

# Dwyer®

**Manufacturing Excellence Since 1931**

pressure • temperature • test & data • air quality

flow • level • process control • valves



# 2021

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[dwyer-inst.com](http://dwyer-inst.com)

## KEY MARKETS

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### HVAC

- Building Automation
- Test Equipment
- Critical Environments
- Original Equipment  
(Chillers, Boilers, Air Handlers, Cooling Towers)
- Valve Automation

### PROCESS AUTOMATION

- Water and Wastewater
- Pharmaceutical
- Agriculture and Livestock
- Powder and Bulk
- Industrial Process
- Mining and Heavy Earth Moving
- Oil, Gas and Petrochemical
- Power
- Valve Automation

## INNOVATION AWARDS

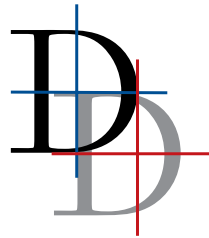
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**WINNER**

Wireless Hydronic Balancing Kit

Series 490W



*The ACHR News is the leading trade magazine in the heating, ventilating, air conditioning, and refrigeration industries.*

### GOLD

- HVAC Mobile Meter® Software Test Instrument App
- PredictAir™ Application Software
- Air Velocity Transmitter | **Series AVUL**

### SILVER

- Universal Handheld Test Instrument | **Model UHH2**
- Wireless Hydronic Balancing Kit | **Series 490W**
- Hydronic Application Software

### BRONZE

- SMART Air Hood® Balancing Instrument | **Series SAH**
- Hydronic Differential Pressure Manometer | **Series 490A**
- Insertion Electromagnetic Flow Transmitter | **Series IEF**

