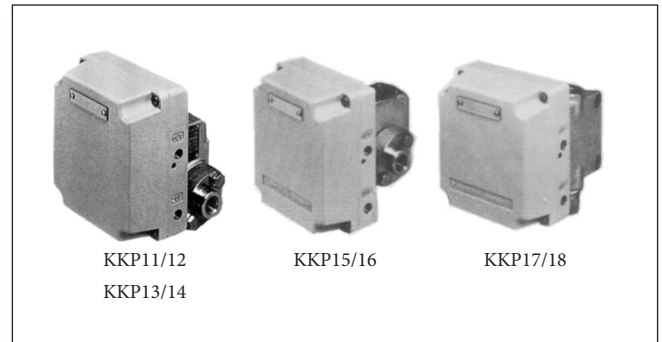


Pneumatic Gauge Pressure Transmitter

Model KKP11/12/13/14/15/16/17/18

Overview

Model KKP is a pneumatic transmitter which employs a combination of a vector balance mechanism and an involute mechanism. Its wide variety of features include high resistance against adverse environments, high turn-down ratio, and easy maintenance.



Standard Specifications

Item	Basic model No.	Specifications	
Measuring range (continuously variable)	KKP11	0-5 to 0-70 MPa	
	KKP12	0-1.25 to 0-25 MPa	
	KKP13	0-0.35 to 0-7 MPa	
	KKP14	0-0.175 to 0-3.5 MPa	
	KKP15	0-35 to 0-686 kPa	
	KKP16	0-10 to 0-196 kPa	
	KKP17	0-3.4 to 0-66.6 kPa	
	KKP18	0-0.7 to 0-13.3 kPa	
Operating pressure	Operating pressure		Overload resistance
	KKP11	-0.1 MPa to +70 MPa	75 MPa
	KKP12	-0.1 MPa to +30 MPa	32 MPa
	KKP13	-0.1 MPa to +10.5 MPa	14 MPa
	KKP14	-0.1 MPa to +5.25 MPa	7 MPa
	KKP15	-0.1 MPa to +1.05 MPa	1.4 MPa
	KKP16	-100 to +300 kPa	400 kPa
	KKP17	-66.6 to +66.6 kPa	300 kPa
Process connection	KKP11	Welded nipple ($\phi 13.6 \times 50$)	
	KKP12/13 /14/15/16 /17/18	Rc 1/2 or 1/4 and 1/2 or 1/4 NPT female thread	
Air supply connection	Rc 1/4 or 1/4 NPT female thread		
Supply air pressure	140 \pm 14 kPa		
Output	20 to 100 kPa (see the model number selection for other outputs)		
External load	I.D. 4 mm \times Length 3 m + 20 cm ³ or more		
Air supply capacity	20 L/min (normal) or more at 6.7 kPa		
Air consumption	5 L/min (normal) or less (when balanced at 100 % output)		

Item		Specifications	
		Basic model No.	
Accuracy		KKP11	±1 % FS (span 5 to less than 10 MPa), ±0.5 % FS (span 10 MPa or more)
		KKP12	±1 % FS (span 1.25 to less than 2.5 MPa), ±0.5 % FS (span 2.5 MPa or more)
		KKP13	±1 % FS (span 0.35 to less than 0.7 MPa), ±0.5 % FS (span 0.7 MPa or more)
		KKP14	±1 % FS (span 0.175 to less than 0.35 MPa), ±0.5 % FS (span 0.35 MPa or more)
		KKP15	±1 % FS (span 35 to less than 70 kPa), ±0.5 % FS (span 70 kPa or more)
		KKP16	±1 % FS (span 10 to less than 20 kPa), ±0.5 % FS (span 20 kPa or more)
		KKP17	±1 % FS (span 3.4 to less than 6.8 kPa), ±0.5 % FS (span 6.8 kPa or more)
		KKP18	±1 % FS (span 0.7 to less than 1.4 kPa), ±0.5 % FS (span 1.4 to less than 9.8 kPa), ±0.75 % FS (span 9.8 kPa or more)
Deadband		0.1 % FS	
Damping time constant		Always 0.5 seconds or less	
Operating temperature		Meter body (process fluid): -40 to +120 °C Transmitter (ambient): -30 to +80 °C	
Operating humidity		10 to 90 % RH	
Structure	Dust-proof and waterproof		Satisfies IEC IP54, NEMA TYPE 3R, JIS C0920 rainproof
Material	Bourdon tube	KKP11/12 /13/14	SUS316
	Bellows	KKP15/16 /17/18	SUS316L
	Wetted parts gasket		PTFE
	Wetted parts	KKP11/12 /13/14/15/16	SUS316
		KKP/17/18	Carbon steel (SF440A) or SUS316
	Transmitter case		Aluminum alloy
Sealed liquid		Silicone oil	
Finish		Baked acrylic finish. Color: light beige (Munsell 4Y7.2/1.3)	
Mounting		On vertical or horizontal 2-inch pipe	
Mass	KKP11/12 /13/14/15 /16	Approx. 7 kg (+ 0.6 kg for model with Pressure Regulator with air filter (RA1B))	
	KKP17/18	Approx. 9 kg (+ 0.6 kg for model with Pressure Regulator with air filter (RA1B))	

