

# **THE SMART CHOICE FOR PERFORMANCE AND VALUE**

**VPI Series Pressure Independent  
Control Valves and Actuators**



**Honeywell**

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# FLOW CONTROL AND PRESSURE BALANCING JUST GOT A LOT MORE EFFICIENT AND DYNAMIC

Customers are always looking for ways to achieve stable room temperature, superior comfort, less maintenance and ease of installation – while, of course, looking for ways to improve energy efficiency. Facility managers are always looking for ways to maintain comfort and improve energy efficiency while reducing their maintenance costs.

## PRECISE CONTROL. LOW ENERGY WASTAGE (HIGH ENERGY SAVINGS).

The new Honeywell VPI Pressure Independent Control Valves and Actuators integrates the flow, pressure and temperature control functions in a single valve and then automatically controlling the flow in each hydronic system circuit to maintain temperature and comfort when pressures fluctuate.

- Assures correct flow for each unit automatically – at all load conditions, securing optimal comfort.
- Maintains system balance perfectly, under all conditions, increases the energy efficiency and leads to savings on energy costs.
- Accurate flow regulation allows for the optimum sizing of chillers, boilers and pumps
- Full range of sizes from 15 mm (1/2") to 250 mm (10").

## PRECISE CONTROL. LOW ENERGY WASTAGE (HIGH ENERGY SAVINGS).

Selecting, installing and commissioning Honeywell VPI Pressure Independent Control Valves and Actuators is a quick and cost-effective process. The valves feature an integrated flow regulator with rolling diaphragm that delivers flow balancing and control functions in one package.

And there's no **Cv calculation** required – just pick the valve that matches the flow requirements. Honeywell makes it that easy.

The VPI Pressure Independent Control Valves & Actuators include an innovative self-adjustment feature which allows continuous self-balancing in all valve positions.

This ensures that each thermal unit controlled by a valve is always supplied with the exact flow required for the specific system condition.



## FEATURES

- **Compact one-unit PICV**, including modulating control valve, dynamic flow limiter and differential pressure control valve in one body.
- Easy setting and Field adjustable – flow setting is stepless and can easily be set to any design flow in the flow range. Setting can be done before or after installation and flow may be changed on demand without removing the valve from the installation.
- “Sealed” setting – actuator will cover the setting and protect against tampering.
- Standard or failsafe actuator; always incl. feedback signal – an easy solution for designers, installers and end-users.
- Honeywell VPI series PICVs combine 3 functions into one valve body:
  1. Control valve
  2. Differential pressure controller that protects against pressure fluctuations.
  3. Presetting scale to set the desired max. flow
- Sizes from DN15 to DN50 with female threaded connections and DN50-250 with flanged connections.
- Controls chilled or hot water with up to 50% glycol.
- Flow balancing in valve body through diaphragm.
- Higher presetting precision due to step less analogue scale with 41 Max. flow setting trough dial on valve body.
- Electrical actuators with selectable control modes, Linear or Equal percentage.
- Automatic balancing eliminates overflows, regardless of fluctuating pressure conditions in the system.
- Close-off pressure range up to 800 kPa.
- Shut-off leakage as per ANSI / FCI 70-2 206 / IEC 60534-4 - Class IV/ 0.01% leakage of full open valve capacity.
- Differential pressure operating range up to 800 kPa.
- High flows with minimal required differential pressure due to advanced design of the valve
- Electronic fail-safe actuators also available for sizes.
- Available with and without Pressure test ports.
- Two-way, modulating to accept digital or analog input signals. The valves accept 0(2)-10V, 3-point floating or ON/OFF input signals.
- Simple Maintenance – Internal parts can be accessed without removing the valve housing from the piping lines.

## APPLICATION

Honeywell pressure independent control valve (PICV) is used in heating and cooling systems in applications with Air Handling Units, Fan Coil Units, chilled ceilings, zone control or other terminal unit applications.

Honeywell VPI series provides modulating control with full authority regardless of any fluctuations in the differential pressure of the system. Honeywell VPI series combines an externally adjustable automatic balancing valve, a differential pressure control valve and a full authority modulating control valve.

