Honeywell | HVAC Products

THE SMART CHOICE FOR PERFORMANCE AND VALUE

Contents

Direct-Coupled Actuators

Model	Features	Application
CN05, CN10 Series Non-Spring Return Direct-coupled Damper Actuators for Modulating and Floating Control 	• Declutch for manual adjustment • Adjustable mechanical end limits • Removable access cover for direct wiring • Mountable in any orientation • Function selection switch for selecting modulating or floating/2-position control	This non-spring return direct-coupled damper actuator provides modulating and floating/2-position control for: • Air dampers • VAV units • Air handlers • Ventilation flaps • Louvers, and • Reliable control for air damper applications with up to 10 sq.ft. / 44 lb-in. (5 Nm) and 20 sq.ft. / 88 lb-in. (10 Nm) (seal- less damper blades; air friction-dependent).
CN20, CN34 Series Non-Spring Return Direct-coupled Damper Actuators for Modulating and Floating / 2-Position Control 	• Self-centering shaft adapter • Access cover to facilitate connectivity • Service/off for safe & easy servicing • Rotation direction selectable by switch • Declutch for manual adjustment • Mechanical end limits • Field-installable auxiliary switches • Mountable in any orientation (no IP54 if upside down) • Mechanical position indicator • CE and UL certified	These direct-coupled damper actuators provide modulating control for: • Air dampers, • VAV units • Air handling units • Ventilation flaps • Louvers, and • Reliable control for air damper applications with up to 4.6 m^2 / 50 sq.ft. (20 Nm / 177 lb-in) or 7.8 m^2 / 85 sq. ft. (34 Nm / 300 lb-in) (seal-less dampers; air frictiondependent).
N05010/N10010 Non-Spring Return Direct-coupled Damper Actuators for Modulating and Floating / 2-Position Control 	• Declutch for manual adjustment • Adjustable mechanical end limits • Removable access cover for direct wiring • Mountable in any orientation • Function selection switch for selecting modulating or floating/2-position control	This non-spring return direct-coupled damper actuator provides modulating and floating/2-position control for: • Air dampers • VAV units • Air handlers • Ventilation flaps • Louvers, and • Reliable control for air damper applications with up to 1 m^2 / (5 Nm) and 2 m^2 (10 Nm) (seal-less damper blades; air friction-dependent).
N2024/N20230 **N3424/N34230** Damper Actuators 20/34 NM (177/300 lb-in) for Floating / 2-Position Control 	• New self-centering shaft adapter • Access cover to facilitate connectivity • Declutch for manual adjustment • Mechanical end limits • Field-installable auxiliary switches • Rotation direction selectable by switch • Mountable in any orientation (no IP54 if upside down) • Mechanical position indicator	These direct-coupled damper actuators provide two-position and floating control for: • Air dampers • VAV units • Air handlers • Ventilation flaps • Louvers, and • Reliable control for air damper applications with up to 4.6 m^2 (20 Nm) or 7.8 m^2 (34 Nm) (seal-less dampers; air friction-dependent).

Model	Features	Application

35 and 70 lb-in. Non-Spring Return

Direct Coupled Actuators ML6161, ML7161, ML6174, ML7174

- Selectable 45°, 60°, or 90° stroke in both clockwise (cw) or counterclockwise (ccw) directions.
- 0° to 30° minimum position adjustment (cw or ccw direction) on all models.
- Magnetic coupling eliminates the need for mechanical stops.
- Two field-addable auxiliary switches.
- Auxiliary feedback potentiometer field-addable on select models.
- Manual declutch on all models.
- ML7161 and ML7174 models include standard reverse/ direct acting rotation switch on outside cover.
- W7620 Terminal Unit Controller compatibility.
- Commercial zone damper in W7600 Commercial Zone System compatibility.

The 35 and 70 lb-in. (4 Nm and 8 Nm) Non-Spring Return Direct Coupled Actuators (DCA) are control actuators that provide floating or proportioning control for valves and dampers. The proportioning actuators accept a current or voltage signal from a controller to position the damper or valve at any chosen point between fully open and fully closed.

3 NM, 5 NM Series Spring Return Direct Coupled Actuators

MS3103, MS3105, MS4103, MS4105, MS7403, MS7405, MS7503, MS7505, MS8103, MS8105

- Brushless DC submotor with electronic stall protection for floating/modulating models.
- Brush DC submotor with electronic stall protection for 2-position models.
- Self-centering shaft adapter (shaft coupling) for wide range of shaft sizes.
- Access cover to facilitate connectivity.
- Metal housing with built-in mechanical end limits.
- Spring return direction field-selectable.
- Shaft position indicator and scale.
- Manual winding capability with locking function.
- UL (cUL) listed and CE compliant.
- All Models are plenum-rated per UL873.
- Models available with 3-foot, 18 AWG color-coded cable.

MS3103, MS3105, MS4103, MS4105, MS7403, MS7405, MS7503, MS7505, MS8103, MS8105 Spring Return Direct Coupled Actuators DCA) are used within heating, ventilating, and air-conditioning (HVAC) systems. They can drive a variety of quarter-turn, final control elements requiring spring return fail-safe operation.

Applications include:

- Volume control dampers, mounted directly to the drive shaft or remotely (with the use of accessory hardware).
- Quarter-turn rotary valves, such as ball or butterfly valves mounted directly to the drive shaft.
- Linear stroke globe or cage valves mounted with linkages to provide linear actuation.
- Available with cable on select models

MSXX10, MSXX20 Series

88 and 175 LB-in (10 and 20 NM) Spring Return Direct Coupled Actuators MS4105a1002 (only), MS7505A2008 (only) MS8105A1008 (only)

- Brushless DC submotor with electronic stall protection for floating/modulating models.
- Brush DC submotor with electronic stall protection for 2-position models.
- Self-centering shaft adapter (shaft coupling) for wide range of shaft sizes.
- Access cover to facitilate connectivity.
- Metal housing with built-in mechanical end limits.
- Spring return direction field-selectable.
- Shaft position indicator and scale.
- Manual winding capability with locking function.
- UL (cUL) listed and CE compliant.
- All Models are plenum-rated per UL873.
- Models available with 3-foot, 18 AWG color-coded cable.

