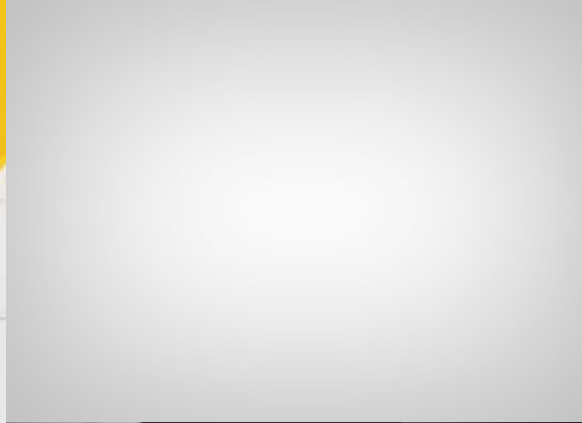


# Pressure Independent Control Valve Quick Selection Guide

**Honeywell**



**Deliver High Efficiency  
In Less Time**



# Installing Control Valves Just Got A Lot More Dynamic.

Contractors are always looking for ways to provide clients with superior comfort, energy efficiency and ease of use — while, of course, looking for ways to cut installation time. Facility managers are always looking for ways to maintain comfort and improve energy efficiency while reducing their maintenance costs.

With new Honeywell VRN and VRW Pressure Independent Flow Control Valves, everyone gets just what they're looking for.

## More Control. Less Work.

Manual balancing of a building's hydronic systems for even flow and temperature distribution throughout the building is, thankfully, becoming a thing of the past. It's a labor-intensive process that's never perfect and never lasts.

The dynamic balancing of new Honeywell VRN and VRW Pressure Independent Flow Control Valves reduces labor time by integrating the flow control 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.

- Industry-leading precision — no more manual balancing
- Controls flow exactly at all load conditions, not just at design conditions
- Improved control and performance helps extend actuator life expectancy
- Accurate flow regulation allows for the optimum sizing of chillers, boilers and pumps
- Full range of sizes from 1/2" to 6"

# How Dynamic Pressure Independent Valve Operation Works

When conventional two-way valves in multi-zone systems open or close, the pressure flow characteristic of the pumps causes an immediate head pressure change to all other valves in the system, resulting in overflow or underflow. Dynamic pressure regulation, as shown in this illustration of a Honeywell VRN Flow Control Valve, maintains the required flow rate through the valve by regulating the pressure drop across the control valve seat.

The actuator modulates the control valve portion of the valves to the required flow based on heating or cooling load requirements, independent of supply pressure. When the room controller is in balance, actuator movement stops and the valve is now set

at optimum flow. If system head pressure changes, the built-in diaphragm regulator compensates for the change, maintaining the flow required by the control system without using the actuator. Flow will not change until the control system needs to respond to an external change in thermal load or to a change in set point.

Simply put, Honeywell VRN Flow Control Valves balance the system at every point over the range of the control valve within 5% accuracy at published pressure ratings. The result is consistent comfort, increased energy efficiency and increased actuator life.

## 1 Integral Snubber

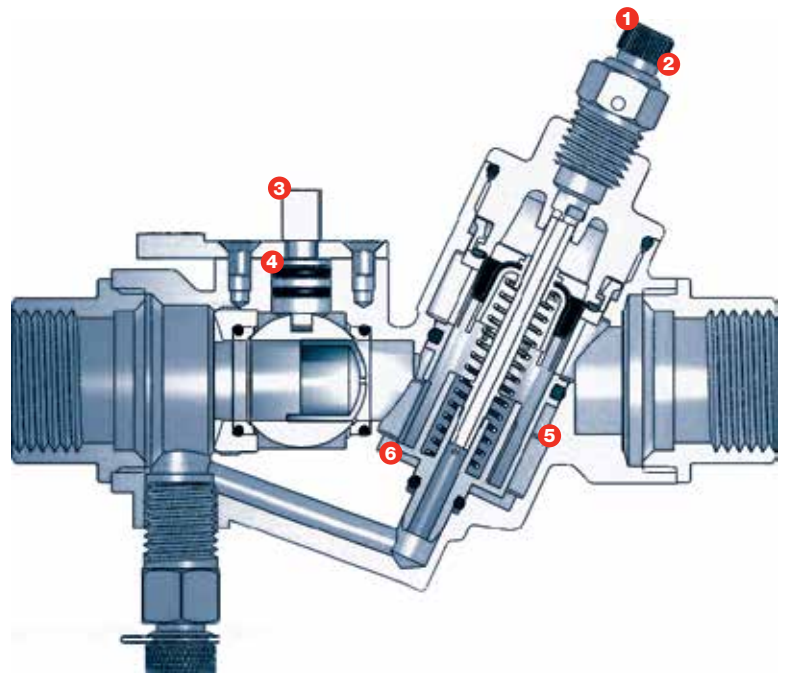
2 **Optional Test Ports** — Facilitates system set-up for balancing report.

## 3 Choice Of Actuators

4 **Field Serviceable Stem** — Only Honeywell makes ball valves that can be serviced in place.

5 **Stainless Steel Field-Replaceable, Positive-Pressure Regulator** — Instantly responds to changes in system pressure to maintain desired flow across the valve. Provides long-term durability and serviceability. Will not bottom out at extreme pressures, preventing abrupt loss of control. In addition, it is factory calibrated so there is no need for field commissioning.

6 **High Turn-Down Ratio/Equal Percentage Flow** — Results in linear heat transfer for optimal control. Unlike designs that use a disc that sits outside of the ball, the characterized insert is integral to the ball, resulting in longer service life and higher differential pressure capabilities.

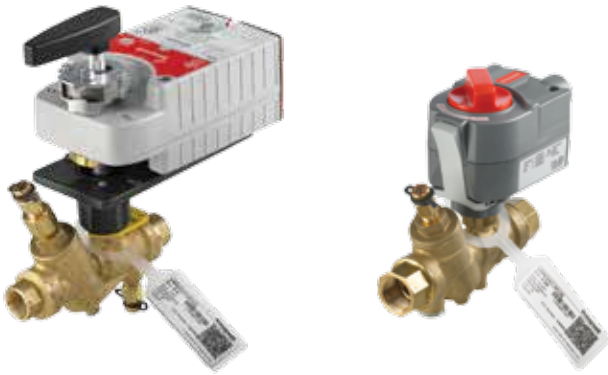


## Even More Time Savings

Selecting, installing and commissioning Honeywell VRN and VRW Pressure Independent Flow Control Valves is a quick and cost-effective process. The valves feature an integrated pressure control cartridge 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.

Honeywell VRN and VRW Pressure Independent Flow Control Valves also offer unique labor saving features in the event of future service requirements. The **field serviceable stem** — a Honeywell ball valve exclusive — allows the valves to be serviced in the field rather than cut from the pipe. The pressure regulating cartridge is also field serviceable.

## VRN Product Information



VRN two-way dynamic pressure independent control ball valves maintain constant flow of hot or chilled water in closed loop heating, ventilating and air conditioning (HVAC) systems regardless of head pressure fluctuations above the minimum specified pressure drop. These valve assemblies can be used with Honeywell non-spring return or spring return direct coupled actuators (DCA) with minimum torque of 35 lb-in (4 Nm) on valve sizes up to 3 inches (DN80). The VRN Series is threaded and is used for threaded connections and lower capacity applications. The main differences between the Honeywell VRN and VRW control valves are the installation style and the capacity.

### FEATURES:

- Fits 1/2" to 3" pipes
- Flow range of 1.0 to 95 gpm
- Control chilled or hot water with up to 50% Glycol. Not for use with steam or fuels.
- Manual override to control valve during installation or in the event of power failure
- Eliminates reverse return piping designs, saving time and material
- Manual override for system flushing, filling and service
- Fluid temperature rating of -22° F to 250° F
- Quick product selection time by choosing the model that satisfies flow requirements
- For retrofit applications, simply set precise flow required by limiting actuator stroke mechanically or with a controller
- Less torque is needed, so you can use lower-cost, low-torque actuators on larger pipe sizes
- Fail-safe models configurable for normally open or normally closed return
- VRN Valves and actuators can be ordered separately or as assemblies
- Five-year actuator warranty

## Model Number Specification

Example: **VRN2A001.30PA+MVN613A0000+FSO+C1**

Pressure Independent Control Valve, Female NPT Thread, 2-way, 1/2", GPM 1.00, Plated Brass, Standard Profile with MVN613A0000 Actuator, Fail Safe Position Open and 1 meter cable.

VR	N	2	A	001.30	P	A	+	MVN613A0000	+	C1
Valve	Fitting	Body/ Flow Type	Size	GPM	Trim	Profile	Actuator	Fail Safe Position	Accessories	
<b>VR</b> - Pressure independent control valve	<b>N</b> - Female NPT threaded	<b>2</b> - 2-way	<b>A</b> - 1/2 (DN15) <b>B</b> - 3/4 (DN20) <b>C</b> - 1 (DN25) <b>D</b> - 1-1/4 (DN32) <b>E</b> - 1-1/2 (DN40) <b>F</b> - 2 (DN50) <b>G</b> - 2-1/2 (DN65) <b>H</b> - 3 (DN80)	<b>xxx.xx</b> - GPM Designator (VRN)	<b>P</b> - Plated Brass <b>S</b> - Stainless Steel	<b>A</b> - Standard Profile* <b>L</b> - Low Profile*	<b>Fail-in-Place</b> MVN613A0000 MVN613L0000 MVN643A0000 MVN643L0000 MVN713A0000 MVN713L0000 MN6105A1011 MN7505A2001 <b>Fail Safe</b> MS7505A2030 MS8105A1030	Fail in place <b>FSO</b> - Fail Safe Open <b>FSC</b> - Fail Safe Closed <b>FSA</b> - Fail A-AB Open <b>FSB</b> - Fail B-AB Open  (Fail Safe Position only applies to MS actuators)	<b>C1</b> - 1 meter cable (for use with MVN actuators) <b>3R</b> - Enclosure (for use with MN and MS actuators)	

\*Standard base provides clearance between valve and actuator for insulation.