Additional specifications

Item		Specifications						
		Basic model No.	Span	Suppression (max.)	Elevation, spring A (max.)	High elevation, spring B	Maximum operating pressure	Unit
Suppression and elevation*		KKP11	5 to 70	-100 kPa	65	-	70	MPa
		KKP12	1.25 to 25		22.5	22.5 to 28.75	30	
		KKP13	0.35 to 7		6	6 to 10.15	10.5	
		KKP14	0.175 to 3.5		3	3 to 5.075	5.25	
		KKP15	35 to 686	-100	600	600 to 1015	1050	kPa
		KKP16	10 to 196		180	180 to 290	300	
		KKP17	3.4 to 66.6	-66.6	63.2	-	66.6	
		KKP18	0.7 to 13.3	-13.3	12.6	-	13.3	
Pressure Regulator with air filter (RA1B)	Primary pressure		200 to 1035 kPa					
	Secondary pressure		140 kPa					
	Filter mesh diameter		5 µm					
	Connection		Rc 1/4 or 1/4 NPT female thread					

* Elevation + Span ≤ Maximum operating pressure

Optional Specifications

Item		Specifications	
SUS304 bolt for meter body cover*	Y66	Operating pressure	See standard specifications.
Degreasing	Y67	Wetted parts	
Corrosion-resistant and silver finish	Y138	Corrosion-resistant (baked acrylic) finish (Y138A)	Resistance against corrosive gases
		Heavy corrosion-resistant (baked epoxy) finish (Y138B)	Resistance against corrosive liquids
		Silver-normal (baked acrylic) finish (Y138C)	Prevention of device temperature rise due to direct sunlight, radiant heat, etc.
		Silver-corrosion-resistant (baked acrylic) finish (Y138D)	Prevention of temperature rise as described above and resistance to corrosive gases
		<i>Note: Silver finish should not be used in alkaline gases.</i>	
Output indicator	Y185	With ϕ 100 gauge	
High vibration resistance	Y188	High vibration-resistance model with a dashpot	

* Selectable for model KKP11/12/13/14/15/16

Model Selection Table

		Basic model No.	Optional spec.				Add'l spec.				
Measuring span (MPa)	0-5 to 0-70	KKP11									
	0-1.25 to 0-25	KKP12									
	0-0.35 to 0-7	KKP13									
	0-0.175 to 0-3.5	KKP14									
Measuring span (kPa)	0-35 to 0-686	KKP15									
	0-10 to 0-196	KKP16									
	0-3.4 to 0-66.6	KKP17									
	0-0.7 to 0-13.3	KKP18									
Cover material/ element material	SF440A/SUS316L*1							1	8		
	SUS316/SUS316*2							2	2		
	SUS316/SUS316L							2	8		
Air supply con- nection	Rc 1/4 female thread									A	
	1/4 NPT female thread									B	
Signal air pres- sure	kgf/cm ² : 0.2 to 1.0 kgf/cm ² *3										1
	psi: 3 to 15 psi*3										2
	bar: 0.2 to 1.0 bar*3										3
	Pa: 20 to 100 kPa										4
	Pa: 19.6 to 98.1 kPa (0.2 to 1.0 kgf/cm ² or equivalent)										8
Additional speci- fications	None					X					
	Elevation					5					
	Suppression					6					
	Pressure Regulator with air filter (RA1B)					R					