Honeywell VPI series makes it simple to achieve 100% control of the water flow in the building, while creating high comfort and energy savings at the same time.

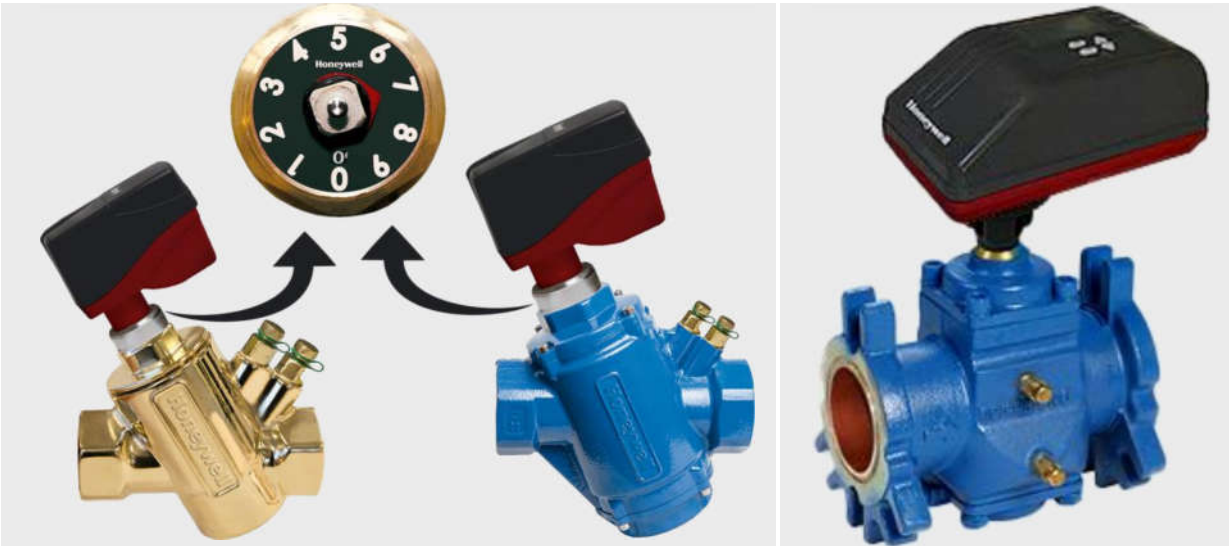
An additional benefit is that no balancing is required if further stages are added to the system, or if the dimensioned capacity is changed.

Energy saving due to optimal control, lower flow and pump pressure. Maximized  $\Delta T$  due to faster response and increased system stability.

## SPECIFICATIONS

Parameter	Specification
Valve Type	Pressure Independent Control Valve
Body Style	Globe / Linear
Size Range	DN15 - DN250 (1/2" - 10")
PN Pressure Rating	DN15 - DN50: PN25 DN50 - DN250: PN40
Static Pressure:	DN15 - DN50: 2500 kPa / 360 psi DN50 - DN250: 4000 kPa / 580 psi
Ambient Temperature	DN15 - DN50: +1°C to +50°C / +34°F to +122°F DN50 - DN250: -10°C to +50°C / +14°F to +122°F
Medium Temperature	-20°C to +120°C / -4°F to +248°F
Maximum Close-Off Pressure	800 kPa / 116 psi
Maximum operational $\Delta P$	DN15 - DN32: 800 kPaD / 116 psid DN40 - DN50: 600 kPaD / 87 psid DN50 - DN250: 800 kPaD / 116 psid
Flow Characteristic	Linear, can be converted to equal percentage in the actuator
Shut-off leakage	ANSI / FCI 70-2 206 / IEC 60534-4 - Class IV/ 0.01% leakage of full open valve capacity