# HVAC TESTING

Series 160F Pitot Tube

Model TAC-L Portable Digital Tachometer

Series 477AV Handheld Digital Manometer

Series 471B Thermo-Anemometer

Series WNT Multi-Jet NSF Certified Water Meter

Series WMH Multi-Jet Hot Water Meter

Series TUF Ultrasonic Energy Meter

Series IEFB Insertion Thermal Energy Meter

# BUILDING BALANCING

Series 160G & DP3 Air Flow Grid & Differential Pressure Module

Series SAH SMART Air Hood® Balancing Instrument & Application Software

Mobile Meter® HVAC Software App

Series 160F Pitot Tube

Series PUB Portable Ultrasonic Flowmeter Kit

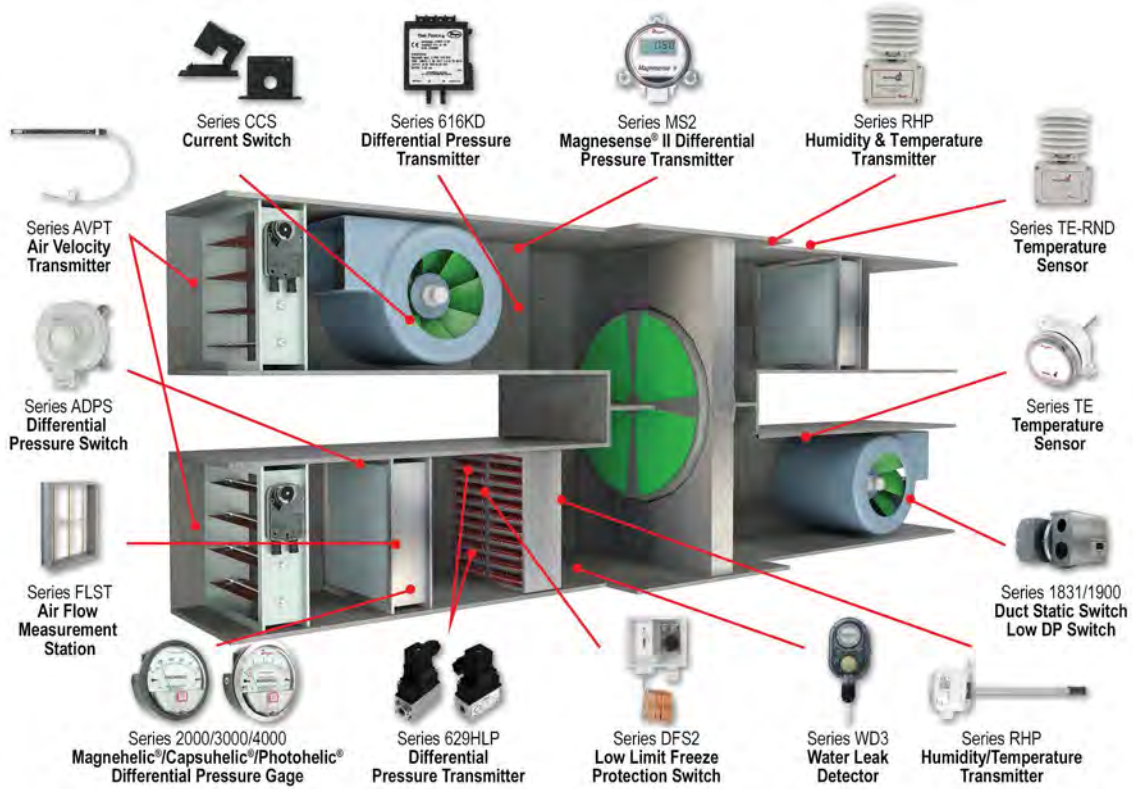
Model TAC-L Portable Digital Tachometer

Series 490W Hydronic Differential Pressure Manometer

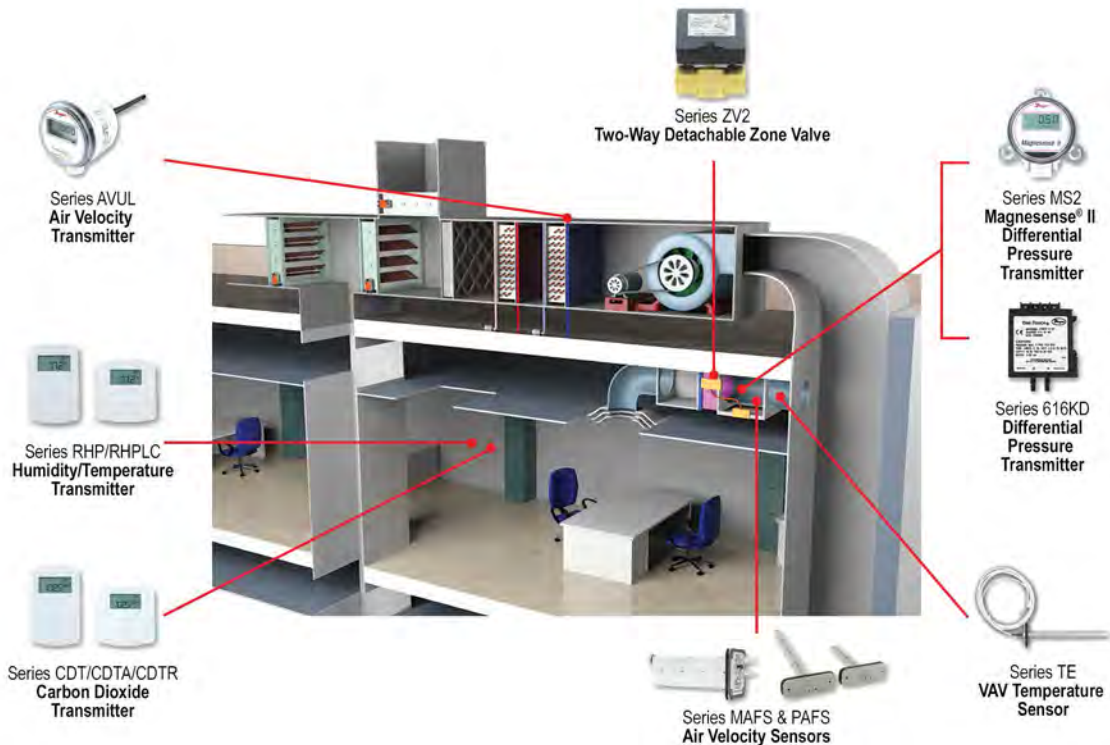
Series 477AV Digital Manometer

Series 478A Digital Manometer

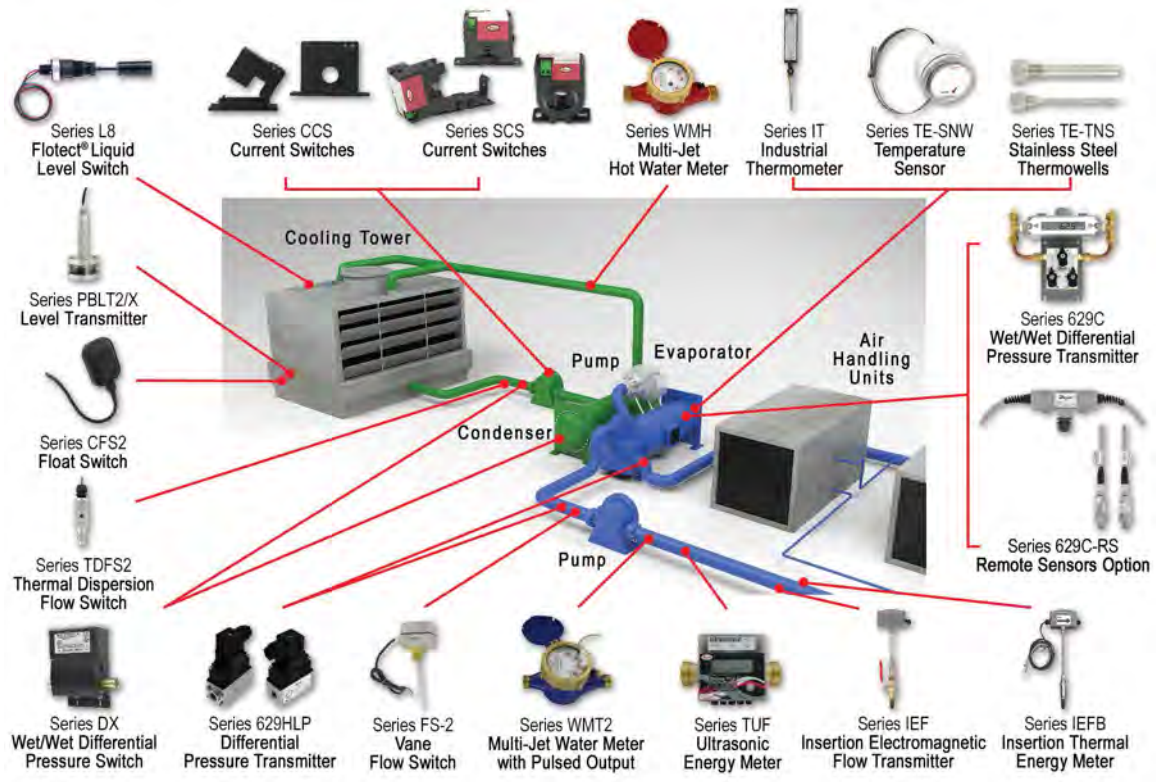
## AIR HANDLER



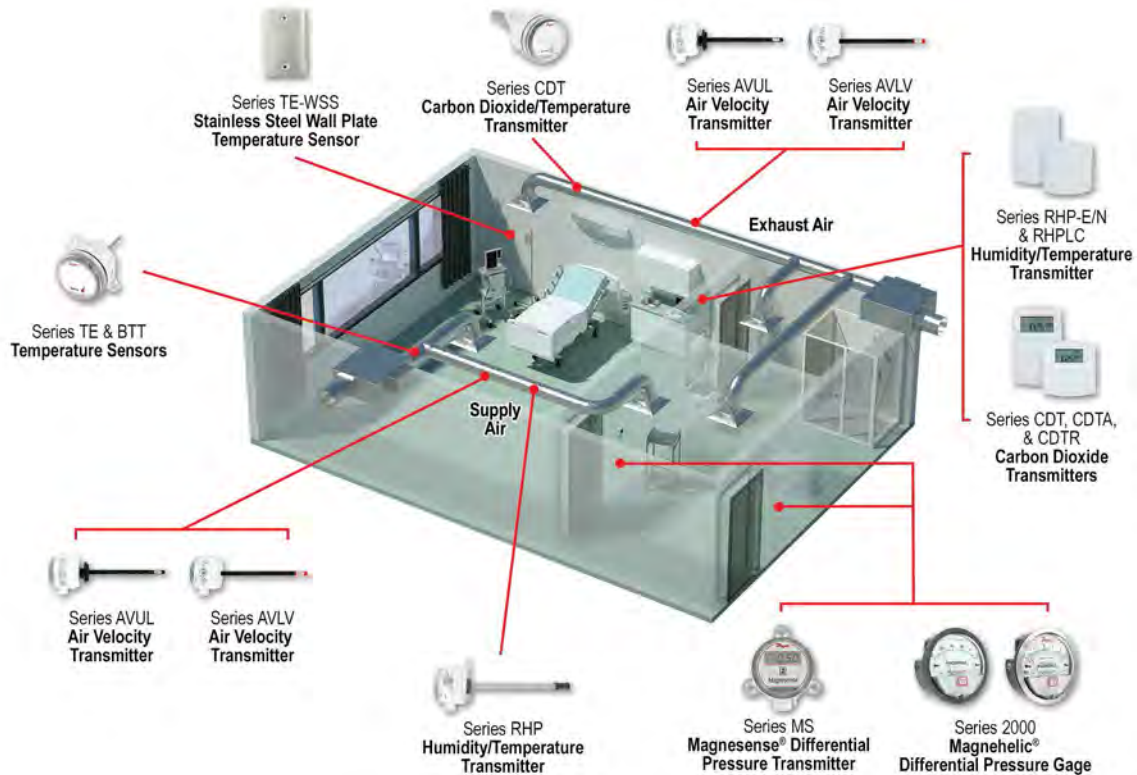
## TERMINAL UNIT



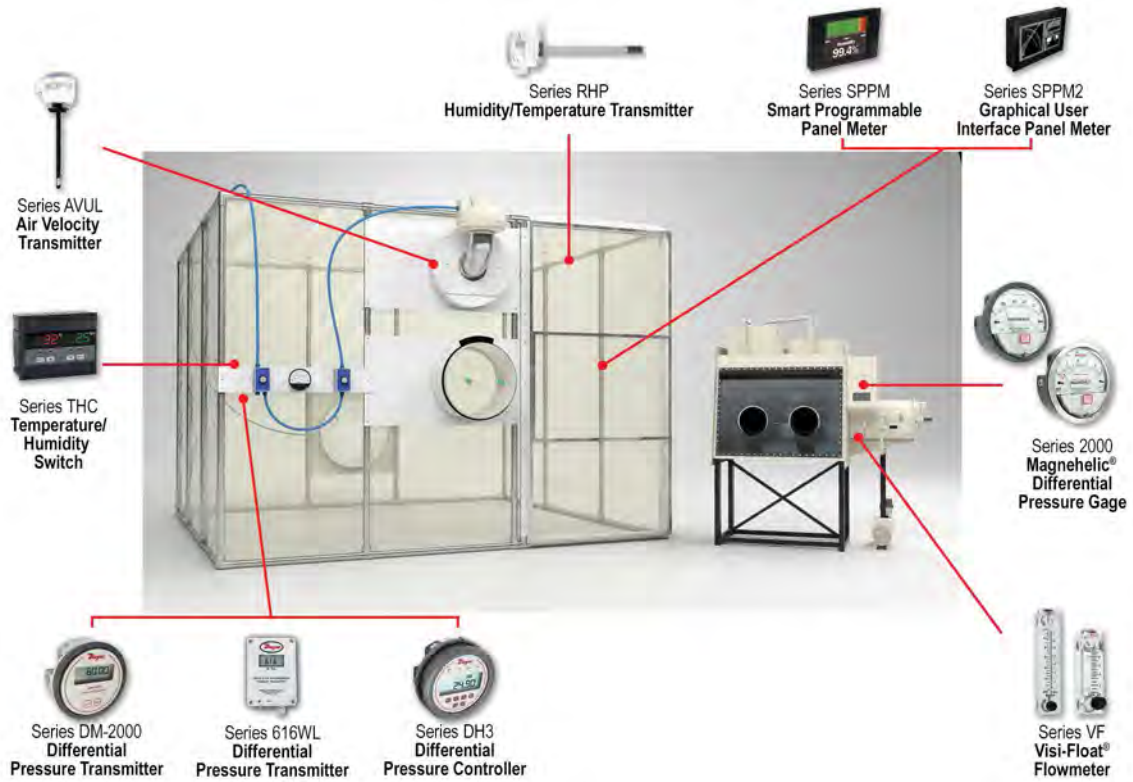
# CHILLER PLANT



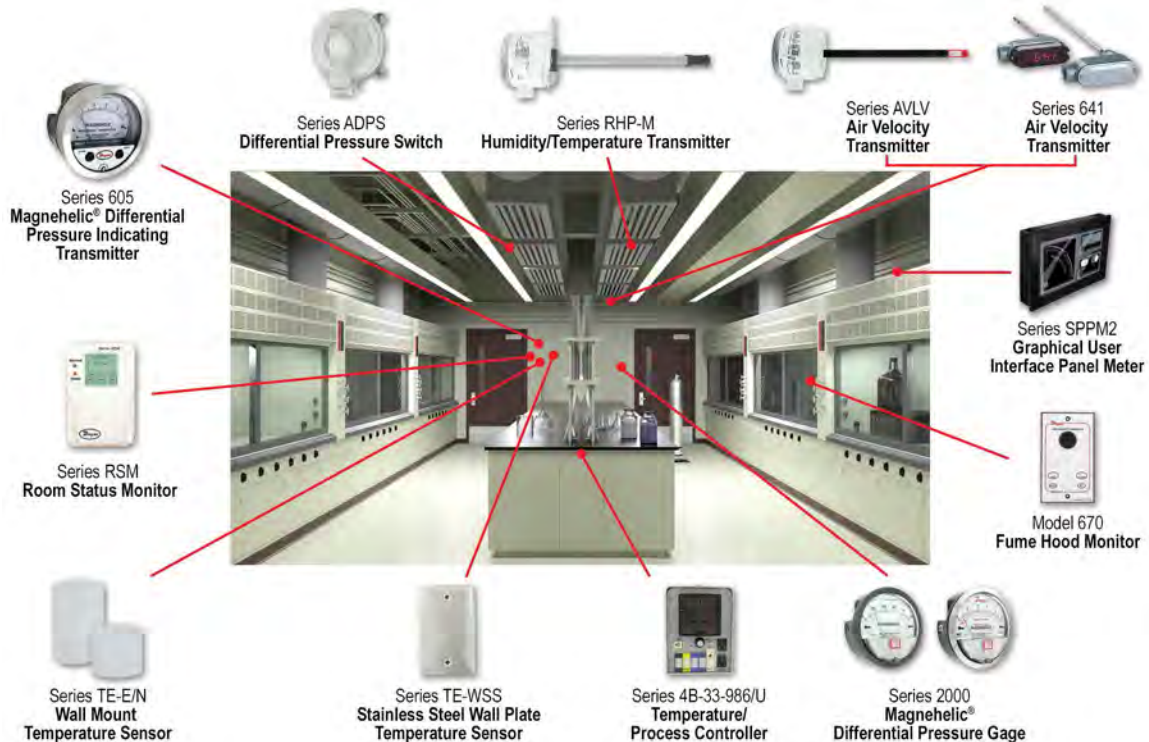
# ISOLATION ROOM



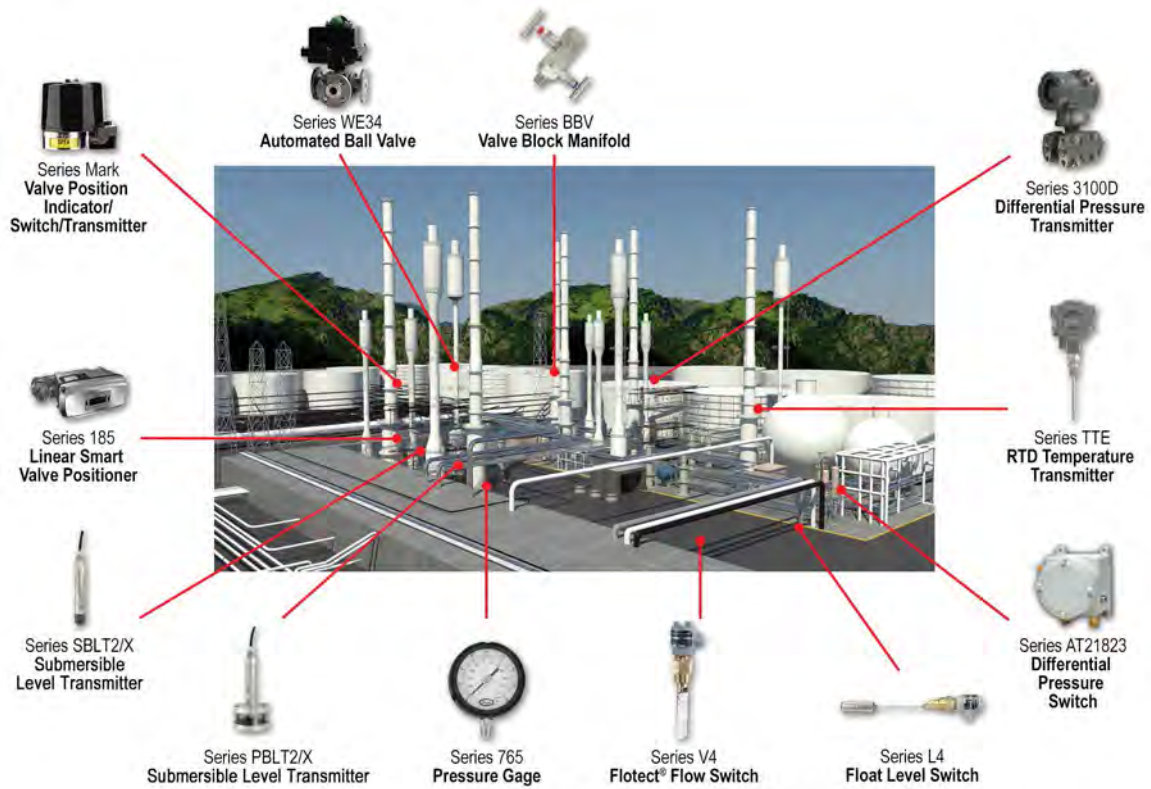
## CONTAINMENT CHAMBER/BOX



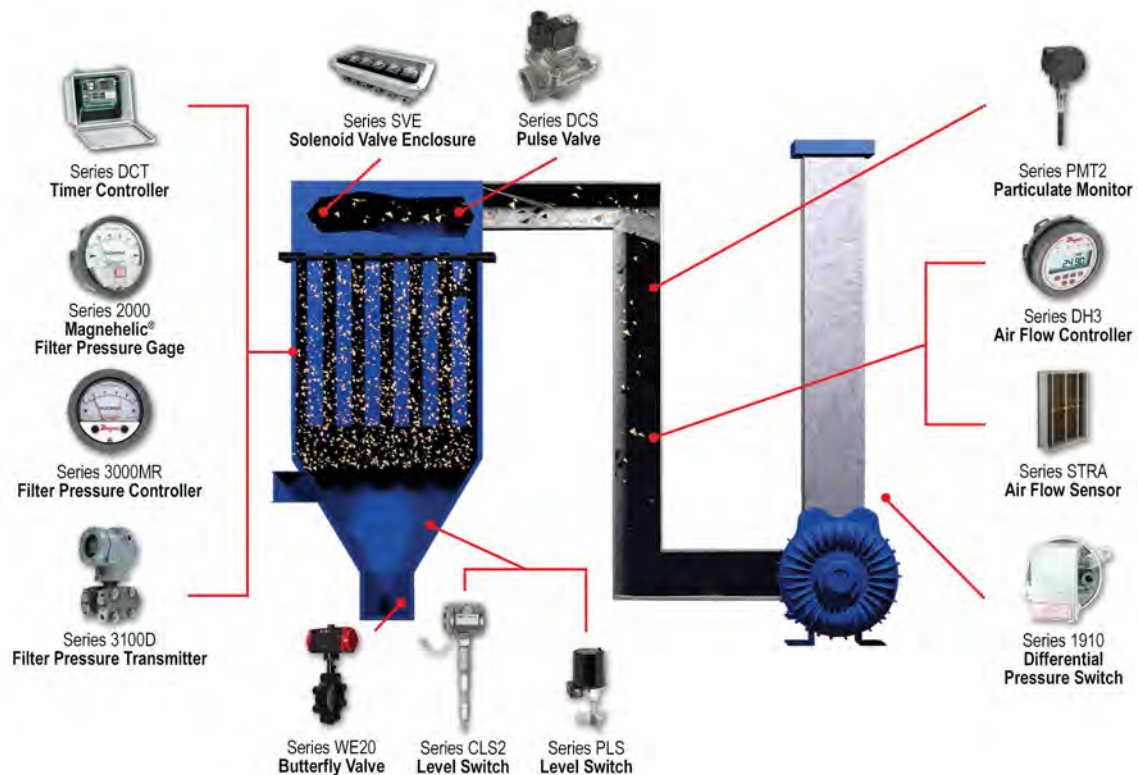
## CLEAN ROOM



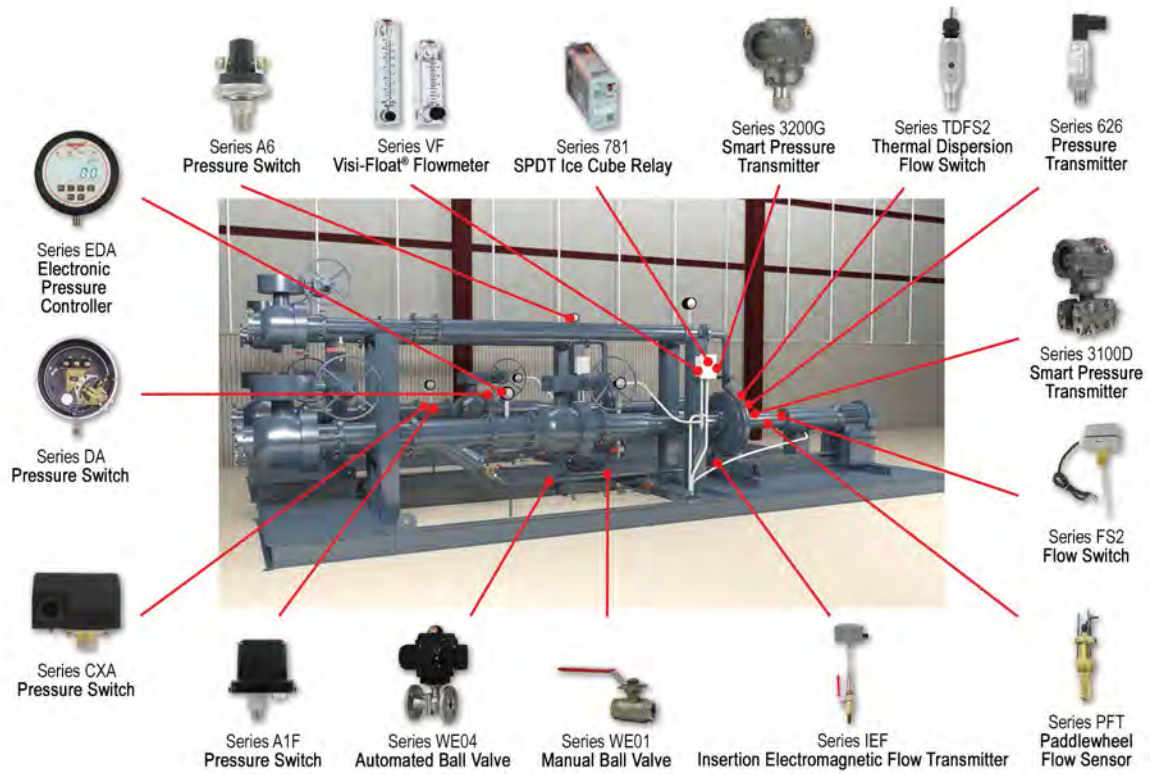
# MIDSTREAM REFINERY/CHEM PLANT



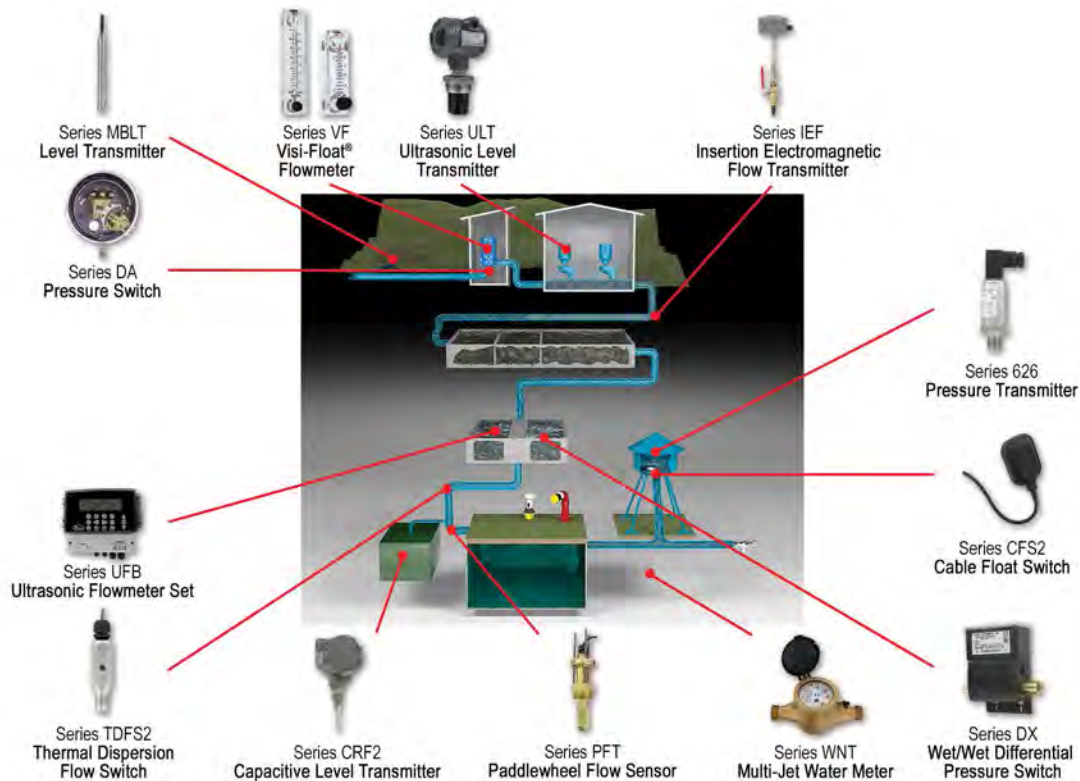
# DUST COLLECTOR



## PUMP SKID



## CLEAN WATER





# WASTEWATER

Series DA & EDA Pressure Switch & Controller

Series L4 Float Level Switch

Series L6 Float Level Switch

Series TTE Temperature Transmitter

Series VF Visi-Float® Flowmeter

Series WE Control Valve

Series 2000 Magnehelic® Differential Pressure Gage

Series DX Pressure Switch

Series UFB Ultrasonic Flowmeter Set

Series 3100D & 3200G Process Pressure Transmitters

Series IEF Insertion Electromagnetic Flow Transmitter

Series ULT Ultrasonic Level Transmitter

Series PUB Portable Ultrasonic Flowmeter Kit

Series 626/628 Pump Transmitter

Series FBLT Level Transmitter

Series PBLT2/X Level Transmitter

# IRRIGATION

Series DX Differential Pressure Switch

Series 626/628 Pressure Transmitter

Series PFT Paddlewheel Flow Sensor

Series TDFS2 Thermal Dispersion Flow Switch

Series WE31 Automated Ball Valve

Series WE01 Manual Ball Valve

Series WMT2 Water Meter

Series WPT Multi-Jet Water Meter

Series SBSV-B Solenoid Valve

Series PDWS Flow Sensor

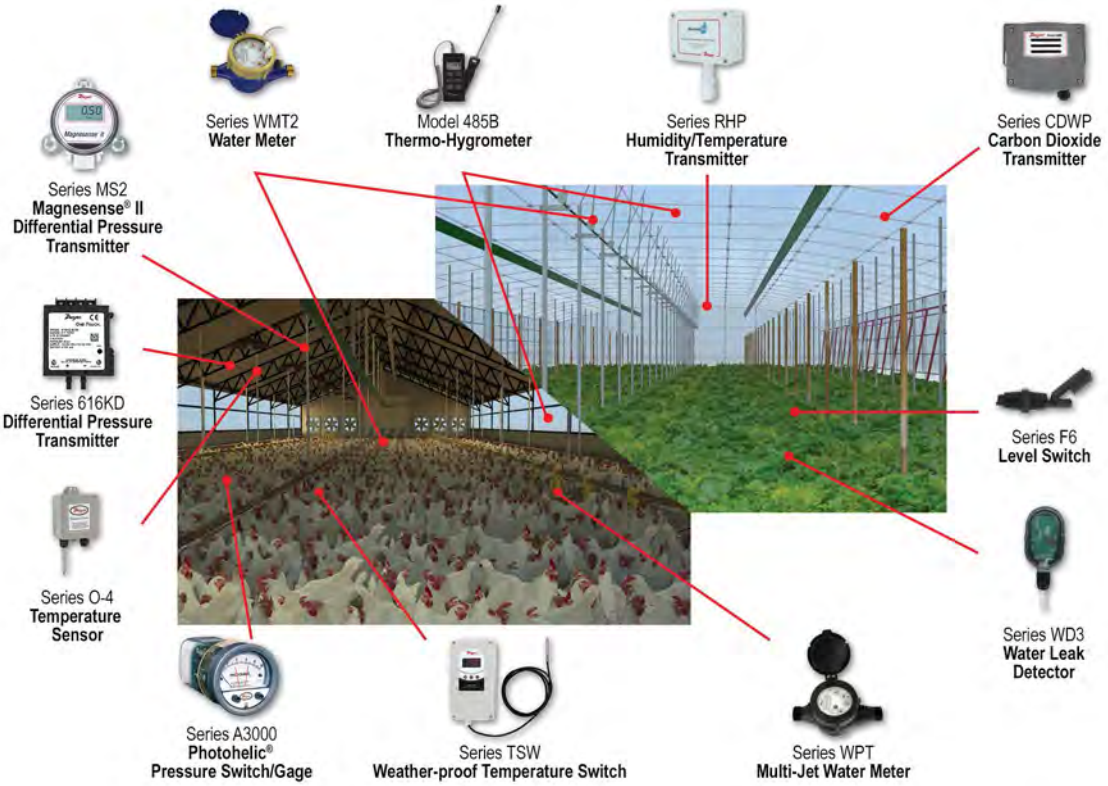
Series WM2 Water Meter

Series MBLT Level Transmitter

Series V10 Flow Switch

PRODUCT APPLICATIONS

# POULTRY/HOG/GREENHOUSES



# RECENT INNOVATIONS

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## TEST, ADJUST, AND BALANCE KIT SERIES TABKIT

- Everything a balancing technician needs in a single case
- Durability, repeatability, and reliability in every instrument
- Save time by sending everything back to us, we can recalibrate all equipment in the kit

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## THERMO-HYGROMETER PROBE, THERMO-ANEMOMETER PROBE & 100 MM VANE THERMO-ANEMOMETER PROBE SERIES RP3/AP3/VP3

- New Bluetooth wireless probes
- Wirelessly connect directly to your mobile device
- Used in conjunction with the Dwyer® Mobile Meter® app

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## WIRELESS DIFFERENTIAL PRESSURE MODULE SERIES DP3

- Auto-ranging differential pressure module
- Highly accurate and ideal for low flow applications
- Used in conjunction with the Dwyer® Mobile Meter® app

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## PENCIL STYLE AIR VELOCITY TRANSMITTER SERIES AVPT

- Air velocity ranges from 1000 to 4000 FPM (5 to 20 m/s)
- Insertion lengths of 6 or 12 inches
- Low temperature functionality for outdoor air flow measurement

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## AIR VELOCITY TRANSMITTER SERIES AVLV

- Air velocity ranges from 100 to 400 FPM (0.5 to 2 m/s)
- High accuracy 1 or 2% air velocity measurement device for critical environments
- Analog or BACnet/Modbus® communications simplify device setup

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Modbus® is a registered trademark of Schneider Automation, Inc.

