

# VPI SERIES

## Pressure Independent Control Valves and Actuators

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.



### APPLICATION

Honeywell VPI series provides modulating control with full authority regardless of pressure fluctuations in the system. Honeywell flanged pressure independent control valves (PICVs) are used in heating and cooling systems such as Air Handling Units, and other central plant applications.

### ALL-IN-ONE

It combines an externally adjustable automatic balancing valve, a differential pressure control valve and a full authority modulating control valve in one single unit. Automatic balancing eliminates overflows, regardless of fluctuating pressure conditions in the system. Flow balancing in valve body through diaphragm.

### SEALED SETTINGS

Actuator will cover the setting and protect against tampering.

### APPROVALS

Shut-off leakage as per ANSI / FCI 70-2 206 / IEC 60534-4 - Class IV/ 0.01% leakage of full open valve capacity. Tested as per BSRIA standards. UL & CE approved actuators.

### EASY SETTING & FIELD ADJUSTABLE

Flow setting is stepless and can easily be set to design regulated flow in the flow range available from 113.2 to 1219.6 gpm. Setting can be done before or after installation and flow may be changed on demand without removing the valve from the installation.

### COMPACT DESIGN

Compact one-unit PICV, including modulating control valve, dynamic flow limiter and differential pressure control valve in one body. High flows with minimal required differential pressure due to advanced design of the valve.

### SMART ACTUATORS

Standard or failsafe actuator; always includes feedback signal - an easy solution for designers, installers and end-users.

Electrical actuators with selectable control modes, Linear or Equal percentage settings.

Electronic fail-safe actuators also available for sizes with and without Pressure test ports.

### FLEXIBLE

Two-way, modulating to accept digital or analog input signals. The valves accept 0(2)-10V, 3-point floating or ON/OFF input signals.

## FEATURES AND BENEFITS

DN flange sizes from DN50-250, which are also compatible with ANSI/ASME Class 150/300 flange standards.

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

Simple Maintenance - Internal parts can be accessed without removing the valve housing from the piping lines.

Close-off pressure range up to 800 kPa and Differential pressure operating range up to 800 kPaD.

Controls chilled or hot water in closed loop systems with up to 50% glycol.

# TECHNICAL SPECIFICATIONS

## VALVE SPECIFICATIONS

PARAMETER	SPECIFICATIONS
Valve Type	Pressure Independent Control Valve
Body Style	Globe / Linear
Size Range	DN50 - DN250 (1/2" - 10")
PN Pressure Rating	PN40
Static Pressure:	4000 kPa / 580 psi
Ambient Temperature:	-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 ΔP:	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
Stroke:	DN50-100: 30 mm (2,160° rotation) DN125-150LF: 36 mm (2,160° rotation) DN150HF-250: 60 mm (3,600° rotation)
Control range:	1:1000 / IEC 60534
Rangeability:	>100:1
Turn down ratio:	228:1
Control range:	1:1000 / IEC 60534
Rangeability:	>100:1
Turn down ratio:	228:1

## MAXIMUM FLOW RATE SETTINGS:

VALVE	FLOW RANGE	VALVE	FLOW RANGE
DN50 and DN65:	9240 to 25700 l/hr	DN125LF:	23300 to 83800 l/hr
DN80LF:	12800 to 35600 l/hr	DN125HF:	25600 to 106000 l/hr
DN80HF and DN100LF:	17000 to 51000 l/hr	DN150LF:	25600 to 106000 l/hr
DN100HF:	13300 to 72700 l/hr	DN150HF - DN250:	33100 to 277000 l/hr

## FLOW-RATE SETTING

MODEL NO.	VALVE DIAMETER	MAXIMUM FLOW RATE			CLOSE-OFF PRESSURE	DIFFERENTIAL PRESSURE RANGE	PN RATING	END CONNECTION
	MM	L/H	M3/H	GPM	KPA	KPAD		
VPI050FPH4	DN50F	25700	25.7	113.2	800	30 - 800	PN40	Flanged
VPI065FPH4	DN65	25700	25.7	113.2	800	30 - 800	PN40	Flanged
VPI080FPL4	DN80	35600	35.6	156.7	800	35 - 800	PN40	Flanged
VPI080FPH4	DN80	51000	51	224.5	800	35 - 800	PN40	Flanged
VPI100FPL4	DN100	51000	51	224.5	800	35 - 800	PN40	Flanged
VPI100FPH4	DN100	72700	72.7	320.1	800	50 - 800	PN40	Flanged
VPI125FPL4	DN125	83800	83.8	369	800	30 - 800	PN40	Flanged
VPI125FPH4	DN125	106000	106	466.7	800	35 - 800	PN40	Flanged
VPI150FPL4	DN150	106000	106	466.7	800	35 - 800	PN40	Flanged
VPI150FPH4	DN150	277000	277	1219.6	800	35 - 800	PN40	Flanged
VPI200FPH4	DN200	277000	277	1219.6	800	35 - 800	PN40	Flanged
VPI250FPH4	DN250	277000	277	1219.6	800	35 - 800	PN40	Flanged

