

# 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

**Input:** 4~20mA DC (standard)

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

**Electrical conduit connection:** PF 1/2-A (ISO R228 1/2") female

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

**Supply air pressure:** 1.4~2.8 kg/cm<sup>2</sup> (standard)  
3.5 kg/cm<sup>2</sup> (maximum)

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

**Maximum capacity of air flow:** 200 NI/min.

**Pneumatic tubing connection:** PT 1/4 (ISO R7 1/4") female

**Ambient temperature limit:** -25~+60°C (General type)  
-15~+80°C (High temp. type)

**Ambient humidity limit:** 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 . . .

Power supply; DC23~27.5V

Ambient temperature limit; -25~+60°C)

**Accuracy:** ±1% FS

**Dead band:** Within 0.1% FS

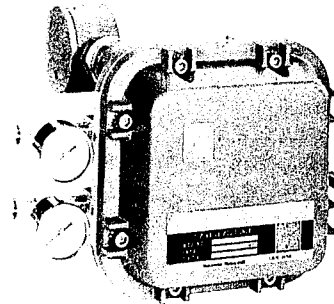
**Stroke adjustable range:** 12~100mm,  
6~12mm is also available.

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

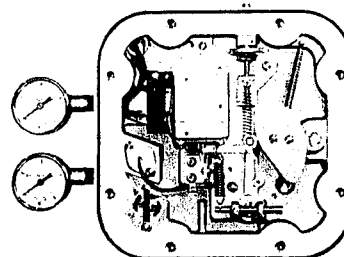
**Net weight:** 5.7kg (add 0.7kg for explosion-proof terminal box.)

## ELECTRO-PNEUMATIC VALVE POSITIONER (SINGLE-ACTING TYPE)

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.)

**Yamatake-Honeywell Co. Ltd.**  
**Process Control Division**

**Sales Headquarters :** Nagai International Bldg., 12-19, Shibuya 2 chome, Shibuya-ku, Tokyo, 150 Japan  
Tel : (03) 409-7171 Telex : J22902 Cable : YAMATAKE CO

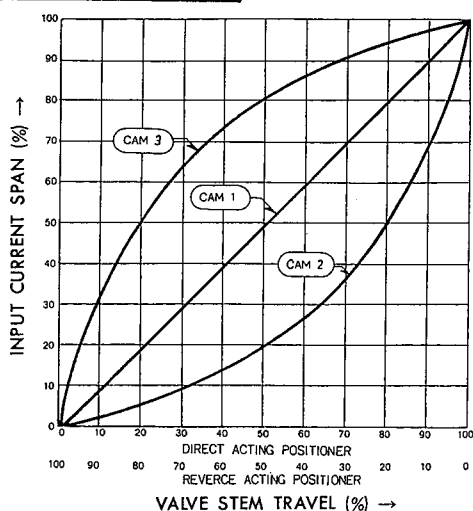
## Model Number Table

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 □) not listed in the model no. table, write in "Y" as follows and put an additional remarks for "Y" numbers.  
(Example: VPI 05Y-X-8A and add "Y" number in writing.)

## 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:

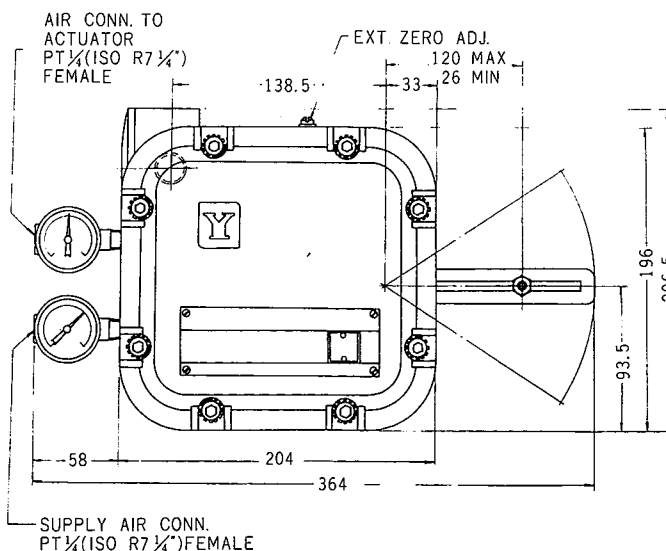
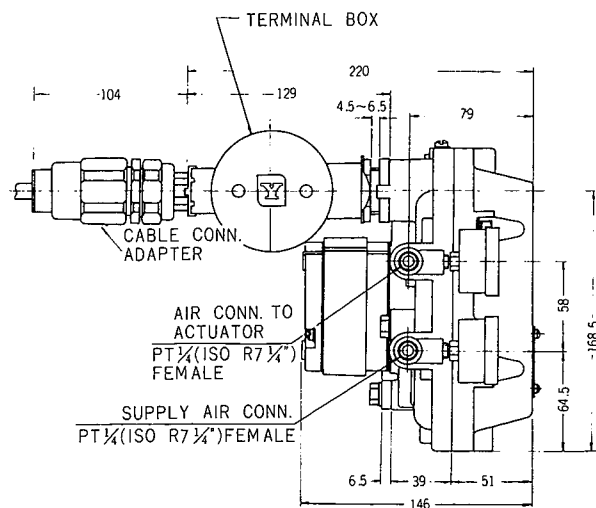
(1) For reverse acting valve

- 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

(2) 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:

- 1) Model No.
- 2) Input range
- 3) Supply air pressure range
- 4) Cam characteristic
- 5) Actuator model no. and stroke, etc.

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