## MATERIALS

Parameter	Specification		
Size	DN15-DN32	DN40-50	DN50-250
			
Valve Housing	DZR Brass ASTM CuZn36Pb2As	Ductile iron ASTM A395 Grade 60-40-18	Ductile Iron ASTM A395 Grade 60-40-18
Flow Regulator Cone	Glass-reinforced PSU/POM/PPS	Glass-reinforced PSU/POM/PPS	Glass-reinforced PSU/POM/PPS
Diaphragm	EPDM/Hydrogenated acrylonitrile-butadiene-rubber	Stainless Steel	-
O-rings & Seat	EPDM	Hydrogenated acrylonitrile-butadiene-rubber	EPDM
Head nut	Forged brass ASTM CuZn40Pb2	EPDM	-
Stroke	DN15-DN25: 3.4 mm (0.13") DN32: 5.2 mm (0.2")	6.2 mm (0.24")	-
Thread/Flange Connection	Fixed female ISO	Fixed female ISO	Universal flange connections which can be used with both ISO and ANSI flanges
Housing Taps	1/4" ISO	1/4" ISO	1/4" ISO

# ACTUATORS SPECIFICATIONS

## MLE-71M and MLP-41M Series Actuators



Parameter	Specification	
	MLE71MAA	MLP41MNA
Actuator Technology:	Electrical, bi-directional synchronous motor	Electrical, bi-directional synchronous motor
Operation:	Modulating	On/Off
Supply Voltage:	24V AC/DC ±10%, 50/60 Hz	110/230V AC ±10%, 50/60 Hz
Failsafe Function:	Yes, optional open or close	No
Control Signal:	Analog 0(2)-10V DC or digital 2-position with constant power supply	Digital (2-position / 3-point-floating)
Feedback:	Yes, control signal (analog) or 0-10V DC (digital)	No
Actuating Force:	High (250N -30N/+70N)	High (230N -10N/+40N)
Stroke:	5.8 mm / 0.23 in (compensated)	-
Operation Time:	22 sec/mm (failsafe mode: 5 sec/mm)	50 Hz: 18.5 sec/mm
Power Consumption:	24V AC: 5.8VA operating (6.8VA max.) 24V DC: 2.9W operating (3.3W max.)	5VA
Ambient Temperature:	0°C to +50°C / +32°F to +122°F	+2°C to +50°C / +36°F to +122°F
Position Indicator:	Yes	-
Wire Connection:	Fixed, 5 wires x 0.50 mm <sup>2</sup> , 1.5 meter cable	Fixed, 3 wires x 0.30 mm <sup>2</sup> halogen free, 1 meter cable
CE Conformity:	EN 60730	-
Protection Rating:	IP54 incl. upside-down, class III, indoor use only	IP54, class II
Weight:	0.27 kg / 0.60 lb	0.25 kg / 0.55 lb
Valve Size Compatibility:	DN15 - DN32	DN15 - DN32

## MLP71-M, Series Actuators



Parameter	Specification	
	MLP71MAA	MLP71MNA
Actuator Technology:	Electrical, bi-directional synchronous motor	Electrical, bi-directional synchronous motor
Operation:	Modulating	Modulating
Supply Voltage:	24V AC/DC ±10%, 50/60 Hz	24V AC/DC ±15%, 50/60 Hz
Failsafe Function:	No	No
Control Signal:	Analog 0(2)-10V DC, <0.5mA	Analog 0(2)-10V DC, <0.5mA
Feedback:	Yes, control signal	No
Actuating Force:	High (250N -30N/+70N)	160N -10N/+70N)
Stroke:	5.8 mm / 0.23 in (compensated)	5.8 mm / 0.23 in (compensated)
Operation Time:	22 sec/mm	22 sec/mm
Power Consumption:	24V AC: 2.5VA operating (4.7VA maximum) 24V DC: 1.2W operating (2.2W maximum)	24V AC: 2.5VA operating (4.7VA max.) 24V DC: 1.2W operating (2.2W max.)
Ambient Temperature:	0°C to +50°C / +32°F to +122°F	0°C to +50°C / +32°F to +122°F
Position Indicator:	Yes	Yes
Wire Connection:	Fixed, 5 wires x 0.50 mm <sup>2</sup> , 1.5 meter cable	Fixed, 3 wires x 0.50 mm <sup>2</sup> , 1.5 meter cable
CE Conformity:	EN 60730	EN 60730
Protection Rating:	IP54 incl. upside-down, class III, indoor use only	IP54 incl. upside-down, class III, indoor use only
Weight:	0.25 kg / 0.55 lb	0.25 kg / 0.55 lb
Valve Size Compatibility:	DN15 - DN32	DN15 - DN32