# RECENT INNOVATIONS

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## CARBON DIOXIDE TRANSMITTER SERIES CDWP

- Single beam dual wavelength NDIR CO<sub>2</sub> sensor automatically corrects for aging effects
- Durable and rugged aluminum housing designed to withstand 168 hour salt spray test
- Ranges include 2,000, 5,000, and 10,000 PPM allowing for use in animal husbandry as well as mechanical rooms utilizing CO<sub>2</sub> based refrigerants

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## CARBON MONOXIDE TRANSMITTER AND SWITCH SERIES CMS300

- Field selectable current or voltage analog outputs
- Integral SPDT relay contact for low or high alarm
- Jumper selectable alarm set points of 25, 60, or 150 PPM

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## INSERTION ELECTROMAGNETIC FLOW TRANSMITTER SERIES IEF

- Field configurable
- Integral or remote displays allow for ultimate flexibility
- Multiple display configurations with a single unit



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## ULTRASONIC ENERGY METERS SERIES TUF

- Manufactured to comply with EN1434-1 requirements
- Compact energy monitoring
- BACnet or Modbus<sup>®</sup> communication outputs

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## INSERTION THERMAL ENERGY METER SERIES IEFB

- Field configurable
- Integral or remote display for ultimate flexibility
- Complies with high accuracy requirements of EN 1434-1, ASTM E3137, CSA C900.1-13 for accurate heat measurement

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# STANDARD TERMS & CONDITIONS OF SALE

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## DWYER INSTRUMENTS, INC. - TERMS AND CONDITIONS OF SALE - MARCH 15, 2017

1. **Prices and Specifications** are subject to change without notice.
2. **Shipping dates** are approximate. They are dependent upon credit approval and subject to delays beyond our control.
3. **Terms:** Net 30 days to companies with established credit rating. In the event Buyer fails to fulfill previous terms of payment, or in case Seller shall have any doubt at any time as to Buyer's financial responsibility, Seller may decline to make further deliveries except upon receipt of cash in advance or other special arrangements.
4. **Point and Title:** All material is sold EXW Ex Works Dwyer Instruments, Inc. Title to all material sold shall pass to buyer upon delivery by Seller to carrier at shipping point.
5. **State and Local Taxes:** Any taxes which the Seller may be required to pay or collect upon or with respect to the sale, purchase, delivery, use or consumption of any of the material covered hereby shall be for the account of the Buyer and shall be added to the purchase price.
6. **Special tooling,** dies, silk screens and molds acquired specially to produce goods for Buyer remain the property of Dwyer Instruments, Inc., and may not be removed. They will be maintained in good condition for a minimum period of three years from the date of the original purchase order.
7. **Trade Compliance:** Buyer acknowledges that the products, software, and technology, including technical information and documents (collectively "Items"), of Dwyer Instruments, Inc., are subject to regulation by agencies of the U.S. government including, but not limited to, the U.S. Department of Commerce. Buyer shall comply with the Export Administration Regulations (EAR) and all applicable U.S. laws and regulations regarding the sale, delivery and transfer of said Items. Buyer shall not, without first obtaining the required licenses, authorizations or approvals from the appropriate U.S. government agency; (i) export, re-export, transfer or divert any Item directly or indirectly to any country or national resident thereof, or any person, entity or country that has restrictions imposed upon them by the U.S. government, (ii) engage in, or knowingly sell to any party engaged in activity related to the development, production, use, testing, or maintenance of Weapons of Mass Destruction, including uses related to nuclear, missile, chemical or biological warfare, or (iii) engage in, or knowingly sell to any party engaged in activity related to the development, production, use, or maintenance of any safeguarded or unsafeguarded nuclear fuel facility or components for such facilities. Buyer shall fully cooperate with Seller, without charge, in any official audit or inspection by an authorized agent, official, employee, or accredited representative of the U.S. government. Buyer shall indemnify and hold Seller harmless from, or in connection with, any violation of this Section by Buyer, its employees, consultants, agents, or customers. The obligations, requirements and claims described herein shall survive the expiration of any business relationship with Dwyer Instruments, Inc., including its divisions, subsidiaries and affiliated companies.
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9. **Limited Warranty:** The Seller warrants all Dwyer instruments and equipment to be free from defects in workmanship or material under normal use and service for a period of one year from date of shipment. Products qualifying for an extended warranty period will have the extended warranty as expressly indicated on the catalog page, web page, IOM, or will be covered by a specific written agreement that is (i) approved by an officer of Dwyer Instruments, Inc. and (ii) defines the warranty period. If no express statement of extended warranty is made, then the standard 1 year warranty applies. The Extended Limited Warranty only applies to products manufactured after April 1, 2017. The Warranty period extends from the date of shipment to the initial customer and not the project installation date or use.

Specific warranty exclusions include, but are not limited to:

- Specific product components not covered by the extended warranty:
  - o Humidity Sensors
  - o Batteries
  - o Electro-Chemical Gas Sensors
  - o Snap Switches
  - o Any component which exceed its normal life cycle
  - o Other Specific items added as required.
- Normal or excessive wear and tear is not cause for warranty replacement.
- Products not properly maintained, operated, installed, or use in an application not suited for the product.
- Modifications, alterations, changes, or additions outside those which are required for normal operation.
- Failure to notify Dwyer of any defect within a reasonable time.
- Damage which the customer has not taken timely action to minimize or mitigate.
- Products on which the labels, markings, nameplates, etc. have been tampered with.
- Products which contain broken factory seals or have been tampered with shall void warranty.

Liability under this warranty is limited to repair or replacement EXW Ex Works Dwyer Instruments, Inc. of any parts which prove to be defective within that time or repayment of the purchase price at the Seller's option. All products must be returned to the Seller, transportation prepaid, unless other arrangements have been pre-approved by Seller. All technical advice, recommendations and services are based on technical data and information which the Seller believes to be reliable and are intended for use by persons having skill and knowledge of the business, at their own discretion. In no case is Seller liable beyond replacement of equipment EXW Ex Works Dwyer Instruments, Inc. or the full purchase price. This warranty does not apply if the maximum ratings label is removed or if the instrument or equipment is abused, altered, used at ratings above the maximum specified, or otherwise misused in any way.

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## FEATURED PRODUCTS

### LUG OR WAFER STYLE BUTTERFLY VALVE SERIES WE20 | pages 414-415



- Capable of being configured with various actuators and accessories to fit any application
- Limit switches and position indicators can be mounted to manual valves for remote monitoring

### WIRESSHART® POSITION INDICATOR SERIES MARK | pages 434-436



- WirelessHART® allows for adjustment of settings without needing to remove the device from a hazardous environment
- Wireless ability saves on installation costs associated with running conduit and wires

**Dwyer**

## 2-WAY Automated Ball Valves

**WE01** - pages 384-385**WE08** - pages 386-387**WE02** - pages 388-389**WE03** - pages 390-391

<b>SERIES</b>	<b>WE01</b> - pages 384-385	<b>WE08</b> - pages 386-387	<b>WE02</b> - pages 388-389	<b>WE03</b> - pages 390-391
<b>Body Type</b>	2-way 2-piece	2-way 2-piece	2-way 3-piece	2-way 3-piece
<b>Body Material</b>	316 SS	Brass	316 SS	316 SS
<b>Line Sizes</b>	1/2 to 3"	1/2 to 2"	1/2 to 3"	1/2 to 2"
<b>End Connections</b>	Female NPT	Female NPT	Female NPT	Tri-clamp

## 3-WAY Automated Ball Valves

**WE31** - pages 404-405**WE35** - pages 406-407**WE33** - pages 408-409**WE34** - pages 410-411

<b>SERIES</b>	<b>WE31</b> - pages 404-405	<b>WE35</b> - pages 406-407	<b>WE33</b> - pages 408-409	<b>WE34</b> - pages 410-411
<b>Body Type</b>	3-way	3-way	3-way	3-way
<b>Body Material</b>	316 SS	Brass	316 SS	316 SS
<b>Line Sizes</b>	1/2 to 2"	1/2 to 2"	1/2 to 2"	1/2 to 3"
<b>End Connections</b>	Female NPT	Female NPT	Tri-clamp	Flange

These Selection Guides are for quick comparison of similar products. Please refer to the catalog page number referenced for complete product information and specifications.



# 2-WAY Automated Ball Valves



<b>SERIES</b>	<b>WE04</b> - pages 392-393	<b>WE05</b> - pages 394-395	<b>WE06</b> - pages 396-397	<b>WE07</b> - pages 398-399
<b>Body Type</b>	2-way 2-piece	2-way 3-piece	2-way 3-piece V-ball	2-way 2-piece V-ball
<b>Body Material</b>	316 SS	316 SS	316 SS	316 SS
<b>Line Sizes</b>	1/2 to 3"	1/2 to 3"	1/2 to 3"	1/2 to 3"
<b>End Connections</b>	Flange	Socket weld	Female NPT	Flange

# POSITIONERS



<b>SERIES</b>	<b>165 &amp; 265</b> - pages 442-443	<b>185 &amp; 285</b> - page 444	<b>195 &amp; 295</b> - page 445
<b>Body Material</b>	Aluminum or 316 SS	Aluminum or 316 SS	Aluminum
<b>Stroke</b>	0.5 to 6" or 0 to 90°	0.5 to 6" or 0 to 90°	0.19 to 1.38" or 0 to 90°
<b>Air Supply</b>	20 to 101 psig	35 to 116 psi	35 to 116 psi
<b>Enclosure Rating</b>	IP66	NEMA 4X	NEMA 4X

**Dwyer**

# HAND LEVER

## Ball Valves



<b>SERIES</b>	<b>DBV</b> - page 401	<b>BV2M</b> - page 401	<b>DBVL</b> - page 402	<b>SWBV</b> - page 402
<b>Body Type</b>	2-way	2-way	2-way	2-way
<b>Body Material</b>	Brass	CF8M	Low lead brass	Brass
<b>Line Sizes</b>	1/4 to 3"	1/4 to 3"	1/4 to 3"	1/4 to 3"
<b>End Connections</b>	Female NPT	Female NPT	Female NPT	Sweat

## POSITION INDICATORS/ SWITCHES/ TRANSMITTERS



<b>SERIES</b>	<b>QV</b> - page 433	<b>Mark 1</b> - pages 434-436	<b>Mark 3</b> - pages 434-436
<b>Type</b>	Thru-shaft	Magnetic drive	Magnetic drive
<b>Rotation Travel</b>	5 to 360° (switches only)	0 to 340°	1 to 25 revolutions
<b>Enclosure Material</b>	Polycarbonate	Aluminum or 316 SS	Aluminum or 316 SS
<b>Enclosure Rating</b>	NEMA 4, 4X	NEMA 1, 2, 3, 3R, 3S, 4, 4X, 6, 7, 9, 12, & 13	NEMA 1, 2, 3, 3R, 3S, 4, 4X, 6, 7, 9, 12, & 13

These Selection Guides are for quick comparison of similar products. Please refer to the catalog page number referenced for complete product information and specifications.

# HAND LEVER

## Ball Valves

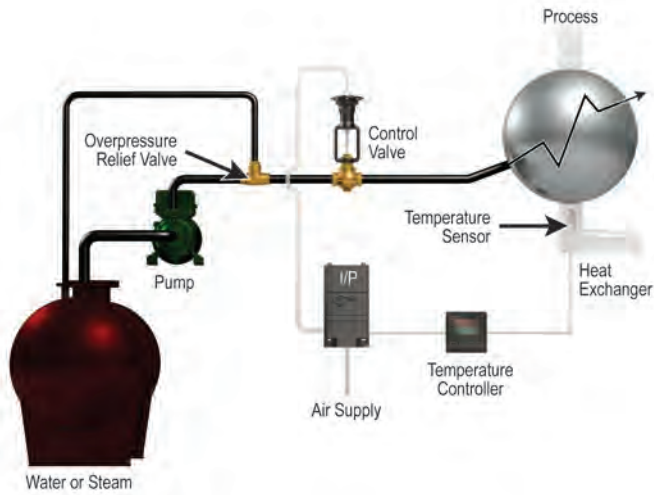


SERIES	UBV - page 402	MV - page 403	SMV2 - page 403
Body Type	Uni-flange	2-way	2-way
Body Material	Brass	Chrome-plated brass	SS
Line Sizes	1/2 to 1"	1/8 to 1/2"	1/8 to 1/2"
End Connections	Female NPT	Female x female NPT or Male x female NPT	Female x female NPT or Male x female NPT

# POSITION INDICATORS/ SWITCHES/ TRANSMITTERS

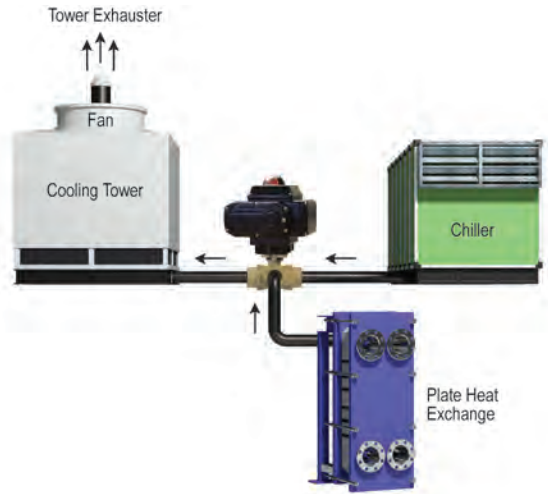


SERIES	Mark 4 - pages 434-436	VPS - page 437	DT - page 438
Type	Thru-shaft	Dual Inductive	Magnetic Point Sensor
Rotation Travel	0 to 340°	N/A	N/A
Enclosure Material	Aluminum or 316 SS	Polybutylene Terephthalate	SS
Enclosure Rating	NEMA 1, 2, 3, 3R, 3S, 4, 4X, 6, 7, 9, 12, & 13	N/A	Designed to NEMA 1, 3, 4, 4X, 6, 7, 9, 12 & 13



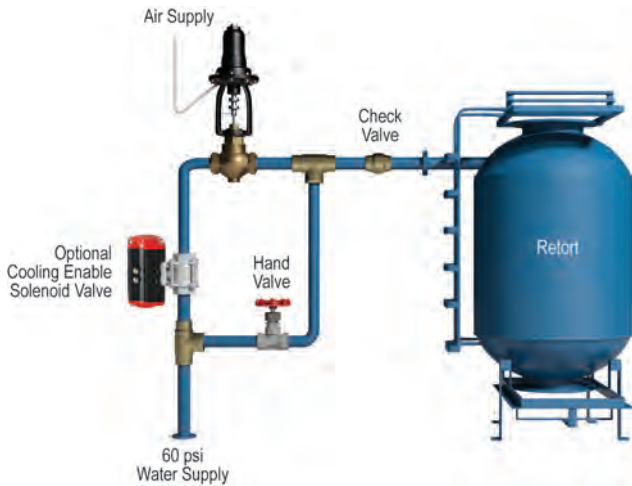
**Process temperature control using pneumatic Hi-Flow™ control valves**

Pneumatic Hi-Flow™ control valves provide excellent control with high flow, wide rangeability and tight shutoff capabilities. The dispensing application shown uses a Lin-E-Aire® pneumatic actuator, operating off standard 3-15 psi control air signals, and a Hi-Flow™ linear control valve that apportions steam or water to a user process. The valve regulates cooling water or steam flow depending on the process requirement resident in the temperature controller program. This package can be provided with a Precisor® positioner and Proximity position transmitter which provides an excellent process control application problem solution.



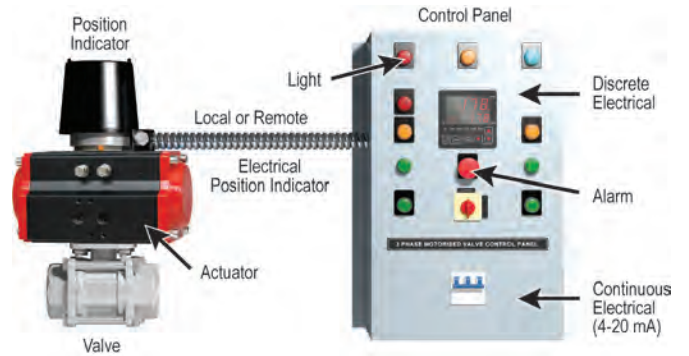
**Water-side economizer system includes Series WE31 3-way ball valve for accurate control of flow**

To ensure efficient utilization of cold water in HVAC systems, WE31 3-way ball valves are called upon to modulate flow. This common "water-side economizer" allows water from the plate heat exchanger to be diverted directly to the cooling tower if the temperature is cool enough, instead of coming directly from the condenser on the chiller.



**Quick response Hi-Flow™ valves control water flow in cooling process**

Dependable W.E. Anderson™ Hi-Flow™ control valves with Lin-E-Aire® air-to-raise actuators combine to provide unsurpassed water flow management. This retort system employs the Hi-Flow™ valve because of its excellent control capabilities, which are necessary for this application. After the cooking process, the valve is opened slowly. Once the desired temperature has been reached, the supply is shut off and any additional cooling is done by use of the hand valve.



**Proximity® Mark Series valve position indicator is perfect for valve position indication on offshore oil rigs**

Proximity® Mark Series position indicator is utilized in valve automation packages in harsh environments. The Mark Series mounts onto the top of rotary valve actuators and connects to the actuator shaft or attaches to the shaft of a linear valve for indicating valve position. Standard with the Mark Series is visual position indication with "OPEN", "CLOSED", and degree position status. The Mark Series is available with continuous position retransmission with a 4 to 20 mA output and up to six adjustable position indication switches for remote indication of valve status. Remote status transmitter is used for indication of exact valve position and switches provide discrete indication of valve open and closed status in the control room. The Mark Series is perfect for this application because of the 316 SS enclosure that withstands the sea spray environment, and the magnetic drive mechanism that completely seals the switch cavity from the environment.

# VALVE TECHNICAL INFORMATION

## TERMINOLOGY

- **Pressure Drop** – The difference in upstream and downstream pressures of the fluid flowing through the valve.
- **Critical Flow** – The flow has reached the point of being choked. At the choked condition the flow rate has hit a maximum limit and does not increase with further increase in pressure drop across the valve.
- **Cv or Valve Flow Coefficient** – The number of U. S. gallons per minute of water at 60°F that will pass through the valve with a pressure drop of 1 psi. For example, a Hi-Flow™ valve with a maximum Cv of 10.75 has an effective port area in the full open position such that it passes 10.75 GPM of water with a pressure drop of 1 psi.
- **Full Port** – The port diameter of the valve is the same diameter as the piping connections.
- **Rangeability** – The ratio of maximum controllable flow to minimum controllable flow of a valve. For example, a valve with a 50 to 1 rangeability and a total flow capacity of 100 GPM at full open controls flow accurately to as low as 2 GPM.
- **Valve Flow Characteristic** – The relationship between the stem travel or rotation of a valve, expressed in percent travel, and the fluid flow through the valve, expressed in percent of full flow.

## CONTROL VALVE SIZING



The Cv method is an accepted way to size control valves. Basic equations are provided as a guide to use in sizing a control valve, and the results of the equations will only be as accurate as the information provided of the flowing conditions. The equations are broken down into the type of media - liquid, gas or steam, and whether or not the flow is critical. The critical flow equations are to be used for vapor flow when the pressure drop across the valve is greater than half of the upstream pressure. As a general guide to avoid cavitation do not size a valve for liquid service where the pressure drop is greater than 50% of the upstream pressure.

## CONTROL VALVE ACTUATOR SIZING



## CONTROL VALVE FLOW



## NOMENCLATURE

- Cv = Valve flow coefficient
- g = Specific gravity of liquid at flowing conditions
- G = Specific gravity of gas at flowing conditions
- P1 = Upstream pressure, psia
- P2 = Downstream pressure, psia
- ΔP = Actual pressure drop (P1-P2), psi
- q = Liquid volumetric flow rate, U.S. GPM
- Q = Gas volumetric flow rate, SCFH
- W = Steam weight (mass) flow rate, LB/HR
- T = Flowing Temperature, °R (460 + °F)

Once the required Cv is determined, selection of the proper size control valve can be obtained by comparing the required Cv to the Cv values for the valve. As a general rule the maximum capacity of a control valve should be 15 to 50% above the maximum process flow, and the minimum required Cv must be within the available rangeability of the valve for proper control. If only the maximum process flow rate was used to calculate Cv, then the percent travel of the valve should be checked and should fall in the range of 65 to 80% of total travel.