\*\*Low profile enables installation of valve and actuator in tight spaces.

# Pressure Independent Control Valves, NPT 1/2"-1 1/4"



Example of complete orderable part number: **VRN2A000.38SA+MVN643A0000+C1**

Pressure Independent Control Valve, Female NPT Thread, 2-way, 1/2", GPM .38, Stainless Steel with MVN643A0000 Actuator, Fail-in-Place and 1 meter cable.

**5-YEAR  
LIMITED  
WARRANTY**

Note: If the complete orderable part number is too long for your ordering system, please refer to the Short Order Codes on pgs 8-11.

Valve Specification				Valve Profile	Standard Profile		Black Bracket	
				Valve Trim	Plated Brass	Stainless Steel	Plated Brass	Stainless Steel
Valve Size (inches)	Max. GPM	Differential Pressure, psid		Close-off	Valve Body Model Number			
		Min	Max					
1/2"	1.0	3.0	35	100	VRN2A00.100PA	VRN2A001.00SA	VRN2A001.00PX	VRN2A001.00SX
	2.0				VRN2A002.00PA	VRN2A002.00SA	VRN2A002.00PX	VRN2A002.00SX
	3.0				VRN2A003.00PA	VRN2A003.00SA	VRN2A003.00PX	VRN2A003.00SX
	4.0				VRN2A004.00PA	VRN2A004.00SA	VRN2A004.00PX	VRN2A004.00SX
	5.0				VRN2A005.00PA	VRN2A005.00SA	VRN2A005.00PX	VRN2A005.00SX
	6.0				VRN2A006.00PA	VRN2A006.00SA	VRN2A006.00PX	VRN2A006.00SX
	7.0				VRN2A007.00PA	VRN2A007.00SA	VRN2A007.00PX	VRN2A007.00SX
3/4"	1.0	3.0	35	100	VRN2B001.00PA	VRN2B001.00SA	VRN2B001.00PX	VRN2B001.00SX
	2.0				VRN2B002.00PA	VRN2B002.00SA	VRN2B002.00PX	VRN2B002.00SX
	3.0				VRN2B003.00PA	VRN2B003.00SA	VRN2B003.00PX	VRN2B003.00SX
	4.0				VRN2B004.00PA	VRN2B004.00SA	VRN2B004.00PX	VRN2B004.00SX
	5.0				VRN2B005.00PA	VRN2B005.00SA	VRN2B005.00PX	VRN2B005.00SX
	6.0				VRN2B006.00PA	VRN2B006.00SA	VRN2B006.00PX	VRN2B006.00SX
	7.0				VRN2B007.00PA	VRN2B007.00SA	VRN2B007.00PX	VRN2B007.00SX
	8.0	6.0	35	100	VRN2B008.00PA	VRN2B008.00SA	VRN2B008.00PX	VRN2B008.00SX
	9.0				VRN2B009.00PA	VRN2B009.00SA	VRN2B009.00PX	VRN2B009.00SX
	10.0				VRN2B010.00PA	VRN2B010.00SA	VRN2B010.00PX	VRN2B010.00SX
1"	1.0	3.0	35	100	VRN2C001.00PA	VRN2C001.00SA	VRN2C001.00PX	VRN2C001.00SX
	2.0				VRN2C002.00PA	VRN2C002.00SA	VRN2C002.00PX	VRN2C002.00SX
	3.0				VRN2C003.00PA	VRN2C003.00SA	VRN2C003.00PX	VRN2C003.00SX
	4.0				VRN2C004.00PA	VRN2C004.00SA	VRN2C004.00PX	VRN2C004.00SX
	5.0				VRN2C005.00PA	VRN2C005.00SA	VRN2C005.00PX	VRN2C005.00SX
	6.0				VRN2C006.00PA	VRN2C006.00SA	VRN2C006.00PX	VRN2C006.00SX
	7.0				VRN2C007.00PA	VRN2C007.00SA	VRN2C007.00PX	VRN2C007.00SX
	8.0	6.0	35	100	VRN2C008.00PA	VRN2C008.00SA	VRN2C008.00PX	VRN2C008.00SX
	9.0				VRN2C009.00PA	VRN2C009.00SA	VRN2C009.00PX	VRN2C009.00SX
	10				VRN2C010.00PA	VRN2C010.00SA	VRN2C010.00PX	VRN2C010.00SX
	15	3.0	50	100	VRN2C015.00PA	VRN2C015.00SA	VRN2C015.00PX	VRN2C015.00SX
	20				VRN2C020.00PA	VRN2C020.00SA	VRN2C020.00PX	VRN2C020.00SX
	25				VRN2C025.00PA	VRN2C025.00SA	VRN2C025.00PX	VRN2C025.00SX
1-1/4"	10	3.0	50	100	VRN2D010.00PA	VRN2D010.00SA	VRN2D010.00PX	VRN2D010.00SX
	15				VRN2D015.00PA	VRN2D015.00SA	VRN2D015.00PX	VRN2D015.00SX
	20				VRN2D020.00PA	VRN2D020.00SA	VRN2D020.00PX	VRN2D020.00SX
	25	5.0	VRN2D025.00PA		VRN2D025.00SA	VRN2D025.00PX	VRN2D025.00SX	
	30		VRN2D030.00PA		VRN2D030.00SA	VRN2D030.00PX	VRN2D030.00SX	
	35		VRN2D035.00PA		VRN2D035.00SA	VRN2D035.00PX	VRN2D035.00SX	

Actuator Features								
MVN								
		Standard Profile			Low Profile			
Actuator Type	Control Signal	Timing	Voltage	Enclosure	Actuator Model Number			
Fail-in-Place	Floating	90 sec.	24 VAC	NEMA 2	+MVN613A0000		+MVN613L0000	
	Fast SPDT	30 sec.	24 VAC/DC		+MVN643A0000		+MVN643L0000	
	Modulating	90 sec.	24 VAC/DC		+MVN713A0000		+MVN713L0000	
Accessories	1 meter cable			+C1				

# Pressure Independent Control Valves, NPT 1½"-3"



Example of complete orderable part number: **VRN2E020.00PX+MN6105A1011**  
 Pressure Independent Control Valve, Female NPT Thread, 2-way, 1-1/2", GPM 20, Black Bracket, Plated Brass with MN6105A1011 Actuator, Fail-in-Place.

**5-YEAR  
LIMITED  
WARRANTY**

Note: If the complete orderable part number is too long for your ordering system, please refer to the Short Order Codes on pgs 8-11.

Valve Specification				Valve Trim	Plated Brass	Stainless Steel
Valve Size (inches)	Max. GPM	Differential Pressure, psid		Close-off	Valve Body Model Number	
		Min	Max			
1-1/2"	10	3.0	50	100	VRN2E010.00PX	VRN2E010.00SX
	15				VRN2E015.00PX	VRN2E015.00SX
	20				VRN2E020.00PX	VRN2E020.00SX
	25				VRN2E025.00PX	VRN2E025.00SX
	30	5.0	58		VRN2E030.00PX	VRN2E030.00SX
	35				VRN2E035.00PX	VRN2E035.00SX
	40				VRN2E040.00PX	VRN2E040.00SX
	45				VRN2E045.00PX	VRN2E045.00SX
50	6.0	VRN2E050.00PX	VRN2E050.00SX			
2"	25	4.0	58	100	VRN2F025.00PX	VRN2F025.00SX
	30				VRN2F030.00PX	VRN2F030.00SX
	35				VRN2F035.00PX	VRN2F035.00SX
	40				VRN2F040.00PX	VRN2F040.00SX
	45	6.0			VRN2F045.00PX	VRN2F045.00SX
	50				VRN2F050.00PX	VRN2F050.00SX
	55				VRN2F055.00PX	VRN2F055.00SX
	60				VRN2F060.00PX	VRN2F060.00SX
	65	7.0			VRN2F065.00PX	VRN2F065.00SX
	70				VRN2F070.00PX	VRN2F070.00SX
75	VRN2F075.00PX		VRN2F075.00SX			
2-1/2"	25		4.0	58	100	VRN2G025.00PX
	30	VRN2G030.00PX				VRN2G030.00SX
	35	VRN2G035.00PX				VRN2G035.00SX
	40	VRN2G040.00PX				VRN2G040.00SX
	45	6.0	VRN2G045.00PX			VRN2G045.00SX
	50		VRN2G050.00PX			VRN2G050.00SX
	55		VRN2G055.00PX			VRN2G055.00SX
	60		VRN2G060.00PX			VRN2G060.00SX
	65	7.0	VRN2G065.00PX			VRN2G065.00SX
	70		VRN2G070.00PX			VRN2G070.00SX
	75		VRN2G075.00PX			VRN2G075.00SX
	80		VRN2G080.00PX			VRN2G080.00SX
	85	10	VRN2G085.00PX			VRN2G085.00SX
95	12	VRN2G095.00PX	VRN2G095.00SX			
3"	25	4.0	58	100	VRN2H025.00PX	VRN2H025.00SX
	30				VRN2H030.00PX	VRN2H030.00SX
	35				VRN2H035.00PX	VRN2H035.00SX
	40				VRN2H040.00PX	VRN2H040.00SX
	45	6.0			VRN2H045.00PX	VRN2H045.00SX
	50				VRN2H050.00PX	VRN2H050.00SX
	55				VRN2H055.00PX	VRN2H055.00SX
	60				VRN2H060.00PX	VRN2H060.00SX
	65	7.0			VRN2H065.00PX	VRN2H065.00SX
	70				VRN2H070.00PX	VRN2H070.00SX
	75				VRN2H075.00PX	VRN2H075.00SX
	80				VRN2H080.00PX	VRN2H080.00SX
	85	10			VRN2H085.00PX	VRN2H085.00SX
95	12	VRN2H095.00PX	VRN2H095.00SX			