# ACTUATORS SPECIFICATIONS

## Thermoelectric Actuators



Parameter	Specification	
	MLP71TNA	MLP41TNA
Actuator Technology:	Thermo-electric	Thermo-electric
Operation:	Modulating	On/Off
Supply Voltage:	24V AC -10%...+20%, 50/60 Hz	230V AC ±10%, 50/60 Hz
Failsafe Function:	Yes, normally closed <sup>1</sup>	Yes, normally closed <sup>1</sup>
Control Signal:	Analog 0-10V, normally closed	ON/OFF, normally closed
Actuating Force	140 N	140 N
Stroke	6.5 mm /0.256 in	6.5 mm /0.256 in
Operation Time:	Approximately 3.5 minutes <sup>2</sup>	Approximately 4.5 minutes <sup>2</sup>
Power Consumption:	1.2W	1.2W
Ambient Temperature:	0°C to +60°C / +32°F to +140°F	0°C to +60°C / +32°F to +140°F
Wire Connection:	Plug-in, 3 wires x 0.22 mm <sup>2</sup> , 1 meter cable	Fixed, 2 wires x 0.75 mm <sup>2</sup> , 1 meter cable
Protection Rating:	IP54 including upside-down, class III	IP54 including upside-down, class II
Weight:	0.12 kg / 0.27 lb	0.11 kg / 0.24 lb
Valve Size Compatibility:	DN15 - DN32	DN15 - DN32

Note 1: To ensure that the valve is in an open position during commissioning of the system, the actuator will be delivered in open position and remain in this position until it is electrically operated first time.

Note 2: Closing time is approximately the double dependent on ambient temperature.

## MLP-75M and MLE-75M Series Actuators



Parameter	Specification	
	MLP75MAB	MLE75MAB
Actuator Technology:	Electrical, bi-directional synchronous motor	Electrical, bi-directional synchronous motor
Operation:	Floating / Modulating (universal)	Floating / Modulating (universal)
Supply Voltage:	24V AC/DC ±10%, 50/60 Hz	24V AC/DC ±10%, 50/60 Hz
Failsafe Function:	No	Yes, optional open or close
Control Signal:	Analog 0(2)-10V DC, <0.5mA or digital 3-point floating and ON/OFF	Analog 0(2)-10V DC or digital 2-position with constant power supply
Feedback:	Yes, control signal (analog) or 0-10V DC (digital ON/OFF)	Yes, control signal (analog) or 0-10V DC (digital)
Actuating Force:	600N -50N/+100N	600N -50N/+100N
Stroke:	7 mm / 0.276 in	7 mm / 0.276 in
Operation Time:	22 sec/mm	22 sec/mm (failsafe mode: 5 sec/mm)
Power Consumption:	24V AC: 6VA operating (8.5VA max.) 24V DC: 2.6W operating (4.1W max.)	24V AC: 7.9VA operating (9VA max.) 24V DC: 3.7W operating (4.5W max.)
Ambient Temperature:	0°C to +50°C / +32°F to +122°F	0°C to +50°C / +32°F to +122°F
Position Indicator:	Yes	Yes
Wire Connection:	Fixed, 5 wires x 0.50 mm <sup>2</sup> , 1.5 meter cable	Fixed, 5 wires x 0.50 mm <sup>2</sup> , 1.5 meter cable
CE Conformity:	EN 60730	EN 60730
Protection Rating:	IP54 incl. upside-down, class III, indoor use only	IP54 incl. upside-down, class III, indoor use only
Weight:	0.30 kg / 0.67 lb	0.34 kg / 0.75 lb
Valve Size Compatibility:	DN40 - DN50	DN40 - DN50

