COMMERCIAL
HVAC
COMPONENTS

Selection Guide for Valves, Actuators, Dampers and VFDs
The HVAC Performance You Trust

At Honeywell, an HVAC component is never “just a part,” because we never stop looking for ways to improve the value each one brings to your operations. Throughout the world, hundreds of utilities, thousands of industrial facilities, and more than 100 million buildings rely on Honeywell valves, actuators, and electronic field devices for long-lasting efficiency, with hassle-free installation and performance.

Our comprehensive range of components ensures you have the tools you need for any application – and this guide will help you quickly find the ones you need.

Unitary Equipment

Control Ball Valves
VBN with MVN Actuators

Great control in a small and affordable package

- Flow metering profile is integral to the ball, not outside the ball: results in longer service life and higher operating differential pressure capabilities
- Parabolic flow insert provides equal percentage flow for better control
- Compact design saves space, enabling installation in confined areas
- Packless field-replaceable stem for easy service in pipe

Cartridge Globe Valves
V58 Valve Family with M64, 74, MP95 Actuators

High performance in a compact design

- Linear valve-operation design provides high performance
- Brass body and stainless-steel stem
- Plastic actuator construction doesn’t transfer thermal heat and helps to prevent condensation, which leads to longer life
- Greater control with high turn-down ratio
- Easy to service due to field-replaceable seal and screw-on actuator

UNITARY VALVE SELECTION GUIDE

<table>
<thead>
<tr>
<th>Name</th>
<th>Valve Family</th>
<th>Size/Medium</th>
<th>Cv</th>
<th>2-way/3-way</th>
<th>Actuation</th>
<th>Close-off (psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VBN</td>
<td>Control Ball</td>
<td>½”–1¼” for chilled or hot water</td>
<td>.33 to 102</td>
<td>2-way or 3-way</td>
<td>2-position floating, modulating, non-spring return (NSR) and fail-safe</td>
<td>40–130</td>
</tr>
<tr>
<td>V58</td>
<td>Cartridge Globe</td>
<td>½” and ¾” in equal percentage, 1” - 1½” in linear and pressure balanced</td>
<td>.19 to 25</td>
<td>2-way or 3-way</td>
<td>Floating, modulating, pneumatic, 2 position, NSR and SR</td>
<td>6.25–232</td>
</tr>
</tbody>
</table>
Air Handling Units

Globe Valves
V5011, V5013 Threaded Valve Family with ML79, 69, 74 Actuators

Precise control for any application
• ANSI 150 body class rating
• Excellent control
• 50:1 rangeability in equal percentage or linear flow characteristics
• Offers best in class size, Cv range and close-off pressure
• Available with brass or stainless steel trim

Control Ball Valves
VBN Threaded and VBF Flanged Valve Families

Great control in a small and affordable package
• Characterized insert is integral to the ball, not outside the ball: results in longer service life and higher operating differential pressure capabilities
• Parabolic flow insert provides equal percentage flow for better control
• Weather-proof enclosures available for outdoor rooftop applications
• Packless field-replaceable stem for easy service in pipe
• 5-year warranty

Pressure Independent Flow Control Valves
VRN Threaded and VRW Flanged Valve Families

Deliver high efficiency in less time
• Maintains flow under varying differential pressures; increases coil differential temperature which improves the efficiency of the system
• Integrated pressure control cartridge combines circuit balancing and control functions in one package, resulting in consistent temperature and comfort
• Field serviceable stem and pressure regulating cartridge allow for easy serviceability for reduced life cycle costs
• 5-year warranty

