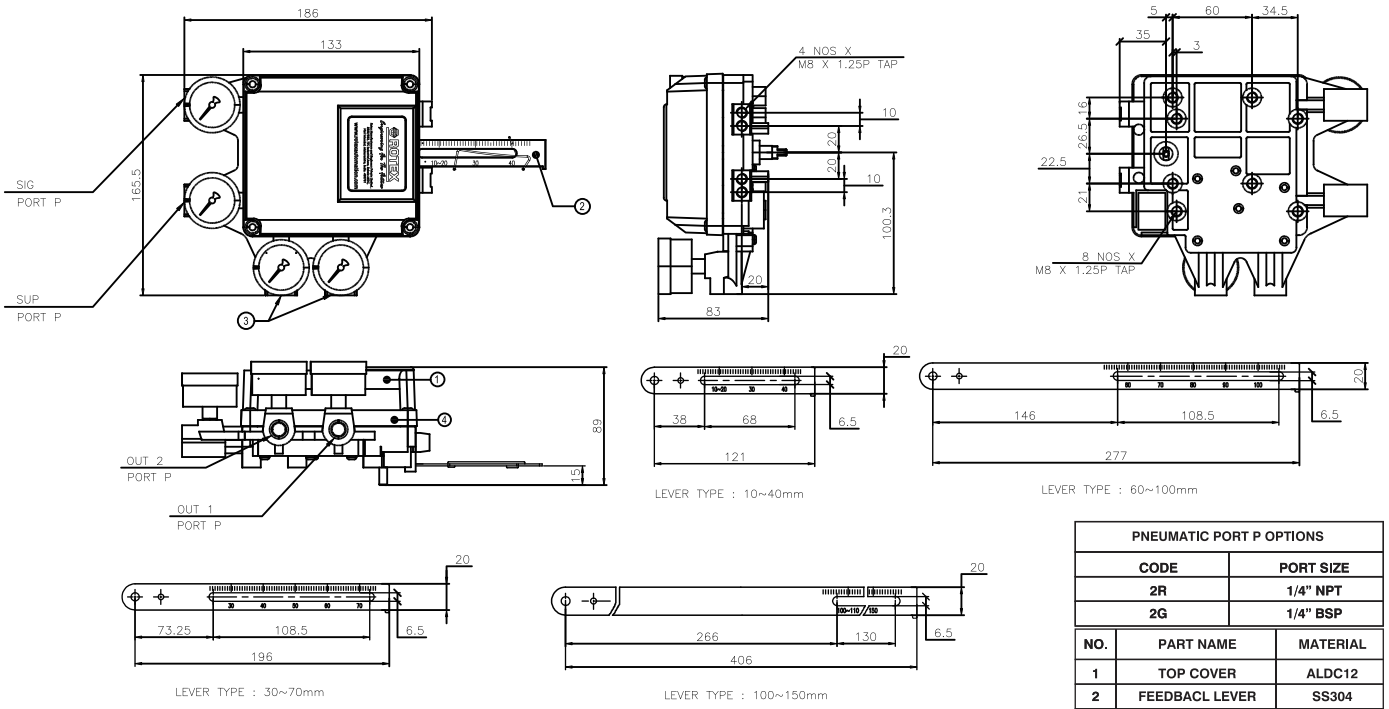
TECHNICAL SPECIFICATIONS

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

PNEUMATIC POSITIONER RTX1200 DRAWING

DIMENSION DETAILS

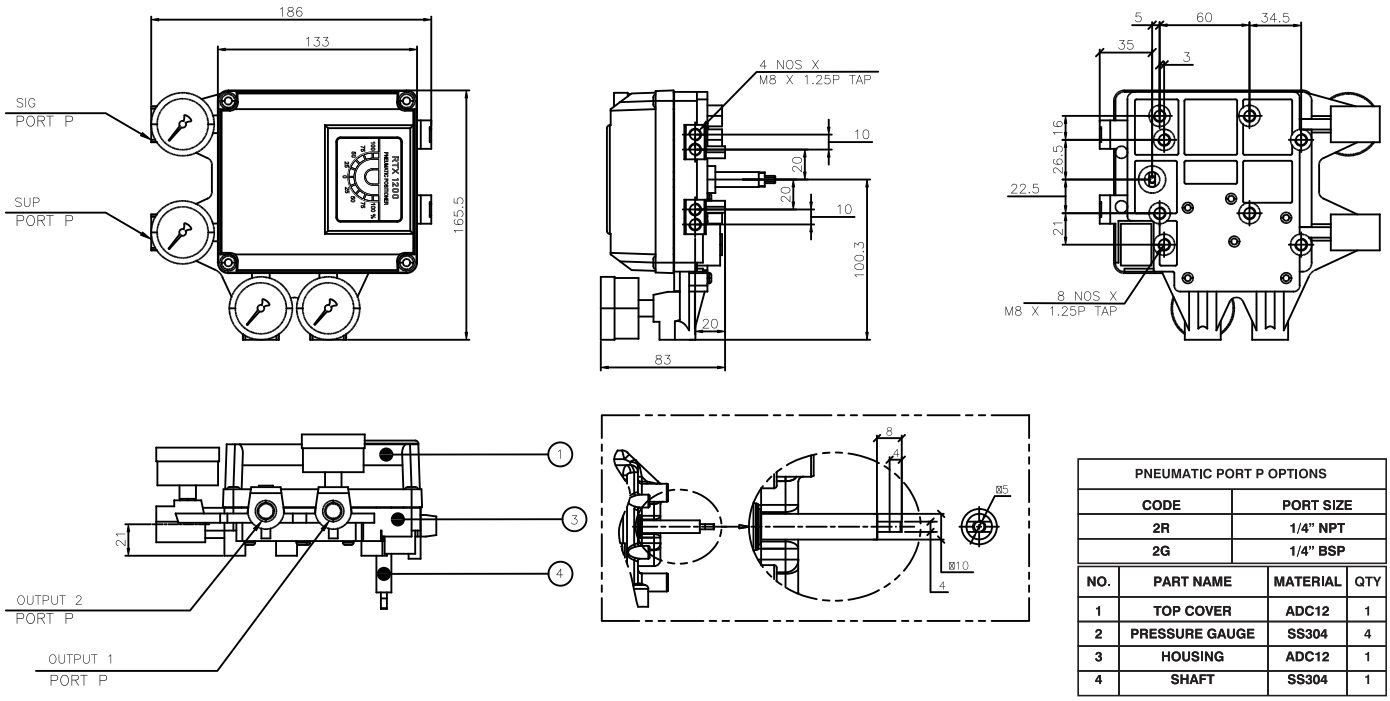
RTX1200 LINEAR- Weatherproof



PNEUMATIC PORT P OPTIONS	
CODE	PORT SIZE
2R	1/4" NPT
2G	1/4" BSP

NO.	PART NAME	MATERIAL
1	TOP COVER	ALDC12
