



Airpower positioners are a robust range of rotary or linear valve positioners in AP1000 electro-pneumatic (4-20mA), AP1200 pneumatic (3-15 psi) or AP2000 programmable smart type. Designed to control the position of various valve types, they are manufactured to meet most international standards and are tried and are a proven product from AIR-POWER.

AP1000 & AP1200 FEATURES

- Easy maintenance.
- Precise calibration with simple SPAN and ZERO adjustments.
- Simple conversion to direct Acting or Reverse Acting.
- Split range control available by simple adjustments without changing parts.
- Simple structure for feedback connection.
- Corrosion-resistant aluminium die cast body.
- Sensitive response for high performance.
- Vibration resistant design.
- Stainless steel mount bracket & gauges standard.
- Ex d IIB T6 explosion proof as standard (model AP1000).

OPTIONS

- Linear or rotary options.
- Optional built-in limit switches or 4-20mA position transmitter for feedback (model AP1000).
- Single or double acting versions available.

AP2000 FEATURES

- Easy and quick auto-calibration with digital display.
- Detecting RA (reverse acting) or DA (direct acting) automatically regardless of air connections.
- Suitable for single or double acting without any special adjustments.
- Compact design allows it to be installed on small actuators.
- Provides error messages against performance failures.
- Possible to test actuator with any fixed signal under a test mode.
- Programmable characteristic curve with 17 points.
- Wide operating temperature range -30 to +80°C.
- Improved control of high-friction globe and ball valves by eliminating overshoot and hunting.
- Low air consumption.
- NAMUR mounting with stainless steel bracket included.

OPTIONS

- Output position transmitter (4-20mA).
- 2 x alarm limit or micro switch (SPDT).
- Explosion proof type (IEC Ex / ATEX Ex ia IIC T6).
- HART communication

FACTORY ACCREDITED:



ORDERING GUIDE

CODE OF AIRPOWER POSITIONERS	SERIES NO.	TYPE OF POSITIONER	TYPE OF ACTING	OPTION FOR FEEDBACK FROM POSITIONER	EXPLOSION PROOF
<i>Example: AP</i>	<i>1200</i>	<i>R</i>	<i>D</i>	<i>IT</i>	<i>I</i>
AP	1000. Electro-Pneumatic 1200. Pneumatic 2000. Programmable Smart Type	R. Rotary L. Linear	D. Double Acting S. Single Acting	IT. Internal position transmitter (4-20mA). BT. Internal limit switch (2-SPST). ET. External position transmitter (4-20mA). EB. External limit switch or proximity sensors. ET&B. External position transmitter (4-20mA) & external limit switch (2-SPDT) or proximity sensors.	M. Exd II BT6 I. Ex ia II CT6 N. Non-explosion
	LEVER TYPE	ORIFICE			
<i>Example:</i>	<i>1</i>	<i>3</i>			
	Rotary Type: 1. M6x40L 2. M6x63L 3. M8x40L 4. M8x63L 5. NAMUR Linear Type: 1. 10-40mm 2. 10-40mm 3. 70-100mm 4. 100-130mm 5. 130-150mm	1. 0.7mm for below 90cm ³ of actuator. 2. 1mm for 90-180cm ³ of actuator. 3. None for over 180cm ³ of actuator.			