## ACTUATORS SPECIFICATIONS

### MRP-75M and MRE75-M Series Actuators



Parameter	Specification	
	MRP75MAC	MRE75MAC
Actuator Technology:	Electrical, Bi-directional synchronous motor	Electrical, Bi-directional synchronous motor
Operation:	Floating / Modulating (universal)	Floating / Modulating (universal)
Supply Voltage:	22-26V AC, 50/60 Hz or 22-26V DC	22-26V AC, 50/60 Hz or 22-26V DC
Failsafe Function:	No	Yes
Control Signal:	Analog 0(2)-10V DC or 0(4)-20mA and digital 3-point-floating or 2-position	Analog 0(2)-10V DC or 0(4)-20mA and digital 3-point-floating or 2-position
Feedback:	Linear signal, Auto (equal to analog control signal), 0-10V DC, 2-10V DC or 4-20mA	Linear signal, Auto (equal to analog control signal), 0-10V DC, 2-10V DC or 4-20mA
Operation Time:	190 sec (from closed to fully open valve)	190 sec (from closed to fully open valve)
Power Consumption:	12VA	12VA (25VA max)
Ambient Temperature:	-10°C to +50°C / +14°F to +122°F	-10°C to +50°C / +14°F to +122°F
Wire Connection:	Fixed, 5 wires x 0.80 mm <sup>2</sup> , halogen free, 1 meter cable	Fixed, 5 wires x 0.80 mm <sup>2</sup> , halogen free, 1 meter cable
CE Conformity:	EN 60730, class II	EN 60730, class II
Protection Rating:	IP54 including upside-down mounting	IP54 including upside-down mounting
Weight:	0.25 kg / 0.55 lb	0.30 kg / 0.66 lb
Valve Size Compatibility:	DN50-DN250	DN50-DN250

## FLOW-RATE DETAILS

Model no.	Valve Diameter mm	Max. Flow Rate			Close-Off Pressure (kPa)	Differential Pressure (kPaD)	PN Rating	End Connection
		lph	m <sup>3</sup> /h	gpm				
VPI015TWL2	DN15	1110	1.11	4.89	800	800	PN25	Fixed female threaded ISO
VPI015TPL2	DN15	1110	1.11	4.89	800	800	PN25	Fixed female threaded ISO
VPI015TWH2	DN15	2650	2.7	11.7	800	800	PN25	Fixed female threaded ISO
VPI015TPH2	DN15	2650	2.7	11.7	800	800	PN25	Fixed female threaded ISO
VPI020TWL2	DN20	1110	1.11	4.89	800	800	PN25	Fixed female threaded ISO
VPI020TPL2	DN20	1110	1.11	4.89	800	800	PN25	Fixed female threaded ISO
VPI020TWH2	DN20	2650	2.7	11.7	800	800	PN25	Fixed female threaded ISO
VPI020TPH2	DN20	2650	2.7	11.7	800	800	PN25	Fixed female threaded ISO
VPI025TWH2	DN25	2650	2.7	11.7	800	800	PN25	Fixed female threaded ISO
VPI025TPH2	DN25	2650	2.7	11.7	800	800	PN25	Fixed female threaded ISO
VPI032TWH2	DN32	4630	4.6	20.4	800	800	PN25	Fixed female threaded ISO
VPI032TPH2	DN32	4630	4.6	20.4	800	800	PN25	Fixed female threaded ISO
VPI040TPH2	DN40	13647	13.6	60.1	800	600	PN25	Fixed female threaded ISO
VPI050TPL2	DN50	13647	13.6	60.1	800	600	PN25	Fixed female threaded ISO
VPI050FPH4	DN50F	25700	25.7	113.2	800	800	PN40	Flanged
VPI065FPH4	DN65	25700	25.7	113.2	800	800	PN40	Flanged
VPI080FPL4	DN80	35600	35.6	156.7	800	800	PN40	Flanged
VPI080FPH4	DN80	51000	51	224.5	800	800	PN40	Flanged
VPI100FPL4	DN100	51000	51	224.5	800	800	PN40	Flanged
VPI100FPH4	DN100	72700	72.7	320.1	800	800	PN40	Flanged
VPI125FPL4	DN125	83800	83.8	369	800	800	PN40	Flanged
VPI125FPH4	DN125	106000	106	466.7	800	800	PN40	Flanged
VPI150FPL4	DN150	106000	106	466.7	800	800	PN40	Flanged
VPI150FPH4	DN150	277000	277	1219.6	800	800	PN40	Flanged
VPI200FPH4	DN200	277000	277	1219.6	800	800	PN40	Flanged
VPI250FPH4	DN250	277000	277	1219.6	800	800	PN40	Flanged