AIR HANDLING UNITS SELECTION GUIDE

<table>
<thead>
<tr>
<th>Name</th>
<th>Valve Family</th>
<th>Size/Medium</th>
<th>Cv</th>
<th>2-way/3-way</th>
<th>Actuation</th>
<th>Close-off (psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V5011, V5013</td>
<td>Globe</td>
<td>½”–2” for chilled, hot water and steam</td>
<td>.73 to 46.8</td>
<td>2-way or 3-way</td>
<td>Floating, 2 position and modulating actuation</td>
<td>up to 230</td>
</tr>
<tr>
<td>VBN, VBF</td>
<td>Control Ball</td>
<td>Threaded ½”–3”, Flanged 4”–6” for closed-loop chilled or hot water</td>
<td>33 to 650</td>
<td>2-way or 3-way</td>
<td>Floating, 2 position and modulating NSR and SR</td>
<td>40–30</td>
</tr>
<tr>
<td>VRN, VRW</td>
<td>Flow Control</td>
<td>1½”–6” for chilled or hot water</td>
<td>GPM</td>
<td>2-way</td>
<td>Floating, modulating and 2 position SR</td>
<td>100–580</td>
</tr>
</tbody>
</table>
Butterfly Valves
VR Series Resilient Seated and VH Series High Performance Valves

Powerful performance with impressive features

VR Series Resilient Seat Valves / MB Series Actuators
- Full Cut Disc with bubble tight 200psi close-off (150psi for 14 inch valves and larger)
- MB Series Actuators available separately for retrofit and repair
- Fail-Safe Options with NEMA4X enclosure available to 12-inch valve size, both 2-way and 3-way
- 2-Way valves are available in sizes from 2 inches to 24 inches
- 3-way valves are available in sizes from 2 inches to 18 inches
- ANSI Class 125/150 flange compatible, lugged valve bodies
- Ductile iron valve body for superior strength
- 5-Year Warranty (2-year warranty on assemblies greater than or equal to 14”)

VH Series Class 150 High Performance Valves / MB Series Actuators
- ANSI Class 150 High Performance valves with 285psi maximum pressure rating for high rise applications
- Can be used in saturated steam applications up to 50psi pressure
- Fail-Safe Actuation available up to 6-inch valve size in 2-Way, and 3-inch valve size in 3-Way
- MB Series Actuators available separately for retrofit and repair
- 2-Way valves are available in sizes from 2 inches to 24 inches
- 3-Way valves are available in sizes from 2 inches to 16 inches
- 5-Year Warranty on 2-way valves up to 6 inch size, and 3-way valves up to 4-inch size
- 2-Year Warranty on larger sizes

Globe Valves
VGF Flanged Valve Family

Precise control for any application
- ANSI 125 and ANSI 250 designs
- Actuators available for a range of control types
- Offers best in class size, Cv range and close-off pressure
- Stainless steel trim
- Q5020A Single and Q5024B Tandem Actuator Linkage for higher close-off, reduced seat leakage and field-configurable fail-safe action

CENTRAL PLANT SELECTION GUIDE

<table>
<thead>
<tr>
<th>Name</th>
<th>Valve Family</th>
<th>Size/Medium</th>
<th>Cv</th>
<th>2-way/3-way</th>
<th>Actuation</th>
<th>Close-off (psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VR</td>
<td>Resilient Butterfly</td>
<td>2”–24” 2-way and 2”–18” 3-way for chilled and hot water up to 60% glycol</td>
<td>115 to 43116</td>
<td>2-way or 3-way</td>
<td>2 position, floating, and modulating with fail-in-place, spring return or electronic fail-safe</td>
<td>150–200</td>
</tr>
<tr>
<td>VH</td>
<td>High Performance Butterfly</td>
<td>2”–24” 2-way and 2”–16” 3-way for chilled and hot water up to 60% glycol and steam up to 50 psi</td>
<td>102 to 22050</td>
<td>2 position</td>
<td>floating and modulating</td>
<td>150</td>
</tr>
<tr>
<td>VGF</td>
<td>Globe</td>
<td>2½”–6” for chilled, hot water and steam</td>
<td>70 to 370</td>
<td>2-way or 3-way</td>
<td>2 position, floating, modulating, and SR and NSR</td>
<td>up to 175</td>
</tr>
</tbody>
</table>
**MVN Actuator**
- Click-on assembly cuts installation time – no tools needed
- Position indicator shows the open or closed position of the stem or ball valve for easy commissioning
- Compact design saves space allowing installation in confined areas