ENCLOSURE/ AREA CLASSIFICATION

MODEL NO.	AP1000R	AP1200R	AP2000R
			
MODEL NO.	AP1000L	AP1200L	AP2000L
			
INPUT SIGNAL	4 -20mADC (5 -15mADC)	0.2 -1kgf/cm ² (3 -15psi)	4-20mA (2 wire), minimum 3.6mA
IMPEDANCE	250 ±15Ω	—	—
SUPPLY PRESSURE	1.4 -7kgf/cm ²	1.4 -7kgf/cm ²	0.14Mpa -0.7MPa (1.4 Bar -7 Bar)
STROKE	0° -90° (R) 10 -150mm (L)	0° -90° (R) 10 -150mm (L)	30° -120° (R) 10 -100mm (L)
AIR CONNECTION	G 1/4 NPT	PT 1/4 NPT	1/4 BSPP, 1/4 NPT
GAUGE CONNECTION	G 1/8 NPT	PT 1/8 NPT	PT 1/8 NPT
CONDUIT	G 1/2 NPT	—	M20 -1.5, 1/2 BSPP, 1/2 NPT
EXPLOSION PROOF	Exd II BT6, Exia II CT6, Non-explosion	—	Exia II CT4-6 or Exd II CT6
PROTECTION	IP66	IP66	IP65
AMBIENT TEMPERATURE	-20°C to 70°C	-20°C to 70°C	-20°C to 70°C
LINEARITY	±1.5%	±1.5%	0.5% F.S
HYSTERESIS	1.5%	1.5%	±1% F.S
SENSITIVITY	0.4%	0.4%	0.2% F.S (Repetatively)
AIR CONSUMPTION	3LPM	3LPM	<36L/H
FLOW CAPACITY	8LPM	8LPM	2G (Vibration effect)
MATERIAL	Aluminium die casting	Aluminium die casting	Aluminium alloy with polyester powder coated
WEIGHT	2.8kg	1.7kg	2.0kg
APPROVALS	CE, NEMA 4.4X & IP66.	CE & IP66.	CE & Ex.