2	FEEDBACL LEVER	SS304
3	PRESSURE GUAGE	SS304
4	HOUSING	ALDC12

RTX1200 ROTARY - Weatherproof



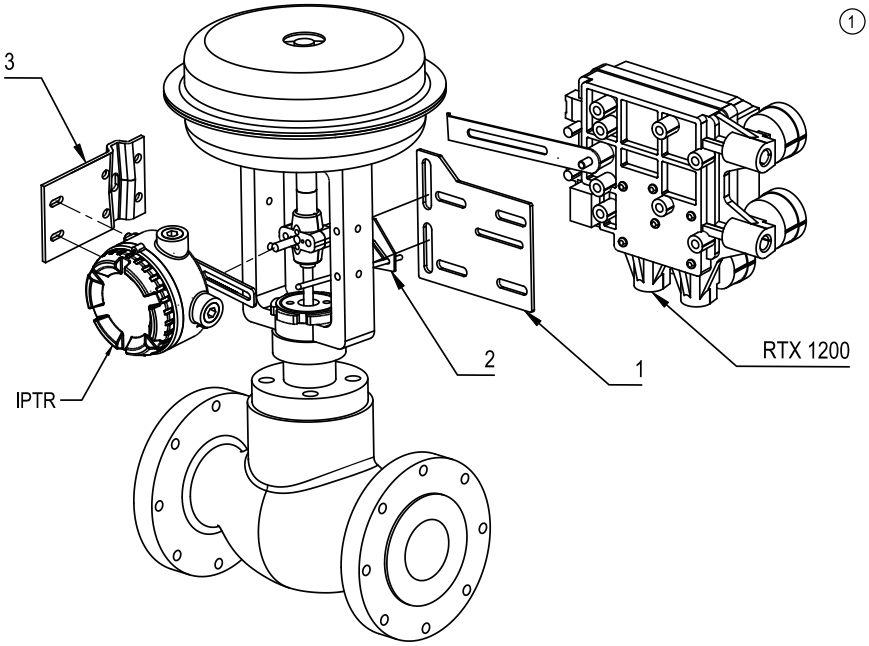
PNEUMATIC PORT P OPTIONS	
CODE	PORT SIZE
2R	1/4" NPT
2G	1/4" BSP

NO.	PART NAME	MATERIAL	QTY
1	TOP COVER	ADC12	1
2	PRESSURE GAUGE	SS304	4
3	HOUSING	ADC12	1
4	SHAFT	SS304	1

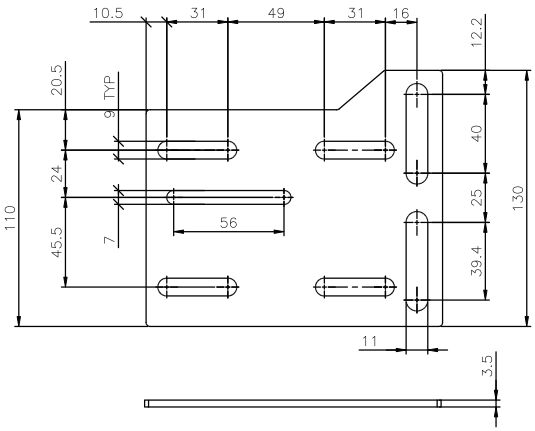
PNEUMATIC POSITIONER RTX1200 DRAWING