**MS, MN, ML Families**
- Self centering shaft adaptor reduces installation time and provides greater clamping force
- Decreased material cost due to detachable access cover
- Reduce inventory and selection time with signal mode adaptor that adapts models to two position, floating and modulating applications
- Simplified shaft adapter and integral conduit connectors save space and eliminate the need for additional tools or conduit connectors
- 360-degree conduit connectors swivel for fast conduit installation at almost any needed angle

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**NAMING STRUCTURE**

<table>
<thead>
<tr>
<th>Fail Safe Mode</th>
<th>System Controlled Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS</td>
<td>75</td>
</tr>
</tbody>
</table>

**Input Signal Type**
- 31: Sylk Enabled, 24 Vac/dc
- 41: Two-position, 100-250 Vac
- 61: Floating, 24 Vac/dc
- 71/72: Modulating only, 24 Vac/dc
- 75: Modulating/Floating, 24 Vac/dc
- 81: Two-position, 24 Vac/dc

**Feedback**
- 1: No Feedback
- 2: Voltage Feedback

**Torque**
- 03 Nm = 27 in-lb
- 05 Nm = 44 in-lb
- 10 Nm = 88 in-lb
- 20 Nm = 175 in-lb
- 34 Nm = 300 in-lb

**Auxiliary Switches**
- 0: No Internal Switches
- 1: One Internal Switch
- 2: Two Internal Switches

**Application Type**
- A: Standard Model
- H: Enhanced Model
- J: Communicating Model
Applications and Operation

Honeywell Commercial Control Dampers are designed for isolation or airflow control in medium-to high-pressure and velocity HVAC systems. Typical use includes volume control in zone applications and air handling units, generator room ventilation, stand-alone exhaust air units, or economizer applications. Operating range is from 2000 to 4000 fpm maximum velocity, and 2.5 to 10 inch wg pressure.

Dampers are designed to operate with a wide range of Honeywell actuators and accessories. Spring return and non-fail-safe actuators are available with a wide range of control options and output torque, to insure precise control of your damper application.

Performance

Honeywell certifies that the D1, D2, and D3 models of control dampers are tested according to AMCA Publication 511 and Standard 500D for air performance in pressure drop and leakage.

Both D1 and D2 offer leakage ratings equivalent to both AMCA Class 1A and Class 1. The Class 1A rating offers IECC (International Energy Conservation Code) leakage compliance.
Standard Rectangular Dampers

<table>
<thead>
<tr>
<th>Material</th>
<th>Frame Gauge</th>
<th>Blade Seals</th>
<th>Jamb Seals</th>
<th>Blade Axle Bearings</th>
<th>Axles</th>
<th>Linkage Material</th>
<th>Flange</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Galvanized</td>
<td>Stainless</td>
<td>S</td>
<td>O</td>
<td>S</td>
<td>None</td>
<td>S</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>12</td>
<td>S</td>
<td>S</td>
<td>O</td>
<td>S</td>
<td>S</td>
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<tr>
<td></td>
<td>TPE</td>
<td>Silicone</td>
<td>O</td>
<td>O</td>
<td>S</td>
<td>S</td>
<td>O</td>
</tr>
<tr>
<td>D1 Ultra-Low Leakage</td>
<td>3</td>
<td>4000</td>
<td>10</td>
<td>S</td>
<td>O</td>
<td>S</td>
<td>O</td>
</tr>
<tr>
<td>D2 Ultra-Low Leakage</td>
<td>3</td>
<td>3000</td>
<td>5</td>
<td>S</td>
<td>O</td>
<td>S</td>
<td>O</td>
</tr>
<tr>
<td>D3 Control Damper</td>
<td>120</td>
<td>3000</td>
<td>5</td>
<td>S</td>
<td>O</td>
<td>S</td>
<td>O</td>
</tr>
</tbody>
</table>

For a copy of the specification sheet the D1 (63-2671) or D2 and D3 (63-2398), visit customer.honeywell.com.