MS41XX, MS71XX, MS75XX, MS81XX Spring Return Direct Coupled Actuators (DCA) are used within heating, ventilating, and air-conditioning (HVAC) systems. They can drive a variety of quarter-turn, final control elements requiring spring return fail-safe operation.

Applications include:

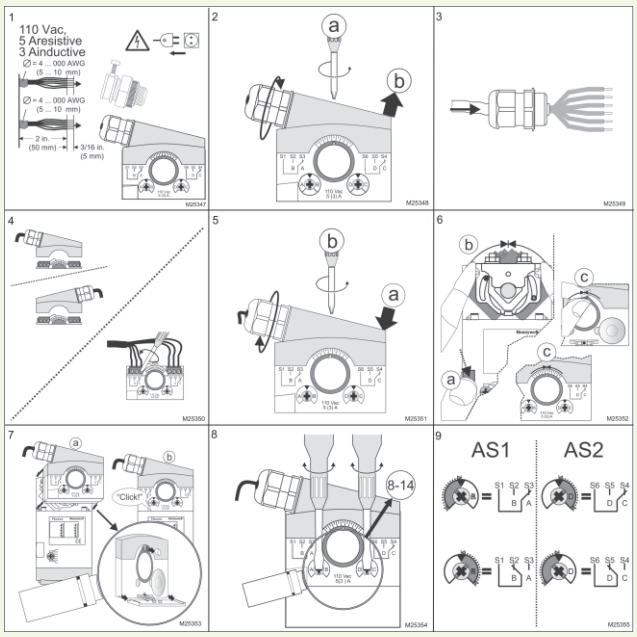
- Volume control dampers, mounted directly to the drive shaft or remotely (with the use of accessory hardware).
- Quarter-turn rotary valves, such as ball or butterfly valves mounted directly to the drive shaft.
- Linear stroke globe or cage valves mounted with linkages to provide linear actuation.

Model	Features	Application
MS4104F, MS4109F, MS4604F, MS4609F, MS8104F, MS8109F Fast-Acting, Two-Position Actuators For Fire/smoke Control Applications 	• 30 lb-in. (3.4 N•m) or 80 lb-in. (9 N•m) minimum driving torque at 350°F (176°C). • Reversible mounting facilitates use in either clockwise (cw) or counterclockwise (ccw) spring rotation. • Integral spring return ensures level of return torque. • Fifteen-second spring return timing. • No special cycling required during long-term holding. (See Operation section.) • No audible noise during holding. • Patent pending design eliminates need for limit switches to reduce power consumption. • Models available for 24, 120, and 230 Vac. • Ninety-five degree angle of rotation. • Actuator holds rated torque at reduced power level. • Die-cast aluminum housing. • Housing design allows flush mounting to damper. • Designed to operate reliably in smoke control systems requiring Underwriter's Laboratories Inc. UL555S ratings up to 350°F. • Models available with SPST position-indicating switches (7°, 85° stroke).	The MS4104, MS4109, MS4604, MS4609, MS8104 and MS8109 Fast-Acting, Two-Position Actuators are spring return direct coupled actuators (DCA) for Fire and Smoke dampers (on/off control). The actuator accepts an on/off signal from a single-pole, single-throw (SPST) controller. Reversible mounting allows actuator to be used for either clockwise (cw) or counterclockwise (ccw) spring rotation.
MS4120F, MS8120F Fast-Acting, Two-Position Actuators For Fire/smoke Control Applications 	• 175 lb-in. (20 N.m) minimum driving torque at 350°F (176°C). • Reversible mounting facilitates use in either clockwise (cw) or counterclockwise (ccw) spring rotation. • Integral spring return ensures level of return torque. • Stainless steel internal spring. • Fifteen-second spring return timing. • No special cycling required during long-term holding. • No audible noise during holding. • Patent pending design eliminates need for limit switches to reduce power consumption. • Models available for 24 and 120 Vac applications. • Ninety-five degree angle of rotation. • Actuator holds rated torque at reduced power level. • Die-cast aluminum housing. • Housing design allows flush mounting to damper. • Self-centering shaft adapter (SCSA), patent pending. • High temperature Teflon® lead wires. • Designed to operate reliably in smoke control systems requiring Under writer.s Laboratories Inc. UL555S ratings up to 350°F. • Models available with integral high temperature (350°F) SPST position-indicating switches (7°, 85° stroke).	The MS4120F, MS8120F Fast-Acting, Two-Position Actuators are spring return direct coupled actuators (DCA) for on/off damper control designed to operate reliably in smoke control systems requiring Underwriter.s Laboratories Inc. UL555S ratings up to 350°F. The actuator accepts an on/off signal from a single-pole, single-throw (spst) controller. Reversible mounting allows actuator to be used for either clockwise (cw) or counterclockwise (ccw) spring rotation.

