

Yamatake-Honeywell

SPECIFICATION

Model VPI electro-pneumatic valve positioners are a single acting, two stage force-balance type control device. Side mounted on a pneumatic control valve, it uses an air supply and a feedback cam to position the control valve in accordance with the current signal from a controller. Utilizing the force-balance principle, the positioner feeds or bleeds air to the valve actuator until the force from the feedback spring is in balance with the force from the coil.

Specifications

Housing material: Aluminum alloy casting

Finish: Acryl baking finish

(For corrosion-resistant and silver finish, refer to the optional specification.)

Color of finish: Dark beige (Smooth tone finish)

Input: 4 ~ 20mA DC (standard)

10 ~ 50mA DC (only model VPI 05/06)

Electrical conduit connection: PF ½ (ISO R228 ½") female

Input impedance: 250Ω ± 10Ω (when 4 ~ 20mA DC input)
100Ω (when 10 ~ 50mA DC input)

Supply air pressure: 1.4 ~ 2.8 kg/cm² (standard)

3.5 kg/cm² (maximum)

Air consumption: 10 NI/min. (normal state)

Maximum capacity of air flow: 200 NI/min.

Pneumatic tubing connection: PT ¼ (ISO R7 ¼") female

Ambient temperature: -25 ~ +60°C

Ambient humidity: 10 ~ 90% RH

Positioner housing:

Explosion-proof type (VPI 05);

When with an explosion-proof terminal box, Class d2G4 of JIS C0903 code approved (JIS F8001 Class 3 splash-proof included). Also suitable for the NEC Class 1, Group D, Division 1.

Weatherproof type (VPI 06);

Equivalent to JIS F8001 Class 3 splash-proof construction.

Intrinsic safety type (VPI 07);

Class i3nG5 of JIS C0903 code for hazardous location, including above splash-proof construction.

(Note: Intrinsic safety type . . .

Signal power supply; DC23 ~ 27.5V

Ambient temperature; -25 ~ +60°C

Accuracy: ± 1% FS

Dead band: Within 0.1% FS

Stroke adjustable range: 12 ~ 100mm,

6 ~ 12mm is also available.

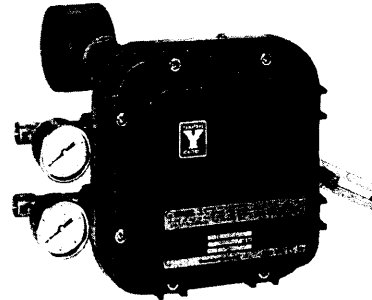
Stroke speed (max.): 10 mm/sec. (when with model VA1 actuator)

Net weight: 5.7kg (add 0.7kg for explosion-proof terminal box.)

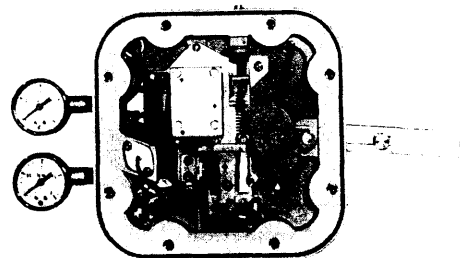
SINGLE ACTING TYPE

ELECTRO-PNEUMATIC VALVE POSITIONER

MODEL ; VPI 05/06/07



VPI 05 (Explosion-proof type)



Interior view

Options (Accessories)

Following are available as semi-standard options.

(1) **PTB (West Germany) approved intrinsic safety (Y 122)**

Signal power supply; DC23 ~ 28V

Ambient temperature limit; -30 ~ +40°C

(2) **Corrosion-resistant and silver finish (Y 138A ~ D)**

Corrosion-resistant (Acryl baking) finish (Y 138A);

Resistance for corrosive gases.

Corrosion-proof (Epoxy baking) finish (Y 138B);

Resistance for corrosive liquids.

Silver-normal (Acryl baking) finish (Y 138C);

Protection for temperature rise of device caused by direct sun light, radiation heat, etc.

Silver-corrosion-resistant (Acryl baking) finish (Y 138D)

Protection for above-mentioned temperature rise and resistance for corrosive gases.

(Note: Silver finish is not applicable for alkaline gases.)

