

## Accessories

### 14-4. I/P Valve Positioner Model:HEP

#### 14-4-1. For mounting on Control Valves

##### 14-4-1-1. Single acting type HEP Positioner

###### Note to Quotation

\*1 When replacement, the finish of the existing HEP is corrosion resistant (Y138A), select this code of "S".

\*2 When replacement, the finish of the existing HEP is Silver paint (Y138C), select this code of "D".

Basic Model                      Selection                      Option  
 HEP 

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(1)	(2)	(3)	(4)	(5)
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(6)
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Basic Model	Basic Price
HEP15 (JIS Flameproof)	166
HEP16 (JIS Intrinsically Safe)	166
HEP17 (JIS Watertight)	160
HEP18 (FM Explosion-proof)	176
HEP19 (FM Intrinsically Safe)	176

Selection			Code	Add. Price
(1)	Input Signal	4~20mA (Accuracy ±1%FS)	1	0
		4~12mA (Accuracy ±2%FS)	3	0
		4~12±1mA (Accuracy ±2%FS)	4	0
		12~20mA (Accuracy ±2%FS)	5	0
		12±1~20mA (Accuracy ±2%FS)	6	0
		10~50mA (Accuracy ±1%FS)	2	0
(2)	Input/output charact.	Linear (Standard)	L	0
		Equal % EQ%	E	0
		Quick opening QO	Q	0
(3)	Electrical Connections	G1/2	G	0
		1/2NPT (Not available to Model HEP15)	N	0
		1/2NPT With G1/2-1/2NPT Adaptor	A	10
(4)	Finish	Standard finish *1	S	0
		Corrosion-proof Finish (Epoxy resin baking, Y138B)	B	15
		Corrosion-resist. Finish (Silver Acrylic resin baking, Y138D)*2	D	8
(5)	Positioner Action	Direct acting Positioner (Standard)	D	0
		Reverse acting Positioner	R	0

(6)	No selection	X	0
	Universal elbow, Explosion-proof (G1/2, SUS304)	A	2
	Press-tight cable packing adaptor (G1/2)	B	10
	Not applicable to 1/2NPT connection in selection (3)		
	Auto or manual Selector, 3PCB	D	24
	Stainless 3 μm filter (SH4040) for Pressure regulator with filter	F	8
	Using Neoprene Rubber for Pressure regulator with filter	K	8
	Tropicalization (SP0039)	N	17

## Accessories

### 14-4-1-2. Double acting HEP Positioner

#### Note to Quotation

\*1 When replacement, the finish of the existing HEP is corrosion resistant (Y138A), select this code of "S".

\*2 When replacement, the finish of the existing HEP is Silver paint (Y138C), select this code of "D".

Basic Model                      Selection                      Option  
 HEP 

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(1)	(2)	(3)	(4)	(5)
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(6)
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Basic Model	Basic Price
HEP25 (JIS Flameproof)	214
HEP26 (JIS Intrinsically Safe)	214
HEP28 (FM Explosionproof)	225
HEP29 (FM Intrinsically Safe)	225

Selection			Code	Price
(1)	Input Signal	4~20mA (Accuracy ±1%FS)	1	0
		4~12mA (Accuracy ±2%FS)	3	0
		4~12±1mA (Accuracy ±2%FS)	4	0
		12~20mA (Accuracy ±2%FS)	5	0
		12±1~20mA (Accuracy ±2%FS)	6	0
		10~50mA (Accuracy ±1%FS)	2	0
		(2)	Input/ouput charact.	Linear (Standard)
Equal % EQ%	E			0
Quick opening QO	Q			0
(3)	Electrical Connections	G1/2	G	0
		1/2NPT (Not applicable to Model HEP25)	N	0
		1/2NPT (with G1/2-1/2NPT adaptor)	A	10
(4)	Finish	Standard finish *1	S	0
		Corrosion-proof Finish (Epoxy resin baking, Y138B)	B	15
		Corrosion-resist. Finish (Silver Acrylic resin baking, Y138D) *2	D	8
(5)	Positioner Action	Direct acting Positioner (Standard)	D	0
		Reverse acting Positioner	R	0