## SUB-CRITICAL FLOW

$$\text{Liquid } C_v = q \left( \frac{g}{\Delta P} \right)^{1/2}$$

$$\text{Gas } C_v = \frac{Q}{963} \left( \frac{G \times T}{\Delta P (P_1 + P_2)} \right)^{1/2}$$

$$\text{Steam } C_v = \frac{W}{2.1 [\Delta P (P_1 + P_2)]^{1/2}}$$

## CRITICAL FLOW

Gas or steam where  $\Delta P > \frac{P_1}{2}$

$$C_v = \frac{Q (G \times T)^{1/2}}{750 \times P_1}$$

$$C_v = \frac{W}{1.65 \times P_1}$$

# 2-PIECE NPT STAINLESS STEEL BALL VALVES

Full Port, Vented Ball, Electric or Pneumatic Actuators



WE01-EHD00



WE01-EDA02



WE01-EDA02-AA01



WE01-ETD01-A



WE01-ETI02-A



The **Series WE01 2-Piece NPT Stainless Steel Ball Valves** incorporate a full port valve for great flow rates with minimal pressure drop. The valve features a blowout proof stem for added safety, reinforced PTFE seats and seals for longer life, and a 316 SS (ASTM CF8M) ball for better performance. Actuators are direct mounted creating a compact assembly for tight spaces. Limit switches are able to be mounted directly to the valves allowing for remote position indication.

The Series WE01 can be configured with either an electric or pneumatic actuator. Electric actuators are available in weatherproof or explosion-proof, a variety of supply voltages and two-position or modulating control. Two-position actuators use the supply voltage to drive the valve open or closed, while the modulating actuator accepts a 4-20 mA input for valve positioning. Actuators feature thermal overload protection and permanently lubricated gear train.

The pneumatic double acting actuator uses an air supply to drive the valve open and closed. The actuator has two supply ports, with one driving the valve open and the other driving the valve closed. Spring return pneumatic actuators use the air supply to open the valve and internally loaded springs return the valve to the closed position. Also available is the SN solenoid valve to electrically switch the air supply pressure between the air supply ports for opening and closing the valve. Actuators are constructed of anodized and epoxy coated aluminum for years of corrosion free service.

## FEATURES/BENEFITS

- Capable of being configured to fit any application
- Limit switches can be mounted to manual valves for remote monitoring
- Vented ball to reduce operating torque
- Weatherproof or explosion-proof electric actuators
- Double acting or spring return anodized aluminum pneumatic actuators
- Full port design reduces the pressure drop across the valve

## APPLICATIONS

- Gas or liquid flow control
- Ideal for quick bubble tight shut-off

## SPECIFICATIONS

### VALVE

**Service:** Compatible liquids and gases.

**Body:** 2-piece.

**Line Sizes:** 1/2 to 3".

**End Connections:** Female NPT.

**Pressure Limits:** 28" Hg to 1000 psi (-0.7 to 69 bar) up to 250°F.

**Wetted Materials:** Body and ball: 316 SS (CF8M); Stem: 316 SS; Seat: RTFE/PTFE; Seal; Washer and packing: PTFE.

**Temperature Limits:** -20 to 392°F (-29 to 200°C).

**Other Materials:** O-ring: Fluoroelastomer; Handle: 304 SS; Washer: 301 SS; Stem nut, Locking device, Gland ring: 304 SS; Handle sleeve: PVC.

**Agency Approvals:** Meets the technical requirements of EU Directive 2011/65/ EU (RoHS II).

### ACTUATORS

#### Pneumatic "DA" and "SR" Series

**Type:** DA series is double acting and SR series is spring return (rack and pinion).

**Normal Supply Pressure:** DA: 40 to 115 psi (2.7 to 7.9 bar); SR: 80 psi (5.5 bar).

**Maximum Supply Pressure:** 120 psi (8.6 bar).

**Air Connections:** DA01: 1/8" female NPT; DA02 to DA05: 1/4" female NPT; SR02 to SR07: 1/4" female NPT.

**Housing Material:** Anodized aluminum body and epoxy coated aluminum end caps.

**Temperature Limits:** -40 to 176°F (-40 to 80°C).

**Accessory Mounting:** NAMUR standard.

#### Electric "TD" and "MD" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC (MD models not available in 24 VDC).

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** TD01 4 s; MD01: 10 s; TD02 and MD02: 20 s; TD03 and MD03: 30 s.

**Duty Rating:** 85%.

**Enclosure Rating:** NEMA 4X (IP67).

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -22 to 140°F (-30 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Manual override, position indicator, and TD models come with two limit switches.

#### Electric "TI" and "MI" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC.

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** See instruction manual.

**Duty Rating:** See instruction manual.

**Enclosure Rating:** NEMA 7, designed to meet hazardous locations: Class I, Group C & D; Class II, Group E, F & G; Division I & II.

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -40 to 140°F (-40 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Position indicator and two limit switches.

# 2-PIECE NPT STAINLESS STEEL BALL VALVES

Full Port, Vented Ball, Electric or Pneumatic Actuators

MODEL CHART						
Size	Cv (gal/min)	Popular Hand Operated Model	Popular Double Acting Pneumatic Model	Popular Spring Return Pneumatic Model	Popular NEMA 4X Two Position Electric (110 VAC) Model	Popular NEMA 4X Modulating Electric (110 VAC) Model
1/2"	36.64	WE01-CHD00	WE01-CDA01	WE01-CSR02	WE01-CTD01-A	WE01-CMD01-A
3/4"	67.69	WE01-DHD00	WE01-DDA01	WE01-DSR02	WE01-DTD01-A	WE01-DMD01-A
1"	110.27	WE01-EHD00	WE01-EDA02	WE01-ESR03	WE01-ETD01-A	WE01-EMD01-A
1-1/4"	184.73	WE01-FHD00	WE01-FDA02	WE01-FSR03	WE01-FTD01-A	WE01-FMD01-A
1-1/2"	266.62	WE01-GHD00	WE01-GDA03	WE01-GSR04	WE01-GTD02-A	WE01-GMD01-A
2"	485.3	WE01-HHD00	WE01-HDA03	WE01-HSR05	WE01-HTD02-A	WE01-HMD02-A
2-1/2"	791.57	WE01-IHD00	WE01-IDA04	WE01-ISR07	WE01-ITD03-A	WE01-IMD03-A
3"	1151.95	WE01-JHD00	WE01-JDA05	WE01-JSR07	WE01-JTD03-A	WE01-JMD03-A

MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR						
Example	WE01	-EDA02	-A	A	01	WE01-EDA02-AA01
Series	WE01					316 SS 2-piece NPT
Size and Actuator		CHD00 DHD00 EHD00 FHD00 GHD00 HHD00 IHD00 JHD00 CDA01 DDA01 EDA02 FDA02 GDA03 HDA03 IDA04 JDA05 CSR02 DSR02 ESR03 FSR03 GSR04 HSR05 ISR07 JSR07				1/2" hand operated 3/4" hand operated 1" hand operated 1-1/4" hand operated 1-1/2" hand operated 2" hand operated 2-1/2" hand operated 3" hand operated 1/2" double acting 3/4" double acting 1" double acting 1-1/4" double acting 1-1/2" double acting 2" double acting 2-1/2" double acting 3" double acting 1/2" spring return 3/4" spring return 1" spring return 1-1/4" spring return 1-1/2" spring return 2" spring return 2-1/2" spring return 3" spring return
Solenoid			N A			No solenoid NEMA 4X NAMUR solenoid
Solenoid Voltage				N A B C D E		No solenoid 110 VAC 220 VAC 24 VAC 24 VDC 12 VDC
Positioner and Switches					00 01 02 03 04 06 07 08 09	None 42AD0 exp limit switch 45VD0 exp position transmitter 42AD0-B ATEX limit switch 42AD0-IE IECEX limit switch QV-210101 poly limit switch VPS and P1 prox switch 265ER-D5 positioner 285ER-D5 smart positioner
Options					NO	Fail open spring return actuator

ACCESSORIES	
Model	Description
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster

MODEL CHART - ELECTRIC ACTUATOR				
Example	WE01	-GMD01	-A	WE01-GMD01-A
Series	WE01			316 SS 2-piece NPT
Size and Actuator		CTD01 DTD01 ETD01 FTD01 GTD02 HTD02 ITD03 JTD03 CMD01 DMD01 EMD01 FMD01 GMD01 HMD02 IMD03 JMD03 CTI01 DTI01 ETI02 FTI02 GTI02 HTI04 ITI05 JTI06 CMI01 DMI01 EMI02 FMI02 GMI02 HMI04 IMI05 JMI06		1/2" NEMA 4X two-position 3/4" NEMA 4X two-position 1" NEMA 4X two-position 1-1/4" NEMA 4X two-position 1-1/2" NEMA 4X two-position 2" NEMA 4X two-position 2-1/2" NEMA 4X two-position 3" NEMA 4X two-position 1/2" NEMA 4X modulating 3/4" NEMA 4X modulating 1" NEMA 4X modulating 1-1/4" NEMA 4X modulating 1-1/2" NEMA 4X modulating 2" NEMA 4X modulating 2-1/2" NEMA 4X modulating 3" NEMA 4X modulating 1/2" exp two-position 3/4" exp two-position 1" exp two-position 1-1/4" exp two-position 1-1/2" exp two-position 2" exp two-position 2-1/2" exp two-position 3" exp two-position 1/2" exp electric modulating 3/4" exp electric modulating 1" exp electric modulating 1-1/4" exp electric modulating 1-1/2" exp electric modulating 2" exp electric modulating 2-1/2" exp electric modulating 3" exp electric modulating
Actuator Voltage			A B C D	110 VAC 220 VAC 24 VAC 24 VDC

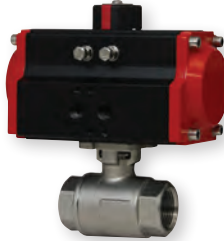
REPAIR KIT	
Model	Valve Series and Size
VRK-02	WE01-1/2"
VRK-03	WE01-3/4"
VRK-04	WE01-1"
VRK-06	WE01-1-1/2"
VRK-07	WE01-2"
VRK-08	WE01-2-1/2"
VRK-09	WE01-3"
Parts List - Included in Kit	
1 PTFE thrust washer	
1 FKM O-ring	
2 PTFE stem packing	
2 PTFE seals	
2 RTFE seats	

# 2-PIECE NPT BRASS BALL VALVES

Full Port, Vented Ball, Electric or Pneumatic Actuators



WE08-EHD00



WE08-EDA02



WE08-ETD01-A



WE08-ETI02-A



The **Series WE08 2-Piece NPT Brass Ball Valves** incorporate a full port 2-piece brass ball valve for great flow rates with minimal pressure drop. The valve features a blowout proof stem for added safety, reinforced PTFE seats and seals for longer life, and a brass ball for better performance. Actuators are direct mounted creating a compact assembly for tight spaces.

The Series WE08 can be configured with either an electric or pneumatic actuator. Electric actuators are available in weatherproof or explosion-proof, a variety of supply voltages, and two-position or modulating control. Two-position actuators use the supply voltage to drive the valve open or closed, while the modulating actuator accepts a 4-20 mA input for valve positioning. Actuators feature thermal overload protection and permanently lubricated gear train.

The pneumatic double acting actuator uses an air supply to drive the valve open and closed. The actuator has two supply ports, with one driving the valve open and the other driving the valve closed. Spring return pneumatic actuators use the air supply to open the valve and internally loaded springs return the valve to the closed position. Also, between the air supply ports for opening and closing the valve, actuators are constructed of anodized and epoxy coated aluminum for years of corrosion free service.

## FEATURES/BENEFITS

- Capable of being configured to fit any application
- Limit switches can be mounted to manual valves for remote monitoring
- Vented ball to reduce operating torque
- Weatherproof or explosion-proof electric actuators
- Double acting or spring return anodized aluminum pneumatic actuators
- Full port design reduces the pressure drop across the valve

## APPLICATIONS

- Gas or liquid flow control
- Ideal for quick bubble tight shut-off

## SPECIFICATIONS

### VALVE

**Service:** Compatible liquids and gases.

**Body:** 2-piece.

**Line Sizes:** 1/2 to 2".

**End Connections:** Female NPT.

**Pressure Limits:** 600 psi (41 bar) WOG.

**Wetted Materials:** Body, ball, and stem: Brass; Seat, seal, and packing: PTFE.

**Temperature Limits:** -20 to 425°F (-30 to 220°C).

**Other Materials:** O-ring: NBR; Handle, stem nut, ferrule: SS; Handle sleeve: Vinyl; Body and cap: Nickel plated.

**Agency Approvals:** Meets the technical requirements of EU Directive 2011/65/ EU (RoHS II).

### ACTUATORS

#### Pneumatic "DA" and "SR" Series

**Type:** DA series is a double acting and SR series is a spring return (rack and pinion).

**Normal Supply Pressure:** DA: 40 to 115 psi (2.7 to 7.9 bar); SR: 80 psi (5.5 bar).

**Maximum Supply Pressure:** 120 psi (8.6 bar).

**Air Connections:** DA02 to DA03: 1/4" female NPT; SR02 to SR04: 1/4" female NPT.

**Housing Material:** Anodized aluminum body and epoxy coated aluminum end caps.

**Temperature Limits:** -40 to 176°F (-40 to 80°C).

**Accessory Mounting:** NAMUR standard.

#### Electric "TD" and "MD" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC, or 24 VDC (MD models not available in 24 VDC).

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** TD01 4 s; MD01: 10 s; TD02: 20 s).

**Duty Rating:** 85%.

**Enclosure Rating:** NEMA 4X (IP67).

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -22 to 140°F (-30 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Manual override, position indicator, and TD models come with two limit switches.

#### Electric "TI" and "MI" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC, 24 VDC.

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** See instruction manual.

**Duty Rating:** See instruction manual.

**Enclosure Rating:** NEMA 7, designed to meet hazardous locations: Class I, Group C & D; Class II, Group E, F & G; Division I & II.

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -40 to 140°F (-40 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Position indicator and two limit switches.



# 2-PIECE NPT BRASS BALL VALVES

Full Port, Vented Ball, Electric or Pneumatic Actuators

MODEL CHART						
Size	Cv (gal/min)	Popular Hand Operated Model	Popular Double Acting Pneumatic Model	Popular Spring Return Pneumatic Model	Popular NEMA 4X Two Position Electric (110 VAC) Model	Popular NEMA 4X Modulating Electric (110 VAC) Model
1/2"	16	WE08-CHD00	WE08-CDA02	WE08-CSR02	WE08-CTD01-A	WE08-CMD01-A
3/4"	40	WE08-DHD00	WE08-DDA02	WE08-DSR03	WE08-DTD01-A	WE08-DMD01-A
1"	65	WE08-EHD00	WE08-EDA02	WE08-ESR03	WE08-ETD01-A	WE08-EMD01-A
1-1/4"	90	WE08-FHD00	WE08-FDA03	WE08-FSR03	WE08-FTD01-A	WE08-FMD01-A
1-1/2"	135	WE08-GHD00	WE08-GDA03	WE08-GSR03	WE08-GTD01-A	WE08-GMD01-A
2"	251	WE08-HHD00	WE08-HDA03	WE08-HSR04	WE08-HTD02-A	WE08-HMD01-A

MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR						
Example	WE08	-EDA02	-A	A	01	WE08-EDA02-AA01
Series	WE08					Brass 2-piece NPT
Size and Actuator		CHD00 DHD00 EHD00 FHD00 GHD00 HHD00 CDA02 DDA02 EDA02 FDA03 GDA03 HDA03 CSR02 DSR03 ESR03 FSR03 GSR03 HSR04				1/2" hand operated 3/4" hand operated 1" hand operated 1-1/4" hand operated 1-1/2" hand operated 2" hand operated 1/2" double acting 3/4" double acting 1" double acting 1-1/4" double acting 1-1/2" double acting 2" double acting 1/2" spring return 3/4" spring return 1" spring return 1-1/4" spring return 1-1/2" spring return 2" spring return
Solenoid			N A			No solenoid NEMA 4X NAMUR solenoid
Solenoid Voltage				N A B C D E		No solenoid 110 VAC 220 VAC 24 VAC 24 VDC 12 VDC
Positioner and Switches					00 01 02 03 06 07 08 09	None 42AD0 exp limit switch 45VD0 exp position transmitter 42AD0-B ATEX limit switch QV-210101 poly limit switch VPS and P1 prox switch 265ER-D5 positioner 285ER-D5 smart positioner
Options					NO	Fail open spring return actuator

MODEL CHART - ELECTRIC ACTUATOR				
Example	WE08	-GMD01	-A	WE08-GMD01-A
Series	WE08			Brass 2-piece NPT
Size and Actuator		CTD01 DTD01 ETD01 FTD01 GTD01 HTD02 CMD01 DMD01 EMD01 FMD01 GMD01 HMD01 CTI01 DTI01 ETI02 FTI02 GTI02 HTI03 CMI01 DMI01 EMI02 FMI02 GMI02 HMI03		1/2" electric two-position 3/4" electric two-position 1" electric two-position 1-1/4" electric two-position 1-1/2" electric two-position 2" electric two-position 1/2" electric modulating 3/4" electric modulating 1" electric modulating 1-1/4" electric modulating 1-1/2" electric modulating 2" electric modulating 1/2" exp electric two-position 3/4" exp electric two-position 1" exp electric two-position 1-1/4" exp electric two-position 1-1/2" exp electric two-position 2" exp electric two-position 1/2" exp electric two-position 3/4" exp electric two-position 1" exp electric two-position 1-1/4" exp electric two-position 1-1/2" exp electric two-position 2" exp electric two-position
Actuator Voltage			A B C D	110 VAC 220 VAC 24 VAC 24 VDC

ACCESSORIES	
Model	Description
AFR4	Air filter regulator, 0 to 120 psi

# 3-PIECE NPT STAINLESS STEEL BALL VALVES

Full Port, Vented Ball, Electric or Pneumatic Actuators



WE02-DHD00



WE02-DDA01



WE02-DDA01-AA01



WE02-DTD01-A



WE02-CTI01-A



The **Series WE02 3-Piece NPT Stainless Steel Ball Valves** incorporate a full port valve for great flow rates with minimal pressure drop. The valve features a blowout proof stem for added safety, reinforced PTFE seats and seals for longer life, and a 316 SS (ASTM CF8M) ball for better performance. Actuators are direct mounted creating a compact assembly for tight spaces. Limit switches are able to be mounted directly to the valves allowing for remote position indication.

The Series WE02 can be configured with either an electric or pneumatic actuator. Electric actuators are available in weatherproof or explosion-proof, a variety of supply voltages and two-position or modulating control. Two-position actuators use the supply voltage to drive the valve open or closed, while the modulating actuator accepts a 4-20 mA input for valve positioning. Actuators feature thermal overload protection and permanently lubricated gear train.