## Actuator Features

Direct Coupled Actuators					
Actuator Type	Control Signal	Timing	Voltage	Enclosure	Model Number
Fail-in-Place	Floating	95 sec.	24 VAC/DC	NEMA 2	+MN6105A1011
Fail-in-Place	Modulating, Floating	95 sec.			+MN7505A2001
Fail Safe	Modulating, Floating	95 sec.			+MS7505A2030
Fail Safe	2-Position	95 sec.			+MS8105A1030
Fail Safe Position (MS actuators only - open, closed, A-AB, B-AB)	FSO - Fail Safe Open FSC - Fail Safe Closed				FSO or FSC
Accessories	3R enclosure				+3R

Pressure Independent Control Valves, NPT 1/2"-1 1/4"



Actuator Features		Non-Fail Safe						Valve Only	
<b>Actuator O.S Number/ Short Order Code</b>		MVN613A0000	MVN613A0000+C1	MVN613A0000	MVN613A0000+C1	MVN643A0000	MVN643A0000+C1	N/A	N/A
<b>Power Supply</b>	Voltage	24 Vac	24 Vac	24 Vac	24 Vac	24 Vac	24 Vac		
	Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz		
	Power	1.5 VA	1.5 VA	1.5 VA	1.5 VA	6 VA	6 VA		
<b>Actuator Torque</b>	(lb.-in.)	27	27	27	27	27	27		
<b>Control</b>	Modulating (0)2-10Vdc								
	Floating	•	•	•	•	•	•		
	Fast acting SPDT					•	•		
<b>Fail Safe Action</b>		Fail-in-Place	Fail-in-Place	Fail-in-Place	Fail-in-Place	Fail-in-Place	Fail-in-Place		
<b>Actuator Stroke (degrees)</b>		90 ±3	90 ±3	90 ±3	90 ±3	90 ±3	90 ±3		
<b>Timing</b>	(seconds)	90	90	90	90	30	30		
<b>Valve Features</b>	Trim	Plated Brass	Plated Brass	Stainless Steel	Stainless Steel	Plated Brass	Plated Brass	Plated Brass	Stainless Steel

Valve Size (inches)	Max. GPM	Min. Differential Pressure** (psid)	Max. Differential Pressure** (psid)	Close-off Pressure (psid)	Short Order Codes							
					No Cable	1 Meter Cable	No Cable	1 Meter Cable	No Cable	1 Meter Cable	Valve Only	
1/2	1	3.0	35	100	VRN2ABPA1000	VRN2ABPA1001	VRN2ABSA1000	VRN2ABSA1001	VRN2ABPA2000	VRN2ABPA2001	VRN2ABPA0000	VRN2ABSA0000
	2				VRN2ADPA1000	VRN2ADPA1001	VRN2ADSA1000	VRN2ADSA1001	VRN2ADPA2000	VRN2ADPA2001	VRN2ADPA0000	VRN2ADSA0000
	3				VRN2AEP1000	VRN2AEP1001	VRN2AESA1000	VRN2AESA1001	VRN2AEP2000	VRN2AEP2001	VRN2AEP0000	VRN2AESA0000
	4				VRN2AFPA1000	VRN2AFPA1001	VRN2AFSA1000	VRN2AFSA1001	VRN2AFPA2000	VRN2AFPA2001	VRN2AFPA0000	VRN2AFSA0000
	5				VRN2AGPA1000	VRN2AGPA1001	VRN2AGSA1000	VRN2AGSA1001	VRN2AGPA2000	VRN2AGPA2001	VRN2AGPA0000	VRN2AGSA0000
	6				VRN2AHPA1000	VRN2AHPA1001	VRN2AHPA1000	VRN2AHPA1001	VRN2AHPA2000	VRN2AHPA2001	VRN2AHPA0000	VRN2AHPA0000
	7				VRN2AJPA1000	VRN2AJPA1001	VRN2AJSA1000	VRN2AJSA1001	VRN2AJPA2000	VRN2AJPA2001	VRN2AJPA0000	VRN2AJSA0000
3/4	1	6.0	35	100	VRN2BBPA1000	VRN2BBPA1001	VRN2BBSA1000	VRN2BBSA1001	VRN2BBPA2000	VRN2BBPA2001	VRN2BBPA0000	VRN2BBSA0000
	2				VRN2BDPA1000	VRN2BDPA1001	VRN2BDSA1000	VRN2BDSA1001	VRN2BDPA2000	VRN2BDPA2001	VRN2BDPA0000	VRN2BDSA0000
	3				VRN2BEP1000	VRN2BEP1001	VRN2BESA1000	VRN2BESA1001	VRN2BEP2000	VRN2BEP2001	VRN2BEP0000	VRN2BESA0000
	4				VRN2BFPA1000	VRN2BFPA1001	VRN2BFSA1000	VRN2BFSA1001	VRN2BFPA2000	VRN2BFPA2001	VRN2BFPA0000	VRN2BFSA0000
	5				VRN2BGPA1000	VRN2BGPA1001	VRN2BGSA1000	VRN2BGSA1001	VRN2BGPA2000	VRN2BGPA2001	VRN2BGPA0000	VRN2BGSA0000
	6				VRN2BHPA1000	VRN2BHPA1001	VRN2BHSA1000	VRN2BHSA1001	VRN2BHPA2000	VRN2BHPA2001	VRN2BHPA0000	VRN2BHSA0000
	7				VRN2BJPA1000	VRN2BJPA1001	VRN2BJS1000	VRN2BJS1001	VRN2BJPA2000	VRN2BJPA2001	VRN2BJPA0000	VRN2BJS0000
	8				VRN2BKPA1000	VRN2BKPA1001	VRN2BKSA1000	VRN2BKSA1001	VRN2BKPA2000	VRN2BKPA2001	VRN2BKPA0000	VRN2BKSA0000
	9				VRN2BLPA1000	VRN2BLPA1001	VRN2BLSA1000	VRN2BLSA1001	VRN2BLPA2000	VRN2BLPA2001	VRN2BLPA0000	VRN2BLSA0000
	10*				VRN2BMPA1000	VRN2BMPA1001	VRN2BMSA1000	VRN2BMSA1001	VRN2BMPA2000	VRN2BMPA2001	VRN2BMPA0000	VRN2BMSA0000
1	1	3.0	35	100	VRN2CBPA1000	VRN2CBPA1001	VRN2CBSA1000	VRN2CBSA1001	VRN2CBPA2000	VRN2CBPA2001	VRN2CBPA0000	VRN2CBSA0000
	2				VRN2CDPA1000	VRN2CDPA1001	VRN2CDSA1000	VRN2CDSA1001	VRN2CDPA2000	VRN2CDPA2001	VRN2CDPA0000	VRN2CDSA0000
	3				VRN2CEPA1000	VRN2CEPA1001	VRN2CESA1000	VRN2CESA1001	VRN2CEPA2000	VRN2CEPA2001	VRN2CEPA0000	VRN2CESA0000
	4				VRN2CFPA1000	VRN2CFPA1001	VRN2CFSA1000	VRN2CFSA1001	VRN2CFPA2000	VRN2CFPA2001	VRN2CFPA0000	VRN2CFSA0000
	5				VRN2CGPA1000	VRN2CGPA1001	VRN2CGSA1000	VRN2CGSA1001	VRN2CGPA2000	VRN2CGPA2001	VRN2CGPA0000	VRN2CGSA0000
	6				VRN2CHPA1000	VRN2CHPA1001	VRN2CHSA1000	VRN2CHSA1001	VRN2CHPA2000	VRN2CHPA2001	VRN2CHPA0000	VRN2CHSA0000
	7				VRN2CJPA1000	VRN2CJPA1001	VRN2CJSA1000	VRN2CJSA1001	VRN2CJPA2000	VRN2CJPA2001	VRN2CJPA0000	VRN2CJSA0000
	8				VRN2CKPA1000	VRN2CKPA1001	VRN2CKSA1000	VRN2CKSA1001	VRN2CKPA2000	VRN2CKPA2001	VRN2CKPA0000	VRN2CKSA0000
	9				VRN2CLPA1000	VRN2CLPA1001	VRN2CLSA1000	VRN2CLSA1001	VRN2CLPA2000	VRN2CLPA2001	VRN2CLPA0000	VRN2CLSA0000
	10				VRN2CMPA1000	VRN2CMPA1001	VRN2CMSA1000	VRN2CMSA1001	VRN2CMPA2000	VRN2CMPA2001	VRN2CMPA0000	VRN2CMSA0000
1 1/4	15	4.0	50	100	VRN2CNPA1000	VRN2CNPA1001	VRN2CNPA1000	VRN2CNPA1001	VRN2CNPA2000	VRN2CNPA2001	VRN2CNPA0000	VRN2CNPA0000
	20				VRN2CPPA1000	VRN2CPPA1001	VRN2CPSA1000	VRN2CPSA1001	VRN2CPPA2000	VRN2CPPA2001	VRN2CPPA0000	VRN2CPSA0000
	10				VRN2DMPA1000	VRN2DMPA1001	VRN2DMSA1000	VRN2DMSA1001	VRN2DMPA2000	VRN2DMPA2001	VRN2DMPA0000	VRN2DMSA0000
	15				VRN2DNPA1000	VRN2DNPA1001	VRN2DNSA1000	VRN2DNSA1001	VRN2DNPA2000	VRN2DNPA2001	VRN2DNPA0000	VRN2DNSA0000
	20				VRN2DPPA1000	VRN2DPPA1001	VRN2DPSA1000	VRN2DPSA1001	VRN2DPPA2000	VRN2DPPA2001	VRN2DPPA0000	VRN2DPSA0000
	25				VRN2DQPA1000	VRN2DQPA1001	VRN2DQSA1000	VRN2DQSA1001	VRN2DQPA2000	VRN2DQPA2001	VRN2DQPA0000	VRN2DQSA0000
	30				VRN2DRPA1000	VRN2DRPA1001	VRN2DRSA1000	VRN2DRSA1001	VRN2DRPA2000	VRN2DRPA2001	VRN2DRPA0000	VRN2DRSA0000
35*	VRN2DSPA1000	VRN2DSPA1001	VRN2DSSA1000	VRN2DSSA1001	VRN2DSPA2000	VRN2DSPA2001	VRN2DSPA0000	VRN2DSSA0000				