PARTS LIST

FIGURE 1. AP1000R

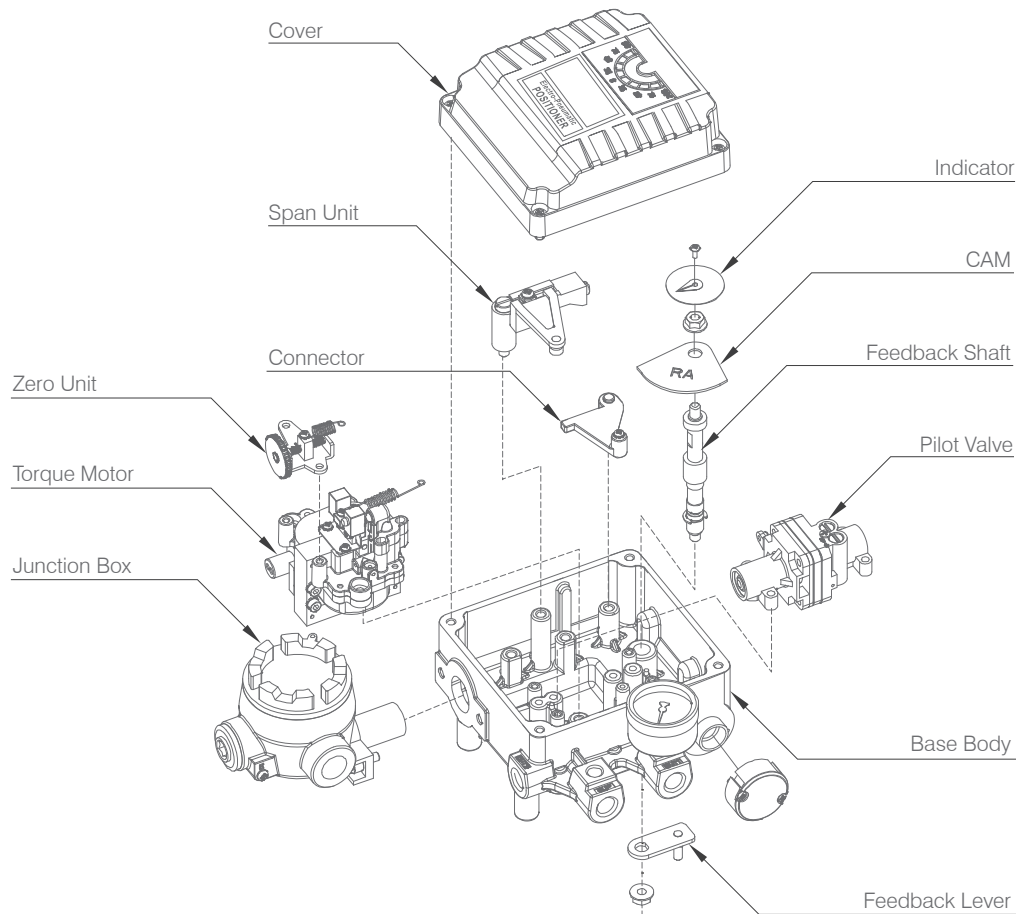