**Accuracy:** Greatest of either ±5% of controlled flow rate or ±2% of maximum flow rate.

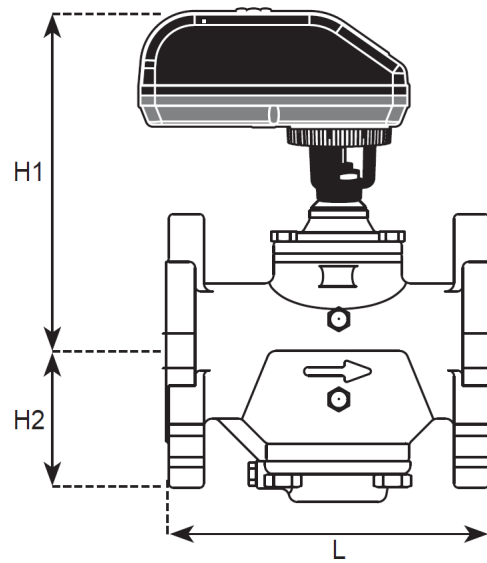
## CONSTRUCTION

COMPONENT	MATERIALS
Valve Housing	Ductile Iron ASTM A395 Grade 60-40-18
Flow Regulator	Glass-reinforced PSU/POM/PPS
Metal components (internal)	Stainless steel
Diaphragm	Hydrogenated acrylonitrile-butadiene-rubber
O-rings and Seat	EPDM
Flange Connection	Universal flange connections which can be used with both ISO and ANSI flanges.
Housing Taps	1/4" ISO
Valve Housing	Ductile Iron ASTM A395 Grade 60-40-18

\*Mounting kits are not supplied by Honeywell.

# MEASUREMENTS AND DIMENSIONS

## DN50-DN250 VALVES



PARAMETER	VALVE SIZE MM (IN)	L MM (IN)	H1 MM (IN)	H2 MM (IN)	WEIGHT1 KG (LB)
VPI050FPH4	50 (2)	224 (8.82)	252 (9.92)	95.0 (3.74)	14.0 (30.9)
VPI065FPH4	65 (2 1/2)	224 (8.82)	252 (9.92)	95.0 (3.74)	14.0 (30.9)
VPI080FPL4	80 (3)	224 (8.82)	252 (9.92)	95.0 (3.74)	14.0 (30.9)
VPI080FPH4	80 (3)	320 (12.6)	292 (11.5)	135 (5.31)	31.0 (68.3)
VPI100FPL4	100 (4)	320 (12.6)	292 (11.5)	135 (5.31)	32.0 (70.5)
VPI100FPH4	100 (4)	320 (12.6)	292 (11.5)	135 (5.31)	32.0 (70.5)
VPI125FPL4	125 (5)	422 (16.6)	343 (13.5)	180 (7.09)	61.0 (134)
VPI125FPH4	125 (5)	422 (16.6)	343 (13.5)	180 (7.09)	61.0 (134)
VPI150FPL4	150 (6)	422 (16.6)	343 (13.5)	180 (7.09)	61.0 (134)
VPI150FPH4	150 (6)	422 (16.6)	343 (13.5)	180 (7.09)	61.0 (134)
VPI200FPH4	200 (8)	725 (28.5)	472 (18.6)	292 (11.5)	248 (547)
VPI250FPH4	250 (10)	725 (28.5)	472 (18.6)	292 (11.5)	248 (547)

**Note 1:** Weight includes valve and actuator.

**Note:** DN150HF model requires flange adapter from DN200 to DN150 (available as an accessory).

## FLANGE MATCH

MODEL NO.	FLANGE SIZE (INCH)	ASME B16.5		FLANGE SIZE (MM)	EN1092-1			
		CLASS 150	CLASS 300		PN10	PN16	PN25	PN40
VPI050FPH4	50 (2)			50 (2)	•	•	•	•
VPI065FPH4	65 (2 1/2)	•	•	65 (2 1/2)	•	•	•	•
VPI080FPL4	80 (3)	•	•	80 (3)	•	•	•	•
VPI080FPH4	80 (3)	•	•	80 (3)	•	•	•	•
VPI100FPL4	100 (4)	•	•	100 (4)	•	•	•	•
VPI100FPH4	100 (4)	•	•	100 (4)	•	•	•	•
VPI125FPL4	125 (5)	•	•	125 (5)	•	•	•	•
VPI125FPH4	125 (5)	•	•	125 (5)	•	•	•	•
VPI150FPL4	150 (6)	•		150 (6)	•	•	•	•
VPI150FPH4	150 (6)	•		150 (6)	•	•	•	•
VPI200FPH4	200 (8)		•	200 (8)			•	•
VPI250FPH4	250 (10)	•		250 (10)	•	•	•	•

\*Mounting kits are not supplied by Honeywell.

# MRP75MAC ACTUATOR (FAIL-IN-PLACE)

It is critical to select and use the best possible actuators to achieve optimum indoor climate control with PICVs. Faster and more accurate actuators respond better to the control signal, for better results and higher comfort.

Honeywell offers the impressive MRP75 actuators, which have been designed for use with the flanged VPI PICV series. They enable a new dimension of benefits to HVAC control, offering designers, system integrators, and building owners.

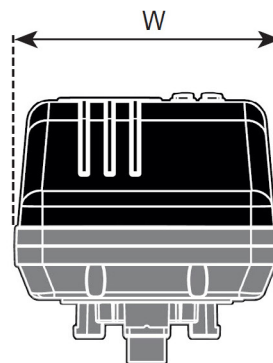
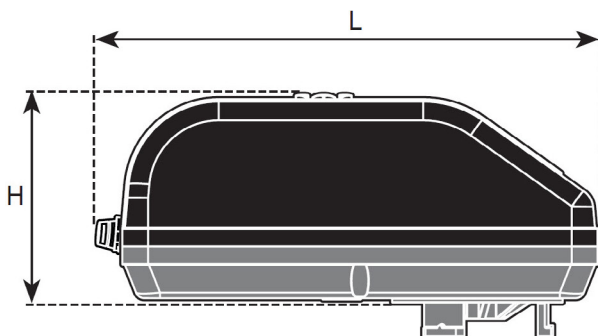