(6)	No selection	X	0
	Universal elbow, Explosion-proof (G1/2, SUS304)	A	2
	Press-tight cable packing adaptor (G1/2)	B	10
	Not applicable to 1/2NPT connection in selection (3)		
	Stainless 3 μm filter (SH4040) for Pressure regulator with filter	F	8
	No Silicon Grease use	G	5
	Using Neoplene Rubber for Pressure regulator with filter	K	8
	Tropicalization (SP0039)	N	17



**Accessories**

Option II		Addd.Price	
(13)	No selection	X	0
	Universal elbow, Explosion-proof (G1/2,SUS304)	A	2
	Press-tight cable packing adaptor (G1/2)	B	10
	Not applicable to 1/2NPT connection in selection (8)		
	Short travel *5	C	0
	Auto or manual Selector, 3PCB	D	24
	Stainless 3 μ m filter (SH4040) for Pressure regulator with filter	F	8
	Using Neoprene Rubber for Pressure regulator with filter	K	8
	Tropicalization(SP0039)	N	17

Table2.Additional price for bracket for single acting actuator

Actuator type	Mounting Bracket (Mounting Plate/Bolts)	SS400 Zinc Plating /SUS304	No option	SUS304 /SUS304
		Code	C	X
PSA1,PSK1	Y1	8	0	30
PSA2	Y2	8	0	30
PSA3	Y3	8	0	30
PSA4	Y4	8	0	30
PSA6	YV	8	0	30
HA1	Y5	8	0	30
HA2,HL2	Y6	8	0	30
HA3,HL3	Y7	8	0	30
HA4,HL4	Y8	8	0	30
HK1	YA	8	0	-
VR1, RSA1	YB	24	0	30
VR2	YC	24	0	30
RSA2	R2	24	0	30
VR3	YD	24	0	30
VA1 *6	YE	8	0	30
VA2 *6	YF	8	0	30
VA3 *6	YG	8	0	30
VA4 *6	YH	8	0	30
VA5 *6	YJ	8	0	30
VA6 *6	YK	8	0	30
VA1 *7	V1	10	0	32
VA2 *7	V2	10	0	32
VA3 *7	V3	10	0	32
VA4 *7	V4	10	0	32
VA5 *7	V5	10	0	32
VA6 *7	V6	10	0	32
GOM83S	YL	8	0	40
GOM84S	YM	8	0	40
GOM103S	YN	8	0	40
GOM124S	YP	8	0	40

\*5 The following table shows the standard travel of Single type HEP positioner.

In case of out of range, please consult to IBD sales.

Actuator	Travel (mm)	Actuator	Travel (mm)
PSA1,2 PSK1	20	HK1	19
PSA3,4	38	VA1	14,3,25
PSA6	38,50,75	VA2	25,37.5
HA1	14.3,25	VA3	25,37.5,50
HA2	14.3,25.,38	VA4	25,37.5,50
HA3	25,35,50	VA5	50,75,100
HA4	38,50,75	VA6	50

\*6 VA actuator which produced on/after Apr. '83

\*7 VA actuator which produced before Apr. '83

# Accessories

## 14-4-2-2. Double action HEP Positioner

### Note to Quotation

\*1 Not for Japanese local market due to SI unit

\*2 When replacement, the finish of the existing HEP is corrosion resistant (Y138A), select this code of "S".

\*3 When replacement, the finish of the existing HEP is Silver paint (Y138C), select this code of "D".