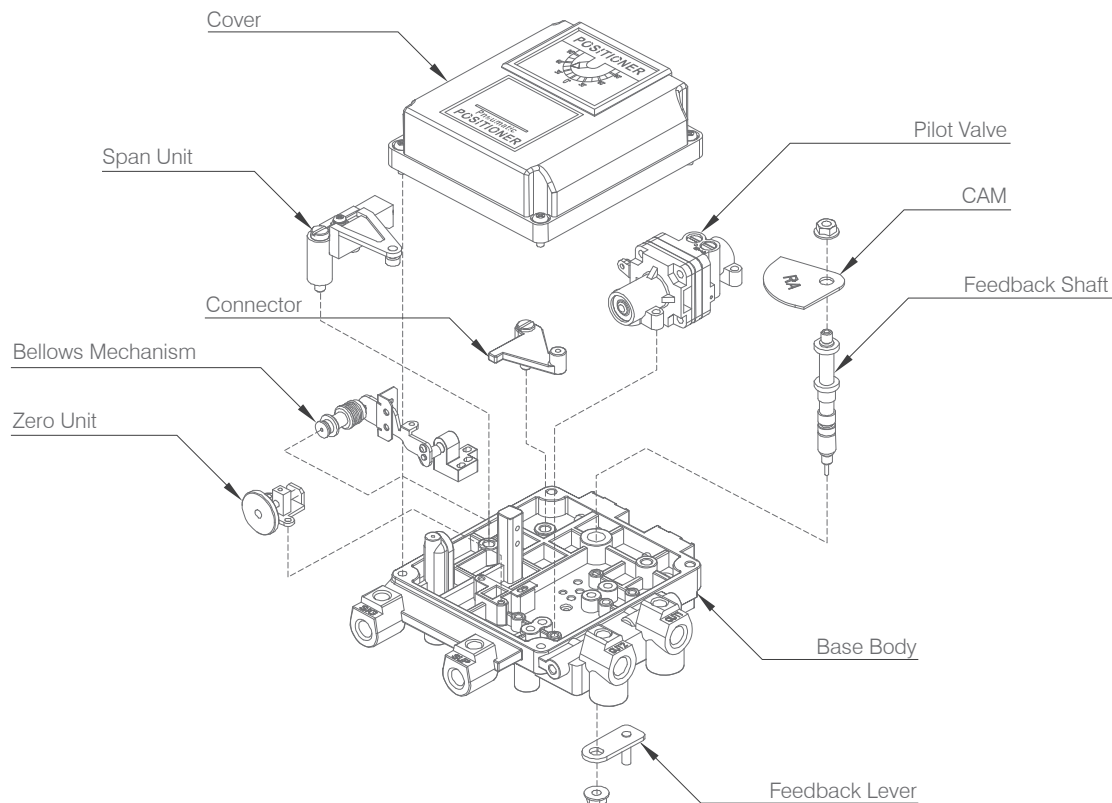
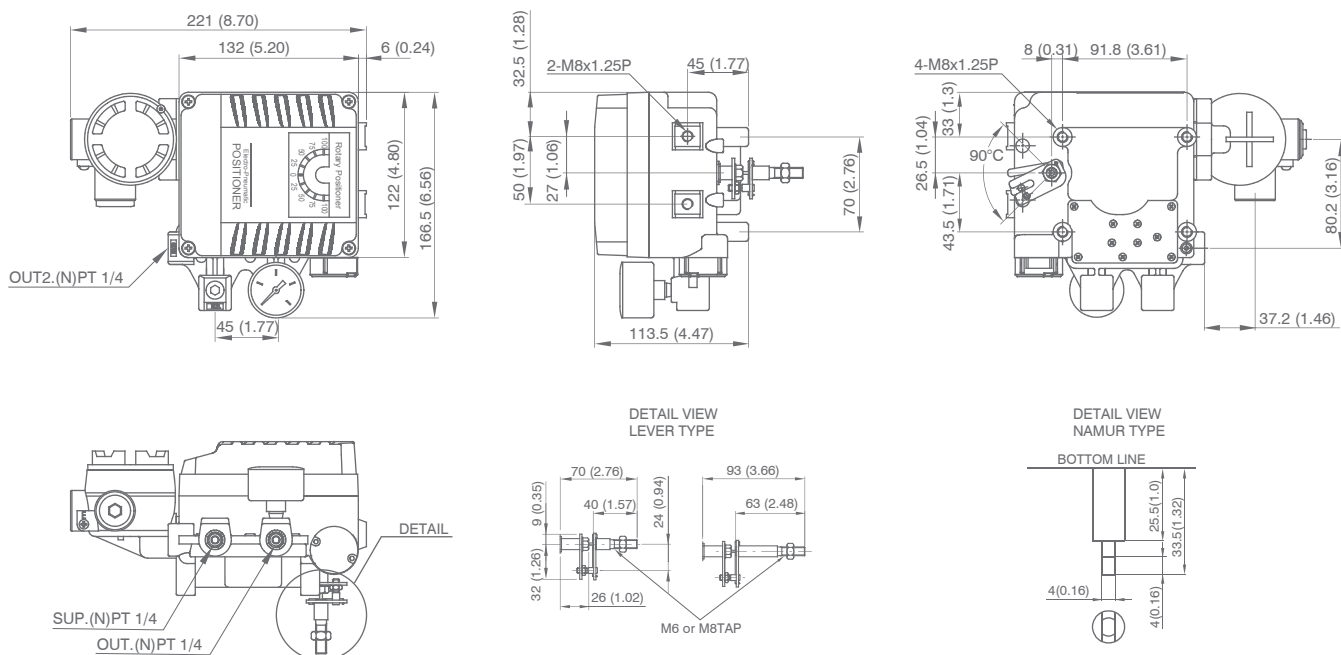