Standard Round Dampers

Find the right damper for virtually any HVAC need.

The 6" to 16" round dampers are used in zoning systems to control airflow in a round duct. The dampers are constructed with neoprene and silicone seals for tight close-off and low leakage. The D690 round damper is used in conventional air handling systems to control airflow in a round duct.

- Neoprene seal for tight closing and low leakage
- Oilite bearings for long life
- 90˚ damper travel for a variety of applications
- Single blade round dampers for use with ML6161 and ML7161 or W7751 VAV Controller
- Maximum approach velocity 2,500 ft/min
- Temperature range 32°F to 130°F (0°C to 54°C)

D690 ROUND DAMPERS SELECTION GUIDE

<table>
<thead>
<tr>
<th>Product Number</th>
<th>Damper Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>D690A1002</td>
<td>6</td>
</tr>
<tr>
<td>D690A1010</td>
<td>8</td>
</tr>
<tr>
<td>D690A1028</td>
<td>10</td>
</tr>
<tr>
<td>D690A1036</td>
<td>12</td>
</tr>
<tr>
<td>D690A1044</td>
<td>14</td>
</tr>
<tr>
<td>D690A1051</td>
<td>16</td>
</tr>
</tbody>
</table>

Custom Dampers

Need a custom damper? Contact the Take-Off Service: 1-888-664-4092 or takeoff.service@honeywell.com.

* To the right is a sample list of the products we frequently provide.
SmartVFD HVAC

Easy installation. Easy commissioning. Great energy savings.

- **Start-Up Wizards** — All you have to do is tell the VFD whether you have a pump or a fan, enter nominal motor information, and you are up and running.
- **Graphic Interface** — The easy-to-use keypad and interface deliver menu-driven programming and monitoring for fast, uniform commissioning. Plus, a manual is built into the keypad for easy access when needed.
- **Built-In Communications** — With BACnet®, N2 and Modbus built in, you get a lower total installed cost and reliable communication with the building management system.
- **PC Software Wizards** — Commissioning, programming and troubleshooting are all a snap thanks to these guided Startup and PID wizards.
- **Built-In PLC** — Eliminates the need for an expensive external controller.
- **DC Choke** — For harmonic protection.
- **Standard RFI Filter** — Ensures that EMC/RFI requirements are met.
- **Real-Time Clock** — Battery included.
- **Fire Mode** — For safe operation.
- **Motor Switch Ride-Through** — Easy, fault-free maintenance.
  - 3 phase, 208/230 Vac, 0.75 to 125 nominal HP.
  - 3 phase, 480 Vac, 1.5 to 250 nominal HP.

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**SmartVFD HVAC/SmartVFD BYPASS NAMING STRUCTURE**

<table>
<thead>
<tr>
<th>Product Family</th>
<th>HVFDSD = Honeywell SmartVFD HVAC</th>
<th>HVFDSB = Honeywell SmartVFD BYPASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Phase</td>
<td>3 = Three Phase (3-in, 3-out)</td>
<td></td>
</tr>
<tr>
<td>Nominal Voltage</td>
<td>A = 208/230 Vac Drive Alone, 208 Vac Bypass</td>
<td>B = 230 Vac Bypass</td>
</tr>
<tr>
<td>Nominal Horsepower</td>
<td>0007 = .75 Horse Power</td>
<td>0010 = 1 Horse Power</td>
</tr>
</tbody>
</table>
SmartVFD Bypass

Easy to specify, select, install and commission: The SmartVFD BYPASS is the perfect complement to the advanced capabilities of the SmartVFD family.

Disconnect and/or Bypass Features
Our five configurations make it easy to select the right bypass to complete your drive package. All bundles are available in NEMA 1, NEMA 12 and ventilated NEMA 3R.