\* Full port ball

\*\* Differential pressure regulator operating range, ±5%



# Pressure Independent Control Valves, NPT 1/2" - 1 1/4"



Actuator Features		Non-Fail Safe					
<b>Actuator O.S Number/ Short Order Code</b>		MVN643A0000	MVN643A0000+C1	MVN713A0000	MVN713A0000+C1	MVN713A0000	MVN713A0000+C1
<b>Power Supply</b>	Voltage	24 Vac	24 Vac	24 Vac	24 Vac	24 Vac	24 Vac
	Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
	Power	6 VA	6 VA	5 VA	5 VA	5 VA	5 VA
<b>Actuator Torque</b>	(lb.-in.)	27	27	27	27	27	27
<b>Control</b>	Modulating (0)2-10Vdc			•	•	•	•
	Floating						
	Fast acting SPDT	•	•				
<b>Fail Safe Action</b>		Fail-in-Place	Fail-in-Place	Fail-in-Place	Fail-in-Place	Fail-in-Place	Fail-in-Place
<b>Actuator Stroke (degrees)</b>		90 ±3	90 ±3	90 ±3	90 ±3	90 ±3	90 ±3
<b>Timing</b>	(seconds)	30	30	90	90	90	90
<b>Valve Features</b>	Trim	Stainless Steel	Stainless Steel	Plated Brass	Plated Brass	Stainless Steel	Stainless Steel

Valve Size (inches)	Max. GPM	Min. Differential Pressure** (psid)	Max. Differential Pressure** (psid)	Close-off Pressure (psid)	Short Order Codes					
					No Cable	1 Meter Cable	No Cable	1 Meter Cable	No Cable	1 Meter Cable
1/2"	1	3.0	100	100	VRN2ABSA2000	VRN2ABSA2001	VRN2ABPA3000	VRN2ABPA3001	VRN2ABSA3000	VRN2ABSA3001
	2				VRN2ADSA2000	VRN2ADSA2001	VRN2ADPA3000	VRN2ADPA3001	VRN2ADSA3000	VRN2ADSA3001
	3				VRN2AESA2000	VRN2AESA2001	VRN2AEP3000	VRN2AEP3001	VRN2AESA3000	VRN2AESA3001
	4				VRN2AFSA2000	VRN2AFSA2001	VRN2AFPA3000	VRN2AFPA3001	VRN2AFSA3000	VRN2AFSA3001
	5				VRN2AGSA2000	VRN2AGSA2001	VRN2AGPA3000	VRN2AGPA3001	VRN2AGSA3000	VRN2AGSA3001
	6				VRN2AHSA2000	VRN2AHSA2001	VRN2AHP3000	VRN2AHP3001	VRN2AHSA3000	VRN2AHSA3001
	7				VRN2AJSA2000	VRN2AJSA2001	VRN2AJPA3000	VRN2AJPA3001	VRN2AJSA3000	VRN2AJSA3001
3/4"	1	3.0	35	100	VRN2BBSA2000	VRN2BBSA2001	VRN2BBPA3000	VRN2BBPA3001	VRN2BBSA3000	VRN2BBSA3001
	2				VRN2BDSA2000	VRN2BDSA2001	VRN2BDPA3000	VRN2BDPA3001	VRN2BDSA3000	VRN2BDSA3001
	3				VRN2BESA2000	VRN2BESA2001	VRN2BEP3000	VRN2BEP3001	VRN2BESA3000	VRN2BESA3001
	4				VRN2BFSA2000	VRN2BFSA2001	VRN2BFPA3000	VRN2BFPA3001	VRN2BFSA3000	VRN2BFSA3001
	5				VRN2BGSA2000	VRN2BGSA2001	VRN2BGPA3000	VRN2BGPA3001	VRN2BGSA3000	VRN2BGSA3001
	6				VRN2BHSA2000	VRN2BHSA2001	VRN2BHP3000	VRN2BHP3001	VRN2BHSA3000	VRN2BHSA3001
	7				VRN2BJS2000	VRN2BJS2001	VRN2BJPA3000	VRN2BJPA3001	VRN2BJS3000	VRN2BJS3001
	8	VRN2BKSA2000	VRN2BKSA2001	VRN2BKPA3000	VRN2BKPA3001	VRN2BKSA3000	VRN2BKSA3001			
	9	VRN2BLSA2000	VRN2BLSA2001	VRN2BLPA3000	VRN2BLPA3001	VRN2BLSA3000	VRN2BLSA3001			
	10*	VRN2BMSA2000	VRN2BMSA2001	VRN2BMP3000	VRN2BMP3001	VRN2BMSA3000	VRN2BMSA3001			
1"	1	3.0	50	100	VRN2CBSA2000	VRN2CBSA2001	VRN2CBPA3000	VRN2CBPA3001	VRN2CBSA3000	VRN2CBSA3001
	2				VRN2CDSA2000	VRN2CDSA2001	VRN2CDPA3000	VRN2CDPA3001	VRN2CDSA3000	VRN2CDSA3001
	3				VRN2CESA2000	VRN2CESA2001	VRN2CEPA3000	VRN2CEPA3001	VRN2CESA3000	VRN2CESA3001
	4				VRN2CFSA2000	VRN2CFSA2001	VRN2CFPA3000	VRN2CFPA3001	VRN2CFSA3000	VRN2CFSA3001
	5				VRN2CGSA2000	VRN2CGSA2001	VRN2CGPA3000	VRN2CGPA3001	VRN2CGSA3000	VRN2CGSA3001
	6				VRN2CHSA2000	VRN2CHSA2001	VRN2CHPA3000	VRN2CHPA3001	VRN2CHSA3000	VRN2CHSA3001
	7				VRN2CJSA2000	VRN2CJSA2001	VRN2CJPA3000	VRN2CJPA3001	VRN2CJSA3000	VRN2CJSA3001
	8	VRN2CKSA2000	VRN2CKSA2001	VRN2CKPA3000	VRN2CKPA3001	VRN2CKSA3000	VRN2CKSA3001			
	9	VRN2CLSA2000	VRN2CLSA2001	VRN2CLPA3000	VRN2CLPA3001	VRN2CLSA3000	VRN2CLSA3001			
	10	VRN2CMSA2000	VRN2CMSA2001	VRN2CMPA3000	VRN2CMPA3001	VRN2CMSA3000	VRN2CMSA3001			
1 1/4"	15	4.0	50	100	VRN2CNSA2000	VRN2CNSA2001	VRN2CNPA3000	VRN2CNPA3001	VRN2CNSA3000	VRN2CNSA3001
	20				VRN2CPSA2000	VRN2CPSA2001	VRN2CPPA3000	VRN2CPPA3001	VRN2CPSA3000	VRN2CPSA3001
	25				VRN2DMSA2000	VRN2DMSA2001	VRN2DMPA3000	VRN2DMPA3001	VRN2DMSA3000	VRN2DMSA3001
	30	VRN2DNSA2000			VRN2DNSA2001	VRN2DNPA3000	VRN2DNPA3001	VRN2DNSA3000	VRN2DNSA3001	
	35*	VRN2DPSA2000			VRN2DPSA2001	VRN2DPPA3000	VRN2DPPA3001	VRN2DPSA3000	VRN2DPSA3001	
		VRN2DQSA2000			VRN2DQSA2001	VRN2DQPA3000	VRN2DQPA3001	VRN2DQSA3000	VRN2DQSA3001	
		VRN2DRSA2000			VRN2DRSA2001	VRN2DRPA3000	VRN2DRPA3001	VRN2DRSA3000	VRN2DRSA3001	
	VRN2DSSA2000	VRN2DSSA2001	VRN2DSP3000	VRN2DSP3001	VRN2DSSA3000	VRN2DSSA3001				

\* Full port ball

\*\* Differential pressure regulator operating range, ±5%

Pressure Independent Control Valves, NPT 1/2" - 1 1/4"