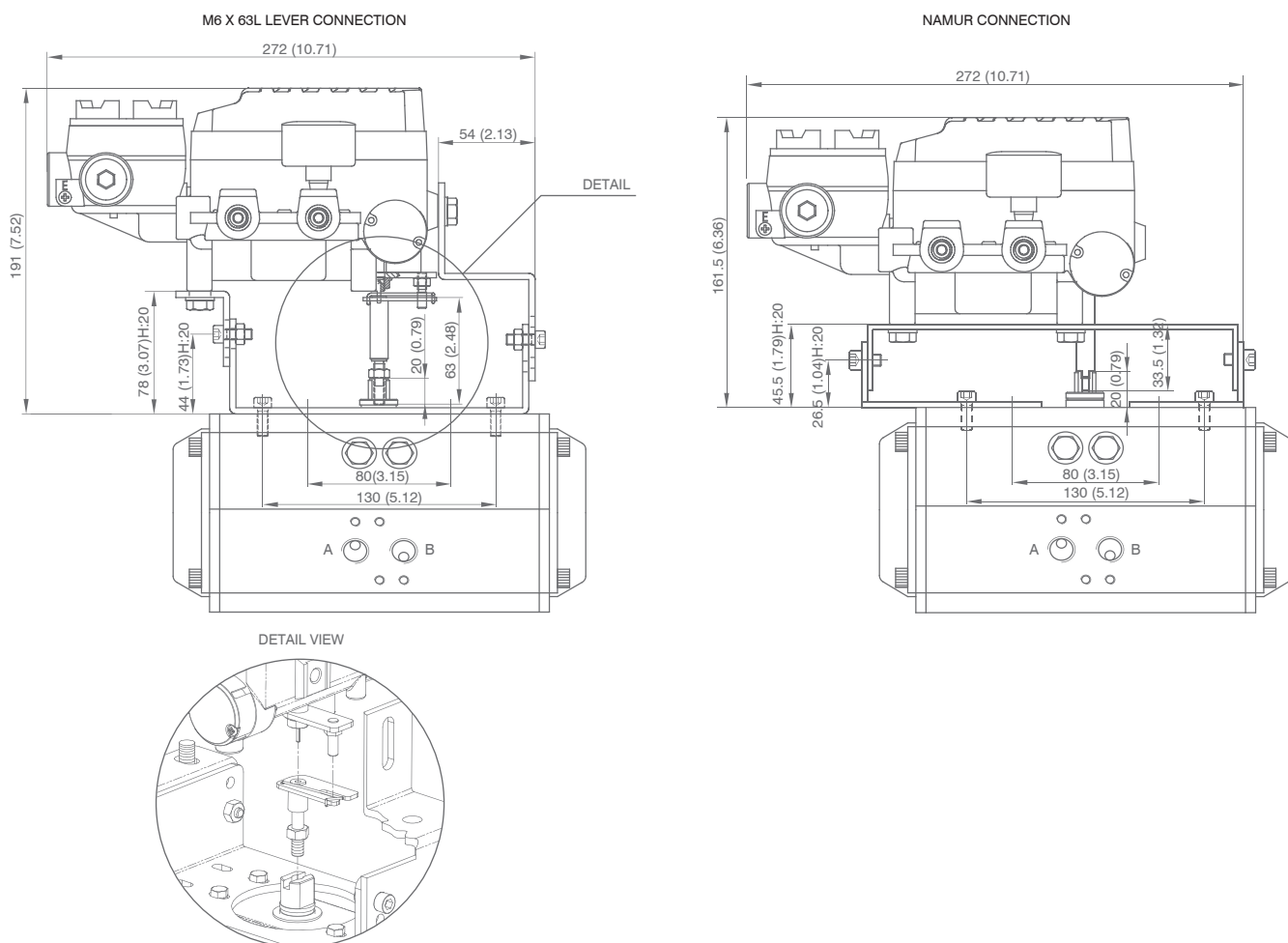
FIGURE 2. AP1200R



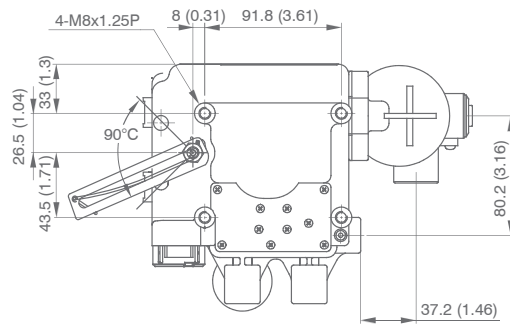
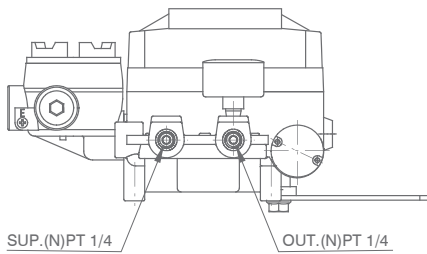
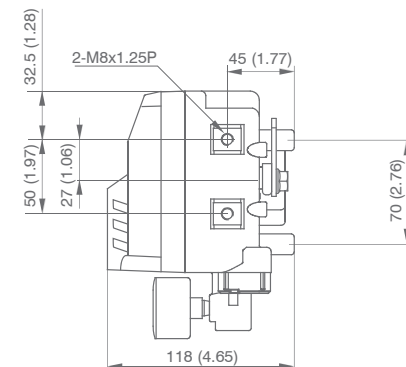
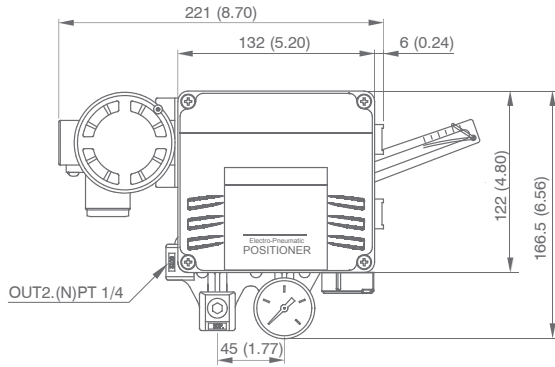
AP1000R DIMENSIONS (MM)