DIMENSION DETAILS

RTX 1200 LINEAR V2 + IPTR

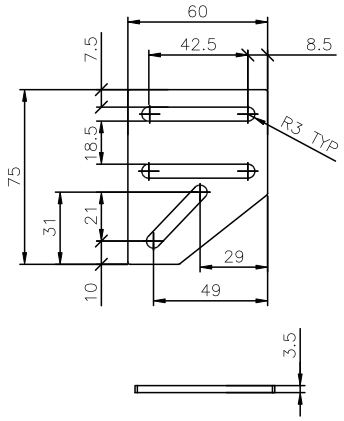


①



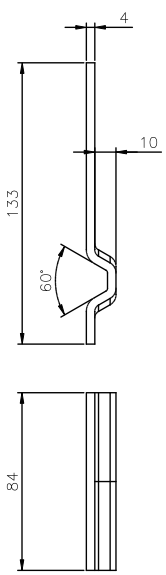
POSITIONER MOUNTING BRACKET

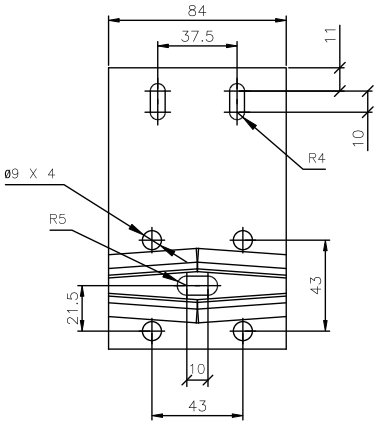
②

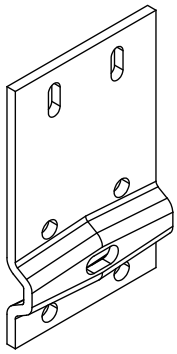


PIN MOUNTING BRACKET

③







IPTR MOUNTING BRACKET

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)