Model	Application

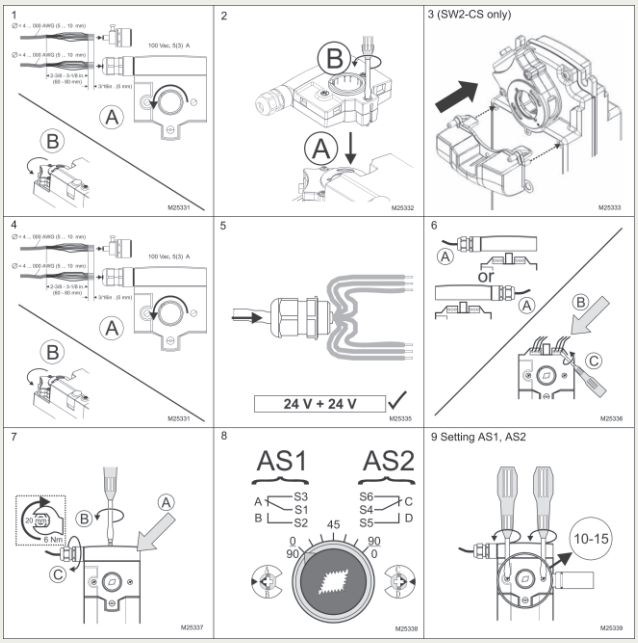
Accessories

SSW2-CN Auxiliary Switch Kit for CNXX05/10 Non-Spring Return Direct-coupled Damper Actuator



Accessories

SW2-CN for CNXX20/34 Non-Spring Return Actuator
SW2-CS for CSXX05/10/20 Spring Return Actuator



Accessories

NEMA 4 Direct Coupled Actuator Enclosure

The 50005859-001 NEMA 4 Direct Coupled Actuator (DCA) Enclosure conforms to the NEMA standard for Type 4X (water-, dust-tight and corrosion resistant). It is designed to house a DCA in applications where NEMA 4X protection is required. It can be used with a Honeywell DCA on a damper, ball valve, or globe valve and a Q5020 assembly. The enclosure is designed primarily for indoor/outdoor use to provide protection against corrosion, dust, rain, and splashing or hose-directed water. The enclosure is also designed to be undamaged by the formation of ice on its surface. It is suitable for use in locations such as: dairies, breweries, manufacturing plants, wastewater treatment plants, and greenhouses.

Note

- Tandem mount assembly is possible using some actuators.
- The bushing is for a 1/2 in. (13 mm) round shaft.

VC Valves

Model	Application
VC 4013 Series Balanced Hydronic Valves 2 -way and 3-way 	The VC series balanced hydronic valves allow greater control of hot and/or cold water flow. The VC series balanced hydronic valves are designed for both domestic boiler heating and domestic cooling applications.
VC4043 Series Spring Return Valves 	The VC4043 series Spring Return Valves are used in Heating and air conditioning systems to control the flow of the heat transfer fluid. The fluid is typically hot or cold water, however treated water (Max.50% Glycol Solutions) applications are also permissible. Spring return VC valve is one type of control valve that can do precise control refer to customer's demands. Different to normal actuator, spring return actuator has the special function that if the power is off, the valve will return to original position by spring. This is a safe and energy saving function to customers. In addition, this valve is capable of handling greater differential pressures without water-hammer.
VC7900 Series Modulating Control Valves 	The VC7900 Series Modulating Control Valves provide optimum control of hot and/or chilled water flow in various heating and cooling applications. The VC hydronic valve consists of a valve body and replaceable characterized cartridge assembly. When used with a Honeywell VC7900 actuator, the valve provides proportional flow in either diverting or mixing applications. They are designed to provide sinusoidal valve actuator travel, and therefore operate silently and resist water hammer. The VC7900 series valve actuator is used with any 0-10 Vdc controller.

Model	Features	Application
VCB Series 2-Way, Dynamic Balancing Control Valve 	• Combine dynamic balancing and electric on\off function in one body • Every loop automatically limited to design flow • Simplified pipe calculation • Quick and easy setup • No balancing debug work required • Integrated valve body reduced installation space • Brass(Chrome) plated valve stem resists corrosion & long service life • Twist lock mount for actuator head. Actuator can be installed after plumbing work has been completed to prevent damage • Valve body is made of cast bronze which is not subject to dezincification (due to oxygen dissolved in water) • In this balanced valve design, the control insert moves up and down, across water flow. The actuator provides sinusoidal piston travel action for soft shut-off and open to eliminate water hammer in most applications.	Honeywell VCB series dynamic balancing control valve is a new type of valve for FCU temperature control in HVAC hydronic system, It combines the dynamic balancing and electric on\off functions in one body, It has a coherent structure, high flow control precision and stability. VCB series dynamic balancing control valve can also be used in zoning control and other applications when it has the same function demand. VCB series dynamic balancing control valve is a self balanced flow control valve, used in 2-way on/off controls, of flow rate 0.28 to 2.3 m3/h. It consists of a VC series actuator and a VCB series control valve with a replaceable control valve insert and a constant flow balancing cartridge .

Model	Features	Application

"ConF V5" (V5CF) Series
2-Way,Wafer ,Constant Flow Balancing Valve

- In this balanced valve design, the constant flow cartridge moves up and down with system pressure fluctuating to keep the flow constant.
- No power need in the constant flow modulating.
- Every loop automatically limited to design flow
- Robusting design save the installation space.
- Simplified pipe design and calculation
- Quick and easy setup
- No balancing debug work required
- Stainless steel valve stem resists corrosion & long service life

Honeywell "ConF V5" series constant flowrate balancing valves are new type of balancing valve for flow control in HVAC hydronic system, It can keep the flow constant in working differential pressure range when system pressure fluctuates.

"ConF V5" series constant flowrate balancing valve can also be used in other applications when it has the same function demand.

"ConF V5" series constant flowrate balancing valve is a self-balanced flow control valve, used in 2-way controls, of Size from DN50-DN500. It consists of a ductile iron valve body and some constant flow cartridges in the valve body.