## TECHNICAL SPECIFICATIONS

PARAMETER	SPECIFICATIONS
<b>Actuator Technology:</b>	Electrical, Bi-directional synchronous motor
<b>Operation:</b>	Floating / Modulating (universal)
<b>Supply Voltage:</b>	22-26V AC, 50/60 Hz or 22-26V DC
<b>Failsafe Function:</b>	Not Available
<b>Control Signal:</b>	Analog 0(2)-10V DC or 0(4)-20mA and digital 3-point-floating or 2-position
<b>Feedback:</b>	Linear signal Auto (equal to analog control signal), 0-10V DC, 2-10V DC or 4-20mA
<b>Operation Time:</b>	190 seconds (from closed to fully open valve) / 317 sec (from closed to full open valve)
<b>Power Consumption:</b>	12VA
<b>Ambient Temperature:</b>	-10°C to +50°C / +14°F to +122°F
<b>Wire Connection:</b>	Fixed, 5 wires x 0.80 mm <sup>2</sup> , halogen free, 1 meter
<b>CE Conformity:</b>	EN 60730, class II
<b>Protection Rating:</b>	IP54 including upside-down mounting
<b>Weight:</b>	0.25 kg / 0.55 lb
<b>Valve Size Compatibility:</b>	DN50-DN250
<b>Resolution:</b>	1:1000 (0-10V analog) and 1:800 (2-10V analog)
<b>Control mode:</b>	Linear flow, Equal percentage, Linear rotation or Linear signal
<b>Override:</b>	Yes, Manual
<b>Humidity rating:</b>	5..95%RH, no condensation
<b>Housing material:</b>	UL94 V0-rated plastic
<b>Programming:</b>	Programming of all settings on interface with buttons and display
<b>Calibration:</b>	Automatic at startup
<b>Valve-actuator coupling:</b>	Easy snap coupling

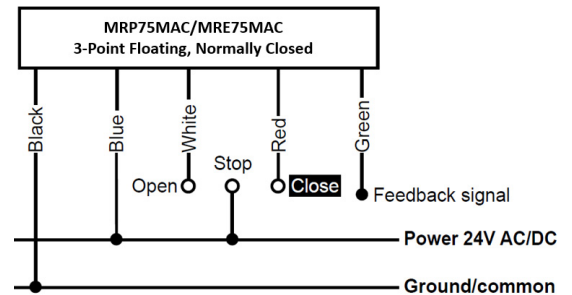
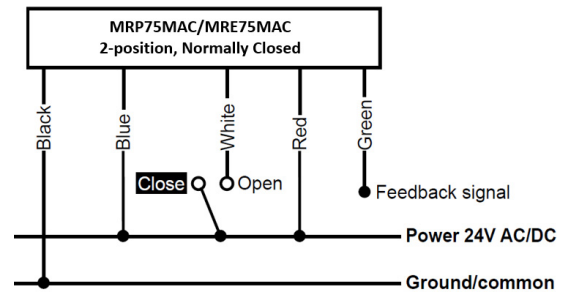
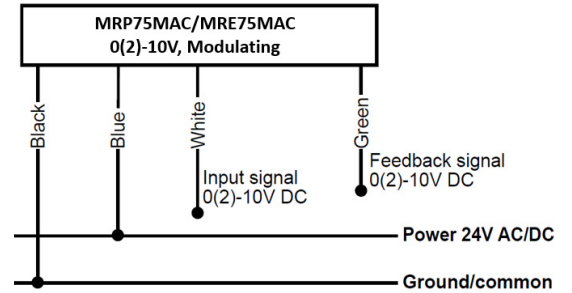
**Note:** MRE series actuators require 317 sec (from closed to full open valve).

## MEASUREMENTS AND DIMENSIONS



ACTUATOR	L MM (IN)	W MM (IN)	H MM (IN)	WEIGHT2 KG (LB)
MRP75MAC	194 (7.64)	102 (4.02)	81 (3.19)	0.25 (0.55)
MRE75MAC	194 (7.64)	102 (4.02)	81 (3.19)	0.30 (0.66)

## WIRING CONNECTIONS



# MRE75MAC ACTUATOR (ELECTRONIC FAIL-SAFE)

It is critical to select and use the best possible actuators to achieve optimum indoor climate control with PICVs. Faster and more accurate actuators respond better to the control signal, for better results and higher comfort.

Honeywell offers the impressive MRE75 actuators, which have been designed for use with the flanged VPI PICV series. They enable a new dimension of benefits to HVAC control, offering designers, system integrators, and building owners.

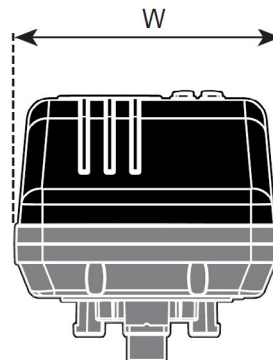
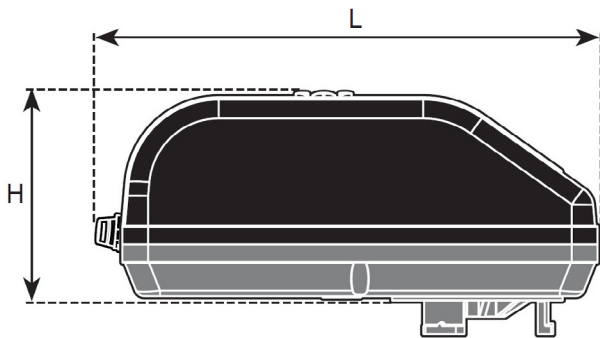