The pneumatic double acting actuator uses an air supply to drive the valve open and closed. The actuator has two supply ports, with one driving the valve open and the other driving the valve closed. Spring return pneumatic actuators use the air supply to open the valve, and internally loaded springs return the valve to the closed position. Also available is the SN solenoid valve to electrically switch the air supply pressure between the air supply ports for opening and closing the valve. Actuators are constructed of anodized and epoxy coated aluminum for years of corrosion free service.

## FEATURES/BENEFITS

- Capable of being configured to fit any application
- Limit switches can be mounted to manual valves for remote monitoring
- Vented ball to reduce operating torque
- Weatherproof or explosion-proof electric actuators
- Double acting or spring return anodized aluminum pneumatic actuators
- 3-piece design for each replacement of seals
- Full port design reduces the pressure drop across the valve

## APPLICATIONS

- Gas or liquid flow control
- Ideal for quick bubble tight shut-off

## SPECIFICATIONS

### VALVE

**Service:** Compatible liquids and gases.

**Body:** 3-piece.

**Line Sizes:** 1/2 to 3" .

**End Connections:** Female NPT.

**Pressure Limits:** 28" Hg to 1000 psi (-0.7 to 69 bar) up to 250°F.

**Wetted Materials:** Body and ball: 316 SS (CF8M); Stem: 316 SS; Seat: RTFE/PTFE; Seal, washer, and packing: PTFE.

**Temperature Limits:** -20 to 392°F (-29 to 200°C).

**Other Materials:** O-ring: Fluoroelastomer; Handle: 304 SS; Washer: 301 SS; Stem nut, Locking device, Gland ring: 304 SS; Handle sleeve: PVC.

**Agency Approvals:** Meets the technical requirements of EU Directive 2011/65/ EU (RoHS II).

### ACTUATORS

#### Pneumatic "DA" and "SR" Series

**Type:** DA series is double acting and SR series is spring return (rack and pinion).

**Normal Supply Pressure:** DA: 40 to 115 psi (2.7 to 7.9 bar); SR: 80 psi (5.5 bar).

**Maximum Supply Pressure:** 120 psi (8.6 bar).

**Air Connections:** DA01: 1/8" female NPT; DA02 to DA05: 1/4" female NPT; SR02 to SR07: 1/4" female NPT.

**Housing Material:** Anodized aluminum body and epoxy coated aluminum end caps.

**Temperature Limits:** -40 to 176°F (-40 to 80°C).

**Accessory Mounting:** NAMUR standard.

#### Electric "TD" and "MD" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC (MD models not available in 24 VDC).  
**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** TD01: 4 s; MD01: 10 s; TD02 and MD02: 20 s; TD03 and MD03: 30 s.

**Duty Rating:** 85%.

**Enclosure Rating:** NEMA 4X (IP67).  
**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -22 to 140°F (-30 to 60°C).

**Electrical Connection:** 1/2" female NPT.  
**Modulating Input:** 4-20 mA.

**Standard Features:** Manual override, position indicator, and TD models come with two limit switches.

#### Electric "TI" and "MI" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC.  
**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** See instruction manual.

**Duty Rating:** See instruction manual.  
**Enclosure Rating:** NEMA 7, designed to meet hazardous locations: Class I, Group C & D; Class II, Group E, F & G; Division I & II.

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -40 to 140°F (-40 to 60°C).

**Electrical Connection:** 1/2" female NPT.  
**Modulating Input:** 4-20 mA.

**Standard Features:** Position indicator and two limit switches.

# 3-PIECE NPT STAINLESS STEEL BALL VALVES

Full Port, Vented Ball, Electric or Pneumatic Actuators

MODEL CHART						
Size	Cv (gal/min)	Popular Hand Operated Model	Popular Double Acting Pneumatic Model	Popular Spring Return Pneumatic Model	Popular NEMA 4X Two Position Electric (110 VAC) Model	Popular NEMA 4X Modulating Electric (110 VAC) Model
1/2"	36.64	WE02-CHD00	WE02-CDA01	WE02-CSR02	WE02-CTD01-A	WE02-CMD01-A
3/4"	67.69	WE02-DHD00	WE02-DDA01	WE02-DSR02	WE02-DTD01-A	WE02-DMD01-A
1"	110.27	WE02-EHD00	WE02-EDA02	WE02-ESR03	WE02-ETD01-A	WE02-EMD01-A
1-1/4"	184.73	WE02-FHD00	WE02-FDA02	WE02-FSR03	WE02-FTD01-A	WE02-FMD01-A
1-1/2"	266.62	WE02-GHD00	WE02-GDA03	WE02-GSR04	WE02-GTD02-A	WE02-GMD01-A
2"	485.3	WE02-HHD00	WE02-HDA03	WE02-HSR05	WE02-HTD02-A	WE02-HMD02-A
2-1/2"	791.57	WE02-IHD00	WE02-IDA04	WE02-ISR07	WE02-ITD03-A	WE02-IMD03-A
3"	1151.95	WE02-JHD00	WE02-JDA05	WE02-JSR07	WE02-JTD03-A	WE02-JMD03-A

MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR						
Example	WE02	-CSR02	-N	N	09	WE02-CSR02-NN09
Series	WE02					316 SS 3-piece NPT
Size and Actuator		CHD00				1/2" hand operated
		DHD00				3/4" hand operated
		EHD00				1" hand operated
		FHD00				1-1/4" hand operated
		GHD00				1-1/2" hand operated
		HHD00				2" hand operated
		IHD00				2-1/2" hand operated
		JHD00				3" hand operated
		CDA01				1/2" double acting
		DDA01				3/4" double acting
		EDA02				1" double acting
		FDA02				1-1/4" double acting
		GDA03				1-1/2" double acting
		HDA03				2" double acting
		IDA04				2-1/2" double acting
		JDA05				3" double acting
	Solenoid		CSR02			
		DSR02				3/4" spring return
		ESR03				1" spring return
		FSR03				1-1/4" spring return
		GSR04				1-1/2" spring return
		HSR05				2" spring return
		ISR07				2-1/2" spring return
		JSR07				3" spring return
			N			No solenoid
			A			NEMA 4X NAMUR solenoid
Solenoid Voltage				N		No solenoid
				A		110 VAC
				B		220 VAC
				C		24 VAC
				D		24 VDC
Positioner and Switches					00	None
					01	42AD0 exp limit switch
					02	45VD0 exp position transmitter
					03	42AD0-B ATEX limit switch
					04	42AD0-IE IECEX limit switch
					06	QV-210101 poly limit switch
					07	VPS and P1 prox switch
Options					08	265ER-D5 positioner
					09	285ER-D5 smart positioner
					NO	Fail open spring return actuator

ACCESSORIES	
Model	Description
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster

MODEL CHART - ELECTRIC ACTUATOR				
Example	WE02	-ETD01	-B	WE02-ETD01-B
Series	WE02			316 SS 3-piece NPT
Size and Actuator		CTD01		1/2" NEMA 4X two-position
		DTD01		3/4" NEMA 4X two-position
		ETD01		1" NEMA 4X two-position
		FTD01		1-1/4" NEMA 4X two-position
		GTD02		1-1/2" NEMA 4X two-position
		HTD02		2" NEMA 4X two-position
		ITD03		2-1/2" NEMA 4X two-position
		JTD03		3" NEMA 4X two-position
		CMD01		1/2" NEMA 4X modulating
		DMD01		3/4" NEMA 4X modulating
		EMD01		1" NEMA 4X modulating
		FMD01		1-1/4" NEMA 4X modulating
		GMD01		1-1/2" NEMA 4X modulating
		HMD02		2" NEMA 4X modulating
		IMD03		2-1/2" NEMA 4X modulating
		JMD03		3" NEMA 4X modulating
	Actuator Voltage		CTI01	
		DTI01		3/4" exp two-position
		ETI02		1" exp two-position
		FTI02		1-1/4" exp two-position
		GTI03		1-1/2" exp two-position
		HTI04		2" exp two-position
		ITI05		2-1/2" exp two-position
		JTI05		3" exp two-position
		CMI01		1/2" exp electric modulating
		DMI01		3/4" exp electric modulating
		EMI02		1" exp electric modulating
		FMI02		1-1/4" exp electric modulating
		GMI03		1-1/2" exp electric modulating
		HMI04		2" exp electric modulating
		IMI05		2-1/2" exp electric modulating
	JMI05		3" exp electric modulating	
		A	110 VAC	
		B	220 VAC	
		C	24 VAC	
		D	24 VDC	

REPAIR KIT	
Model	Valve Series and Size
VRK-10	WE02-1/2"
VRK-11	WE02-3/4"
VRK-12	WE02-1"
VRK-14	WE02-1-1/2"
VRK-15	WE02-2"
VRK-16	WE02-2-1/2"
VRK-17	WE02-3"
Parts List - Included in Kit	
1 PTFE thrust washer	
1 FKM O-ring	
2 PTFE stem packing	
2 PTFE seals	
2 RTFE seats	

# 3-PIECE TRI-CLAMP STAINLESS STEEL BALL VALVES

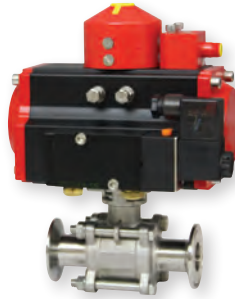
Cavity Filled, Full Port, Electric or Pneumatic Actuators



WE03-DHD00



WE03-DDA01



WE03-DDA01-AA07



WE03-DDA01-AA06



WE03-DTD01-A



The **Series WE03 3-Piece Tri-Clamp Stainless Steel Ball Valves** incorporate a full port 3-piece tri-clamp SS ball valve for great flow rates with minimal pressure drop. The valve features a blowout proof stem for added safety, reinforced PTFE seats and seals for longer life, and a 316 SS (ASTM CF8M) ball for better performance. Actuators are direct mounted creating a compact assembly for tight spaces. Limit switches are able to be mounted directly to the valves allowing for remote position indication.

The Series WE03 can be configured with either an electric or pneumatic actuator. Electric actuators are available in weatherproof or explosion-proof, a variety of supply voltages and two-position or modulating control. Two-position actuators use the supply voltage to drive the valve open or closed, while the modulating actuator accepts a 4-20 mA input for valve positioning. Actuators feature thermal overload protection and permanently lubricated gear train.

The pneumatic double acting actuator uses an air supply to drive the valve open and closed. The actuator has two supply ports with one driving the valve open and the other driving the valve closed. Spring return pneumatic actuators use the air supply to open the valve and internally loaded springs return the valve to the closed position. Also available is the SN solenoid valve to electrically switch the air supply pressure between the air supply ports for opening and closing the valve. Actuators are constructed of anodized and epoxy coated aluminum for years of corrosion free service.

## FEATURES/BENEFITS

- Capable of being configured to fit any application
- Limit switches can be mounted to manual valves for remote monitoring
- Cavity filled valve for sanitary applications
- Weatherproof or explosion-proof electric actuators
- Double acting or spring return anodized aluminum pneumatic actuators
- Full port design reduces the pressure drop across the valve

## APPLICATIONS

- Gas or liquid flow control
- Ideal for quick bubble tight shut-off
- Designed for food and beverage applications

## SPECIFICATIONS

### VALVE

**Service:** Compatible liquids and gases.

**Body:** 3-piece.

**Line Sizes:** 1/2 to 2".

**End Connections:** Tri-clamp ends.

**Pressure Limits:** 28" Hg to 1000 psi (-0.7 to 69 bar) up to 250°F.

**Wetted Materials:** Body and ball: 316 SS (CF8M); Stem: 316 SS; Seat: RTFE/PTFE; Seal, washer, and packing: PTFE.

**Temperature Limits:** -20 to 392°F (-29 to 200°C).

**Other Materials:** O-ring: Fluoroelastomer; Handle: 304 SS; Washer: 301 SS; Stem nut, Locking device, Gland ring: 304 SS; Handle sleeve: PVC.

**Agency Approvals:** Meets the technical requirements of EU Directive 2011/65/ EU (RoHS II).

### ACTUATORS

#### Pneumatic "DA" and "SR" Series

**Type:** DA series is double acting and SR series is spring return (rack and pinion).

**Normal Supply Pressure:** DA: 40 to 115 psi (2.7 to 7.9 bar); SR: 80 psi (5.5 bar).

**Maximum Supply Pressure:** 120 psi (8.6 bar).

**Air Connections:** DA01: 1/8" female NPT; DA02: 1/4" female NPT; SR02 to SR04: 1/4" female NPT.

**Housing Material:** Anodized aluminum body and epoxy coated aluminum end caps.

**Temperature Limits:** -40 to 176°F (-40 to 80°C).

**Accessory Mounting:** NAMUR standard.

#### Electric "TD" and "MD" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC (MD models not available in 24 VDC).  
**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** TD01: 4 s; MD01: 10 s; TD02 and MD02: 20 s.

**Duty Rating:** 85%.

**Enclosure Rating:** NEMA 4X (IP67).

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -22 to 140°F (-30 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Manual override, position indicator, and TD models come with two limit switches.

#### Electric "TI" and "MI" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC.

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** See instruction manual.

**Duty Rating:** See instruction manual.

**Enclosure Rating:** NEMA 7, designed to meet hazardous locations: Class I, Group C & D; Class II, Group E, F & G; Division I & II.

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -40 to 140°F (-40 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Position indicator and two limit switches.

# 3-PIECE TRI-CLAMP STAINLESS STEEL BALL VALVES

Cavity Filled, Full Port, Electric or Pneumatic Actuators

MODEL CHART						
Size	Cv (gal/min)	Popular Hand Operated Model	Popular Double Acting Pneumatic Model	Popular Spring Return Pneumatic Model	Popular NEMA 4X Two Position Electric (110 VAC) Model	Popular NEMA 4X Modulating Electric (110 VAC) Model
1/2"	14.39	WE03-CHD00	WE03-CDA01	WE03-CSR02	WE03-CTD01-A	WE03-CMD01-A
3/4"	42.25	WE03-DHD00	WE03-DDA01	WE03-DSR02	WE03-DTD01-A	WE03-DMD01-A
1"	86.17	WE03-EHD00	WE03-EDA02	WE03-ESR03	WE03-ETD01-A	WE03-EMD01-A
1-1/2"	223.61	WE03-GHD00	WE03-GDA02	WE03-GSR04	WE03-GTD01-A	WE03-GMD01-A
2"	437.98	WE03-HHD00	WE03-HDA02	WE03-HSR04	WE03-HTD02-A	WE03-HMD02-A

MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR						
Example	WE03	-EDA02	-A	A	06	WE03-EDA02-AA06
Series	WE03					316 SS 3-piece tri-clamp
Size and Actuator		CHD00				1/2" hand operated
		DHD00				3/4" hand operated
		EHD00				1" hand operated
		GHD00				1-1/2" hand operated
		HHD00				2" hand operated
		CDA01				1/2" double acting
		DDA01				3/4" double acting
		EDA02				1" double acting
		GDA02				1-1/2" double acting
		HDA02				2" double acting
		CSR02				1/2" spring return
		DSR02				3/4" spring return
		ESR03				1" spring return
		GSR04				1-1/2" spring return
	HSR04				2" spring return	
Solenoid			N			No solenoid
			A			NEMA 4X NAMUR solenoid
Solenoid Voltage				N		No solenoid
				A		110 VAC
				B		220 VAC
				C		24 VAC
				D		24 VDC
Positioner and Switches					00	None
					01	42AD0 exp limit switch
					02	45VD0 exp position transmitter
					03	42AD0-B ATEX limit switch
					04	42AD0-IE IECEX limit switch
					06	QV-210101 poly limit switch
					07	VPS and P1 prox switch
Options					08	265ER-D5 positioner
					09	285ER-D5 smart positioner
					NO	Fail open spring return actuator

ACCESSORIES	
Model	Description
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster

MODEL CHART - ELECTRIC ACTUATOR				
Example	WE03	-CMD01	-A	WE03-CMD01-A
Series	WE03			316 SS 3-piece tri-clamp
Size and Actuator		CTD01		1/2" NEMA 4X two-position
		DTD01		3/4" NEMA 4X two-position
		ETD01		1" NEMA 4X two-position
		GTD01		1-1/2" NEMA 4X two-position
		HTD02		2" NEMA 4X two-position
		CMD01		1/2" NEMA 4X modulating
		DMD01		3/4" NEMA 4X modulating
		EMD01		1" NEMA 4X modulating
		GMD01		1-1/2" NEMA 4X modulating
		HMD02		2" NEMA 4X modulating
		CTI01		1/2" exp two-position
		DTI01		3/4" exp two-position
		ETI02		1" exp two-position
		GTI02		1-1/2" exp two-position
		HTI02		2" exp two-position
	Actuator Voltage			A
			B	220 VAC
			C	24 VAC
			D	24 VDC

REPAIR KIT	
Model	Valve Series and Size
VRK-19	WE03-1/2"
VRK-20	WE03-3/4"
VRK-21	WE03-1"
VRK-22	WE03-1-1/2"
VRK-23	WE03-2"
Parts List - Included in Kit	
1 PTFE thrust washer	
1 FKM O-ring	
2 PTFE stem packing	
2 PTFE seats	

# 2-PIECE FLANGED STAINLESS STEEL BALL VALVES

## 150# ANSI Flange, Vented Ball, Electric or Pneumatic Actuators



WE04-DHD00



WE04-DDA02-AA03



WE04-DDA02-NN09



WE04-DTD01-A



WE04-CTI01-A



The **Series WE04 2-Piece Flanged Stainless Steel Ball Valves** incorporate a full port 2-piece flanged SS ball valve for great flow rates with minimal pressure drop. The valve features a blowout proof stem for added safety, reinforced PTFE seats and seals for longer life, and a 316 SS (ASTM CF8M) ball for better performance. Actuators are direct mounted creating a compact assembly for tight spaces. Limit switches are able to be mounted directly to the valves allowing for remote position indication.

The Series WE04 can be configured with either a pneumatic or electric actuator. Electric actuators are available in weatherproof or explosion-proof, a variety of supply voltages, and two-position or modulating control. Two-position actuators use the supply voltage to drive the valve open or closed, while the modulating actuator accepts a 4-20 mA input for valve positioning. Actuators feature thermal overload protection and permanently lubricated gear train.

The pneumatic double acting actuator uses an air supply to drive the valve open and closed. The actuator has two supply ports, with one driving the valve open, and the other driving the valve closed. Spring return pneumatic actuators use the air supply to open the valve, and internally loaded springs return the valve to the closed position. Also available is the SN solenoid valve to electrically switch the air supply pressure between the air supply ports for opening and closing the valve. Actuators are constructed of anodized and epoxy coated aluminum for years of corrosion free service.