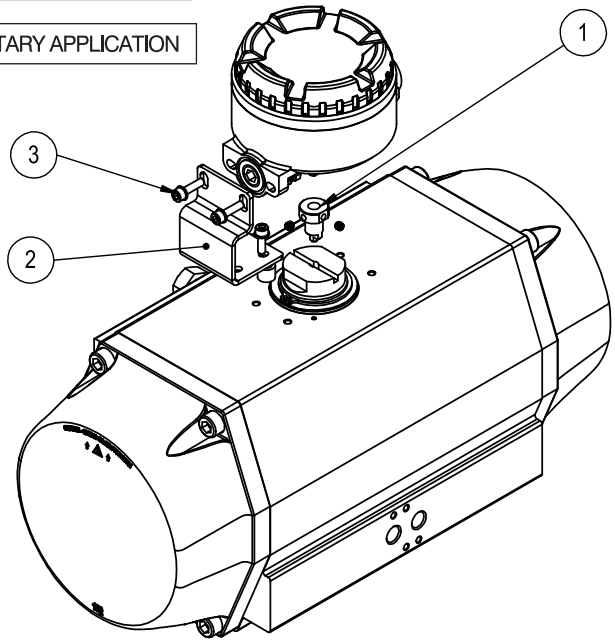
CHARACTERISTICS

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

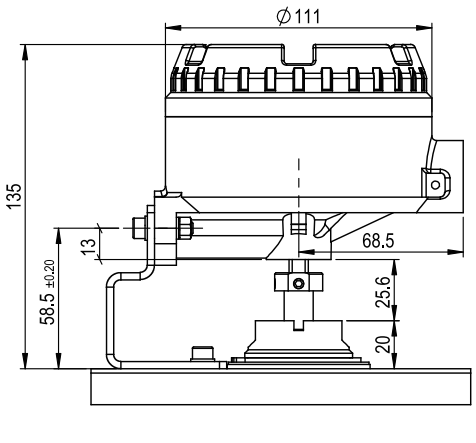
POSITION TRANSMITTER (IPTR) DRAWING

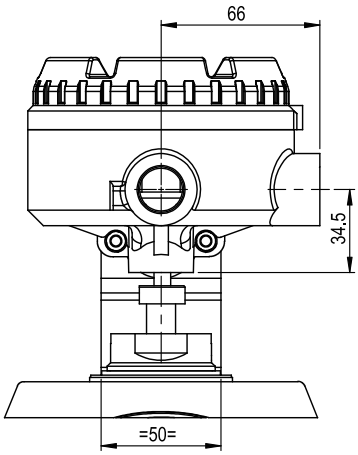
DIMENSION DETAILS

I PTR ASSEMBLY FOR ROTARY APPLICATION

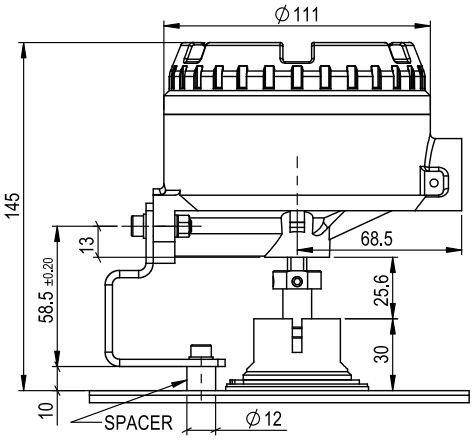


NO.	PART DESCRIPTION	QTY
1	COUPLER	1
2	BRACKET	1
3	BOLTS	2 + 2

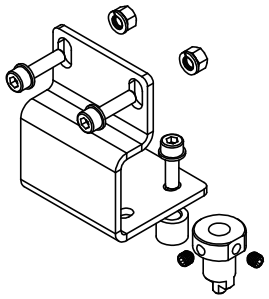




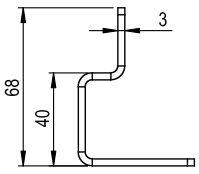
ACTUATOR PINION HEIGHT 20MM



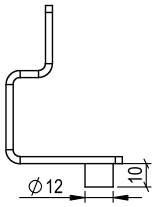
ACTUATOR PINION HEIGHT 30MM