## TECHNICAL SPECIFICATIONS

PARAMETER	SPECIFICATIONS
<b>Actuator Technology:</b>	Electrical, Bi-directional synchronous motor
<b>Operation:</b>	Floating / Modulating (universal)
<b>Supply Voltage:</b>	22-26V AC, 50/60 Hz or 22-26V DC
<b>Failsafe Function:</b>	Available
<b>Control Signal:</b>	Analog 0(2)-10V DC or 0(4)-20mA and digital 3-point-floating or 2-position
<b>Feedback:</b>	Linear signal Auto (equal to analog control signal), 0-10V DC, 2-10V DC or 4-20mA
<b>Operation Time:</b>	190 seconds (from closed to fully open valve)/317 sec (from closed to full open valve)
<b>Power Consumption:</b>	12VA (25VA maximum)
<b>Ambient Temperature:</b>	-10°C to +50°C / +14°F to +122°F
<b>Wire Connection:</b>	Fixed, 5 wires x 0.80 mm2, halogen free, 1 meter
<b>CE Conformity:</b>	EN 60730, class II
<b>Protection Rating:</b>	IP54 including upside-down mounting
<b>Weight:</b>	0.30 kg / 0.66 lb
<b>Valve Size Compatibility:</b>	DN50-DN250
<b>Control mode:</b>	Linear flow, Equal percentage, Linear rotation or Linear signal
<b>Override:</b>	Yes, Manual
<b>Humidity rating:</b>	5..95%RH, no condensation
<b>Housing material:</b>	UL94 V0-rated plastic
<b>Programming:</b>	Programming of all settings on interface with buttons and display
<b>Calibration:</b>	Automatic at startup
<b>Valve-actuator coupling:</b>	Easy snap coupling

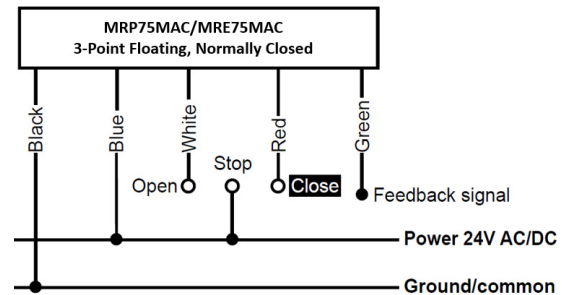
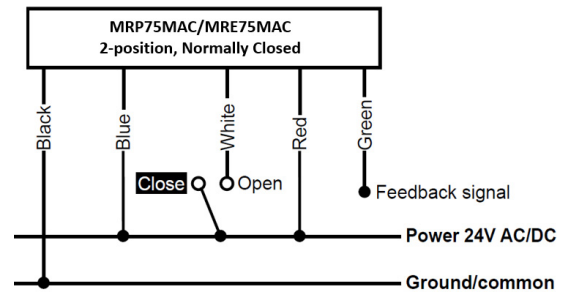
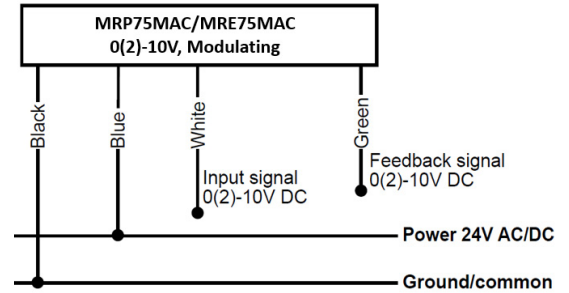
**Note:** MRE series actuators require 317 sec (from closed to full open valve).

## MEASUREMENTS AND DIMENSIONS



ACTUATOR	L	W	H	WEIGHT2
	MM (IN)	MM (IN)	MM (IN)	KG (LB)
MRP75MAC	194 (7.64)	102 (4.02)	81 (3.19)	0.25 (0.55)
MRE75MAC	194 (7.64)	102 (4.02)	81 (3.19)	0.30 (0.66)