### FEATURES/BENEFITS

- Capable of being configured to fit any application
- Limit switches can be mounted to manual valves for remote monitoring
- Vented ball to reduce operating torque
- Weatherproof or explosion-proof electric actuators
- Double acting or spring return anodized aluminum pneumatic actuators
- Eliminates threads and reduces installation and maintenance time
- Full port design reduces the pressure drop across the valve

### APPLICATIONS

- Gas or liquid flow control
- Ideal for quick bubble tight shut-off

### SPECIFICATIONS

#### VALVE

**Service:** Compatible liquids and gases.

**Body:** 2-piece.

**Line Sizes:** 1/2 to 3"

**End Connections:** 150# ANSI flange.

**Pressure Limits:** 28" Hg to 275 psi (-0.7 to 19 bar) up to 392°F.

**Wetted Materials:** Body and ball: 316 SS (CF8M); Stem: 316 SS; Seat: RTFE/PTFE; Seal, washer, and packing: PTFE.

**Temperature Limits:** -20 to 392°F (-29 to 200°C).

**Other Materials:** O-ring: Fluoroelastomer; Handle: 304 SS; Washer: 301 SS; Stem nut, Locking device, Gland ring: 304 SS; Handle sleeve: PVC.

**Agency Approvals:** Meets the technical requirements of EU Directive 2011/65/ EU (RoHS II).

#### ACTUATORS

##### Pneumatic "DA" and "SR" Series

**Type:** DA series is double acting and SR series is spring return (rack and pinion).

**Normal Supply Pressure:** DA: 40 to 115 psi (2.7 to 7.9 bar); SR: 80 psi (5.5 bar).

**Maximum Supply Pressure:** 120 psi (8.6 bar).

**Air Connections:** DA01: 1/8" female NPT; DA02 to DA04: 1/4" female NPT; SR02 to SR06: 1/4" female NPT.

**Housing Material:** Anodized aluminum body and epoxy coated aluminum end caps.

**Temperature Limits:** -40 to 176°F (-40 to 80°C).

**Accessory Mounting:** NAMUR standard.

##### Electric "TD" and "MD" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 240 VDC (MD models not available in 24 VDC).

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** TD01: 4 s; MD01: 10 s; TD02 and MD02: 20 s; TD03 and MD03: 30 s.

**Duty Rating:** 85%.

**Enclosure Rating:** NEMA 4X (IP67).  
**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -22 to 140°F (-30 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Manual override, position indicator, and TD models come with two limit switches.

##### Electric "TI" and "MI" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC.

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** See instruction manual.

**Duty Rating:** See instruction manual.

**Enclosure Rating:** NEMA 7, designed to meet hazardous locations: Class I, Group C & D; Class II, Group E, F & G; Division I & II.

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -40 to 140°F (-40 to 60°C).

**Electrical Connection:** 1/2" NPT female.

**Modulating Input:** 4-20 mA.

**Standard Features:** Position indicator and two limit switches.

# 2-PIECE FLANGED STAINLESS STEEL BALL VALVES

150# ANSI Flange, Vented Ball, Electric or Pneumatic Actuators

MODEL CHART						
Size	Cv (gal/min)	Popular Hand Operated Model	Popular Double Acting Pneumatic Model	Popular Spring Return Pneumatic Model	Popular NEMA 4X Two Position Electric (110 VAC) Model	Popular NEMA 4X Modulating Electric (110 VAC) Model
1/2"	36.64	WE04-CHD00	WE04-CDA01	WE04-CSR02	WE04-CTD01-A	WE04-CMD01-A
3/4"	67.69	WE04-DHD00	WE04-DDA01	WE04-DSR02	WE04-DTD01-A	WE04-DMD01-A
1"	101.63	WE04-EHD00	WE04-EDA03	WE04-ESR03	WE04-ETD01-A	WE04-EMD01-A
1-1/2"	266.62	WE04-GHD00	WE04-GDA03	WE04-GSR04	WE04-GTD02-A	WE04-GMD01-A
2"	485.3	WE04-HHD00	WE04-HDA03	WE04-HSR05	WE04-HTD02-A	WE04-HMD02-A
2-1/2"	816.9	WE04-IHD00	WE04-IDA04	WE04-ISR06	WE04-ITD03-A	WE04-IMD03-A
3"	1121.84	WE04-JHD00	WE04-JDA04	WE04-JSR06	WE04-JTD03-A	WE04-JMD03-A

MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR						
Example	WE04	-GDA03	-A	B	05	
Series	WE04					316 SS 2-piece flanged
Size and Actuator		CHD00 DHD00 EHD00 GHD00 HHD00 IHD00 JHD00 CDA01 DDA01 EDA03 GDA03 HDA03 IDA04 JDA04 CSR02 DSR02 ESR03 GSR04 HSR05 ISR06 JSR06				1/2" hand operated 3/4" hand operated 1" hand operated 1-1/2" hand operated 2" hand operated 2-1/2" hand operated 3" hand operated 1/2" double acting 3/4" double acting 1" double acting 1-1/2" double acting 2" double acting 2-1/2" double acting 3" double acting 1/2" spring return 3/4" spring return 1" spring return 1-1/2" spring return 2" spring return 2-1/2" spring return 3" spring return
Solenoid			N A			No solenoid NEMA 4X NAMUR solenoid
Solenoid Voltage				N A B C D E		No solenoid 110 VAC 220 VAC 24 VAC 24 VDC 12 VDC
Positioner and Switches					00 01 02 03 04 06 07 08 09	None 42AD0 exp limit switch 45VD0 exp position transmitter 42AD0-B ATEX limit switch 42AD0-IE IECEX limit switch QV-210101 poly limit switch VPS and P1 prox switch 265ER-D5 positioner 285ER-D5 smart positioner
Options					NO	Fail open spring return actuator

ACCESSORIES	
Model	Description
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster

MODEL CHART - ELECTRIC ACTUATOR				
Example	WE04	-ITD03	-B	
Series	WE04			316 SS 2-piece flanged
Size and Actuator		CTD01 DTD01 ETD01 GTD02 HTD02 ITD03 JTD03 CMD01 DMD01 EMD01 GMD01 HMD02 IMD03 JMD03 CTI01 DTI01 ETI02 GTI03 HTI04 ITI04 JTI05 CMI01 DMI01 EMI02 GMI03 HMI04 IMI04 JMI05		1/2" NEMA 4X two-position 3/4" NEMA 4X two-position 1" NEMA 4X two-position 1-1/2" NEMA 4X two-position 2" NEMA 4X two-position 2-1/2" NEMA 4X two-position 3" NEMA 4X two-position 1/2" NEMA 4X modulating 3/4" NEMA 4X modulating 1" NEMA 4X modulating 1-1/2" NEMA 4X modulating 2" NEMA 4X modulating 2-1/2" NEMA 4X modulating 3" NEMA 4X modulating 1/2" exp two-position 3/4" exp two-position 1" exp two-position 1-1/2" exp two-position 2" exp two-position 2-1/2" exp two-position 3" exp two-position 1/2" exp electric modulating 3/4" exp electric modulating 1" exp electric modulating 1-1/2" exp electric modulating 2" exp electric modulating 2-1/2" exp electric modulating 3" exp electric modulating
Actuator Voltage			A B C D	110 VAC 220 VAC 24 VAC 24 VDC

REPAIR KIT	
Model	Valve Series and Size
VRK-27	WE04-1/2"
VRK-28	WE04-3/4"
VRK-29	WE04-1"
VRK-31	WE04-1-1/2"
VRK-32	WE04-2"
VRK-33	WE04-2-1/2"
VRK-34	WE04-3"
Parts List - Included in Kit	
1 PTFE thrust washer	
1 FKM O-ring	
2 PTFE stem packing	
2 PTFE seals	
2 RTFE seats	

# 3-PIECE SOCKET WELD STAINLESS STEEL BALL VALVES

Full Port, Vented Ball, Electric or Pneumatic Actuators



WE05-EHD00



WE05-FDA02



WE05-DDA01-AA01



WE05-JTD03-A



WE05-ITI05-B



The Series WE05 3-Piece Socket Weld Stainless Steel Ball Valves offer the best possible design for socket weld ball valves. The swing out body feature and seat arrangement allow for trouble-free welding installation. The Series WE05 incorporates a full port 3-piece SS ball valve for ideal flow rates with minimal pressure drop. The valve features a blowout proof stem for added safety, reinforced PTFE seats and seals for longer life, and a 316 SS (ASTM CF8M) ball for better performance.

Actuators are directly mounted creating a compact assembly for tight spaces. Limit switches can be mounted directly to the valves, allowing for remote position indication. The Series WE05 can be configured with either an electric or pneumatic actuator. Electric actuators are available in weatherproof or explosion-proof, a variety of supply voltages and two-position modulating control. Two-position actuators use the supply voltage to drive the valve open or close, while the modulating actuator accepts a 4-20 mA input for valve positioning. Actuators feature thermal overload protection and a permanently lubricated gear train.

The pneumatic double acting actuator uses an air supply to drive the valve open and closed. The actuator has two supply ports with one driving the valve open and the other driving the valve closed. Spring return pneumatic actuators use the air supply to open the valve and internally loaded springs return the valve to the closed position. Also available is the SV3 solenoid valve to electrically switch the air supply pressure between the air supply ports for opening and closing the valve. Actuators are constructed of anodized and epoxy coated aluminum for years of corrosion free service.

## FEATURES/BENEFITS

- Socket weld ends
- Capable of being configured to fit any application
- Limit switches can be mounted to manual valves for remote monitoring
- Available with a variety of electric and pneumatic actuators

## APPLICATIONS

- Gas or liquid flow control

## SPECIFICATIONS

### VALVE

**Service:** Compatible liquids and gases.

**Body:** 3-piece.

**Line Sizes:** 1/2 to 3".

**End Connections:** Socket weld.

**Pressure Limits:** 20" Hg to 1000 psi (-0.7 to 69 bar) up to 250°F.

**Wetted Materials:** Body and ball: 316 SS (CF8M); Stem: 316 SS; Seat: RTFE/PTFE; Seal, washer, and packing: PTFE.

**Temperature Limits:** -20 to 392°F (-29 to 200°C).

**Other Materials:** O-ring: Fluoroelastomer; Handle: 304 SS; Washer: 301 SS; Stem nut, Locking device, Gland ring: 304 SS; Handle sleeve: PVC.

**Agency Approvals:** Meets the technical requirements of EU Directive 2011/65/EU (RoHS II).

### ACTUATORS

#### Pneumatic "DA" and "SR" Series

**Type:** DA series is double acting and SR series is spring return (rack and pinion).

**Normal Supply Pressure:** DA: 40 to 115 psi (2.7 to 7.9 bar); SR: 80 psi (5.5 bar).

**Maximum Supply Pressure:** 120 psi (8.6 bar).

**Air Connections:** DA01: 1/8" female NPT; DA02 to DA05: 1/4" female NPT; SR02 to SR07: 1/4" female NPT.

**Housing Material:** Anodized aluminum body and epoxy coated aluminum end caps.

**Temperature Limits:** -40 to 176°F (-40 to 80°C).

**Accessory Mounting:** NAMUR standard.

#### Electric "TD" and "MD" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC (MD models not available in 24 VDC).

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** TD01: 4 s; MD01: 10 s; TD02 and MD02: 20 s; TD03 and MD03: 30 s.

**Duty Rating:** 85%.

**Enclosure Rating:** NEMA 4X (IP67).  
**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -22 to 140°F (-30 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Manual override, position indicator, and TD models come with two limit switches.

#### Electric "TI" and "MI" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC.

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** See instruction manual.

**Duty Rating:** See instruction manual.

**Enclosure Rating:** NEMA 7, designed to meet hazardous locations: Class I, Group C & D; Class II, Group E, F & G; Division I & II.

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -40 to 140°F (-40 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Position indicator and two limit switches.



# 3-PIECE SOCKET WELD STAINLESS STEEL BALL VALVES

Full Port, Vented Ball, Electric or Pneumatic Actuators

MODEL CHART						
Size	Cv (gal/min)	Popular Hand Operated Model	Popular Double Acting Pneumatic Model	Popular Spring Return Pneumatic Model	Popular NEMA 4X Two Position Electric (110 VAC) Model	Popular NEMA 4X Modulating Electric (110 VAC) Model
1/2"	36.64	WE05-CHD00	WE05-CDA01	WE05-CSR02	WE05-CTD01-A	WE05-CMD01-A
3/4"	67.69	WE05-DHD00	WE05-DDA01	WE05-DSR02	WE05-DTD01-A	WE05-DMD01-A
1"	110.27	WE05-EHD00	WE05-EDA02	WE05-ESR03	WE05-ETD01-A	WE05-EMD01-A
1-1/4"	184.73	WE05-FHD00	WE05-FDA02	WE05-FSR03	WE05-FTD01-A	WE05-FMD01-A
1-1/2"	266.62	WE05-GHD00	WE05-GDA03	WE05-GSR04	WE05-GTD02-A	WE05-GMD01-A
2"	485.3	WE05-HHD00	WE05-HDA03	WE05-HSR05	WE05-HTD02-A	WE05-HMD02-A
2-1/2"	791.57	WE05-IHD00	WE05-IDA04	WE05-ISR07	WE05-ITD03-A	WE05-IMD03-A
3"	1151.95	WE05-JHD00	WE05-JDA05	WE05-JSR07	WE05-JTD03-A	WE05-JMD03-A

MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR						
Example	WE05	-CSR02	-N	N	09	WE05-CSR02-NN09
Series	WE05					316 SS 3-piece socket weld
Size and Actuator						1/2" hand operated 3/4" hand operated 1" hand operated 1-1/4" hand operated 1-1/2" hand operated 2" hand operated 2-1/2" hand operated 3" hand operated 1/2" double acting 3/4" double acting 1" double acting 1-1/4" double acting 1-1/2" double acting 2" double acting 2-1/2" double acting 3" double acting 1/2" spring return 3/4" spring return 1" spring return 1-1/4" spring return 1-1/2" spring return 2" spring return 2-1/2" spring return 3" spring return
Solenoid			N A			No solenoid NEMA 4X NAMUR solenoid
Solenoid Voltage				N A B C D E		No solenoid 120 VAC 220 VAC 24 VAC 24 VDC 12 VDC
Positioner and Switches					00 01 02 03 04 06 07 08 09	None 42AD0 exp limit switch 45VD0 exp position transmitter 42AD0-B ATEX limit switch 42AD0-IE IECEX limit switch QV-210101 poly limit switch VPS and P1 prox switch 265ER-D5 positioner 285ER-D5 smart positioner
Options						NO Fail open spring return actuator

ACCESSORIES	
Model	Description
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster

MODEL CHART - ELECTRIC ACTUATOR				
Example	WE05	-ETD01	-B	WE05-ETD01-B
Series	WE05			316 SS 3-piece socket weld
Size and Actuator				1/2" NEMA 4X two-position 3/4" NEMA 4X two-position 1" NEMA 4X two-position 1-1/4" NEMA 4X two-position 1-1/2" NEMA 4X two-position 2" NEMA 4X two-position 2-1/2" NEMA 4X two-position 3" NEMA 4X two-position 1/2" NEMA 4X modulating 3/4" NEMA 4X modulating 1" NEMA 4X modulating 1-1/4" NEMA 4X modulating 1-1/2" NEMA 4X modulating 2" NEMA 4X modulating 2-1/2" NEMA 4X modulating 3" NEMA 4X modulating 1/2" exp two-position 3/4" exp two-position 1" exp two-position 1-1/4" exp two-position 1-1/2" exp two-position 2" exp two-position 2-1/2" exp two-position 3" exp two-position 1/2" exp electric modulating 3/4" exp electric modulating 1" exp electric modulating 1-1/4" exp electric modulating 1-1/2" exp electric modulating 2" exp electric modulating 2-1/2" exp electric modulating 3" exp electric modulating
Actuator Voltage			A B C D	110 VAC 220 VAC 24 VAC 24 VDC

REPAIR KIT	
Model	Valve Series and Size
VRK-10	WE05-1/2"
VRK-11	WE05-3/4"
VRK-12	WE05-1"
VRK-14	WE05-1-1/2"
VRK-15	WE05-2"
VRK-16	WE05-2-1/2"
VRK-17	WE05-3"

Parts List - Included in Kit	
1	PTFE thrust washer
1	FKM O-ring
2	PTFE stem packing
2	PTFE seals
2	RTFE seats

# 3-PIECE NPT STAINLESS STEEL V-BALL VALVES

## V-Port, Vented Ball, Electric or Pneumatic Actuators



WE06-DHD00-T



WE06-DDA01-T



WE06-DDA01-T-AA01



WE06-DTD01-T-A



WE06-CTI01-T-A



The **Series WE06 3-Piece NPT Stainless Steel V-Ball Valves** incorporate a V-port ball valve for impressive flow rates with minimal pressure drop. Quarter turn control ball valves are compact, lighter weight and much less expensive than comparable sized globe valves and segmented control valves. They also offer bubble tight shut off with zero leakage and can withstand high pressure drops. The 60° and 90° balls offer an equal percentage flow characteristic. W.E. Anderson's V-port ball valves have been designed to offer maximum flow characteristics that are substantially higher than comparably sized globe valves. The natural flow pattern of ball valves increases flow rates and in many applications valves smaller than pipeline size can be used. Limit switches can be mounted directly to the valves allowing for remote position indication.

The Series WE06 can be configured with an electric or pneumatic actuator. Electric actuators are available in weatherproof or explosion-proof, a variety of supply voltages and two-position or modulating control.

Two-position actuators use the supply voltage to drive the valve open or close, while the modulating actuator accepts a 4-20 mA input for valve positioning. Actuators feature thermal overload protection and a permanently lubricated gear train.

The pneumatic double acting actuator uses an air supply to drive the valve open and closed. The actuator has two supply ports with one driving the valve open and the other driving the valve closed. Spring return pneumatic actuators use the air supply to open the valve and internally loaded springs return the valve to the closed position. Also available is the SV3 solenoid valve to electrically switch the air supply pressure between the air supply ports for opening and closing the valve.

### FEATURES/BENEFITS

- The 60° and 90° balls offer an equal percentage flow characteristic
- Limit switches can be mounted to manual valves for remote monitoring
- Available with a variety of electric and pneumatic actuators

### APPLICATIONS

- Gas or liquid flow control
- Ideal for bubble tight shut off at high pressure drops

### SPECIFICATIONS

#### VALVE

**Service:** Compatible liquids and gases.

**Body:** 3-piece.

**Line Sizes:** 1/2 to 3".

**End Connections:** Female NPT.

**Pressure Limits:** 20" Hg to 1000 psi (-0.7 to 69 bar) up to 250°F.

**Wetted Materials:** Body and ball: 316 SS (CF8M); Stem: 316 SS; Seat: RTFE/PTFE; Seal, washer, and packing: PTFE.

**Temperature Limits:** -20 to 392°F (-29 to 200°C).

**Other Materials:** O-ring: Fluoroelastomer; Handle: 304 SS; Washer: 301 SS; Stem nut, Locking device, Gland ring: 304 SS; Handle sleeve: PVC.