*1. Selectable for model KKP17/18 only

*2. Selectable for model KKP11/12/13/14 only

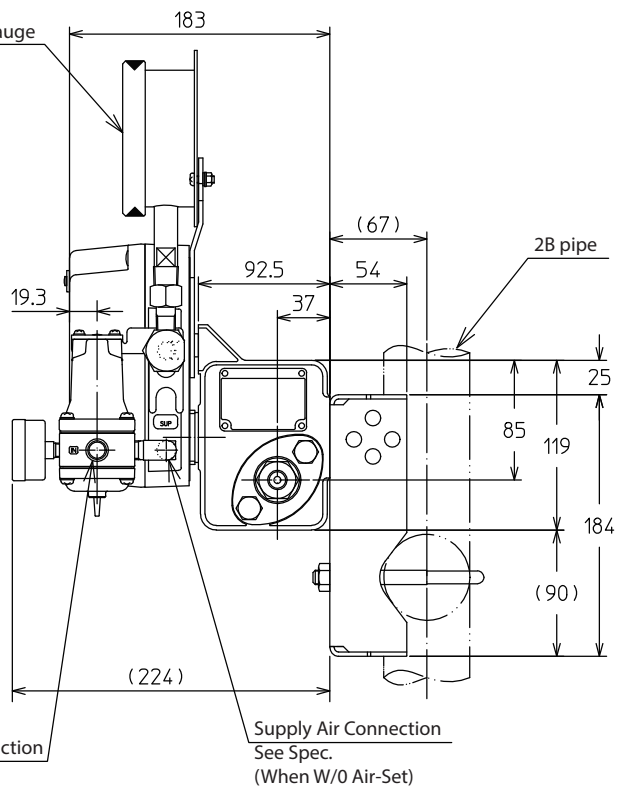
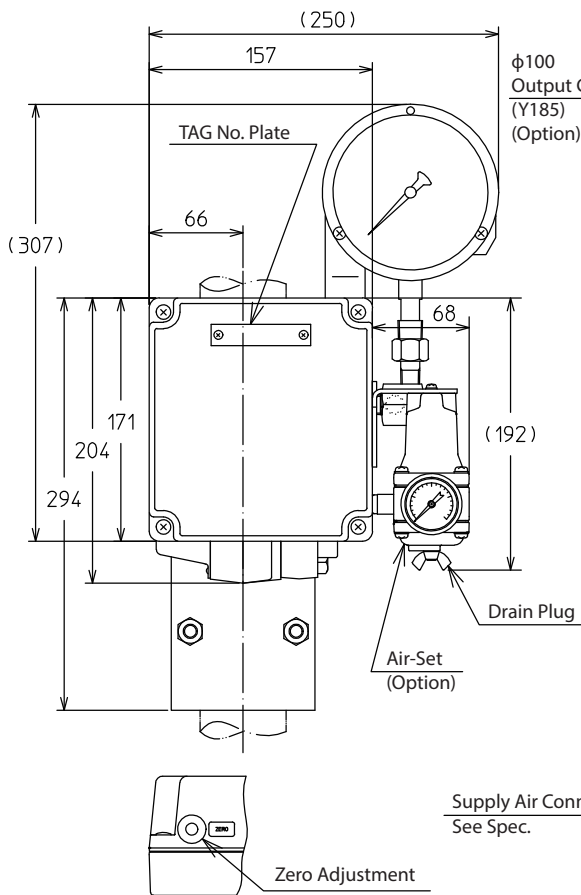
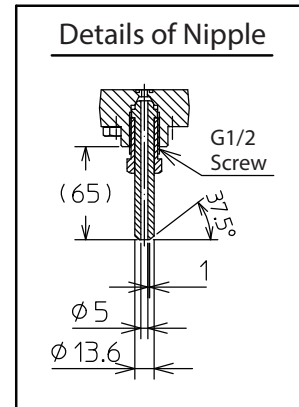
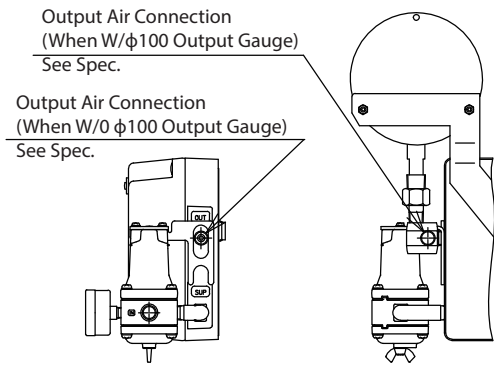
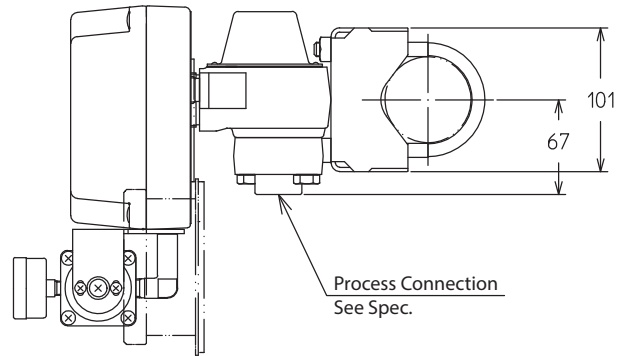
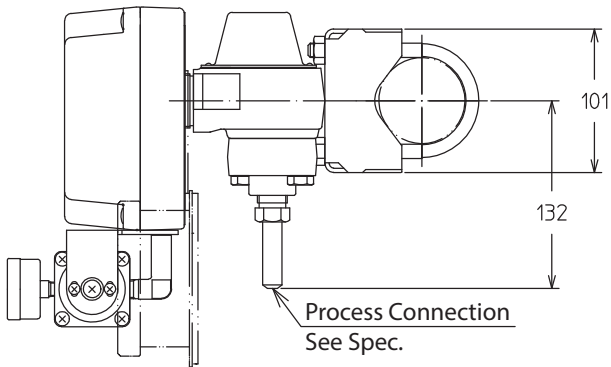
*3. Non-SI units can only be used overseas.