## WIRING CONNECTIONS



# MAXIMUM FLOW-RATE LIMITATION<sup>2</sup>

DN50-DN65			DN80LF			DN80HF - DN100LF			DN100HF		
L/SEC	L/HR	GPM	L/SEC	L/HR	GPM	L/SEC	L/HR	GPM	L/SEC	L/HR	GPM
2.57	9240	40.7	3.55	12800	56.3	4.73	17000	75.0	3.68	13300	58.3
2.81	10100	44.6	3.85	13900	61.0	5.29	19000	83.8	4.42	15900	70.0
3.05	11000	48.3	4.13	14900	65.5	5.82	21000	92.3	5.13	18500	81.3
3.27	11800	51.9	4.41	15900	69.9	6.33	22800	100	5.82	21000	92.3
3.49	12500	55.2	4.67	16800	74.0	6.82	24500	108	6.50	23400	103
3.69	13300	58.4	4.92	17700	78.0	7.28	26200	115	7.15	25700	113
3.88	14000	61.5	5.16	18600	81.7	7.72	27800	122	7.78	28000	123
4.06	14600	64.3	5.38	19400	85.3	8.14	29300	129	8.40	30200	133
4.23	15200	67.0	5.60	20200	88.8	8.54	30700	135	8.99	32400	142
4.39	15800	69.6	5.81	20900	92.1	8.91	32100	141	9.57	34400	152
4.54	16300	72.0	6.01	21600	95.2	9.27	33400	147	10.1	36400	160
4.68	16900	74.2	6.19	22300	98.2	9.61	34600	152	10.7	38400	169
4.82	17300	76.4	6.37	22900	101	9.93	35700	157	11.2	40200	177
4.94	17800	78.4	6.54	23600	104	10.2	36800	162	11.7	42100	185
5.06	18200	80.2	6.71	24100	106	10.5	37800	167	12.2	43800	193
5.17	18600	82.0	6.86	24700	109	10.8	38800	171	12.6	45500	200
5.28	19000	83.7	7.00	25200	111	11.0	39700	175	13.1	47100	207
5.38	19400	85.2	7.14	25700	113	11.3	40500	178	13.5	48700	214
5.47	19700	86.6	7.28	26200	115	11.5	41300	182	13.9	50200	221
5.55	20000	88.0	7.40	26600	117	11.7	42000	185	14.3	51600	227
5.63	20300	89.2	7.52	27100	119	11.9	42700	188	14.7	53000	233
5.70	20500	90.4	7.63	27500	121	12.0	43400	191	15.1	54300	239
5.77	20800	91.5	7.74	27900	123	12.2	43900	194	15.4	55600	245
5.84	21000	92.5	7.84	28200	124	12.4	44500	196	15.8	56800	250
5.90	21200	93.5	7.94	28600	126	12.5	45000	198	16.1	58000	255
5.96	21400	94.4	8.03	28900	127	12.6	45500	200	16.4	59100	260
6.01	21600	95.2	8.12	29200	129	12.7	45900	202	16.7	60200	265
6.06	21800	96.0	8.20	29500	130	12.9	46300	204	17.0	61200	269
6.10	22000	96.8	8.28	29800	131	13.0	46700	205	17.3	62100	274
6.15	22100	97.5	8.36	30100	133	13.1	47000	207	17.5	63000	278
6.19	22300	98.2	8.44	30400	134	13.1	47300	208	17.8	63900	281
6.23	22400	98.8	8.51	30600	135	13.2	47600	209	18.0	64700	285
6.27	22600	99.4	8.58	30900	136	13.3	47800	210	18.2	65500	288
6.31	22700	101	8.65	31100	137	13.4	48100	212	18.4	66200	292
6.35	22900	101	8.72	31400	138	13.4	48300	213	18.6	66900	295
6.39	23000	101	8.78	31600	139	13.5	48500	214	18.8	67600	297
6.42	23100	102	8.85	31900	140	13.5	48700	214	18.9	68200	300
6.46	23300	102	8.91	32100	141	13.6	48800	215	19.1	68700	303
6.50	23400	103	8.98	32300	142	13.6	49000	216	19.2	69200	305
6.54	23500	104	9.04	32600	143	13.7	49200	217	19.4	69700	307
6.58	23700	104	9.11	32800	144	13.7	49300	217	19.5	70200	309
6.62	23800	105	9.18	33000	145	13.7	49500	218	19.6	70600	311
6.67	24000	106	9.25	33300	147	13.8	49600	218	19.7	70900	312
6.72	24200	106	9.32	33500	148	13.8	49800	219	19.8	71300	314
6.77	24400	107	9.39	33800	149	13.9	49900	220	19.9	71600	315
6.82	24600	108	9.46	34100	150	13.9	50100	220	20.0	71900	316
6.88	24800	109	9.54	34300	151	14.0	50200	221	20.0	72100	317
6.94	25000	110	9.62	34600	153	14.0	50400	222	20.1	72300	318
7.01	25200	111	9.71	34900	154	14.1	50600	223	20.1	72500	319
7.08	25500	112	9.79	35300	155	14.1	50800	224	20.2	72600	320
7.15	25700	113	9.89	35600	157	14.2	51000	225	20.2	72700	320

**Note 2:** Above indicates selectable maximum flow rates defining the flow through the valve at maximum control signal, normally 10V. Each valve includes up to 1000 positions between the selected maximum flow and closed valve with control signal selected to 0-10V.