**Agency Approvals:** Meets the technical requirements of EU Directive 2011/65/ EU (RoHS II).

#### ACTUATORS

##### Pneumatic "DA" and "SR" Series

**Type:** DA series is double acting and SR series is spring return (rack and pinion).

**Normal Supply Pressure:** DA: 40 to 115 psi (2.7 to 7.9 bar); SR: 80 psi (5.5 bar).

**Maximum Supply Pressure:** 120 psi (8.6 bar).

**Air Connections:** DA01: 1/8" female NPT; DA02 to DA05: 1/4" female NPT; SR02 to SR07: 1/4" female NPT.

**Housing Material:** Anodized aluminum body and epoxy coated aluminum end caps.

**Temperature Limits:** -40 to 176°F (-40 to 80°C).

**Accessory Mounting:** NAMUR standard.

##### Electric "TD" and "MD" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC (MD models not available in 24 VDC).

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** TD01: 4 s; MD01: 10 s; TD02 and MD02: 20 s; TD03 and MD03: 30 s.

**Duty Rating:** 85%.

**Enclosure Rating:** NEMA 4X (IP67).

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -22 to 140°F (-30 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Manual override, position indicator, and TD models come with two limit switches.

##### Electric "TI" and "MI" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC.

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** See instruction manual.

**Duty Rating:** See instruction manual.

**Enclosure Rating:** NEMA 7, designed to meet hazardous locations: Class I, Group C & D; Class II, Group E, F & G; Division I & II.

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -40 to 140°F (-40 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Position indicator and two limit switches.



Dwyer

SERIES WE07 | W.E. ANDERSON™ BY DWYER

# 2-PIECE FLANGED STAINLESS STEEL V-BALL VALVES

## 150# ANSI Flange, V-Ball, Electric or Pneumatic Actuators



WE07-DHD00-T



WE07-DDA01-T-NN09



WE07-CTI01-T-A



WE07-DDA01-T-AA03



WE07-DTD01-T-A



The Series WE07 2-Piece Flanged Stainless Steel V-Ball Valves incorporate a V-port ball valve for impressive flow rates with minimal pressure drop. Quarter turn control ball valves are compact, lighter weight and much less expensive than comparable sized globe valves and segmented control valves. They also offer bubble tight shut off with zero leakage and can withstand high pressure drops. The 60° and 90° balls offer an equal percentage flow characteristic. W. E. Anderson's V-port ball valves have been designed to offer maximum flow characteristics that are substantially higher than comparably sized globe valves. The natural flow pattern of ball valves increases flow rates and in many applications valves smaller than pipeline size can be used.

The Series WE07 can be configured with an electric or pneumatic actuator. Electric actuators are available in weatherproof or explosion-proof, a variety of supply voltages and two-position or modulating control.

Two-position actuators use the supply voltage to drive the valve open or close, while the modulating actuator accepts a 4-20 mA input for valve positioning. Actuators feature thermal overload protection and a permanently lubricated gear train.

The pneumatic double acting actuator uses an air supply to drive the valve open and closed. The actuator has two supply ports with one driving the valve open and the other driving the valve closed. Spring return pneumatic actuators use the air supply to open the valve and internally loaded springs return the valve to the closed position. Also available is the SV3 solenoid valve to electrically switch the air supply pressure between the air supply ports for opening and closing the valve.

### FEATURES/BENEFITS

- The 60° and 90° balls offer an equal percentage flow characteristic
- Bubble tight shut off at high pressure drops
- Limit switches can be mounted to manual valves for remote monitoring
- Available with a variety of electric and pneumatic actuators

### APPLICATIONS

- Gas or liquid flow control

### SPECIFICATIONS

#### VALVE

**Service:** Compatible liquids and gases.

**Body:** 2-piece.

**Line Sizes:** 1/2 to 3".

**End Connections:** 150# ANSI flange.

**Pressure Limits:** 20" Hg to 275 psi (-0.7 to 19 bar) up to 392°F.

**Wetted Materials:** Body and ball: 316 SS (CF8M); Stem: 316 SS; Seat: RTFE/PTFE; Seal, washer, and packing: PTFE.

**Temperature Limits:** -20 to 392°F (-29 to 200°C).

**Other Materials:** O-ring: Fluoroelastomer; Handle: 304 SS; Washer: 301 SS; Stem nut, Locking device, Gland ring: 304 SS; Handle sleeve: PVC.

**Agency Approvals:** Meets the technical requirements of EU Directive 2011/65/ EU (RoHS II).

#### ACTUATORS

##### Pneumatic "DA" and "SR" Series

**Type:** DA series is double acting and SR series is spring return (rack and pinion).

**Normal Supply Pressure:** DA: 40 to 115 psi (2.7 to 7.9 bar); SR: 80 psi (5.5 bar).

**Maximum Supply Pressure:** 120 psi (8.6 bar).

**Air Connections:** DA01: 1/8" female NPT; DA02 to DA04: 1/4" female NPT; SR02 to SR06: 1/4" female NPT.

**Housing Material:** Anodized aluminum body and epoxy coated aluminum end caps.

**Temperature Limits:** -40 to 176°F (-40 to 80°C).

**Accessory Mounting:** NAMUR standard.

##### Electric "TD" and "MD" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC (MD models not available in 24 VDC).

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** TD01: 4 s; MD01: 10 s; TD02 and MD02: 20 s; TD03 and MD03: 30 s.

**Duty Rating:** 85%.

**Enclosure Rating:** NEMA 4X (IP67).

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -22 to 140°F (-30 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Manual override, position indicator, and TD models come with two limit switches.

##### Electric "TI" and "MI" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC.

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** See instruction manual.

**Duty Rating:** See instruction manual.

**Enclosure Rating:** NEMA 7, designed to meet hazardous locations: Class I, Group C & D; Class II, Group E, F & G; Division I & II.

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -40 to 140°F (-40 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Position indicator and two limit switches.



SERIES WE07 | W.E. ANDERSON™ BY DWYER

# 2-PIECE FLANGED STAINLESS STEEL V-BALL VALVES

150# ANSI Flange, V-Ball, Electric or Pneumatic Actuators

MODEL CHART							
Size	Cv (gal/min)		Popular Hand Operated Model	Popular Double Acting Pneumatic Model	Popular Spring Return Pneumatic Model	Popular NEMA 4X Two Position Electric (110 VAC) Model	Popular NEMA 4X Modulating Electric (110 VAC) Model
	60°	90°					
1/2"	7.9	9.1	WE07-CHD00-T	WE07-CDA01-T	WE07-CSR02-T	WE07-CTD01-T-A	WE07-CMD01-T-A
3/4"	13.6	14.2	WE07-DHD00-T	WE07-DDA01-T	WE07-DSR02-T	WE07-DTD01-T-A	WE07-DMD01-T-A
1"	22.3	29.1	WE07-EHD00-T	WE07-EDA03-T	WE07-ESR03-T	WE07-ETD01-T-A	WE07-EMD01-T-A
1-1/2"	46.2	75.5	WE07-GHD00-T	WE07-GDA03-T	WE07-GSR04-T	WE07-GTD02-T-A	WE07-GMD01-T-A
2"	104.7	138.4	WE07-HHD00-T	WE07-HDA03-T	WE07-HSR05-T	WE07-HTD02-T-A	WE07-HMD02-T-A
2-1/2"	147.5	220.3	WE07-IHD00-T	WE07-IDA04-T	WE07-ISR06-T	WE07-ITD03-T-A	WE07-IMD03-T-A
3"	209.1	308.3	WE07-JHD00-T	WE07-JDA04-T	WE07-JSR06-T	WE07-JTD03-T-A	WE07-JMD03-T-A

MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR							
Example	WE07	-CSR02	-T	-N	N	09	WE07-CSR02-T-NN09
Series	WE07						316 SS 2-piece 150# ANSI flange
Size and Actuator		CHD00 DHD00 EHD00 GHD00 HHD00 IHD00 JHD00 CDA01 DDA01 EDA03 GDA03 HDA03 IDA04 JDA04 CSR02 DSR02 ESR03 GSR04 HSR05 ISR06 JSR06					1/2" hand operated 3/4" hand operated 1" hand operated 1-1/2" hand operated 2" hand operated 2-1/2" hand operated 3" hand operated 1/2" double acting 3/4" double acting 1" double acting 1-1/2" double acting 2" double acting 2-1/2" double acting 3" double acting 1/2" spring return 3/4" spring return 1" spring return 1-1/2" spring return 2" spring return 2-1/2" spring return 3" spring return
V-Ball Angle				T N			60° v-ball 90° v-ball
Solenoid					N A		No solenoid NEMA 4X NAMUR solenoid
Solenoid Voltage					N A B C D E		No solenoid 120 VAC 220 VAC 24 VAC 24 VDC 12 VDC
Positioner and Switches						00 01 02 03 04 06 07 08 09	None 42AD0 exp limit switch 45VD0 exp position transmitter 42AD0-B ATEX limit switch 42AD0-IE IECEX limit switch QV-210101 poly limit switch VPS and P1 prox switch 265ER-D5 positioner 285ER-D5 smart positioner
Options						NO	Fail open spring return actuator

MODEL CHART - ELECTRIC ACTUATOR					
Example	WE07	-ETD01	-T	-B	WE07-ETD01-T-B
Series	WE07				316 SS 2-piece 150# ANSI flange
Size and Actuator		CTD01 DTD01 ETD01 GTD02 HTD02 ITD03 JTD03 CMD01 DMD01 EMD01 GMD01 HMD02 IMD03 JMD03 CTI01 DTI01 ETI02 GTI03 HTI04 ITI04 JTI05 CMI01 DMI01 EMI02 GMI03 HMI04 IMI04 JMI05			1/2" NEMA 4X two-position 3/4" NEMA 4X two-position 1" NEMA 4X two-position 1-1/2" NEMA 4X two-position 2" NEMA 4X two-position 2-1/2" NEMA 4X two-position 3" NEMA 4X two-position 1/2" NEMA 4X modulating 3/4" NEMA 4X modulating 1" NEMA 4X modulating 1-1/2" NEMA 4X modulating 2" NEMA 4X modulating 2-1/2" NEMA 4X modulating 3" NEMA 4X modulating 1/2" exp two-position 3/4" exp two-position 1" exp two-position 1-1/2" exp two-position 2" exp two-position 2-1/2" exp two-position 3" exp two-position 1/2" exp electric modulating 3/4" exp electric modulating 1" exp electric modulating 1-1/2" exp electric modulating 2" exp electric modulating 2-1/2" exp electric modulating 3" exp electric modulating
V-Ball Angle				T N	60° v-ball 90° v-ball
Actuator Voltage				A B C D	110 VAC 220 VAC 24 VAC 24 VDC

ACCESSORIES	
Model	Description
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster

REPAIR KIT	
Model	Valve Series and Size
VRK-27	WE07-1/2"
VRK-28	WE07-3/4"
VRK-29	WE07-1"
VRK-31	WE07-1-1/2"
VRK-32	WE07-2"
VRK-33	WE07-2-1/2"
VRK-34	WE07-3"
Parts List - Included in Kit	
1 PTFE thrust washer	
1 FKM O-ring	
2 PTFE stem packing	
2 PTFE seals	
2 RTFE seats	

Valves, Ball, Automated









# MINI BRASS BALL VALVES

Economical, Compact Design



Lever handle



Screwdriver slot



Tee handle



Wedge handle

Series MV Mini Brass Ball Valves are ideal for use in small, confined spaces, where larger valves are of no use. Installation is made easy with a choice of Fx F or Mx F process connections. Pure PTFE ball seats provide broad media compatibility and bubble tight shutoff. Double seal system allows valve to be operated in both directions.

**FEATURES/BENEFITS**

- Bubble tight shut off
- Economical
- Valve can be operated in both directions

**APPLICATIONS**

- Gas or liquid flow control
- Ideal for small, confined spaces

**SPECIFICATIONS**

**Service:** Gases and liquid compatible with wetted materials. Not rated for steam use.

**End Connections:** NPT, see model chart.

**Pressure Limits:** -29" Hg to 450 psi (-736 mm Hg to 31 bar).

**Temperature Limits:** -4 to 250°F (-20 to 121°C).

**Wetted Materials:** Valve body: Chrome-plated brass; Valve ball: Chrome-plated brass; O-ring stem seal: Fluoroelastomer; Ball seats: PTFE.

**MODEL CHART**

Female x Female			Male x Female		
Model	Handle Style	Pipe Size	Model	Handle Style	Pipe Size
MVB-LF1	Lever handle	1/8"	MVB-LM1	Lever handle	1/8"
MVB-LF2	Lever handle	1/4"	MVB-LM2	Lever handle	1/4"
MVB-LF3	Lever handle	3/8"	MVB-LM3	Lever handle	3/8"
MVB-LF4	Lever handle	1/2"	MVB-LM4	Lever handle	1/2"
MVB-TF1	Tee handle	1/8"	MVB-TM1	Tee handle	1/8"
MVB-TF2	Tee handle	1/4"	MVB-TM2	Tee handle	1/4"
MVB-TF3	Tee handle	3/8"	MVB-TM3	Tee handle	3/8"
MVB-TF4	Tee handle	1/2"	MVB-TM4	Tee handle	1/2"
MVB-WF1	Wedge handle	1/8"	MVB-WM1	Wedge handle	1/8"
MVB-WF2	Wedge handle	1/4"	MVB-WM2	Wedge handle	1/4"
MVB-WF3	Wedge handle	3/8"	MVB-WM3	Wedge handle	3/8"
MVB-WF4	Wedge handle	1/2"	MVB-WM4	Wedge handle	1/2"
MV5-SF1	Screwdriver slot	1/8"	MV5-SM1	Screwdriver slot	1/8"
MV5-SF2	Screwdriver slot	1/4"	MV5-SM2	Screwdriver slot	1/4"
MV5-SF3	Screwdriver slot	3/8"	MV5-SM3	Screwdriver slot	3/8"
MV5-SF4	Screwdriver slot	1/2"	MV5-SM4	Screwdriver slot	1/2"

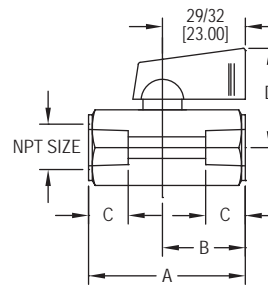
USA: California Proposition 65

⚠WARNING: Cancer and Reproductive Harm  
www.P65Warnings.ca.gov

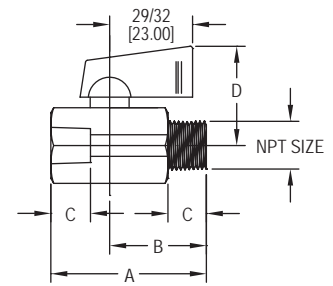
SERIES SMV2 | W.E. ANDERSON™ BY DWYER

# MINI STAINLESS STEEL BALL VALVE

Economical, Wide Chemical Compatibility, Compact



Female X female connection  
SMV2-WFX



Male X female connection  
SMV2-WMX

The Series SMV2 Mini Stainless Steel Ball Valve is ideal for small, confined spaces, where larger valves are unsuitable. The 316 SS and PTFE wetted materials are excellent for applications with corrosive media. The handles are made of a rigid nylon for extended durability. Installation is made easy with a choice of Fx F or Mx F process connections. PTFE ball seats provide broad media compatibility and bubble tight shutoff.

**FEATURES/BENEFITS**

- High working pressure
- Abrasion resistant
- Easy to install
- Economical
- Wide chemical compatibility

**APPLICATIONS**

- Gas or liquid flow control
- Ideal for small, confined spaces

**SPECIFICATIONS**

**Service:** Gases and liquids compatible with wetted materials. Not rated for steam use.

**End Connections:** NPT, see model chart.

**Pressure Limits:** 1/8" to 3/8", 1000 psi (68.9 bar) WOG; 1/2", 800 psi (51.1 bar) WOG.

**Temperature Limits:** 212°F (100°C) maximum.

**Wetted Materials:** Valve body: Cast 316 SS (CF8M); Valve ball, insert and stem: 316 SS; Ball seat: PTFE.

**Agency Approvals:** Meets the technical requirements of EU Directive 2011/65/EU (RoHS II).

**MODEL CHART**

Pipe Size	Female x Female Model	Male x Female Model
1/8"	SMV2-WF1	SMV2-WM1
1/4"	SMV2-WF2	SMV2-WM2
3/8"	SMV2-WF3	SMV2-WM3
1/2"	SMV2-WF4	SMV2-WM4

# 3-WAY NPT STAINLESS STEEL BALL VALVES

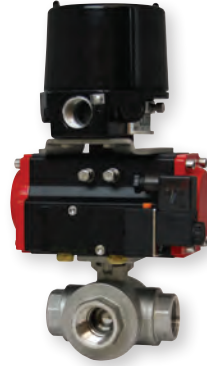
Full Port, Vented Ball, Electric or Pneumatic Actuators



WE31-DHD00-T1



WE31-DDA02-L1



WE31-DDA02-T1-AA01



WE31-DDA02-T3-NN05



WE31-DTD01-T3-A



The **Series WE31 3-Way NPT Stainless Steel Ball Valves** incorporate a full port valve for great flow rates with minimal pressure drop. The valve features a blowout-proof stem for added safety, reinforced PTFE seats and seals for longer life, and a 316 SS (ASTM CF8M) ball for better performance. Actuators are direct mounted creating a compact assembly for tight spaces. Limit switches are able to be mounted directly to the valves allowing for remote position indication.

The Series WE31 can be configured with either an electric or pneumatic actuator. Electric actuators are available in weatherproof or explosion-proof, a variety of supply voltages and two-position or modulating control. Two-position actuators use the supply voltage to drive the valve open or closed, while the modulating actuator accepts a 4-20 mA input for valve positioning. Actuators feature thermal overload protection and permanently lubricated gear train.

The pneumatic double acting actuator uses an air supply to drive the valve open and closed. The actuator has two supply ports, with one driving the valve open and the other driving the valve closed. Spring return pneumatic actuators use the air supply to open the valve, and internally loaded springs return the valve to the closed position. Also available is the SN solenoid valve to electrically switch the air supply pressure between the air supply ports for opening and closing the valve. Actuators are constructed of anodized and epoxy coated aluminum for years of corrosion free service.

## FEATURES/BENEFITS

- Capable of being configured to fit any application
- Limit switches can be mounted to manual valves for remote monitoring
- Vented ball to reduce operating torque
- Weatherproof or explosion-proof electric actuators
- Double acting or spring return anodized aluminum pneumatic actuators
- Full port design reduces the pressure drop across the valve

## APPLICATIONS

- Gas or liquid flow control
- Ideal for quick bubble tight shut-off
- Mixing or diverting liquids and gases

## SPECIFICATIONS

### VALVE

**Service:** Compatible liquids and gases.

**Body:** 3-way.

**Line Sizes:** 1/2 to 2".

**End Connections:** Female NPT.

**Pressure Limits:** 28" Hg to 1000 psi (-0.7 to 69 bar) up to 250°F.

**Wetted Materials:** Body and ball: 316 SS (CF8M); Stem: 316 SS; Seat: RTFE/PTFE; Seal, washer, and packing: PTFE.

**Temperature Limits:** -20 to 392°F (-29 to 200°C).

**Other Materials:** O-ring: Fluoroelastomer; Handle: 304 SS; Washer: 301 SS; Stem nut, Locking device, Gland ring: 304 SS; Handle sleeve: PVC.