Kombi Balancing valves

Model	Features	Application

V5004T Kombi-QM
Pressure Independent Balancing and Control Valve

- Automatic pressure independent balancing and control
- Precise pressure independent flow performance
- Highest energy saving potential due to efficient energy transfer and minimized pump speed
- Integrated measuring possibility to find the optimal setpoint for the pump
- Reduced movements of actuators as pressure fluctuations do not influence the required temperature
- No complex calculation needed for selection
- No balancing method needed for commissioning
- Wide range of application
- Sizes DN15 up to DN150
- Various versions to support standard flow rates as well as low flow and high flow needs
- Covers two functions in one valve which reduces mounting costs
- Easy commissioning
- Pre-setting with visual flow scale at the valve
- Pre-setting by hand without the need of tools
- Pre-setting possible even when the system is running and an actuator is already mounted
- Can balance a system even if only parts of a building are in operation
- Maintenance friendly
- Emergency shutoff function with plastic cap – not for permanent use
- Measuring possibility for problematic applications

The V5004T Kombi-QM is a Pressure Independent Control Valve (PICV). It combines a flow controller and a full stroke, full authority temperature controller in one valve.

Equipped with an actuator Kombi-QM provides a full stroke modulating temperature control.

It is suitable for use in variable and constant flow systems. They may be used as constant flow limiter in constant flow systems (without an actuator) or as a Pressure Independent Control Valve in variable flow systems.

V5004T Kombi-QM is typically used for balancing and temperature control of fan coil units, air handling units, chilled ceilings and one-pipe heating systems.

Model	Features	Application

Kombi-9 Series

Pressure Independent Integrated Balancing Control Valve

- Integrated functions as linear temperature control, pressure independent and electric regulating into one valve
- Output the valve position signal to BAS for system variable differential pressure control of variable flow water system, ensure HVAC water system can always operate in the most energy-saving mode
- High control accuracy, strong anti-interference capacity
- Allow wide range of pressure fluctuation difference for the system
- Simple calculation in designing the pipeline system
- Easy installation
- Convenient for commissioning at site

Honeywell Kombi-9 is designed for precise temperature con-trol of terminal air-conditioning equipment in the HVAC system. It can maintain the flow regardless of variations in system differential pressure. With the valve position feed-back, the Building Automation System can always operate in the most energy-saving mode.

V5032A Kombi-2-plus

Double-regulating Balancing Valve with Safecontm Measuring Connections

- Quick and easy measuring with SafeConTM measuring connections
- Dimensions DN15 to DN40 can be retrofitted with a Kombi-Diaphragm Unit
- High accuracy of pre-setting because of individual adjustment
- Robust valve body made of corrosion resistant red bronze
- Available in sizes up to DN80
- Visible pre-setting dial with concealed pre-setting wheel
- Maintenance free spindle with double O-ring sealings
- PTFE-seat sealing

The hydronic balance is a significant requirement for the efficient operation of a hydronic heating or cooling installation. In an unbalanced system under or over provision of hot water to individual radiators or circuits can occur. Apart from the correct selection of radiator valves, regulation of individual circuits is also necessary and in some cases, such as in DIN 18 380, VOB part C, required by national standards. This requirement is met with V5032A Kombi-2-plus doubleregulating balancing valves.

The V5032A Kombi-2-plus is a variable orifice double-regulating balancing valve for the return with additional functions shutoff, draining and filling.

Together with a V5012 Kombi-DP diaphragm unit the V5032A Kombi-2-Plus can be upgrated to an automatic balancing valve - even after the system has been taken into commission and under system pressure.

V5000, V5010 Kombi-3-plus

Balancing and Shutoff Valves

- All functions of the Kombi-3-plus valves can be installed through the spindle
- V5010 Kombi-3-plus BLUE DN10 to DN40 can be retrofitted with a Kombi-DP diaphragm unit (V5012) – without interrupting operation of the system
- Combination of Kombi-3-plus RED and BLUE allows measuring in the supply and pre-setting in the return – at the same time.
- High accuracy of pre-setting because of individual adjustment
- Robust valve body made of corrosion resistant red bronze
- Available in sizes up to DN80
- Visible pre-setting dial with concealed pre-setting wheel (V5010 Kombi-3-plus BLUE)
- Maintenance free spindle with double O-ring sealings
- PTFE seat sealing

The hydronic balance is a significant requirement for the efficient operation of a hydronic heating or cooling installation. In an unbalanced system under or over provision of hot water to individual radiators or circuits can occur. Apart from the correct selection of radiator valves, regulation of individual circuits is also necessary and in some cases, such as in DIN 18 380, VOB part C, required by national standards. This requirement is met with Kombi-3-plus Series balancing valves.

The V5000 Kombi-3-plus RED is a fixed orifice measuring valve for the supply with additional functions shutoff, draining and filling.

The V5010 Kombi-3-plus BLUE for the return is a double regulating balancing valve with additional functions shutoff, draining and filling.

Together with a V5012 Kombi-DP diaphragm unit the Kombi- 3-plus can be upgraded to an automatic balancing valve – even after the system has been taken into commission and under system pressure.