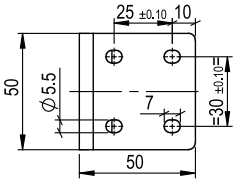
KIT FOR ROTARY ACTUATOR



BRACKET FOR PINION HEIGHT 20MM



BRACKET WITH SPACER FOR PINION HEIGHT 30MM

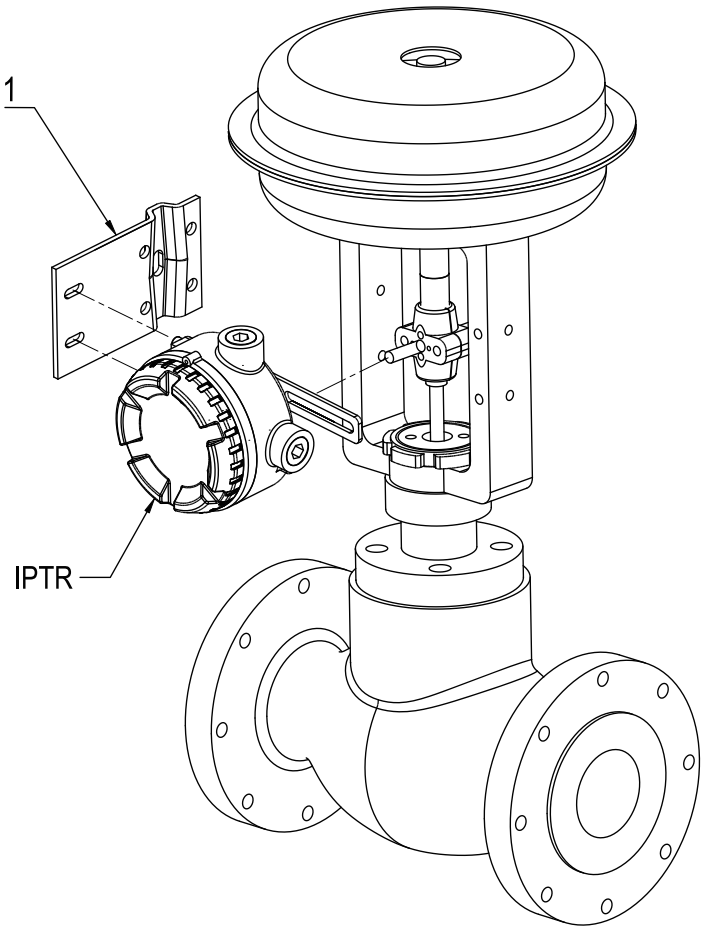


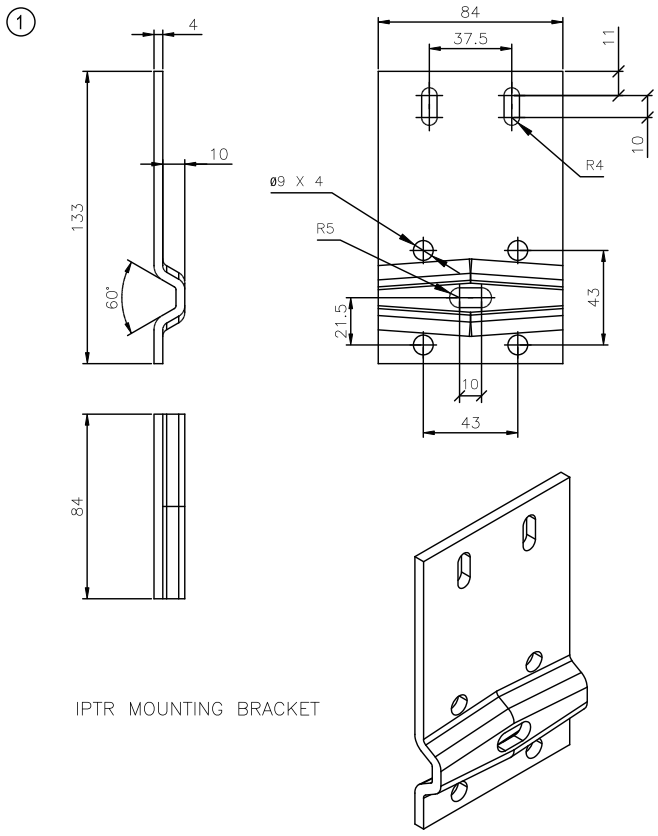
NOTE : NO SPACER IS REQUIRED FOR 20 MM PINION HEIGHT

POSITION TRANSMITTER (IPTR) DRAWING

DIMENSION DETAILS

I PTR ASSEMBLY FOR LINEAR APPLICATION





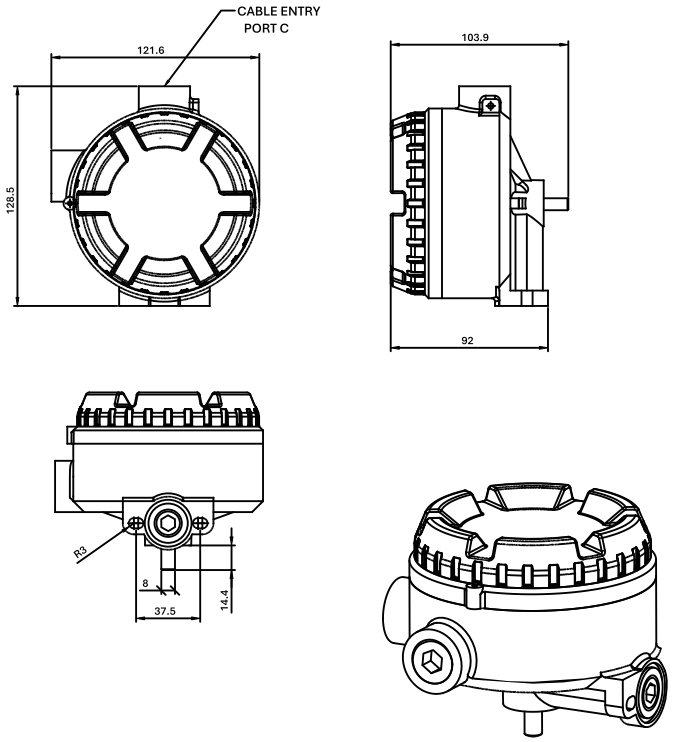
IPTR MOUNTING BRACKET

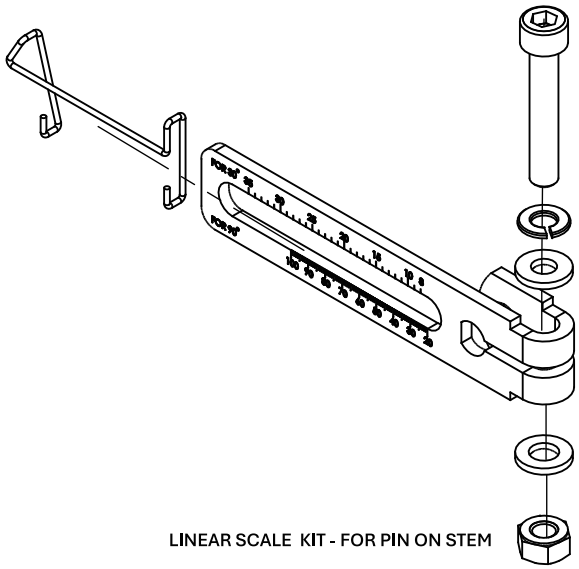
NOTE: CONSULT FACTORY FOR IPTR MOUNTING BRACKET FOR LINEAR APPLICATION

POSITION TRANSMITTER (IPTR) DRAWING