# MAXIMUM FLOW-RATE LIMITATION<sup>2</sup>

DN125LF			DN125HF			DN150LF			DN150HF-DN250					
L/SEC	L/HR	GPM	L/SEC	L/HR	GPM	L/SEC	L/HR	GPM	L/SEC	L/HR	GPM	L/SEC	L/HR	GPM
6.48	23300	103	7.10	25600	113	7.10	25600	113	9.21	33100	146	57.5	207000	911
7.24	26100	115	8.06	29000	128	8.06	29000	128	9.69	34900	154	58.3	210000	924
7.98	28700	126	8.98	32300	142	8.98	32300	142	10.2	36800	162	59.1	213000	936
8.70	31300	138	9.87	35500	157	9.87	35500	157	10.8	38900	171	59.8	215000	948
9.39	33800	149	10.7	38600	170	10.7	38600	170	11.5	41200	182	60.6	218000	960
10.1	36200	160	11.6	41600	183	11.6	41600	183	12.1	43700	192	61.3	221000	972
10.7	38600	170	12.4	44500	196	12.4	44500	196	12.9	46300	204	62.0	223000	983
11.4	40900	180	13.1	47300	208	13.1	47300	208	13.6	49100	216	62.7	226000	994
12.0	43100	190	13.9	50000	220	13.9	50000	220	14.5	52000	229	63.4	228000	1000
12.6	45200	199	14.6	52600	232	14.6	52600	232	15.3	55100	242	64.0	230000	1010
13.1	47300	208	15.3	55100	243	15.3	55100	243	16.2	58200	256	64.6	233000	1020
13.7	49300	217	16.0	57500	253	16.0	57500	253	17.1	61500	271	65.2	235000	1030
14.2	51200	226	16.6	59800	264	16.6	59800	264	18.0	64900	286	65.8	237000	1040
14.8	53100	234	17.2	62100	273	17.2	62100	273	19.0	68400	301	66.4	239000	1050
15.3	54900	242	17.8	64200	283	17.8	64200	283	20.0	71900	317	66.9	241000	1060
15.7	56600	249	18.4	66300	292	18.4	66300	292	21.0	75600	333	67.4	243000	1070
16.2	58300	257	19.0	68300	301	19.0	68300	301	22.0	79300	349	68.0	245000	1080
16.6	59900	264	19.5	70200	309	19.5	70200	309	23.1	83100	366	68.4	246000	1080
17.1	61500	271	20.0	72100	317	20.0	72100	317	24.1	86900	383	68.9	248000	1090
17.5	63000	277	20.5	73800	325	20.5	73800	325	25.2	90800	400	69.4	250000	1100
17.9	64400	284	21.0	75500	333	21.0	75500	333	26.3	94700	417	69.8	251000	1110
18.3	65800	290	21.4	77200	340	21.4	77200	340	27.4	98700	435	70.2	253000	1110
18.6	67100	295	21.9	78700	347	21.9	78700	347	28.5	103000	452	70.6	254000	1120
19.0	68300	301	22.3	80200	353	22.3	80200	353	29.6	107000	470	71.0	256000	1130
19.3	69500	306	22.7	81700	360	22.7	81700	360	30.8	111000	488	71.4	257000	1130
19.6	70700	311	23.1	83100	366	23.1	83100	366	31.9	115000	506	71.8	258000	1140
19.9	71700	316	23.4	84400	372	23.4	84400	372	33.0	119000	523	72.1	260000	1140
20.2	72800	320	23.8	85700	377	23.8	85700	377	34.2	123000	541	72.5	261000	1150
20.5	73800	325	24.1	86900	383	24.1	86900	383	35.3	127000	559	72.8	262000	1150
20.7	74700	329	24.5	88100	388	24.5	88100	388	36.4	131000	577	73.2	263000	1160
21.0	75600	333	24.8	89200	393	24.8	89200	393	37.5	135000	595	73.5	265000	1170
21.2	76400	336	25.1	90300	398	25.1	90300	398	38.6	139000	613	73.8	266000	1170
21.4	77200	340	25.4	91400	402	25.4	91400	402	39.8	143000	630	74.2	267000	1180
21.6	77900	343	25.7	92400	407	25.7	92400	407	40.9	147000	648	74.5	268000	1180
21.8	78600	346	25.9	93400	411	25.9	93400	411	41.9	151000	665	74.8	269000	1190
22.0	79200	349	26.2	94300	415	26.2	94300	415	43.0	155000	682	75.1	270000	1190
22.2	79800	351	26.5	95200	419	26.5	95200	419	44.1	159000	699	75.5	272000	1200
22.3	80300	354	26.7	96100	423	26.7	96100	423	45.2	163000	716	75.8	273000	1200
22.5	80800	356	26.9	97000	427	26.9	97000	427	46.2	166000	732	76.1	274000	1210
22.6	81300	358	27.2	97800	431	27.2	97800	431	47.2	170000	749	76.5	275000	1210
22.7	81700	360	27.4	98600	434	27.4	98600	434	48.3	174000	765	76.8	277000	1220
22.8	82100	361	27.6	99400	438	27.6	99400	438	49.3	177000	781			
22.9	82400	363	27.8	100000	441	27.8	100000	441	50.2	181000	796			
23.0	82700	364	28.1	101000	445	28.1	101000	445	51.2	184000	812			
23.0	83000	365	28.3	102000	448	28.3	102000	448	52.2	188000	827			
23.1	83200	366	28.5	102000	451	28.5	102000	451	53.1	191000	842			
23.2	83400	367	28.7	103000	455	28.7	103000	455	54.0	194000	856			
23.2	83500	368	28.9	104000	458	28.9	104000	458	54.9	198000	870			
23.2	83600	368	29.1	105000	461	29.1	105000	461	55.8	201000	884			
23.3	83700	369	29.3	105000	464	29.3	105000	464	56.6	204000	898			
23.3	83800	369	29.5	106000	468	29.5	106000	468	57.5	207000	911			

**Accuracy:** Greatest of either  $\pm 5\%$  of controlled flow rate or  $\pm 2\%$  of maximum flow rate. Honeywell recommends that VPI series PICV valves are selected to ensure that the set maximum flow rate is minimum 50% of the rated valve maximum capacity.

**Note 2:** Above indicates selectable maximum flow rates defining the flow through the valve at maximum control signal, normally 10V. Each valve includes up to 1000 positions between the selected maximum flow and closed valve with control signal selected to 0-10V.