AP1000R MOUNTING (MM)



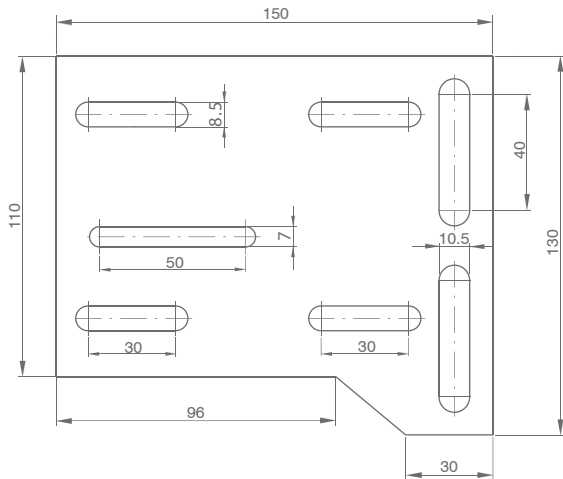
AP1000L DIMENSIONS (MM)



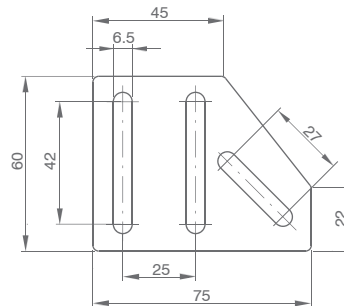
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AP1000L MOUNTING (MM)

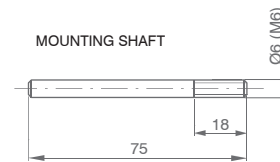
POSITIONER BRACKET



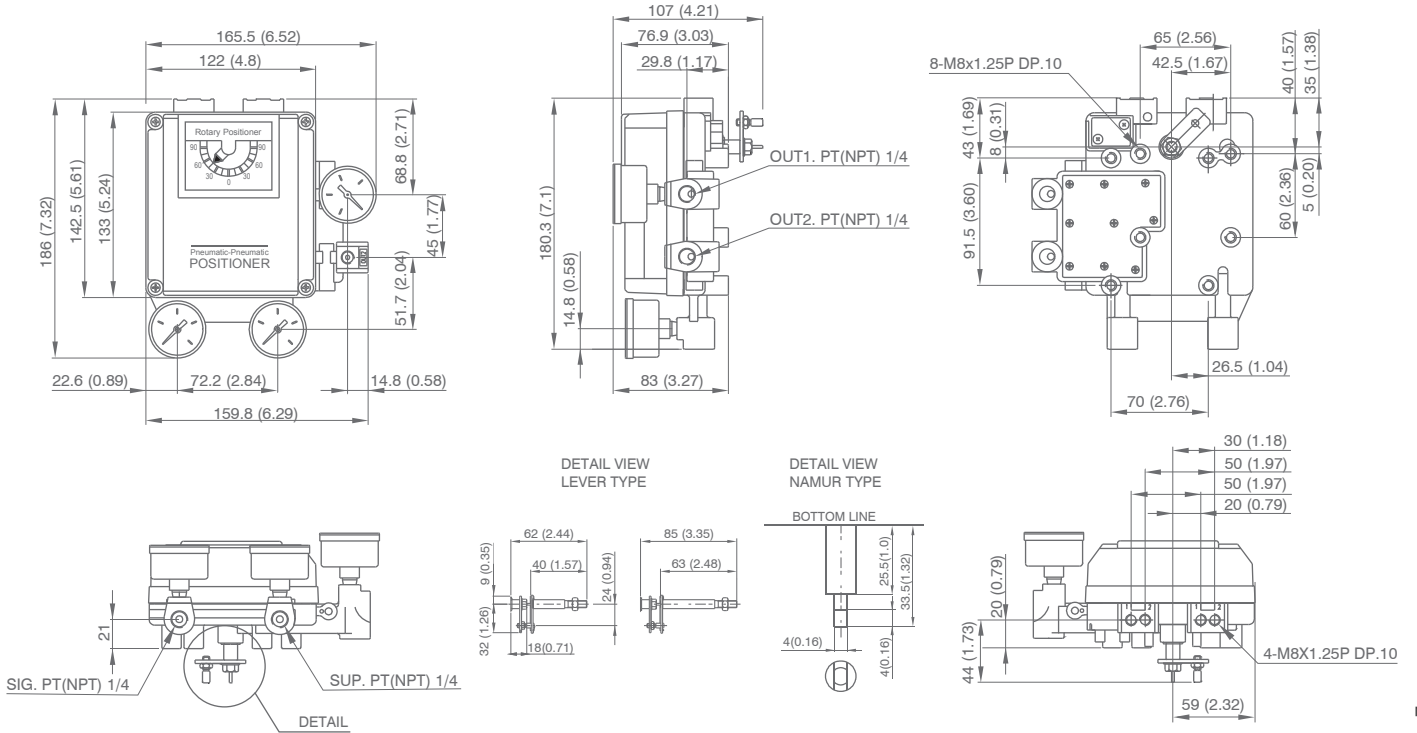
LEVER BRACKET (OPTIONAL)