Linear Actuator

Model	Features	Application
ML6420A, B Electric Linear Valve Actuators 	• Quick and easy installation • No separate linkage required • No adjustments • Low power consumption • Force-limiting end switches • Manual operator • Models for low and line voltage • Synchronous motor • Corrosion-resistant design • Maintenance-free • Actuator-valve combinations approved according to DIN 14597 available	The ML6420A / ML6425A,B actuators enable floating control, and are suitable for use in conjunction with ON/OFF or floating single-pole, double-throw (SPDT) control outputs. They can operate Honeywell's standard valves in heating, ventilation, and air conditioning (HVAC) applications.
ML6425A, B Electric Linear Valve Actuators 	• Quick and easy installation • No separate linkage required • No adjustments • Low power consumption • Force-limiting end switches • Spring-return models • Manual operator • Models for low and line voltage • Synchronous motor • Corrosion-resistant design • Maintenance-free • Actuator-valve combinations approved according to DIN 14597 available	The ML6420A / ML6425A,B actuators enable floating control, and are suitable for use in conjunction with ON/OFF or floating single-pole, double-throw (SPDT) control outputs. They can operate Honeywell's standard valves in heating, ventilation, and air conditioning (HVAC) applications.
ML7420A8088-E Electric Linear Valve Actuator 	• Easy and quick installation • No separate linkage and adjustments required • Low power consumption and maintenance-free • Self-adaption function • Force-limiting end stops • Manual operation knob • 0(2)~10 Vdc input and 2~10 Vdc position feedback signal • Direct/ Reverse action adjustable • Stroke position on signal failure selectable • Corrosion-resistant design	The ML7420A actuators are designed for modulating control with controllers providing an analog output of 2...10 Vdc. They operate Honeywell's standard valves in heating, ventilation, and air conditioning (HVAC) applications.

Model	Features	Application

ML7421A/ML7421B
Electric Linear Valve Actuator

- Easy and quick installation
- No separate linkage and adjustments required
- Low power consumption
- Force-limiting end stops
- Manual operation knob
- 0(2)~10 Vdc or 0(4)~20mA input signal selectable
- Position feedback signal
- Direct/ Reverse action adjustable
- Stroke position on signal failure selectable
- Corrosion-resistant design
- Maintenance-free

The ML7421A / ML7421B actuators are designed for modulating control with controllers providing an analog output of 2...10 Vdc. They operate Honeywell's standard valves in heating, ventilation, and air conditioning (HVAC) applications.

ML7425A8018-E
Electric Linear Valve Actuator

- Easy and quick installation
- No separate linkage and adjustments required
- Low power consumption and maintenance-free
- Self-adaption function
- Force-limiting end stops
- Manual operation knob
- 0(2)~10 Vdc input and 2~10 Vdc position feedback signal
- Direct/ Reverse action adjustable
- Stroke position on signal failure selectable
- Corrosion-resistant design

The ML7425A actuators are designed for modulating control with controllers providing an analog output of 2...10 Vdc. They operate Honeywell's standard valves in heating, ventilation, and air conditioning (HVAC) applications. The spring-return function provide a safety position at power failure.

VM58/VN58 series
Motorized Control Valve

- Cast iron/steel or stainless steel body with flanged end connection
- Available in variety of sizes, 2-way : 1/2" ~ 12" 3-way: 1/2"~ 6"
- Easy to install and maintain.
- Large capacity, Kvs from 4 to 998
- On-line interchangeable trim units.
- High dynamic stability.
- Self-alignment of cage and valve plug .
- Noise-Attenuating Trim to help reduce aerodynamic noise.
- IP 67 Enclosure

Model VM58/59/68 series electric control valves are designed for general-purpose services. The compact valve body, having an S-shaped flow passage that features low pressure loss, allows a large flow capacity, rangeability, and high accuracy flow characteristics.

The actuator section performs two-position operation or proportional operation by directly receiving the signal of 4~20 mA DC from the electronic-type controller.

The VP58/59 valves are widely applicable for modulating control of hot/chilled water, glycol or steam in HVAC and process lines.

Globe Valves

Model	Features	Application

V5011P
Two-Way Threaded Globe Valve

- Bronze body with BSPT-threaded end connections.
- Low seat leakage rate (0.05 percent of Kvs).
- Spring-loaded, self-adjusting packing.
- Accurate positioning to ensure state of the art temperature control.
- Sizes rang from 1 in. to 2 in.
- Valve designs provide equal percentage flow
- characteristic for water and linear flow characteristic for steam.
- Stainless steel stem and metal-to metal seats.

Single seated control or shutoff valve for:
- hot water
- chilled water
- Domestic Hot Water
- saturated steam
- superheated steam

in Heating, Ventilating, Air Conditioning Systems Open Circuits

To be operated by
- electric linear actuators as
  ML 6420 / 25
  ML 7420 / 25
  ML 6421
  ML 7421

V5013P
Three-Way Threaded Globe Valve

- Bronze body with BSPT-threaded connections.
- Stainless steel stem and brass plug.
- Low seat leakage rate (≤0.05 percent of Kvs).
- Spring-loaded, self-adjusting packing.
- Accurate positioning to ensure state of the art temperature control.
- Sizes range from 1-1/4 in. to 2 in.

Three port mixing control valves for:
- hot water
- chilled water
- Domestic Hot Water

in Heating, Ventilating, Air Conditioning Systems, Open Circuits

To be operated by
- electric linear actuators as
  ML 6420 / 25
  ML 7420 / 25
  ML 6421
  ML7421

V5050A
3-Way Flanged Linear Valve PN16

- Cast iron body with flanged end connections
- Low seat leakage rate
- Metal to metal seating for long life span
- Self adjusting packing
- Accurate positioning to ensure state of the art temperature control
- Easy mounting of direct coupled electric and pneumatic actuators
- Constant total flow throughout full plug travel

These single seated valves are used for modulating control of hot / chilled water or steam in heating, ventilating and air conditioning systems. The valves can be operated by linear actuators ML6421B and M7L421B.