Basic Model

Selection

Option I

Option II

HEP 

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
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(11)	(12)
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(13)
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Basic Model	Basic Price	Selection	Code	Add. Price	
HEP25 (JIS Flameproof)	206	(1) Input Signal	4 to 20 mA (Accuracy ±1%FS)	1	0
HEP26 (JIS Intrinsically Safe)	206		4 to 12 mA (Accuracy ±2%FS)	3	0
HEP28 (FM Explosion-proof)	216		4 to 12 ±1 mA (Accuracy ±2%FS)	4	0
HEP29 (FM Intrinsically Safe)	216		12 to 20 mA (Accuracy ±2%FS)	5	0
			12 ±1 to 20 mA (Accuracy ±2%FS)	6	0
			10 to 50 mA (Accuracy ±1%FS)	2	0
		(2) Air supply pressure	130<=Ps<=150 kPa (Suitable Press. gauge Scale 200 kPa)	1	0
			150<Ps<=300 kPa (Suitable Press. gauge Scale 400 kPa)	2	0
			300<Ps<=400 kPa (Suitable Press. gauge Scale 600 kPa)	3	0
			400<Ps<=450 kPa (Suitable Press. gauge Scale 600 kPa)	4	0
			450<Ps<=500 kPa (Suitable Press. gauge Scale 1000 kPa)	5	0
		(3) Unit of pressure gauge	kPa	A	0
			kgf/cm <sup>2</sup> *1	B	0
			MPa	C	0
			bar	D	0
			psi *1	E	0
		(4) Input/output character	Linear (Standard)	L	0
			Equal % EQ%	E	0
			Quick opening QO	Q	0
		(5) Actuator Action	Direct action	D	0
			Reverse action	R	0
		(6) Actuator type	-----	Refer to Table 2 on Page 22-COP-16	
		(7) Air Connection	Rc1/4(Standard)	R	0
			1/4NPT	N	0
			1/4NPT (with Rc1/4-1/4NPT Adaptor)	A	8
		(8) Electrical Connection	G1/2	G	0
			1/2NPT	N	0
			1/2NPT	A	10
			With G1/2-1/2NPT Adaptor		
		(9) Finish	Standard Finish *2	S	0
			Corrosion-proof Finish (Baked Epoxy paint Y138B)	B	15
			Silver corrosion-resistant Finish (Baked acrylic paint Y138D) *3	D	8
		(10) Positioner Action	Direct Action (Standard)	D	0
			Reverse action	R	0

\*4 Specification of Press. regulator are selected by Supply air pressure, painting and pressure gauge.

The pressure regulator with filter must be separated with HEP (On selection 12, choose code "2") when any of following conditions are matched.

- In case, the mounting position of actuator is not vertical.
- In case, other equipments are put between pressure regulator and HEP.
- In case, there are conjunction between pressure regulator and HEP.
- In case, code "D" on selection 13, on Option II is chosen.

For additional charge of Selection(12), it must be added following Table1 + Table 1-1.

Table:1 Basic price

KZ03 Pressure regulator with filter (Assemble to HEP)	20
KZ03 Pressure regulator with filter (Not assembled to HEP)	25

The additional charges should be reflected based on the Selection (2) and (9).

Table 1-1 Additional charge

Selection (2)	1	0
	2	0
	3	0
	4	9
	5	9
Selection (9)	S	0
	B	8
	D	7

### Option I

(11) Material of Bracket/bolt	Not attached	X	Refer to Table 2 on Page 22-COP-16
	SS400 Zinc Plating / SUS304	C	
(12) Pressure regulator with filter	SUS304 / SUS304	D	Ref. To Table 1
	Regulator Type KZ03 (assemble to HEP)*4	1	
	Regulator Type KZ03 (not assemble to HEP)*4	2	
	Regulator type KZ03 (Assemble to HEP. VFR actuator direction No. 50X, 60X, 70X and 80X.	3	
	No option	X	0

**Accessories**

Option II		Addd.Price	
(13)	No selection	X	0
	Universal elbow, Explosion-proof (G1/2,SUS304)	A	2
	Press-tight cable packing adaptor (G1/2)	B	10
	Not applicable to 1/2NPT connection in selection (8)		
	Stainless 3 $\mu$ m filter (SH4040) for Pressure regulator with filter	F	8
	Using Neoprene Rubber for Pressure regulator with filter	K	8
	Tropicalization(SP0039)	N	17

Table2.Additional price for bracket for double acting actuator

Actuator type	Mounting Bracket (Mounting Plate/Bolts)	SS400 Zinc Plating /SUS304	No option	SUS304 /SUS304
		Code	C	X
VP5	H1	8	0	30
VP6	H2	8	0	30
VP7	H3	8	0	30
SLOP560	H4	10	5	40
SLOP1000	H5	10	5	40
SLOP1500	H6	10	5	40
SLOP1000X	H7	10	5	40
SLOP1500X	H8	10	5	40