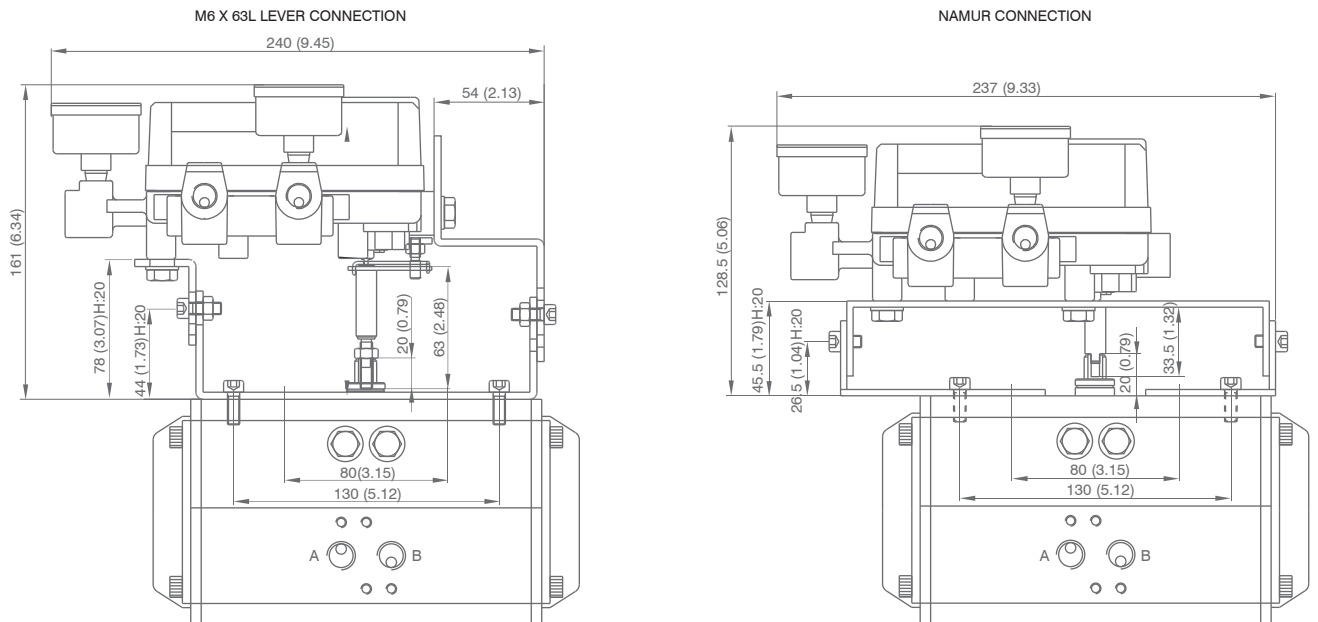
MOUNTING SHAFT



AP1200R DIMENSIONS (MM)