DIMENSION DETAILS

I PTR ASSEMBLY FOR LINEAR APPLICATION

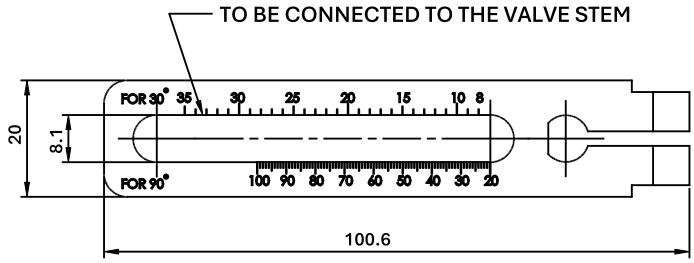




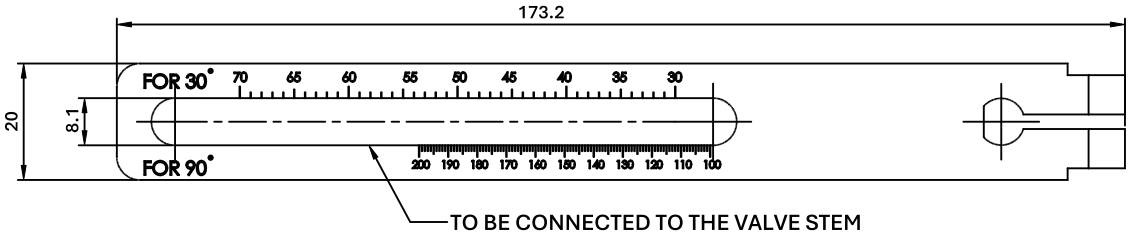
LINEAR SCALE KIT - FOR PIN ON STEM

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	
MODEL	
Weatherproof	IPTR W
Flameproof	IPTR X

2	
CONDUIT ENTRY	
1/2" NPT (F)	4R
3/4" NPT (F)	6R
M20X1.5 (F)	3M

3	
BODY & COVER	
Aluminium	*
CF8M	SS

4	
BRACKET	
Standard Bracket	*
Rotary Bracket	RC 006

5	
CERTIFICATE	
None	*
CMRI	C

Note:

⊛ Default

SS - STAINLESS STEEL

NOTES

NOTES

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