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Model Number Table

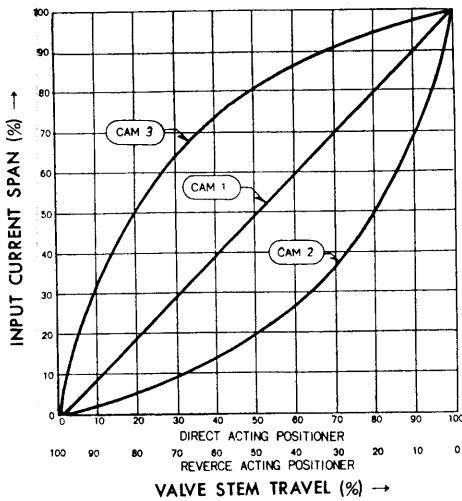
Ex: VPI 05-X-8A

| Basic Model No. | Selection | Options | Description |
|-----------------|-----------|---------|--|
| VPI 05 | | | Explosion-proof type I/P Valve Positioner |
| VPI 06 | | | Weatherproof type I/P Valve Positioner |
| VPI 07 | | | Intrinsic safety type I/P Valve Positioner |
| | -X | | No Selection |
| | | -X | No Option |
| | | -8 | Explosion-proof terminal Box |
| | | -8A | " (With One Flame-proof Packing Type Cable Connecting Adapter) |

Note: When specifying semi-standard options (Y□), write in "Y" as follows and put an additional remarks for "Y" numbers.
Example: VPI 05Y-X-8A and add "Y" number in writing.

*NOTE = Specify the output range when ordering:
Output = 0.2 ~ 1.0 kg OR 0.4 ~ 2.0 kg*

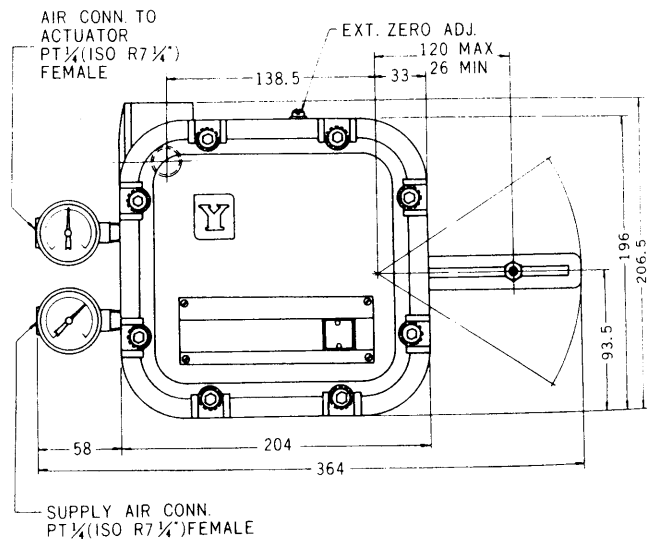
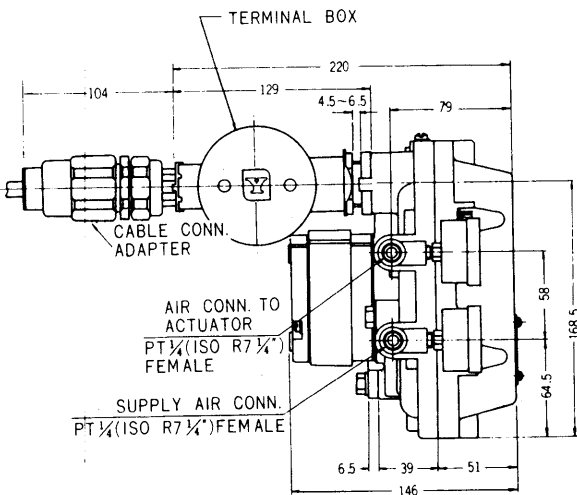
Cam Characteristics



Cam characteristics:
Linear (cam 1, standard) and two other kinds. By selecting the other two cams, valve characteristics can be approximated as follows:

- For reverse acting valve
 - Cam 2
 - ▶ Linear characteristic valve plug → Quick opening characteristic
 - ▶ Equal percentage characteristic valve plug → Linear characteristic
 - Cam 3
 - ▶ Linear characteristic valve plug → Equal percentage characteristic
 - ▶ Quick opening valve plug → Linear characteristic
- For direct acting valve
 - The effect of cams 2 and 3 applied to direct action valves is reversed as compared with the case of reverse action valves.

Dimensions and Connections



Note:
Model VPI 06, 07 ... Without explosion-proof terminal box.

Ordering Information

When ordering, please specify:

- Model No.
- Input range
- Supply air pressure range
- Cam characteristic
- Actuator model no. and stroke, etc.

- * Specifications are subject to change without notice.
- * Reference instruction manual FC-8034

Mode of dynam many re action characte

Type:
Housing Finish:
Color of Input:
Supply
Air con:
Maximum
Pneuma
Ambier:
Accuracy
Dead b:
Stroke:
Stroke
Net we

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