# PARAMETER SETTINGS THROUGH ACTUATOR

Honeywell MRP75MAC and MRE75MAC actuators allows to select different parameters like:

NUMBER	SETTINGS	OPTIONS
1	Password Setting	
2	Valve model selection onto which actuator is installed <sup>1</sup>	
3	Unit Scale of Flow selection	l/sec (Default) or l/hr or GPM
4	Flush Mode activation on startup	
5	Type of Control Signal selection	0(2)-10VDC (default) or 4-20mA or digital
6	Minimum Control value selection	
7	Maximum Control value selection	
8	Feedback Signal Selection	0(2)-10VDC (default) or 4-20mA or digital
9	Max flow selection	
10	Actuator Mode Selection	Linear (Default) or equal percentage
11	Select direction of rotation when Fail-Safe	Normally Close (Default) or Normally Open

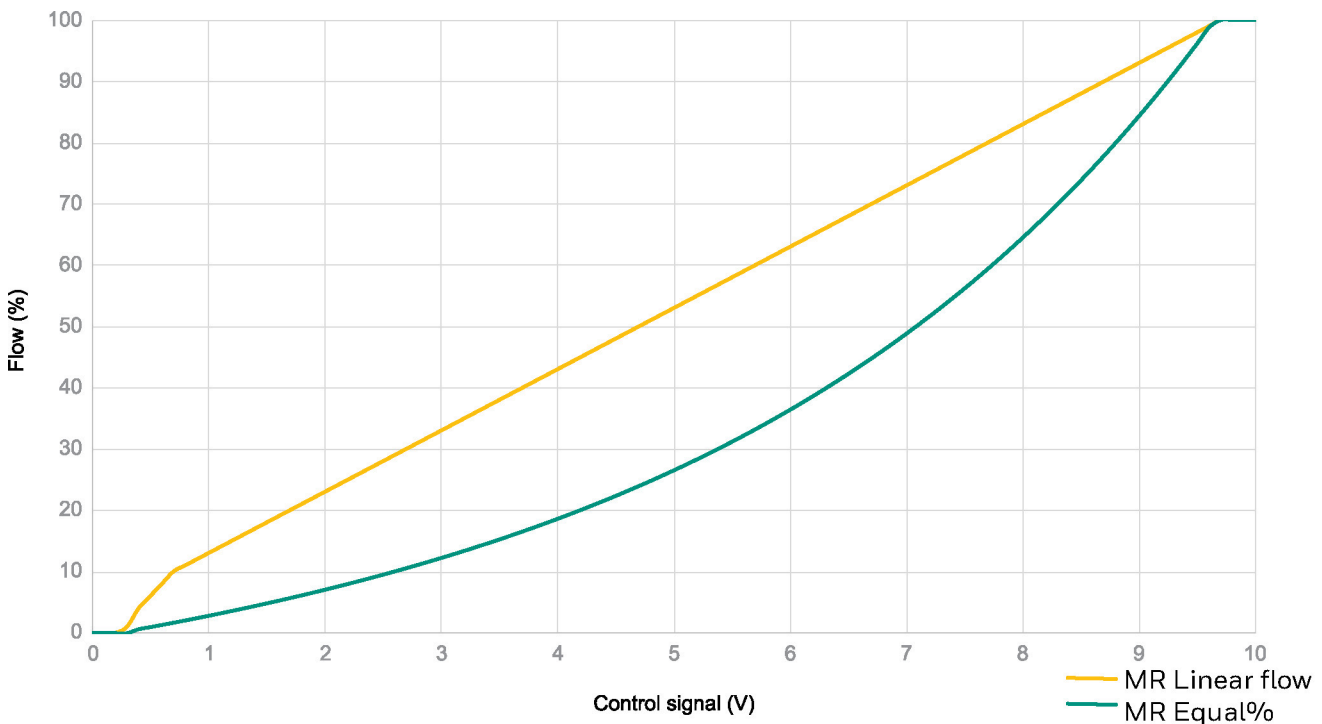


**Note 1:** For more details, see Installation Instructions (31-00383).

## FLOW SETTINGS.

SIZES	FLOW RANGE	WORKING DIFFERENTIAL PRESSURE
DN50	9240 LPH – 25700 LPH	30 kPaD – 800 kPaD
DN65	9240 LPH – 25700 LPH	30 kPaD – 800 kPaD
DN80LF	12800 LPH – 35600 LPH	35 kPaD – 800 kPaD
DN80HF	17000 LPH – 51000 LPH	35 kPaD – 800 kPaD
DN100LF	17000 LPH – 51000 LPH	35 kPaD – 800 kPaD
DN100HF	13300 LPH – 72700 LPH	50 kPaD – 800 kPaD
DN125LF	23300 LPH – 83800 LPH	30 kPaD – 800 kPaD
DN125HF	25600 LPH – 106000 LPH	35 kPaD – 800 kPaD
DN150LF	25600 LPH – 106000 LPH	35 kPaD – 800 kPaD
DN150HF	33100 LPH – 277000 LPH	35 kPaD – 800 kPaD
DN 200	33100 LPH – 277000 LPH	35 kPaD – 800 kPaD
DN 250	33100 LPH – 277000 LPH	35 kPaD – 800 kPaD

## CONTROL CURVE OF FLOW



# MODEL SELECTION (NOMENCLATURE)

## VPI SERIES VALVE BODIES.

VALVE TYPE	VALVE SIZE	CONNECTION TYPE	PRESSURE TEST PORTS	MAXIMUM FLOW RATE	PRESSURE CLASS
VPI - Valve Pressure Independent	050 - DN50 / 2 inch	F - Flanged DN Size	P - With Pressure Ports	L - Low Maximum Flow	4 - PN40
	065 - DN65 / 2.5 inch			H - High Maximum Flow	
	080 - DN80 / 3 inch				
	100 - DN100 / 4 inch				
	125 - DN125 / 5 inch				
	150 - DN150 / 6 inch				
	200 - DN200 / 8 inch				
	250 - DN250 / 10 inch				
<b>VPI</b>	<b>050</b>	<b>F</b>	<b>P</b>	<b>H</b>	<b>4</b>

**Example:** VPI050FPH4

- LF models available only for DN80-DN150

- DN150HF model requires flange adapter from DN200 to DN150 (available as an accessory).