# VALVE MODEL SELECTION

Part Number Breakdown - VPI Series Valve Bodies					
Valve Type	Valve Size	Connection Type	Pressure Test Ports	Maximum Flow Rate	Pressure Class
VPI - Valve Pressure Independent	015 - DN15 / 0.5 inch	T - Threaded DN Size F - Flanged DN Size	P - With Pressure Ports W - Without Pressure Ports	L - Low Max Flow H - High Max Flow	2 - PN25 4 - PN40
	020 - DN20 / 0.75 inch				
	025 - DN25 / 1 inch				
	032 - DN32 / 1.25 inch				
	040 - DN40 / 1.5 inch				
	050 - DN50 / 2 inch				
	065 - DN65 / 2.5 inch				
	080 - DN80 / 3 inch				
	100 - DN100 / 4 inch				
	125 - DN125 / 5 inch				
	150 - DN150 / 6 inch				
	200 - DN200 / 8 inch				
	250 - DN250 / 10 inch				
	VPI				

### Example: VPI015TPH2

- without Pressure Test Port models are available only for DN15-DN32
- Low Flow (LF) models are available only for DN15, DN20 and DN80-DN150
- DN15-DN50 (Threaded) PN25, DN50-DN250 (flanged) PN40
- DN150HF model requires flange adapter from DN200 to DN150 (available as an accessory).

# ACTUATOR MODEL SELECTION

Part Number Breakdown - VPI Series Actuators											
Actuator Type	Fail-Safe	Control and Power Voltage	Actuator Technology	Feedback	Valve Size Compatibility						
ML/R - Motor Linear/Rotary	P - Power Failure 'In place' E - Electronic Fail-Safe	41 - On/Off 230Vac 71 - Modulating (0)2-10Vdc 75 - Floating / Modulating (universal)	T - Thermo-Electric Actuator M - Electric Actuator	A - Analog feedback N - No feedback	A - DN15-DN32(Threaded) B - DN40-DN50(Threaded) C - DN50-DN250(Flanged)						
						ML	P	71	M	N	A

### Example: MLP71MNA

# VALVE AND ACTUATOR COMPATIBILITY

## DN15 – DN32 Valve and Actuator Compatibility

		Actuator Part Number						
		MLP71MAA	MLE71MAA	MLP71MNA	MLP41MNA	MLP41TNA	MLP71TNA	
Power Supply	Voltage	24 Vac/dc +/-10%, 50/60Hz	24 Vac/dc +/-10%, 50/60Hz	24 Vac/dc +/-15%, 50/60Hz	110/230 Vac +/-10%, 50/60Hz	110/230 Vac +/-10%, 50/60Hz	24 Vac/dc +/-10%, 50/60Hz	
	Power (Peak)	4.7VA	6.8VA	4.7VA	5VA	1.2W	1.2W	
Control	0-10 Vdc	•	•	•			•	
	2-10 Vdc	•	•	•				
	2-Position SPDT		•		•			
	On-Off / 2- Position SPST					•		
Feedback	(O)2-10Vdc	•	•					
Actuator Force/Torque	(N/Nm)	240N	250N	160N	230N	140N	140N	
Running Time	(sec/mm)	22 sec/mm	22 sec/mm	22 sec/mm	18.5 sec/mm	270sec	210sec	
Power Fail Safe Action		Fail In Place	Electronic Fail-Safe	Fail In Place	Fail In Place	Fail Safe	Fail Safe	
Electrical Connection	Cable length	1.5m	1.5m	1.5m	1m	1m	1m	
Valve Size	Q <sub>MAX</sub> (l/h)	Valve Model Number	Compatibility					
DN15 LF	1110	VPI015TWL2	•	•	•	•	•	•
DN15P LF	1110	VPI015TPL2	•	•	•	•	•	•
DN15 HF	2,650	VPI015TWH2	•	•	•	•	•	•
DN15P HF	2,650	VPI015TPH2	•	•	•	•	•	•
DN20 LF	1110	VPI020TWL2	•	•	•	•	•	•
DN20P LF	1110	VPI020TPL2	•	•	•	•	•	•
DN20 HF	2,650	VPI020TWH2	•	•	•	•	•	•
DN20P HF	2,650	VPI020TPH2	•	•	•	•	•	•
DN25	2,650	VPI025TWH2	•	•	•	•	•	•
DN25P	2,650	VPI025TPH2	•	•	•	•	•	•
DN32	4,630	VPI032TWH2	•	•	•	•	•	•
DN32P	4,630	VPI032TPH2	•	•	•	•	•	•