V5088A
Flanged Linear Valve PN16
High Close-off Pressure Rating

- Cast iron body with flanged end connections
- High Close-off Pressure Rating & Low seat leakage rate
- Metal to metal seating for long life span
- Self adjusting packing
- Accurate positioning to ensure state of the art temperature control
- Directly coupled with electric actuators for easy mounting
- Approved according to DIN 32730

These single seated valves are used for modulating control of hot or chilled water or steam in heating, ventilating and air conditioning systems and can be operated by electric linear actuators as ML6421, ML7421.

Model	Features	Application

V5211F

Threaded End Connection High Close-off Pressure Rating Linear Valve

- Bronze body with BSPT-threaded connections.
- High close-off pressure rating, couple with 600Nm actuator (ML6420/ML7420).
- Low seat leakage rate (£0.05 percent of Kvs).
- Spring-loaded, self-adjusting packing.
- Accurate positioning to ensure state of the art temperature control.
- Sizes range from DN65…DN80.

Single seated control or shutoff valve for:

- Hot water
- Chilled water
- Domestic Hot Water
- Steam

in Heating, Ventilating, Air Conditioning Systems, Open Circuits

To be operated by

- Electric Linear Actuators as
  MI6420 / 25
  ML7420 / 25

V5216A

Flanged Linear Valve PN16

- Pressure-balanced plug
- Low seat leakage rate
- Metal-to-metal seating for long life span
- Accurate positioning to ensure state-of-the-art temperature control
- Easy mounting of direct-coupled actuators

These single-seated valves are suitable for use in conjunction with the modulating control of hot / chilled water in closed heating, ventilating, and air conditioning (HVAC) systems. They can be operated by Honeywell linear actuators MI6420/ ML6425, ML7420/ML7425, or ML6421/ML7421.

V5328A

Flanged Linear Valve PN16
High Close-off Pressure Rating

- Cast iron body with flanged end connections
- Low seat leakage rate
- High Close-off Pressure Rating
- Metal to metal seating for long life span
- Self adjusting packing
- Accurate positioning to ensure state of the art temperature control
- Easy mounting of directly coupled with electric actuators
- Approved according to DIN 32730

These single seated valves are used for modulating control of hot / chilled water or steam in heating, ventilating and air conditioning systems. The valves can be operated by linear actuators MI6420/ MI6425, ML7420/ML7425 or ML6421A/ML7421A.

V5329A

3-Way Flanged Linear Valve PN16

- Cast iron body with flanged end connections
- Metal to metal seating for long life span
- Self adjusting packing
- Accurate positioning to ensure state of the art temperature control
- Direct coupled electric and pneumatic actuators for easy mounting
- Constant total flow throughout full plug travel

These three port mixing valves are used for modulating control of hot or chilled water in heating, ventilation and air conditioning systems and can be operated by electric linear actuators as ML6420/6425, ML7420/7425, ML6421/ML7421.

Butterfly Valves and Actuators

Model	Features	Application

V4-ABFW-EPN16 (OM Series)
Actuated Wafer type butterfly valves

- Ductile Iron (V4) or SUS304 (V7) Wafer Body
- Centric butterfly valve with elastomer liner
- Wide DN-range (DN 50 … DN600)
- For On/Off or Modulating Control
- Robust actuators in epoxy coated aluminum
- Manual override non-clutch design. Manual operation can be operated without any lever, clutch or brake upon power voltage.
- Irreversible worm gear
- Visual mechanical position indicator for accurate visual reference of valve position
- Anti-condensation heater and 2 aux. limit switches on standard model
- Enclosure IP67

The V4 Actuated Wafer Type Butterfly Valves are suitable for heating and cooling applications. They can also be employed for industrial applications, general services and water treatment.

The V4 series is equipped with standard On/Off or modulating (4~20mA, 1~5V, or 0(2)~10V select by DIPswitch) control quarter-turn electric actuator.

V4-ABFW-EPN16 (CM Series)
Actuated Wafer type butterfly valves

- Cast Iron (V4) Wafer Body
- Centric butterfly valve with elastomer liner
- Wide DN-range (DN50 … DN300)
- For On/Off or Modulating Control
- Robust actuators in ABS cover and dry powder coating aluminum alloy base
- Manual override
- Manual power-off device
- Visual mechanical position indicator for accurate visual reference of valve position
- Anti-condensation heater and 2 aux. limit switches on standard model
- Enclosure IP67

The V4 Actuated Wafer Type Butterfly Valves are suitable for heating and cooling applications. They can also be employed for industrial applications, general services and water treatment.

The V4 series is equipped with standard On/Off or modulating (4~20mA, 1~5V, or 0(2)~10V select by DIPswitch) control quarter-turn electric actuator.

Ball Valves

Model	Features	Application

VBA216-F Series
Two-Way Flanged Control Ball Valve

- Equal percentage flow characteristic
- Low leakage rate
- Low driving torque
- Flange connection
- Stainless-steel ball and stem
- Casting iron valve body

The VBA216-F series two-way flanged control ball valves are used for modulating or on/off control in heating, ventilating and air conditioning water systems.

Model	Features	Application
VBA216-P Series Two-Way Threaded Control Ball Valve 	• Equal percentage flow characteristic • Low leakage rate • Low driving torque • BSPP thread • Stainless-steel ball and stem • Casting iron valve body	The VBA216-P series two-way threaded control ball valves are used for modulating control or on/off control in heating, ventilating and air conditioning water systems.