## VPI SERIES ACTUATORS.

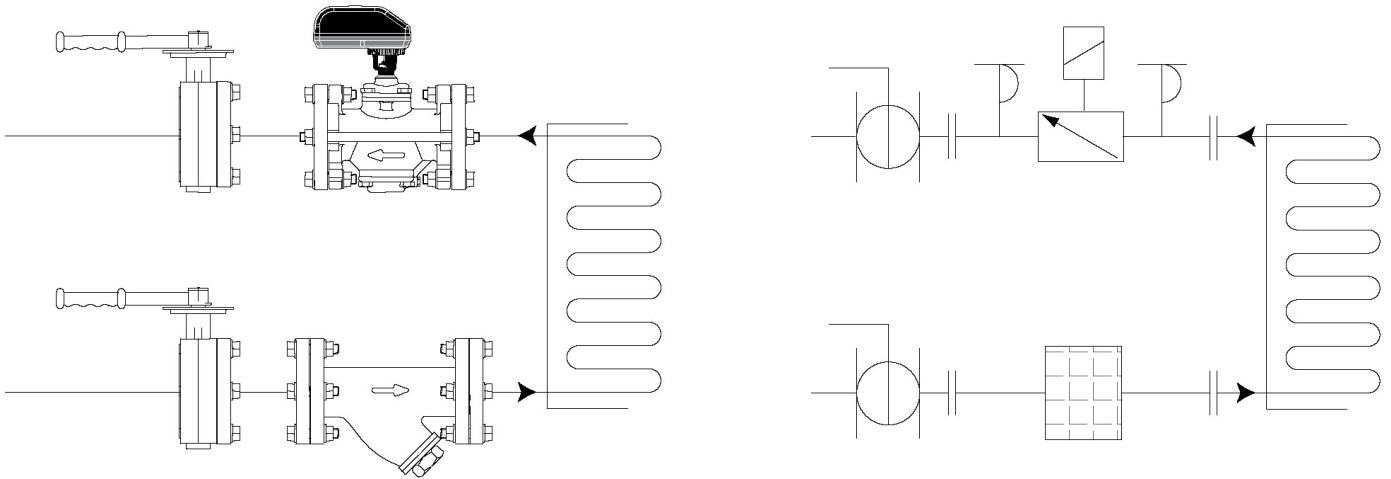
ACTUATOR TYPE	FAIL-SAFE	CONTROL AND POWER VOLTAGE	ACTUATOR TECHNOLOGY	FEEDBACK	VALVE SIZE
MR - Motor Rotary	P - Power Failure 'In place' E - Electronic Fail-Safe	75 - Floating / Modulating (universal)	M - Electric Actuator	A - Analog feedback	C - DN50-DN250 (Flanged)
<b>MR</b>	<b>P</b>	<b>75</b>	<b>M</b>	<b>A</b>	<b>C</b>

**Example:** MRP75MAC

# VALVE AND ACTUATOR COMPATIBILITY

PARAMETERS		ACTUATOR PART NUMBER	
		MLP71MAA	MLE71MAA
Power Supply	Voltage	24 Vac/dc, +/-10%, 50/60Hz	24 Vac/dc, +/-10%, 50/60Hz
	Power Consumption (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	(seconds)	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> (L/H)	VALVE MODEL NUMBER	COMPATIBILITY
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	•

# APPLICATION AND SCHEMATIC EXAMPLE



## For more and ordering Information

### UNITED ARAB EMIRATES

#### Honeywell Building Technologies

Building Management Systems  
Emaar Business Park, Sheikh Zayed Road,  
Building No. 2, 2nd floor, 201  
Post Office Box 232362,  
Dubai, United Arab Emirates.  
Call: +971 44541704

### ASEAN

#### Honeywell Building Technologies (ASEAN)

Honeywell International Sdn Bhd  
Level 25, UOA Corp Tower, Lobby B  
Avenue 10, The Vertical, Bangsar South City  
59200, Kuala Lumpur, Malaysia.  
Call: +60 3-2777 3100  
Email: buildings.asean@honeywell.com

### LATAM

#### Honeywell Building Technologies

Building Management Systems  
Av. Santa Fe No. 94, Torre A – Piso 1  
Col. Colonia Zedec Santa Fe, México, CDMX.  
C.P. 01210.  
Call: +52 (55) 5241-4800  
Email: bms.orderentry.latam@honeywell.com

### TURKEY

#### Honeywell Teknoloji A.Ş.

Cayir Cad. No:7 Kat:1  
Icerenkoy 34752 Istanbul, Turkey.  
Call: +90 216 578 71 10  
Faks: +90 216 575 66 37

### PACIFIC

#### Honeywell Building Technologies

2 Richardson Pl, North Ryde NSW 2113,  
Australia.  
Call: 1300 363 936  
Email: pacificcustomer@honeywell.com

### QATAR

#### Honeywell Technology Solutions

P.O. Box 63757, Doha, Qatar  
Phone: +974 4 4066 200  
Fax: +974 4 4066 711

### KOREA

#### Honeywell HBT Buildings Technologies

5F SangAm IT Tower, 434 Worldcup buk-ro,  
Mapo-gu, Seoul 03922, Korea.  
Call: 0082-2-799-6271, 6009,  
6158, 3535, 6361  
Email: info.btkorea@Honeywell.com

### INDIA

#### Honeywell HBT India Buildings

Unitech Trade Center, 5th Floor, Sector-43,  
Block C, Sushant Lok Phase - I,  
Gurgaon - 122 002, India.  
Call: 1-800-103-0339  
Email: HBTIndiabuildings@honeywell.com

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