Dimensions

For KKP 11

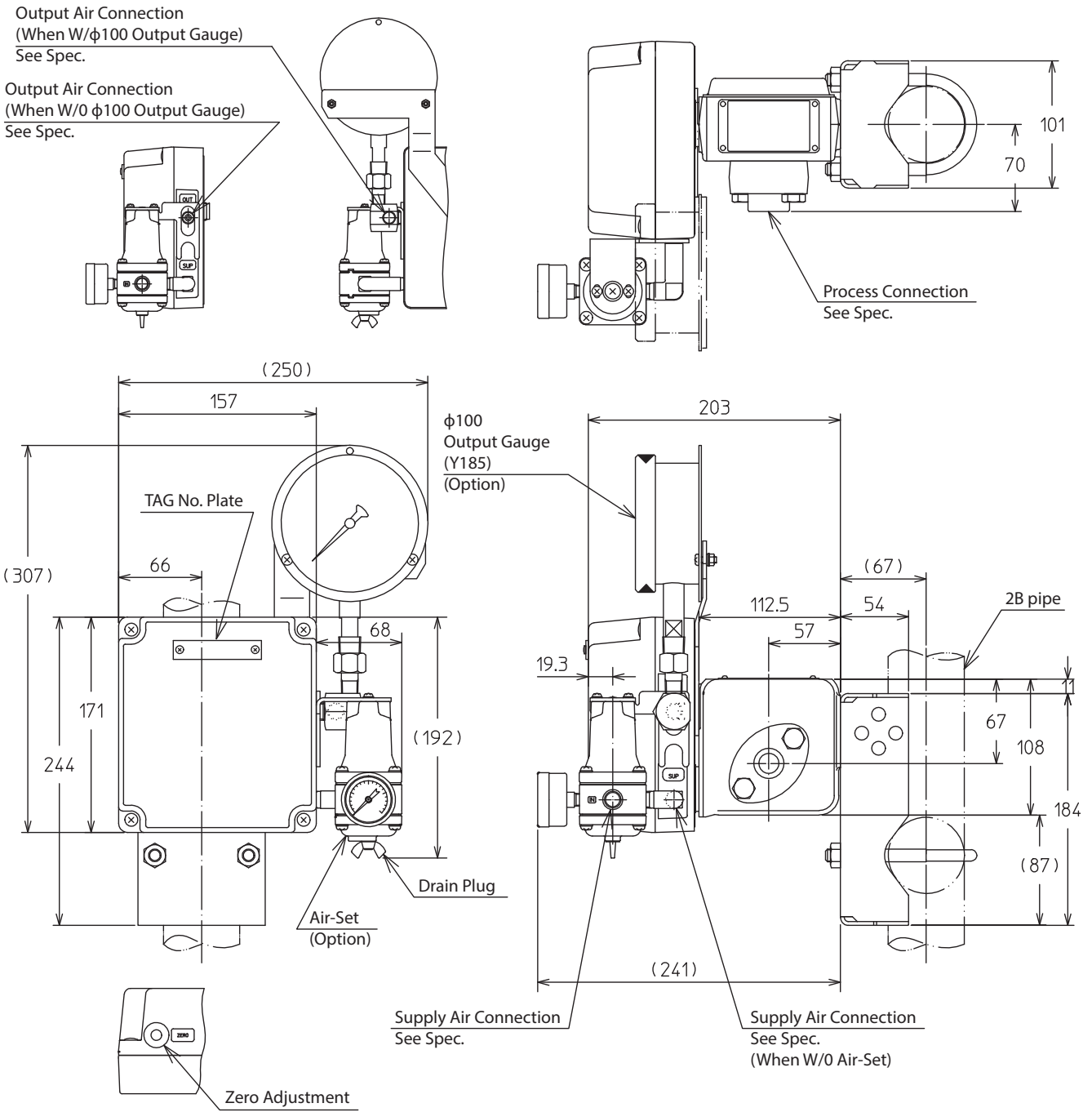
For KKP12/13/14

unit: mm



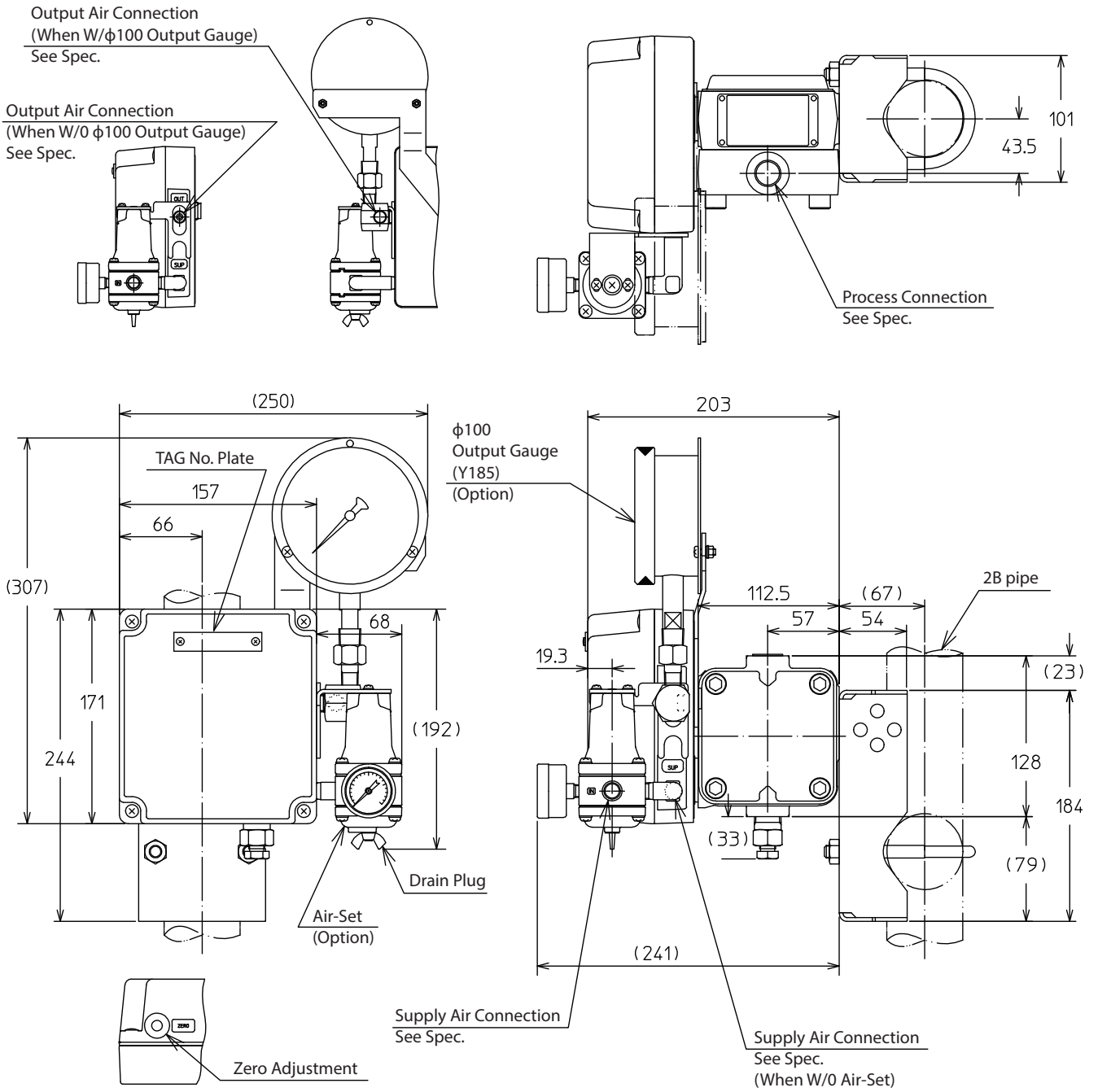
Model KKP15/16

unit: mm



Model KKP17/18

unit: mm



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