Thermostat

Model	Features	Application
TF228WN Digital Thermostat 220 VAC, Fan Coil Control 	• Memorized time off • Cycle Per Hour (CPH) • Random startup • LCD display with simple user interface • Room temperature or setpoint temperature display selectable • Manual or automatic fan speed selectable • Temperature units in either °C or °F • User setting can be stored with power loss • Freeze protection available • Four keypad lock options • Heating and cooling setpoint limitation • Flush mount on standard 86 wall mounting box	The TF228WN digital thermostat is designed for 3-speed fan and valve control in a fan coil system, including: • 2-pipe cool only/heat only/manual changeover • Ventilation mode • Manual or automatic 3-speed fan control • Water valve control Besides the basic controls, TF228WN featuring CPH (Cycle Per Hour) better maintains the room temperature to the set-point and memorized time off function can automatically turn off the thermostat to save energy. In addition, Honeywell Random start-up function would help to maintain power grid stability.
TF228WNM/U Communicating Fan Coil Thermostat 	• RS485 interface in Modbus RTU slave mode • Memorized time off • Cycle Per Hour (CPH) • Random startup • Room temperature or setpoint temperature display selectable • Manual or automatic fan speed selectable • Temperature units in either °C or °F • User setting can be stored with power loss • Freeze protection available • Keypad lock options • Heating and cooling setpoint limitation	The TF228WNM/U communicating thermostat is de-signed for a 3-speed fan and a motorized valve control in fan coil system. The typical application including: • 2-pipe cool only/heat only/manual changeover • Ventilation mode • Manual or automatic 3-speed fan control • Water valve on/off control TheTF228WNM/U is available in Modbus RTU protocol and can be easily integrated into building automation system.

Model	Features	Application

TF428 Series Digital Thermostat

Fan Coil Unit Control

- Memorized time off
- Cycle Per Hour (CPH)
- Random startup
- Remote temperature sensor optional
- Energy saving mode optional
- LCD display with simple user interface
- Room temperature or setpoint temperature display selectable
- Manual or automatic fan speed selectable
- Temperature units in either °C or °F
- User setting can be stored with power loss
- Freeze protection available
- Four keypad lock options
- Heating and cooling setpoint limitation

The TF428 series digital thermostat is designed for 3-speed fan and valve control in a fan coil system, including:

- 2-pipe cool only/heat only/manual changeover
- 4-pipe cool/heat manual /automatic changeover
- Ventilation mode
- Manual or automatic 3-speed fan control
- Water valve control

Besides the basic controls, TF428 series featuring CPH (Cycle Per Hour) better maintains the room temperature to the setpoint and Random Start-up Function would help to maintain power grid stability.

In addition, Honeywell Memorized Time Off Function can automatically turn off the thermostat to save energy.

TF243 Series Digital Thermostat

Fan Coil Unit Control

- Memorized time off
- Random startup
- Remote temperature sensor optional
- Energy saving mode optional
- LCD display with simple user interface
- Room temperature or setpoint temperature display select-able
- Manual or automatic fan speed selectable
- Temperature units in either °C or °F
- User setting can be stored when power loss
- Freeze protection function available
- Keypad lock options
- Heating and cooling setpoint limitation

The TF243 series digital thermostat is designed for 3-speed fan and modulating valve control in a fan coil system, includ-ing:

- 2-pipe cooling only/heating only/manual changeover
- Ventilation mode
- Manual or automatic 3-speed fan control
- Modulating water valve control

Besides the basic controls, TF243 series provide Random Start-up Function to maintain power grid stability.

In addition, Honeywell Memorized Time Off Function can automatically turn off the thermostat to save energy.

T6360/T4360, T6372/T6373

Fan-coil Thermostats 2-pipe
Fan-coil Control

- Dual diaphragm sensing element ensures close temperature control for all loads and applications
- Attractive modern styling makes this thermostat ideal for locating in the occupied space, particularly in offices or hotels
- All versions have heat anticipator, which improves temperature control in both heating and cooling operation
- Thermostat mounts directly onto a wall or conduit box
- Slide switches allow manual control of system operation and fan speed
- Auto heat/cool changeover possible (on some versions) by using pipe thermostat
- Optional extras:

  - range stops F42006646-001 (20 per pack, enough for 10 thermostats)

The T6372 and T6373 are designed to control the valve, or the valve and the fan in 2-pipe fan-coil applications.

The thermostat operates an on/off valve to provide control at the desired setpoint temperature.

The fan can also be controlled from the thermostat. In some cases it is wired to run continuously, and can be switched off with the system ON/OFF switch, while with other models there is a choice of running the fan continuously, or cycling it with the thermostat.

Versions are available with a manual 3-speed fan switch, and with a system on-off switch.

Heat/cool changeover operation is also possible on some versions. This function can be accomplished either by a manually operated heat/ cool switch on the front of the thermostat or in some versions automatically by the use of a pipe thermostat on the supply water pipe of the fan-coil.

Sensor

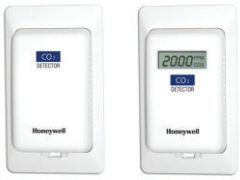
Model	Features	Application

CO Gas Detector

- High sensitivity and selectivity to carbon monoxide
- Low sensitivity to alcohol vapor
- Solid state sensor
- Linear 2 to 10 Vdc or 4 to 20mA output
- Compact size (70mm×122mm×32mm)

GD250W4NB is IAQ(Indoor Air Quality) sensor, which is designed to detect carbon monoxide gas in the air. This model has high accuracy at low concentration, so it is optimum for parking lot, tunnel and under ground places. Also, the advantage of this model is compact size and easy installation.

CO^2 Gas Detector



- High sensitivity and good resolution
- High technology adopted by NDIR method
- LCD display model available
- On/off relay output for CO^2 limit monitoring
- Two types analog signal (DCV and DCA) output
- Easy installation
- Compact size (70mm×122mm×32mm) Contents

CDS2000 is IAQ (Indoor Air Quality) sensor, which is designed to detect carbon dioxide gas in the air. This model has good resolution by NDIR method, so it is a optimum device for ventilation of building, house, etc. Also, the advantage of this model is compact size and easy installation.