Actuator Features		Non-Fail Safe			
<b>Actuator O.S Number</b>		MN6105A1011	MN6105A1011	MN7505A2001	MN7505A2001
<b>Power Supply</b>	Voltage	24 Vac	24 Vac	24 Vac	24 Vac
	Frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
	Power	5 VA	5 VA	5 VA	5 VA
	Enclosure Rating	NEMA 2	NEMA 2	NEMA 2	NEMA 2
<b>Actuator Torque</b>	(lb.-in.)	44	44	44	44
<b>Control</b>	(0)2-10Vdc			•	•
	4-20 mA (w/ external 500 Ohm Resistor)			•	•
	Floating	•	•	•	•
	Two-Position SPDT	•	•	•	•
	Two-Position SPST	•	•	•	•
<b>Fail Safe Action</b>	(field configurable)	Stay in Place	Stay in Place	Stay in Place	Stay in Place
<b>Normal Position (no signal)</b>	(field configurable)	Closed	Closed	Closed	Closed
<b>Actuator Stroke</b>	(degrees)	95°	95°	95°	95°
<b>Timing</b>	(seconds, 60 Hz)	90	90	90	90
<b>Aux Switch</b>	2 x SPDT Add-on	SSW2	SSW2	SSW2	SSW2
<b>Feedback</b>	2-10 Vdc Built In			•	•
<b>Valve Features</b>	Trim	Stainless Steel	Plated Brass	Stainless Steel	Plated Brass

Valve Size (inches)	Max. GPM	Min. Differential Pressure** (psid)	Max. Differential Pressure** (psid)	Close-off Pressure (psid)	Short Order Codes			
1/2"	1	3	35	100	VRN2ABSX4000	VRN2ABPX4000	VRN2ABSX5000	VRN2ABPX5000
	2				VRN2ADSX4000	VRN2ADPX4000	VRN2ADSX5000	VRN2ADPX5000
	3				VRN2AESX4000	VRN2AEPX4000	VRN2AESX5000	VRN2AEPX5000
	4				VRN2AFSX4000	VRN2AFPX4000	VRN2AFSX5000	VRN2AFPX5000
	5				VRN2AGSX4000	VRN2AGPX4000	VRN2AGSX5000	VRN2AGPX5000
	6				VRN2AHSX4000	VRN2AHPX4000	VRN2AHSX5000	VRN2AHPX5000
	7				VRN2AJSX4000	VRN2AJPX4000	VRN2AJSX5000	VRN2AJPX5000
3/4"	1	6	35	100	VRN2BBSX4000	VRN2BBPX4000	VRN2BBSX5000	VRN2BBPX5000
	2				VRN2BDSX4000	VRN2BDPX4000	VRN2BDSX5000	VRN2BDPX5000
	3				VRN2BESX4000	VRN2BEPX4000	VRN2BESX5000	VRN2BEPX5000
	4				VRN2BFSX4000	VRN2BFPX4000	VRN2BFSX5000	VRN2BFPX5000
	5				VRN2BGSX4000	VRN2BGPX4000	VRN2BGSX5000	VRN2BGPX5000
	6				VRN2BHSX4000	VRN2BHPX4000	VRN2BHSX5000	VRN2BHPX5000
	7				VRN2BJSX4000	VRN2BJPX4000	VRN2BJSX5000	VRN2BJPX5000
	8				VRN2BKSX4000	VRN2BKPX4000	VRN2BKSX5000	VRN2BKPX5000
	9				VRN2BLSX4000	VRN2BLPX4000	VRN2BLSX5000	VRN2BLPX5000
	10*				VRN2BMSX4000	VRN2BMPX4000	VRN2BMSX5000	VRN2BMPX5000
1"	1	3	35	100	VRN2CBSX4000	VRN2CBPX4000	VRN2CBSX5000	VRN2CBPX5000
	2				VRN2CDSX4000	VRN2CDPX4000	VRN2CDSX5000	VRN2CDPX5000
	3				VRN2CESX4000	VRN2CEPX4000	VRN2CESX5000	VRN2CEPX5000
	4				VRN2CFSX4000	VRN2CFPX4000	VRN2CFSX5000	VRN2CFPX5000
	5				VRN2CGSX4000	VRN2CGPX4000	VRN2CGSX5000	VRN2CGPX5000
	6				VRN2CHSX4000	VRN2CHPX4000	VRN2CHSX5000	VRN2CHPX5000
	7				VRN2CJSX4000	VRN2CJPX4000	VRN2CJSX5000	VRN2CJPX5000
	8				VRN2CKSX4000	VRN2CKPX4000	VRN2CKSX5000	VRN2CKPX5000
	9				VRN2CLSX4000	VRN2CLPX4000	VRN2CLSX5000	VRN2CLPX5000
	10				VRN2CMSX4000	VRN2CMPX4000	VRN2CMSX5000	VRN2CMPX5000
1-1/4"	15	4	50	100	VRN2CNSX4000	VRN2CNPX4000	VRN2CNSX5000	VRN2CNPX5000
	20				VRN2CPSX4000	VRN2CPPX4000	VRN2CPSX5000	VRN2CPPX5000
	25				VRN2DMSX4000	VRN2DMPX4000	VRN2DMSX5000	VRN2DMPX5000
	30				VRN2DNSX4000	VRN2DNPX4000	VRN2DNSX5000	VRN2DNPX5000
	35*				VRN2DPSX4000	VRN2DPPX4000	VRN2DPSX5000	VRN2DPPX5000
					VRN2DQX4000	VRN2DQPX4000	VRN2DQSX5000	VRN2DQPX5000
					VRN2DRSX4000	VRN2DRPX4000	VRN2DRSX5000	VRN2DRPX5000
	VRN2DSSX4000	VRN2DSPX4000	VRN2DSSX5000	VRN2DSPX5000				

\* Full port ball

\*\* Differential pressure regulator operating range, ±5%

# Pressure Independent Control Valves, NPT 1/2" - 1 1/4"



Actuator Features		Fail Safe				Valve Only	
<b>Actuator O.S Number</b>		MS7505A2030	MS7505A2030	MS7505A2030	MS7505A2030	N/A	N/A
<b>Power Supply</b>	Voltage	24 Vac	24 Vac	24 Vac	24 Vac		
	Frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz		
	Power	8 VA	8 VA	8 VA	8 VA		
	Enclosure Rating	NEMA 2	NEMA 2	NEMA 2	NEMA 2		
<b>Actuator Torque</b>	(lb.-in.)	44	44	44	44		
<b>Control</b>	(0)2-10Vdc	•	•	•	•		
	4-20 mA (w/ external 500 Ohm Resistor)	•	•	•	•		
	Floating	•	•	•	•		
	Two-Position SPDT	•	•	•	•		
	Two-Position SPST	•	•	•	•		
<b>Fail Safe Action</b>	(field configurable)	Open (FSO)	Closed (FSC)	Open (FSO)	Closed (FSC)		
<b>Normal Position (no signal)</b>	(field configurable)	Open	Closed	Open	Closed		
<b>Actuator Stroke</b>	(degrees)	95°	95°	95°	95°		
<b>Timing</b>	(seconds, 60 Hz)	90	90	90	90		
<b>Aux Switch</b>	2 x SPDT Add-on						
<b>Feedback</b>	2-10 Vdc Built In	•	•	•	•		
<b>Valve Features</b>	Trim	Stainless Steel	Stainless Steel	Plated Brass	Plated Brass	Stainless Steel	Plated Brass