AP1200R MOUNTING (MM)



POSITION TRANSMITTER

4-20MA FEEDBACK MODULE (IT & ET)



Input Type:	2 wire
Input Signal:	0°C to 90°C
Output Signal:	4-20mA DC
Load Resistance:	0-600 Ohm
Noise Range:	50mVp.p
Adjustable Range:	Zero: ± 10%, Span: 60-110%
Linearity:	± 1%
Sensitivity:	± 0.2%
Hysteresis:	0.002
Supply Voltage:	15-30VDC

SENSORS

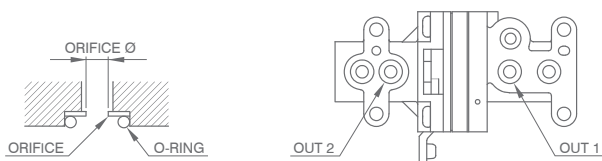
Internal Mechanical Switch:	Honeywell (2SPST)
External Mechanical Switch:	M2 (2SPDT)
Proximity Sensors:	PP2 (P&F Inductive Sensors, 2 wire) PA2 (ALPS Inductive Sensors, 2 wire) PA3 (ALPS Inductive Sensors, 3 wire)
Magnet Sensor:	QA3. ALMS Magnetic Sensors (3 wire)
Internal & External Position Transmitter:	IT (4-20mA Feedback Module) ET (4-20mA Feedback Module)

ORIFICE MOUNTING

- If the size of the actuator is too small relative to the flow rate, the positioner can have hunting. In order to avoid hunting, orifice can be used. There are three types of orifice.

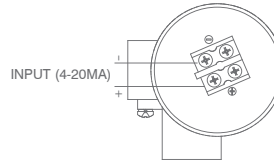
Air Volume of Actuator:	Orifice Size (mm):	Suffix Model No.:
90cm ³ less	Ø0.7	1
90cm ³ - 180cm ³	Ø1	2
180cm ³ more	None	3

- Remove the o-ring from OUT1 and OUT2 port and insert appropriate orifice. After inserting orifice, place back the o-ring. Make sure there is no substance entering into port.
- If hunting persists after inserting the orifice, the actuator speed controller can be used.

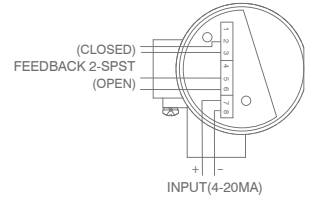


VALVE POSITION WIRING

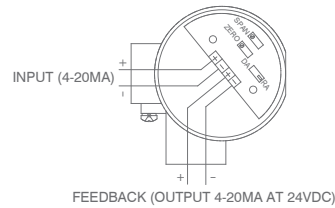
NO INTERNAL INSTALLATION (NI)



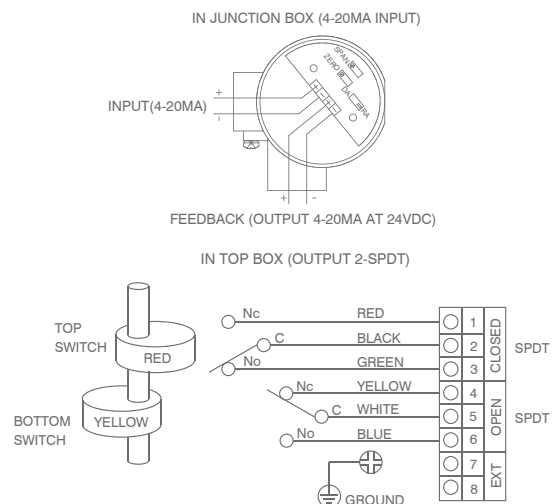
INTERNAL LIMIT SWITCHES (IB)



INTERNAL POSITION TRANSMITTER (IT)



INTERNAL POSITION TRANSMITTER & EXTERNAL LIMIT SWITCHES (IT&EB)



EXTERNAL POSITION TRANSMITTER & EXTERNAL LIMIT SWITCHES (ET&B)