Note. Do not apply this product for use where a building is continuously occupied 24 hours per day

Differential Pressure Switches DPS Series

For Air Conditioning / Ventilation, User-adjustable

- Switching-point easily adjustable with scale in Pascal;
- Direction of M20x1.5 conduit entry can be rotated in steps of 120°;
- Only one screw needed for housing cover.

Differential pressure switches e.g. for monitoring filter, fan, fire damper, or air flow status of air handling systems.

ALF, TF, KF, and RF

High-Accuracy Immersion, Duct, Room, and Surface Temperature Sensors

- Cost-effective universal temperature sensors.
- High accuracy due to Class A restrictions.
- High protection class (IP65).
- Duct and immersion sensors including immersion well and/or mounting flange.
- Easy installation.
- Universal solution for industry and HVAC.

The ALF, TF, KF, and RF temperature sensors are designed for universal use in machine construction, process control, HVAC, as well as for environmental and agricultural applications. Cost-effective and highly accurate sensor technology allows use in a wide field of applications where PT100 and PT1000 sensor technology is a standard.

Model	Application

WFS-1001-H Water Flow Switch

The paddle type SPDT WFS series are designed to provide excellent performance where accuracy, reliability, and rugged construction are required used in liquid flow lines carrying water or any fluid neither harmful to brass and phosphor bronze nor classified as a hazardous fluids.

They can be wired to close one circuit and open a second circuit when liquid flow either exceeds or drops below the adjusted flow rate. The WFS series are recommended for liquid pressure and temperature as mentioned below and must not be used on lines carrying liquids below 0 C degree.

These series may be used on liquids with high salt or chlorine content but is not for use in hazardous atmospheres. They may be also used outdoors but must be protected from weather or splashing water. All series WFS flow switches are designed for use only as operating controls.

Where an operating control failure would result in personal injury and/or loss of property, it is the responsibility of user to add safety devices that protect against, or supervisory systems that warn of control failure.

Manual Valves

Model	Features	Application

V2-CHS-A125
Check Valve - Horizontal Swing

- Brass body
- Brass disc
- NPT / BSP threading

Specifications

Valve sizes: ½" to 2" (Threaded ends)

Nominal pressure: PN16 from -20°C to 150°C (Water)

No.	Description	Material
1	Body	Brass
2	Seal Washer	Teflon
3	Cap	Brass
4	Disc	Brass
5	Pin	Stainless Steel
6	Seal Ring	Teflon
7	Bolt	Brass

V2-GAN-A125
Gate Valve, Non Rising Stem

- Brass body
- Non Rising Stem
- Forged brass stem
- NPT / BSP threading

Specifications

Valve sizes: ½" to 2" (Threaded ends)

Nominal pressure: 200 psi from 0°C to 100°C (Water or non-corrosive liquid)

No.	Description	Material
1	Wheel Nut	Stainless Steel
2	Name Plate	Aluminum Plate
3	Handwheel	Cast Iron
4	Stem	Brass
5	Packing Nut	Brass
6	Gland	Brass
7	Packing	Teflon
8	Lock Nut	Brass
9	Bonnet	Brass
10	Disc	Brass
11	Body	Brass

V2-YST-A150
Y-Strainer

- Forged brass body
- Bolted Bonnet Cover
- Stainless Steel 304 Perforated Screen
- NPT / BSP threading

Specifications

Valve sizes: ½" to 2" (Threaded ends)

Nominal pressure: 200 psi from 0°C to 100°C (Water, Non-corrosive

No.	Description	Material	Astm Standard
1	Body	Forged Brass	ASTM B124, C37700
2	Bonnet	Forged Brass	ASTM B124, C37700
3	Filter	Stainless Steel	AISI 304
4	Sealing Washer	Teflon	PTFE

Model	Features

V4/V5-BFL-GP16/GP25 SERIES
Lug Type Butterfly Valves – with Hand Level / Gear Operated Handwheel

- Cast/ Ductile Iron body
- 90° closing or opening operation (10 position)
- Lock level handle (steel material)
- Elastomer liner
- Memory lock mechanism
- Ductile disc with nickel plated

V4/V5-BFW-GP16/GP25 Series
Wafer Type Butterfly Valves – with Hand Level/ Gear Operated Handwheel

- Cast / Ductile Iron body
- 90° closing or opening operation (10 position)
- Lock level handle (steel material)
- Elastomer liner
- Memory lock mechanism
- Ductile disc with nickel plated

V4-CGV-GP16
Silent Check Valve – Globe Type Product

- Cast Iron body
- Silent Check Function
- Complies with the requirement of EN12334
- Spring automatically closes disc at zero flow before flow reversal occurs. This prevent surge and water hammer
- Perfect tightness soft sealed even at low differential pressure
- Completely guided disc both top and bottom
- Liquid epoxy painted or fusion bonded epoxy powder coated (FBE)

V4-CWD-GP16 Series
Wafer Butterfly Check Valves Product

- Cast iron body
- Stainless steel disc
- Compact size
- Quick close, preventing water hammer
- Easy installation, either vertical or horizontal
- Reliable and safe

V5-GAN-GP16 Series
Resilient Seated Gate Valve, Non Rising Stem (Hand Wheel)

- Ductile iron body
- Stainless steel stem
- Full port type, lowest pressure lost
- O-ring packing in up seal, no leakage
- Complies with the requirement of EN1171- 2002
- Resilient sealing
- High strength thrust collar

V5-YST-GP16 Series
Y-Strainer

- Ductile iron body
- Stainless steel filter stem
- Recessed seat in body assures accurate screen alignment
- BSPT blow off outlet on cover. Blow off outlets are finished with plugs
- Screens are perforated 304 stainless steel with spot welded seam

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