Valve Size (inches)	Max. GPM	Min. Differential Pressure** (psid)	Max. Differential Pressure** (psid)	Close-off Pressure (psid)	Short Order Codes					
1/2"	1	3	35	100	VRN2ABSX6100	VRN2ABSX6200	VRN2ABPX6100	VRN2ABPX6200	VRN2ABSX0000	VRN2ABPX0000
	2				VRN2ADSX6100	VRN2ADSX6200	VRN2ADPX6100	VRN2ADPX6200	VRN2ADSX0000	VRN2ADPX0000
	3				VRN2AESX6100	VRN2AESX6200	VRN2AEPX6100	VRN2AEPX6200	VRN2AESX0000	VRN2AEPX0000
	4				VRN2AFSX6100	VRN2AFSX6200	VRN2AFPX6100	VRN2AFPX6200	VRN2AFSX0000	VRN2AFPX0000
	5				VRN2AGSX6100	VRN2AGSX6200	VRN2AGPX6100	VRN2AGPX6200	VRN2AGSX0000	VRN2AGPX0000
	6				VRN2AHSX6100	VRN2AHSX6200	VRN2AHPX6100	VRN2AHPX6200	VRN2AHSX0000	VRN2AHPX0000
	7				VRN2AJSX6100	VRN2AJSX6200	VRN2AJPX6100	VRN2AJPX6200	VRN2AJSX0000	VRN2AJPX0000
3/4"	1	6	50	100	VRN2BBSX6100	VRN2BBSX6200	VRN2BBPX6100	VRN2BBPX6200	VRN2BBSX0000	VRN2BBPX0000
	2				VRN2BDSX6100	VRN2BDSX6200	VRN2BDPX6100	VRN2BDPX6200	VRN2BDSX0000	VRN2BDPX0000
	3				VRN2BESX6100	VRN2BESX6200	VRN2BEPX6100	VRN2BEPX6200	VRN2BESX0000	VRN2BEPX0000
	4				VRN2BFSX6100	VRN2BFSX6200	VRN2BFPX6100	VRN2BFPX6200	VRN2BFSX0000	VRN2BFPX0000
	5				VRN2BGSX6100	VRN2BGSX6200	VRN2BGPX6100	VRN2BGPX6200	VRN2BGSX0000	VRN2BGPX0000
	6				VRN2BHSX6100	VRN2BHSX6200	VRN2BHPX6100	VRN2BHPX6200	VRN2BHSX0000	VRN2BHPX0000
	7				VRN2BJSX6100	VRN2BJSX6200	VRN2BJPX6100	VRN2BJPX6200	VRN2BJSX0000	VRN2BJPX0000
1"	8	4	50	100	VRN2BKSX6100	VRN2BKSX6200	VRN2BKPX6100	VRN2BKPX6200	VRN2BKSX0000	VRN2BKPX0000
	9				VRN2BLSX6100	VRN2BLSX6200	VRN2BLPX6100	VRN2BLPX6200	VRN2BLSX0000	VRN2BLPX0000
	10*				VRN2BMSX6100	VRN2BMSX6200	VRN2BMPX6100	VRN2BMPX6200	VRN2BMSX0000	VRN2BMPX0000
	1				VRN2CBSX6100	VRN2CBSX6200	VRN2CBPX6100	VRN2CBPX6200	VRN2CBSX0000	VRN2CBPX0000
	2				VRN2CDSX6100	VRN2CDSX6200	VRN2CDPX6100	VRN2CDPX6200	VRN2CDSX0000	VRN2CDPX0000
	3				VRN2CESX6100	VRN2CESX6200	VRN2CEPX6100	VRN2CEPX6200	VRN2CESX0000	VRN2CEPX0000
	4				VRN2CFSX6100	VRN2CFSX6200	VRN2CFPX6100	VRN2CFPX6200	VRN2CFSX0000	VRN2CFPX0000
	5				VRN2CGSX6100	VRN2CGSX6200	VRN2CGPX6100	VRN2CGPX6200	VRN2CGSX0000	VRN2CGPX0000
	6				VRN2CHSX6100	VRN2CHSX6200	VRN2CHPX6100	VRN2CHPX6200	VRN2CHSX0000	VRN2CHPX0000
	7				VRN2CJSX6100	VRN2CJSX6200	VRN2CJPX6100	VRN2CJPX6200	VRN2CJSX0000	VRN2CJPX0000
1-1/4"	8	5	50	100	VRN2CKSX6100	VRN2CKSX6200	VRN2CKPX6100	VRN2CKPX6200	VRN2CKSX0000	VRN2CKPX0000
	9				VRN2CLSX6100	VRN2CLSX6200	VRN2CLPX6100	VRN2CLPX6200	VRN2CLSX0000	VRN2CLPX0000
	10				VRN2CMSX6100	VRN2CMSX6200	VRN2CMPX6100	VRN2CMPX6200	VRN2CMSX0000	VRN2CMPX0000
	15				VRN2CNSX6100	VRN2CNSX6200	VRN2CNPX6100	VRN2CNPX6200	VRN2CNSX0000	VRN2CNPX0000
	20				VRN2CPSX6100	VRN2CPSX6200	VRN2CPPX6100	VRN2CPPX6200	VRN2CPSX0000	VRN2CPPX0000
	25				VRN2DMSX6100	VRN2DMSX6200	VRN2DMPX6100	VRN2DMPX6200	VRN2DMSX0000	VRN2DMPX0000
	30				VRN2DNSX6100	VRN2DNSX6200	VRN2DNPX6100	VRN2DNPX6200	VRN2DNSX0000	VRN2DNPX0000
1-1/4"	20	6.5	50	100	VRN2DPSX6100	VRN2DPSX6200	VRN2DPPX6100	VRN2DPPX6200	VRN2DPSX0000	VRN2DPPX0000
	25				VRN2DQX6100	VRN2DQX6200	VRN2DQPX6100	VRN2DQPX6200	VRN2DQX0000	VRN2DQPX0000
	35*				VRN2DRSX6100	VRN2DRSX6200	VRN2DRPX6100	VRN2DRPX6200	VRN2DRSX0000	VRN2DRPX0000
					VRN2DSSX6100	VRN2DSSX6200	VRN2DSPX6100	VRN2DSPX6200	VRN2DSSX0000	VRN2DSPX0000

\* Full port ball

\*\* Differential pressure regulator operating range, ±5%

Pressure Independent Control Valves, NPT 1½"-3"



Actuator Features		Non-Fail Safe			
<b>Actuator O.S Number</b>		MN6105A1011	MN6105A1011	MN7505A2001	MN7505A2001
<b>Power Supply</b>	Voltage	24 Vac	24 Vac	24 Vac	24 Vac
	Frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
	Power	5 VA	5 VA	5 VA	5 VA
	Enclosure Rating	NEMA 2	NEMA 2	NEMA 2	NEMA 2
<b>Actuator Torque</b>	(lb.-in.)	44	44	44	44
<b>Control</b>	(0)2-10Vdc			•	•
	4-20 mA (w/ external 500 Ohm Resistor)			•	•
	Floating	•	•	•	•
	Two-Position SPDT	•	•	•	•
	Two-Position SPST	•	•	•	•
<b>Fail Safe Action</b>	(field configurable)	Stay in Place	Stay in Place	Stay in Place	Stay in Place
<b>Normal Position (no signal)</b>	(field configurable)	Closed	Closed	Closed	Closed
<b>Actuator Stroke</b>	(degrees)	95°	95°	95°	95°
<b>Timing</b>	(seconds, 60 Hz)	90	90	90	90
<b>Aux Switch</b>	2 x SPDT Add-on	SSW2	SSW2	SSW2	SSW2
<b>Feedback</b>	2-10 Vdc Built In			•	•
<b>Valve Features</b>	Trim	Stainless Steel	Plated Brass	Stainless Steel	Plated Brass

Valve Size (inches)	Max. GPM	Min. Differential Pressure** (psid)	Max. Differential Pressure** (psid)	Close-off Pressure (psid)	Short Order Codes			
1-1/2"	10	4	50	100	VRN2EMXSX4000	VRN2EMPX4000	VRN2EMSX5000	VRN2EMPX5000
	15				VRN2ENSX4000	VRN2ENPX4000	VRN2ENSX5000	VRN2ENPX5000
	20				VRN2EPSX4000	VRN2EPPX4000	VRN2EPSX5000	VRN2EPPX5000
	25	5			VRN2EQSX4000	VRN2EQPX4000	VRN2EQSX5000	VRN2EQPX5000
	30				VRN2ERSX4000	VRN2ERPX4000	VRN2ERSX5000	VRN2ERPX5000
	35				VRN2ESSX4000	VRN2ESPX4000	VRN2ESSX5000	VRN2ESPX5000
	40	6			VRN2ETSX4000	VRN2ETPX4000	VRN2ETSX5000	VRN2ETPX5000
	45				VRN2EUSX4000	VRN2EUPX4000	VRN2EUSX5000	VRN2EUPX5000
	50				VRN2E1SX4000	VRN2E1PX4000	VRN2E1SX5000	VRN2E1PX5000
	55	7			VRN2E2SX4000	VRN2E2PX4000	VRN2E2SX5000	VRN2E2PX5000
	60				VRN2E3SX4000	VRN2E3PX4000	VRN2E3SX5000	VRN2E3PX5000
	65				VRN2E4SX4000	VRN2E4PX4000	VRN2E4SX5000	VRN2E4PX5000
	70	11			VRN2E5SX4000	VRN2E5PX4000	VRN2E5SX5000	VRN2E5PX5000
	75				VRN262SX4000	VRN262PX4000	VRN262SX5000	VRN262PX5000
	80				VRN2E7SX4000	VRN2E7PX4000	VRN2E7SX5000	VRN2E7PX5000
85	4	VRN2E8SX4000	VRN2E8PX4000	VRN2E8SX5000	VRN2E8PX5000			
95		VRN2E9SX4000	VRN2E9PX4000	VRN2E9SX5000	VRN2E9PX5000			
25		VRN2FQXSX4000	VRN2FQPX4000	VRN2FQXS5000	VRN2FQPX5000			
30	6	VRN2FRSX4000	VRN2FRPX4000	VRN2FRSX5000	VRN2FRPX5000			
35		VRN2FSSX4000	VRN2FSPX4000	VRN2FSSX5000	VRN2FSPX5000			
40		VRN2FTSX4000	VRN2FTPX4000	VRN2FTSX5000	VRN2FTPX5000			
45	7	VRN2FUSX4000	VRN2FUPX4000	VRN2FUSX5000	VRN2FUPX5000			
50		VRN2F1SX4000	VRN2F1PX4000	VRN2F1SX5000	VRN2F1PX5000			
55		VRN2F2SX4000	VRN2F2PX4000	VRN2F2SX5000	VRN2F2PX5000			
60	11	VRN2F3SX4000	VRN2F3PX4000	VRN2F3SX5000	VRN2F3PX5000			
65		VRN2F4SX4000	VRN2F4PX4000	VRN2F4SX5000	VRN2F4PX5000			
70		VRN2F5SX4000	VRN2F5PX4000	VRN2F5SX5000	VRN2F5PX5000			
75	4	VRN2F6SX4000	VRN2F6PX4000	VRN2F6SX5000	VRN2F6PX5000			
85		VRN2GQXSX4000	VRN2GQPX4000	VRN2GQXS5000	VRN2GQPX5000			
25		VRN2GRSX4000	VRN2GRPX4000	VRN2GRSX5000	VRN2GRPX5000			
30	6	VRN2GSSX4000	VRN2GSPX4000	VRN2GSSX5000	VRN2GSPX5000			
35		VRN2GTSX4000	VRN2GTPX4000	VRN2GTSX5000	VRN2GTPX5000			
40		VRN2GUSX4000	VRN2GUPX4000	VRN2GUSX5000	VRN2GUPX5000			
45	7	VRN2G1SX4000	VRN2G1PX4000	VRN2G1SX5000	VRN2G1PX5000			
50		VRN2G2SX4000	VRN2G2PX4000	VRN2G2SX5000	VRN2G2PX5000			
55		VRN2G3SX4000	VRN2G3PX4000	VRN2G3SX5000	VRN2G3PX5000			
60	11	VRN2G4SX4000	VRN2G4PX4000	VRN2G4SX5000	VRN2G4PX5000			
65		VRN2G5SX4000	VRN2G5PX4000	VRN2G5SX5000	VRN2G5PX5000			
70		VRN2G6SX4000	VRN2G6PX4000	VRN2G6SX5000	VRN2G6PX5000			
75	4	VRN2G7SX4000	VRN2G7PX4000	VRN2G7SX5000	VRN2G7PX5000			
80		VRN2G8SX4000	VRN2G8PX4000	VRN2G8SX5000	VRN2G8PX5000			
85		VRN2G9SX4000	VRN2G9PX4000	VRN2G9SX5000	VRN2G9PX5000			
95*	6	VRN2HQXSX4000	VRN2HQPX4000	VRN2HQXS5000	VRN2HQPX5000			
25		VRN2HRXSX4000	VRN2HRPX4000	VRN2HRXS5000	VRN2HRPX5000			
30		VRN2HSSX4000	VRN2HSPX4000	VRN2HSSX5000	VRN2HSPX5000			
35	7	VRN2HTSX4000	VRN2HTPX4000	VRN2HTSX5000	VRN2HTPX5000			
40		VRN2HUSX4000	VRN2HUPX4000	VRN2HUSX5000	VRN2HUPX5000			
45		VRN2H1SX4000	VRN2H1PX4000	VRN2H1SX5000	VRN2H1PX5000			
50	11	VRN2H2SX4000	VRN2H2PX4000	VRN2H2SX5000	VRN2H2PX5000			
55		VRN2H3SX4000	VRN2H3PX4000	VRN2H3SX5000	VRN2H3PX5000			
60		VRN2H4SX4000	VRN2H4PX4000	VRN2H4SX5000	VRN2H4PX5000			
65	4	VRN2H5SX4000	VRN2H5PX4000	VRN2H5SX5000	VRN2H5PX5000			
70		VRN2H6SX4000	VRN2H6PX4000	VRN2H6SX5000	VRN2H6PX5000			
75		VRN2H7SX4000	VRN2H7PX4000	VRN2H7SX5000	VRN2H7PX5000			
80	6	VRN2H8SX4000	VRN2H8PX4000	VRN2H8SX5000	VRN2H8PX5000			
85		VRN2H9SX4000	VRN2H9PX4000	VRN2H9SX5000	VRN2H9PX5000			
95*								