## DN40 – DN50 Valve and Actuator Compatibility

		Actuator Part Number		
		MLP75MAB	MLE75MAB	
Power Supply	Voltage	24 Vac/dc +/-10%, 50/60Hz	24 Vac/dc +/-10%, 50/60Hz	
	Power (Peak)	9VA	9VA	
Control	0-10 Vdc	•	•	
	2-10 Vdc	•	•	
	2-Position SPDT	•	•	
Feedback	(O)2-10Vdc	•	•	
Actuator Force/Torque	(N/Nm)	600 N	600 N	
Running Time	(sec./sec/mm)	22 sec/mm	22 sec/mm	
Power Fail Safe Action		Fail In Place	Electronic Fail-Safe	
Electrical Connection	Cable length	1.5m	1.5m	
Valve Size	Q <sub>MAX</sub> (l/h)	Valve Model Number	Compatibility	
DN40	13,647	VPI040TPH2	•	•
DN50	13,647	VPI050TPL2	•	•

# VALVE AND ACTUATOR COMPATIBILITY

## DN50 – DN250 Valve and Actuator Compatibility

		Actuator Part Number		
		MRP75MAC	MRE75MAC	
Power Supply	Voltage	24 Vac/dc +/-10%, 50/60Hz	24 Vac/dc +/-10%, 50/60Hz	
	Power (Peak)	12VA	12VA-25VA	
Control	0-10 Vdc	•	•	
	2-10 Vdc	•	•	
	0-20mA / 4-20mA	•	•	
	2-Position SPDT	•	•	
Feedback		(0)2-10Vdc / 4-20mA	0)2-10Vdc / 4-20mA	
Running Time	(sec./sec/mm)	190sec/317sec	190sec/317sec	
Power Fail Safe Action		Fail In Place	Electronic Fail-Safe	
Electrical Connection	Cable length	1m	1m	
Valve Size	Q <sub>MAX</sub>	Valve Model Number	Compatibility	
	(L/h)			
DN50 F	25,700	VPI050FPH4	•	•
DN65	25,700	VPI065FPH4	•	•
DN80 LF	35,600	VPI080FPL4	•	•
DN80 HF	51,000	VPI080FPH4	•	•
DN100 LF	51,000	VPI100FPL4	•	•
DN100 HF	72,700	VPI100FPH4	•	•
DN125 LF	83,800	VPI125FPL4	•	•
DN125 HF	106,000	VPI125FPH4	•	•
DN150 LF	106,000	VPI150FPL4	•	•
DN150 HF	277,000	VPI150FPH4	•	•
DN200	277,000	VPI200FPH4	•	•
DN250	277,000	VPI250FPH4	•	•

**Note 3:** DN32 valves when used with MLP41TNA or MLP71TNA might exceed specified leakage rate.

**Note 4:** Thermal Actuators closing time is approximately double dependent on ambient temperature.