SmartVFD Disconnect Option
• Adds a fused disconnect to the VFD

SmartVFD 2-Contactor Bypass Option
Provides an economical means of bypassing the VFD.
• No Main Disconnect
• Freeze/Fire/Smoke Interlock

SmartVFD 3-Contactor Bypass Option
During commissioning, the TEST position enables power-up of the VFD without sending power to the motor.
• In Bypass mode, the VFD is isolated from the power supply
• Fused Disconnect
• Freeze/Fire/Smoke Interlock

SmartVFD 3-Contactor Auto-Bypass Option
All the features of the 3-Contactor bypass plus.
• Any VFD fault will automatically send the bypass to bypass mode
• A contact closure sends the bypass to bypass mode
• Dry contacts indicate when the bypass is in bypass
SmartVFD HVAC2 Spins Big Energy Savings

The SmartVFD HVAC2 drive is a micro drive designed to fit in your enclosure or become a NEMA 1 enclosure – whichever is required for your smaller frequency drive applications.

Modular Design
- NEMA 1 kit available
- Optional EMC filter
- Accessory PC interface

Easy to Install
- DIN-rail or screw mounting
- Zero clearance side-by-side mounting

Easy Communication
- Intuitive user interface
- Accessory PC interface
- Free PC Tool with optional adaptor turn your computer into a programming window to setup, control, monitor and diagnose in real time or for off-line editing and backup
- PI control
- Modbus RTU

Rugged, High Performance

Honeywell SmartVFD HVAC2 NAMING STRUCTURE

<table>
<thead>
<tr>
<th>HVFD2D</th>
<th>3</th>
<th>C</th>
<th>0000</th>
<th>E2</th>
</tr>
</thead>
</table>

**Product Family**
HVFD2D = Honeywell SmartVFD HVAC2

**Phases**
1 = Single Phase (1-in, 3-out)
3 = Three Phase (3-in, 3-out)

**Nominal Voltage**
A = 105v–120v
B = 208v–240v
C = 380v–480v
F = 520v–600v

**EMC Filter**
E2 = EMC Filter
No EMC Filter

**Nominal Horsepower**
0007 = .75 HP
0010 = 1HP
0100 = 10HP
 Specification Take-Off Service

The Honeywell Take-Off Service Can Create Product Schedules From:

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

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

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

Participate in the Specification Take-Off Service

1. Submit your information by email to takeoff.service@honeywell.com
2. Include your desired turn-around time.
3. Take-Off Service staff will send you a confirmation that your email 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?

Call the dedicated Take-Off Service phone line: 1.888.664.4092 or email: takeoff.service@honeywell.com
Configure, Price, Quote: CPQ Select

Configure, price, and quote Honeywell Field Devices from a single, easy-to-use tool.

Easy to Use CPQ Features
- Quickly find and select the right product for your application
- Compare specifications across different products
- View and download technical literature
- Configure and tag valve assemblies
- Create quotations and save automatically to the cloud for future projects
- Export simple quotations or include full submittal documentation

Product Selection and Quoting Made Easy

Configure Price Quote

WWW.CPQ.HONEYWELL.COM

Honeywell Commercial Products Include
- Control Valves & Actuators
- Control dampers
- Actuators – Direct Coupled Actuators (DCA) and Foot Mounted
- Variable Frequency Drives (VFDs)
- Sensors
- Submeters
- Standalone Controllers
- Pneumatics

Contact Information and Websites

Main Customer Web Site
customer.honeywell.com

Commercial Components Technical Hotline
888-516-9347
BuildingsProductSupport@Honeywell.com

Literature Ordering
literature.honeywell.com

Honeywell Promotional Materials
honeywellpromotionalproducts.com/catalog/default.aspx

Field Devices Application and Selection Guide
#63-9271 at literature.honeywell.com

Configure, Price, Quote (CPQ)
www.cpq.honeywell.com

Specification Take-Off Service
takeoff.service@honeywell.com

Learn More
buildingcontrols.honeywell.com

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