\* Full port ball

\*\* Differential pressure regulator operating range, ±5%

## Pressure Independent Control Valves, NPT 1 1/2"-3"



Actuator Features		Fail Safe				Valve Only		
<b>Actuator O.S Number</b>		MS7505A2030	MS7505A2030	MS7505A2030	MS7505A2030	N/A	N/A	
<b>Power Supply</b>	Voltage	24 Vac	24 Vac	24 Vac	24 Vac			
	Frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz			
	Power	8 VA	8 VA	8 VA	8 VA			
	Enclosure Rating	NEMA 2	NEMA 2	NEMA 2	NEMA 2			
<b>Actuator Torque</b>	(lb.-in.)	44	44	44	44			
<b>Control</b>	(0)2-10Vdc	•	•	•	•			
	4-20 mA (w/ external 500 Ohm Resistor)	•	•	•	•			
	Floating	•	•	•	•			
	Two-Position SPDT	•	•	•	•			
	Two-Position SPST	•	•	•	•			
<b>Fail Safe Action</b>	(field configurable)	Open (FSO)	Closed (FSC)	Open (FSO)	Closed (FSC)			
<b>Normal Position (no signal)</b>	(field configurable)	Open	Closed	Open	Closed			
<b>Actuator Stroke</b>	(degrees)	95°	95°	95°	95°			
<b>Timing</b>	(seconds, 60 Hz)	90	90	90	90			
<b>Aux Switch</b>	2 x SPDT Add-on							
<b>Feedback</b>	2-10 Vdc Built In	•	•	•	•			
<b>Valve Features</b>		Trim	Stainless Steel	Stainless Steel	Plated Brass	Plated Brass	Stainless Steel	Plated Brass



Valve Size (inches)	Max. GPM	Min. Differential Pressure** (psid)	Max. Differential Pressure** (psid)	Close-off Pressure (psid)	Short Order Codes											
					VRN2EMSX6100	VRN2EMSX6200	VRN2EMPX6100	VRN2EMPX6200	VRN2EMXSX0000	VRN2EMPX0000	VRN2ENXSX6100	VRN2ENXSX6200	VRN2ENPX6100	VRN2ENPX6200	VRN2ENXSX0000	VRN2ENPX0000
1-1/2"	10	4	50	100	VRN2EUSX6100	VRN2EUSX6200	VRN2EUX6100	VRN2EUX6200	VRN2EUSX0000	VRN2EUX0000	VRN2E1SX6100	VRN2E1SX6200	VRN2E1PX6100	VRN2E1PX6200	VRN2E1SX0000	VRN2E1PX0000
	15				VRN2EQSX6100	VRN2EQSX6200	VRN2EQPX6100	VRN2EQPX6200	VRN2EQSX0000	VRN2EQPX0000	VRN2ERSX6100	VRN2ERSX6200	VRN2ERPX6100	VRN2ERPX6200	VRN2ERSX0000	VRN2ERPX0000
	20				VRN2ESSX6100	VRN2ESSX6200	VRN2ESPX6100	VRN2ESPX6200	VRN2ESSX0000	VRN2ESPX0000	VRN2ETSX6100	VRN2ETSX6200	VRN2ETPX6100	VRN2ETPX6200	VRN2ETSX0000	VRN2ETPX0000
	25				VRN2EUSX6100	VRN2EUSX6200	VRN2EUX6100	VRN2EUX6200	VRN2EUSX0000	VRN2EUX0000	VRN2E2SX6100	VRN2E2SX6200	VRN2E2PX6100	VRN2E2PX6200	VRN2E2SX0000	VRN2E2PX0000
	30	5	50		VRN2E3SX6100	VRN2E3SX6200	VRN2E3PX6100	VRN2E3PX6200	VRN2E3SX0000	VRN2E3PX0000	VRN2E4SX6100	VRN2E4SX6200	VRN2E4PX6100	VRN2E4PX6200	VRN2E4SX0000	VRN2E4PX0000
	35				VRN2E5SX6100	VRN2E5SX6200	VRN2E5PX6100	VRN2E5PX6200	VRN2E5SX0000	VRN2E5PX0000	VRN2E6SX6100	VRN2E6SX6200	VRN2E6PX6100	VRN2E6PX6200	VRN2E6SX0000	VRN2E6PX0000
	40				VRN2E7SX6100	VRN2E7SX6200	VRN2E7PX6100	VRN2E7PX6200	VRN2E7SX0000	VRN2E7PX0000	VRN2E8SX6100	VRN2E8SX6200	VRN2E8PX6100	VRN2E8PX6200	VRN2E8SX0000	VRN2E8PX0000
	45				VRN2E9SX6100	VRN2E9SX6200	VRN2E9PX6100	VRN2E9PX6200	VRN2E9SX0000	VRN2E9PX0000	VRN2E0SX6100	VRN2E0SX6200	VRN2E0PX6100	VRN2E0PX6200	VRN2E0SX0000	VRN2E0PX0000
	50	6	50		VRN2F0SX6100	VRN2F0SX6200	VRN2F0PX6100	VRN2F0PX6200	VRN2F0SX0000	VRN2F0PX0000	VRN2F1SX6100	VRN2F1SX6200	VRN2F1PX6100	VRN2F1PX6200	VRN2F1SX0000	VRN2F1PX0000
	55				VRN2F2SX6100	VRN2F2SX6200	VRN2F2PX6100	VRN2F2PX6200	VRN2F2SX0000	VRN2F2PX0000	VRN2F3SX6100	VRN2F3SX6200	VRN2F3PX6100	VRN2F3PX6200	VRN2F3SX0000	VRN2F3PX0000
	60				VRN2F4SX6100	VRN2F4SX6200	VRN2F4PX6100	VRN2F4PX6200	VRN2F4SX0000	VRN2F4PX0000	VRN2F5SX6100	VRN2F5SX6200	VRN2F5PX6100	VRN2F5PX6200	VRN2F5SX0000	VRN2F5PX0000
	65				VRN2F6SX6100	VRN2F6SX6200	VRN2F6PX6100	VRN2F6PX6200	VRN2F6SX0000	VRN2F6PX0000	VRN2G0SX6100	VRN2G0SX6200	VRN2G0PX6100	VRN2G0PX6200	VRN2G0SX0000	VRN2G0PX0000
	70	7	50		VRN2G1SX6100	VRN2G1SX6200	VRN2G1PX6100	VRN2G1PX6200	VRN2G1SX0000	VRN2G1PX0000	VRN2G2SX6100	VRN2G2SX6200	VRN2G2PX6100	VRN2G2PX6200	VRN2G2SX0000	VRN2G2PX0000
	75				VRN2G3SX6100	VRN2G3SX6200	VRN2G3PX6100	VRN2G3PX6200	VRN2G3SX0000	VRN2G3PX0000	VRN2G4SX6100	VRN2G4SX6200	VRN2G4PX6100	VRN2G4PX6200	VRN2G4SX0000	VRN2G4PX0000
80	VRN2G5SX6100			VRN2G5SX6200	VRN2G5PX6100	VRN2G5PX6200	VRN2G5SX0000	VRN2G5PX0000	VRN2G6SX6100	VRN2G6SX6200	VRN2G6PX6100	VRN2G6PX6200	VRN2G6SX0000	VRN2G6PX0000		
85	VRN2G7SX6100			VRN2G7SX6200	VRN2G7PX6100	VRN2G7PX6200	VRN2G7SX0000	VRN2G7PX0000	VRN2G8SX6100	VRN2G8SX6200	VRN2G8PX6100	VRN2G8PX6200	VRN2G8SX0000	VRN2G8PX0000		
95	11	50	VRN2G9SX6100	VRN2G9SX6200	VRN2G9PX6100	VRN2G9PX6200	VRN2G9SX0000	VRN2G9PX0000	VRN2H0SX6100	VRN2H0SX6200	VRN2H0PX6100	VRN2H0PX6200	VRN2H0SX0000	VRN2H0PX0000		
25			VRN2H1SX6100	VRN2H1SX6200	VRN2H1PX6100	VRN2H1PX6200	VRN2H1SX0000	VRN2H1PX0000	VRN2H2SX6100	VRN2H2SX6200	VRN2H2PX6100	VRN2H2PX6200	VRN2H2SX0000	VRN2H2PX0000		
30			VRN2H3SX6100	VRN2H3SX6200	VRN2H3PX6100	VRN2H3PX6200	VRN2H3SX0000	VRN2H3PX0000	VRN2H4SX6100	VRN2H4SX6200	VRN2H4PX6100	VRN2H4PX6200	VRN2H4SX0000	VRN2H4PX0000		
35			VRN2H5SX6100	VRN2H5SX6200	VRN2H5PX6100	VRN2H5PX6200	VRN2H5SX0000	VRN2H5PX0000	VRN2H6SX6100	VRN2H6SX6200	VRN2H6PX6100	VRN2H6PX6200	VRN2H6SX0000	VRN2H6PX0000		
40	6	50	VRN2H7SX6100	VRN2H7SX6200	VRN2H7PX6100	VRN2H7PX6200	VRN2H7SX0000	VRN2H7PX0000	VRN2H8SX6100	VRN2H8SX6200	VRN2H8PX6100	VRN2H8PX6200	VRN2H8SX0000	VRN2H8PX0000		
45			VRN2H9SX6100	VRN2H9SX6200	VRN2H9PX6100	VRN2H9PX6200	VRN2H9SX0000	VRN2H9PX0000								
50																
55																
60	7	50														
65																
70																
75																
80	11	50														
85																
90																
95																

\* Full port ball

\*\* Differential pressure regulator operating range, ±5%

## VRW Product Information



VRW two-way dynamic pressure independent control valves maintain constant flow of hot and chilled water in closed-loop heating, ventilating and air conditioning (HVAC) systems regardless of head pressure fluctuations above minimum specified pressure drop. These valves come complete with proportional, stay-in-place or electronic fail-safe actuators. While the VRN Series is threaded, the VRW Series is used for wafer flanged connections and larger capacity applications. The main differences between the Honeywell VRN and VRW control valves are the installation style and the capacity.

### FEATURES:

- Multi-sized bodies from 2-1/2 to 6 inch pipes with wafer flanged connections
- Combination ANSI/ASME Class 150/300 pressure rating
- Controls hot or chilled water with up to 50% glycol
- Regulated flow rates available from 39 to 469 gpm
- Stainless steel pressure regulator maintains constant pressure drop across valve seat
- Positive pressure, rolling diaphragm regulator design provides flow control accuracy of  $\pm 5\%$  over specified pressure range
- Equal percentage flow characteristic using multi turn, nonrising, characterized plug
- High close-off rating
- 50 discrete, selectable flow rates available per valve size
- Stainless steel trim
- Six-turn actuator with floating or modulating inputs available with stay-in-place or electronic fail safe action
- Fail safe actuators field-configurable for normally open or normally closed power failure return position
- Two Test Ports for venting or pressure gauge attachment

Flanged Pressure Independent Control Valves							
Actuator Features			Non-Fail Safe		Fail Safe		
<b>Power Supply</b>			Voltage	24 Vac/30 Vdc	24 Vac/30 Vdc		
			Frequency	50 / 60 Hz	50 / 60 Hz		
			Power	20 VA	20 VA		
<b>Enclosure</b>			(ingress protection)	IP44	IP44		
<b>Control</b>			2-10 Vdc	•	•		
			4-20 mA (w/external 500 Ohm Resistor)	•	•		
			Pulse-width Modulating	•	•		
			Floating	•	•		
			Two-Position SPDT	•	•		
<b>Fail Safe Action</b>			(field configurable*)	Stay in Place	Open/Closed*		
<b>Normal Position</b> (no signal)			(field configurable)	Open/Closed	Open/Closed		
<b>Actuator Stroke</b>			(degrees)	6 x 360°	6 x 360°		
<b>Timing</b>			(seconds, 60 Hz)	150	150		
<b>Feedback</b>			4-20 mA (2-10 Vdc) Built in	•	•		
				<b>Trim</b>	Stainless Steel		
				<b>Body</b>	Cast Iron		
				<b>Pressure Ratings</b>	ANSI 150/300		
				<b>Test Ports</b>	Two - 1/4" ISO		
Valve Features							
Valve Size	Flow, gpm*		Differential Pressure (psid)			Valve O.S. Number	
	Min.	Max.	Min.**	Max.**	Close-off		
2-1/2 and 3 in. [DN65-DN80]	39	112	5.1	58	100	VRW2JV4SMB	VRW2JV4SMD
	56	155	11.6			VRW2JW4SMB	VRW2JW4SMD
3 and 4 in. [DN80-DN100]	55	147	5.1			VRW2KV4SMB	VRW2KV4SMD
	73	222	8.6			VRW2KW4SMB	VRW2KW4SMD
5 and 6 in. [DN125-DN150]	103	370	5.1			VRW2LV4SMB	VRW2LV4SMD
	118	469	8.6			VRW2LW4SMB	VRW2LW4SMD

\* Field adjustable

\*\* Differential pressure regulator operating range,  $\pm 5\%$

### Damper, Valve and VFD Pricing/ Job Estimating Tools

These tools can be used for the selection and pricing of dampers, valves and VFDs. Click on the “Commercial Components Estimating Tools” link at [customer.honeywell.com](http://customer.honeywell.com).

### Product Selection Tool

Available for sizing and estimating of valves, dampers and actuators. Click on the “Product Selection Tool” link at [customer.honeywell.com](http://customer.honeywell.com).

### Fast Track Program

Reduce the amount of time. The easy-to-use project management and product configuration tool can help you turn estimates into orders while reducing application engineering, delivery and installation time.

- The Fast Track project management and specification tool simplifies valve/actuator assembly selection
- Estimates can be easily compiled and shared or saved for additional editing
- Project data flows into your submittal documentation or transferred to other users



### Specification Take-Off Service

The Honeywell Take-Off Service can create product schedules from:

- Product specifications
- Existing schedules
- Drawings
- Obsolete or competitive schedules

Our goal is to help provide you with the best possible solution for each job.



### Products Supported by the Take-Off Service

- Commercial Water and Steam Valves
- Valve Actuators (Electric or Pneumatic)
- Commercial Control Dampers
- Custom Dampers
- Damper Actuators (Electric or Pneumatic)
- Variable Frequency Drives

1. Submit your information in one of the following ways:
  - a) Email to [takeoff.service@honeywell.com](mailto:takeoff.service@honeywell.com) (preferred)
  - b) Fax toll-free to 1-877-880-3386
2. Include your desired turn-around time.
3. Take-Off Service staff will send you a confirmation that your email or fax was received. We always attempt to have your request finished as soon as possible. Please note, however, that the quality of the submitted information largely determines the turn-around time. We will work closely with you to ensure that we have enough information to move forward as quickly as possible.
4. A final product schedule document will be returned to you following take-off completion.

### Included In the Final Take-Off Document

We send a comprehensive spreadsheet, which contains:

- A complete product schedule
- Base price
- Directions on how to order Honeywell products
- Links to product submittals
- Quote identification number

### Questions

If you have questions about the Honeywell Take-Off Service, please call the dedicated Take-Off Service phone number at 1.888.664.4092 or email us at [takeoff.service@honeywell.com](mailto:takeoff.service@honeywell.com).

# Contact Information and Websites

## Main Customer Web Site

[customer.honeywell.com](http://customer.honeywell.com)

## Commercial Components Technical Hotline

763-954-6464 or 888-516-9347

[techmail@honeywell.com](mailto:techmail@honeywell.com)

## Product Drop Ship (PDS) Team (Dampers)

763-954-4140

[ECC-ProductDropShip@honeywell.com](mailto:ECC-ProductDropShip@honeywell.com)

## Literature Ordering

[literature.honeywell.com](http://literature.honeywell.com)

## Honeywell Promotional Materials

[honeywell.promocollection.com](http://honeywell.promocollection.com)

## Submittal Literature

Log in to [customer.honeywell.com](http://customer.honeywell.com) and go to the Welcome Box and select the "Submittal Literature" link.

## Online and Face to Face Training - Buildings University

[customer.honeywell.com/buildingsuniversity](http://customer.honeywell.com/buildingsuniversity)

## Global Field Devices Application and Selection Guide

#63-9271 at [literature.honeywell.com](http://literature.honeywell.com)

## Specification Take-Off Service

1.888.664.4092, [takeoff.service@honeywell.com](mailto:takeoff.service@honeywell.com)

## Fast Track Program

[customer.honeywell.com/go/fasttrack](http://customer.honeywell.com/go/fasttrack)



## Learn More

For more information on Honeywell VRN and VRW Pressure Independent Flow Control Valves, call **1-800-466-3993** or visit **[buildingcontrols.honeywell.com](http://buildingcontrols.honeywell.com)**.

## Automation and Control Solutions

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