**Agency Approvals:** Meets the technical requirements of EU Directive 2011/65/ EU (RoHS II).

### ACTUATORS

#### Pneumatic "DA" and "SR" Series

**Type:** DA series is double acting and SR series is spring return (rack and pinion).

**Normal Supply Pressure:** DA: 40 to 115 psi (2.7 to 7.9 bar); SR: 80 psi (5.5 bar).

**Maximum Supply Pressure:** 120 psi (8.6 bar).

**Air Connections:** DA01: 1/8" female NPT; DA02 to DA04: 1/4" female NPT; SR03 to SR07: 1/4" female NPT.

**Housing Material:** Anodized aluminum body and epoxy coated aluminum end caps.

**Temperature Limits:** -40 to 176°F (-40 to 80°C).

**Accessory Mounting:** NAMUR standard.

#### Electric "TD" and "MD" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC (MD models not available in 24 VDC).  
**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** TD01: 4 s; MD01: 10 s; TD02 and MD02: 20 s; TD03 and MD03: 30 s.

**Duty Rating:** 85%.

**Enclosure Rating:** NEMA 4X (IP67).

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -22 to 140°F (-30 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Manual override, position indicator, and TD models come with two limit switches.

#### Electric "TI" and "MI" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC.

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** See instruction manual.

**Duty Rating:** See instruction manual.

**Enclosure Rating:** NEMA 7, designed to meet hazardous locations: Class I, Group C & D; Class II, Group E, F & G; Division I & II.

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -40 to 140°F (-40 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Position indicator and two limit switches.

# 3-WAY NPT STAINLESS STEEL BALL VALVES

Full Port, Vented Ball, Electric or Pneumatic Actuators

MODEL CHART						
Size	Cv (gal/min)	Popular Hand Operated Model	Popular Double Acting Pneumatic Model	Popular Spring Return Pneumatic Model	Popular NEMA 4X Two Position Electric (110 VAC) Model	Popular NEMA 4X Modulating Electric (110 VAC) Model
1/2"	11	WE31-CHD00-T1	WE31-CDA02-T2	WE31-CSR02-T2	WE31-CTD01-T2-A	WE31-CMD01-T2-A
3/4"	14	WE31-DHD00-T1	WE31-DDA02-T2	WE31-DSR03-T2	WE31-DTD01-T2-A	WE31-DMD01-T2-A
1"	18	WE31-EHD00-T1	WE31-EDA03-T2	WE31-ESR04-T2	WE31-ETD02-T2-A	WE31-EMD02-T2-A
1-1/4"	43	WE31-FHD00-T1	WE31-FDA03-T2	WE31-FSR05-T2	WE31-FTD02-T2-A	WE31-FMD02-T2-A
1-1/2"	84	WE31-GHD00-T1	WE31-GDA04-T2	WE31-GSR06-T2	WE31-GTD03-T2-A	WE31-GMD03-T2-A
2"	90	WE31-HHD00-T1	WE31-HDA04-T2	WE31-HSR07-T2	WE31-HTD03-T2-A	WE31-HMD03-T2-A

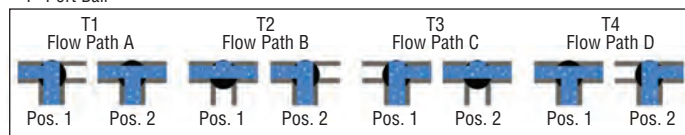
MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR						
Example	WE31	-CSR02	-T1	-A	A	00
Series	WE31					316 SS 3-way NPT
Size and Range		CHD00 DHD00 EHD00 FHD00 GHD00 HHD00 CDA02 DDA02 EDA03 FDA03 GDA04 HDA04 CSR02 DSR03 ESR04 FSR05 GSR06 HSR07				1/2" hand operated 3/4" hand operated 1" hand operated 1-1/4" hand operated 1-1/2" hand operated 2" hand operated 1/2" double acting 3/4" double acting 1" double acting 1-1/4" double acting 1-1/2" double acting 2" double acting 1/2" spring return 3/4" spring return 1" spring return 1-1/4" spring return 1-1/2" spring return 2" spring return
Valve Position			T1 T2 T3 T4 L1			Flow path A Flow path B Flow path C Flow path D Flow path E
Solenoid				N A		No solenoid NEMA 4X NAMUR solenoid
Solenoid Voltage				N A B C D E		No solenoid 110 VAC 220 VAC 24 VAC 24 VDC 12 VDC
Positioner and Switches					00 01 02 03 04 06 07 08 09	None 42AD0 exp limit switch 45VD0 exp position transmitter 42AD0-B ATEX limit switch 42AD0-IE IECEX limit switch QV-210101 poly limit switch VPS and P1 prox switch 265ER-D5 positioner 285ER-D5 smart positioner

ACCESSORIES	
Model	Description
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster

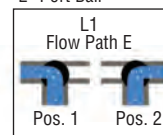
MODEL CHART - ELECTRIC ACTUATOR					
Example	WE31	-DMI02	-T2	-A	WE31-DMI02-T2-A
Series	WE31				316 SS 3-way NPT
Size and Range		CTD01 DTD01 ETD02 FTD02 GTD03 HTD03 CMD01 DMD01 EMD02 FMD02 GMD03 HMD03 CTI01 DTI02 ETI02 FTI04 GTI05 HTI06 CMI01 DMI02 EMI02 FMI04 GMI05 HMI06			1/2" NEMA 4X two-position 3/4" NEMA 4X two-position 1" NEMA 4X two-position 1-1/4" NEMA 4X two-position 1-1/2" NEMA 4X two-position 2" NEMA 4X two-position 1/2" NEMA 4X modulating 3/4" NEMA 4X modulating 1" NEMA 4X modulating 1-1/4" NEMA 4X modulating 1-1/2" NEMA 4X modulating 2" NEMA 4X modulating 1/2" exp two-position 3/4" exp two-position 1" exp two-position 1-1/4" exp two-position 1-1/2" exp two-position 2" exp two-position 1/2" exp electric modulating 3/4" exp electric modulating 1" exp electric modulating 1-1/4" exp electric modulating 1-1/2" exp electric modulating 2" exp electric modulating
Valve Position			T1 T2 T3 T4 L1		Flow path A Flow path B Flow path C Flow path D Flow path E
Actuator Voltage				A B C D	110 VAC 220 VAC 24 VAC 24 VDC

REPAIR KIT	
Model	Valve Series and Size
VRK-36	WE31-1/2"
VRK-37	WE31-3/4"
VRK-38	WE31-1"
VRK-40	WE31-1-1/2"
VRK-41	WE31-2"
Parts List - Included in Kit	
1 PTFE thrust washer	
1 FKM O-ring	
2 PTFE stem packing	
2 PTFE seals	
2 RTFE seats	

"T" Port Ball

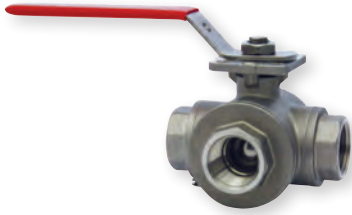


"L" Port Ball



# 3-WAY NPT BRASS BALL VALVES

## Full Port, Electric or Pneumatic Actuators



WE35-DHD00-T1



WE35-DDA02-L1



WE35-DDA02-T1-AA01



WE35-DTD01-T3-A



The **Series WE35 3-Way NPT Brass Ball Valves** incorporate a full port 3-way brass ball valve for great flow rates with minimal pressure drop. The valve features a blowout proof stem for added safety, reinforced PTFE seats and seals for longer life, and a brass ball for better performance. Actuators are direct mounted creating a compact assembly for tight spaces.

The Series WE35 can be configured with either an electric or pneumatic actuator. Electric actuators are available in weatherproof or explosion-proof, a variety of supply voltages, and two-position or modulating control. Two-position actuators use the supply voltage to drive the valve open or closed, while the modulating actuator accepts a 4-20 mA input for valve positioning. Actuators feature thermal overload protection and permanently lubricated gear train.

The pneumatic double acting actuator uses an air supply to drive the valve open and closed. The actuator has two supply ports, with one driving the valve open and the other driving the valve closed. Spring return pneumatic actuators use the air supply to open the valve and internally loaded springs return the valve to the closed position. Also available is the SN solenoid valve to electrically switch the air supply pressure between the air supply ports for opening and closing the valve. Actuators are constructed of anodized and epoxy coated aluminum for years of corrosion free service.

### FEATURES/BENEFITS

- Capable of being configured to fit most applications
- Limit switches can be mounted to manual valves for remote monitoring
- Weatherproof or explosion-proof electric actuators
- Double acting or spring return anodized aluminum pneumatic actuators
- Full port design reduces the pressure drop across the valve

### APPLICATIONS

- Gas or liquid flow control
- Ideal for quick bubble tight shut-off
- Mixing or diverting liquids and gases

### SPECIFICATIONS

#### VALVE

**Service:** Compatible liquids and gases.

**Body:** 3-way.

**Line Sizes:** 1/2 to 2".

**End Connections:** Female NPT.

**Pressure Limits:** 600 psi (41 bar) WOG.

**Wetted Materials:** Body, ball, and stem: Brass; Seat, seal, and packing: PTFE.

**Temperature Limits:** -20 to 425°F (-30 to 220°C).

**Other Materials:** O-ring: NBR; Handle, stem nut, ferrule: SS; Handle sleeve: Vinyl; Body and cap: Nickel plated.

**Agency Approvals:** Meets the technical requirements of EU Directive 2011/65/EU (RoHS II).

#### ACTUATORS

##### Pneumatic "DA" and "SR" Series

**Type:** DA series is a double acting and SR series is a spring return (rack and pinion).

**Normal Supply Pressure:** DA: 40 to 115 psi (2.7 to 7.9 bar); SR: 80 psi (5.5 bar).

**Maximum Supply Pressure:** 120 psi (8.6 bar).

**Air Connections:** DA02 to DA03: 1/4" female NPT; SR02 to SR04: 1/4" female NPT.

**Housing Material:** Anodized aluminum body and epoxy coated aluminum end caps.

**Temperature Limits:** -40 to 176°F (-40 to 80°C).

**Accessory Mounting:** NAMUR standard.

##### Electric "TD" and "MD" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC, or 24 VDC (MD models not available in 24 VDC).

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** TD01: 4 s; MD01: 10 s; TD02: 20 s).

**Duty Rating:** 85%.

**Enclosure Rating:** NEMA 4X (IP67).

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -22 to 140°F (-30 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Manual override, position indicator, and TD models come with two limit switches.

##### Electric "TI" and "MI" Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC, 24 VDC.

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** See instruction manual.

**Duty Rating:** See instruction manual.

**Enclosure Rating:** NEMA 7, designed to meet hazardous locations: Class I, Group C & D; Class II, Group E, F & G; Division I & II.

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -40 to 140°F (-40 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Position indicator and two limit switches.



SERIES WE35 | W.E. ANDERSON™ BY DWYER

# 3-WAY NPT BRASS BALL VALVES

Full Port, Electric or Pneumatic Actuators

MODEL CHART						
Size	Cv (gal/min)	Popular Hand Operated Model	Popular Double Acting Pneumatic Model	Popular Spring Return Pneumatic Model	Popular NEMA 4X Two Position Electric (110 VAC) Model	Popular NEMA 4X Modulating Electric (110 VAC) Model
1/2"	13	WE35-CHD00-T1	WE35-CDA02-T2	WE35-CSR02-T2	WE35-CTD01-T2-A	WE35-CMD01-T2-A
3/4"	37	WE35-DHD00-T1	WE35-DDA02-T2	WE35-DSR02-T2	WE35-DTD01-T2-A	WE35-DMD01-T2-A
1"	49	WE35-EHD00-T1	WE35-EDA02-T2	WE35-ESR03-T2	WE35-ETD01-T2-A	WE35-EMD01-T2-A
1-1/4"	59	WE35-FHD00-T1	WE35-FDA03-T2	WE35-FSR03-T2	WE35-FTD01-T2-A	WE35-FMD01-T2-A
1-1/2"	100	WE35-GHD00-T1	WE35-GDA03-T2	WE35-GSR03-T2	WE35-GTD01-T2-A	WE35-GMD01-T2-A
2"	115	WE35-HHD00-T1	WE35-HDA03-T2	WE35-HSR04-T2	WE35-HTD02-T2-A	WE35-HMD02-T2-A

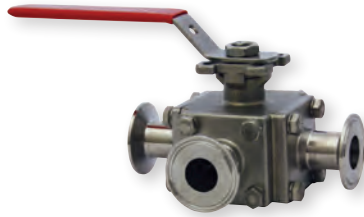
MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR						
Example	WE35	-CSR02	-T1	-A	A	00
Series	WE35					Brass 2-piece NPT
Size and Range		CHD00 DHD00 EHD00 FHD00 GHD00 HHD00 CDA02 DDA02 EDA02 FDA03 GDA03 HDA03 CSR02 DSR02 ESR03 FSR03 GSR03 HSR04				1/2" hand operated 3/4" hand operated 1" hand operated 1-1/4" hand operated 1-1/2" hand operated 2" hand operated 1/2" double acting 3/4" double acting 1" double acting 1-1/4" double acting 1-1/2" double acting 2" double acting 1/2" spring return 3/4" spring return 1" spring return 1-1/4" spring return 1-1/2" spring return 2" spring return
Valve Position			T1 T2 T3 T4 L1			Flow path A Flow path B Flow path C Flow path D Flow path E
Solenoid				N A		No solenoid NEMA 4X NAMUR solenoid
Solenoid Voltage				N A B C D E		No solenoid 110 VAC 220 VAC 24 VAC 24 VDC 12 VDC
Positioner and Switches					00 01 02 03 04 06 07 08 09	None 42AD0 exp limit switch 45VD0 exp position transmitter 42AD0-B ATEX limit switch 42AD0-IE IECEX limit switch QV-210101 poly limit switch VPS and P1 prox switch 265ER-D5 positioner 285ER-D5 smart positioner

MODEL CHART - ELECTRIC ACTUATOR				
Example	WE35	-GMD01	-T2	-A
Series	WE35			
Size and Range		CTD01 DTD01 ETD01 FTD01 GTD01 HTD02 CMD01 DMD01 EMD01 FMD01 GMD01 HMD02 CTI01 DTI01 ETI02 FTI02 GTI02 HTI03 CMI01 DMI01 EMI02 FMI02 GMI02 HMI03		
Valve Position			T1 T2 T3 T4 L1	
Actuator Voltage				A B C D

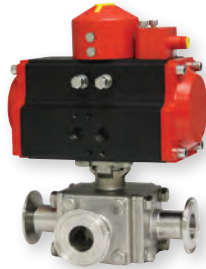
ACCESSORIES	
Model	Description
AFR4	Air filter regulator, 0 to 120 psi

# 3-WAY TRI-CLAMP STAINLESS STEEL BALL VALVES

Cavity Filled, Electric and Pneumatic Actuators



WE33-DHD00-T2



WE33-ESR03-T1-NN07



WE33-DDA01-L1-AA06



WE33-DTD01-T3-A



WE33-DTI01-T2-A



The **Series WE33 3-Way Tri-Clamp Stainless Steel Ball Valves** incorporate a full port 3-way tri-clamp SS ball valve for great flow rates with minimal pressure drop. The valve features a blowout-proof stem for added safety, reinforced PTFE seats and seals for longer life, and a 316 SS (ASTM CF8M) ball for better performance. Actuators are direct mounted creating a compact assembly for tight spaces. Limit switches are able to be mounted directly to the valves allowing for remote position indication.

The Series WE33 can be configured with either an electric or pneumatic actuator. Electric actuators are available in weatherproof or explosion-proof, a variety of supply voltages and two-position or modulating control. Two-position actuators use the supply voltage to drive the valve open or close, while the modulating actuator accepts a 4-20 mA input for valve positioning. Actuators feature thermal overload protection and permanently lubricated gear train.

The pneumatic double acting actuator uses an air supply to drive the valve open and closed. The actuator has two supply ports, with one driving the valve open and the other driving the valve closed. Spring return pneumatic actuators use the air supply to open the valve, and internally loaded springs return the valve to the closed position. Also available is the SN solenoid valve to electrically switch the air supply pressure between the air supply ports for opening and closing the valve. Actuators are constructed of anodized and epoxy coated aluminum for years of corrosion free service.

**FEATURES/BENEFITS**

- Capable of being configured to fit any application
- Limit switches can be mounted to manual valves for remote monitoring
- Cavity filled valve for sanitary applications
- Weatherproof or explosion-proof electric actuators
- Double acting or spring return aluminum pneumatic actuators
- Full port design reduces the pressure drop across the valve

**APPLICATIONS**

- Gas or liquid flow control
- Ideal for quick bubble tight shut-off
- Mixing or diverting liquids and gases

**SPECIFICATIONS****VALVE**

**Service:** Compatible liquids and gases.

**Body:** 3-way.

**Line Sizes:** 1/2 to 2".

**End Connections:** Tri-clamp ends.

**Pressure Limits:** 20" Hg to 1000 psi (-0.7 to 69 bar) up to 250°F.

**Wetted Materials:** Body and ball: 316 SS (CF8M); Stem: 316 SS; Seat: RTFE/PTFE; Seal, washer, and packing: PTFE.

**Temperature Limits:** -20 to 392°F (-29 to 200°C).

**Other Materials:** O-ring: Fluoroelastomer; Handle: 304 SS; Washer: 301 SS; Stem nut, locking device, gland ring: 304 SS; Handle sleeve: PVC.

**Agency Approvals:** Meets the technical requirements of EU Directive 2011/65/ EU (RoHS II).

**ACTUATORS****Pneumatic "DA" and "SR" Series**

**Type:** DA series is double acting and SR series is spring return (rack and pinion).

**Normal Supply Pressure:** DA: 40 to 115 psi (2.7 to 7.9 bar); SR: 80 psi (5.5 bar).

**Maximum Supply Pressure:** 120 psi (8.6 bar).

**Air Connections:** DA01: 1/8" female NPT; DA02 to DA03: 1/4" female NPT; SR02 to SR04: 1/4" female NPT.

**Housing Material:** Anodized aluminum body and epoxy coated aluminum end caps.

**Temperature Limits:** -40 to 176°F (-40 to 80°C).

**Accessory Mounting:** NAMUR standard.

**Electric "TD" and "MD" Series**

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC (MD models not available in 24 VDC).

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** TD01: 4 s; MD01: 10 s; TD02 and MD02: 20 s.

**Duty Rating:** 85%.

**Enclosure Rating:** NEMA 4X (IP67).

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -22 to 140°F (-30 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Manual override, position indicator, and TD models come with two limit switches.

**Electric "TI" and "MI" Series**

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC.

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** See instruction manual.

**Duty Rating:** See instruction manual.

**Enclosure Rating:** NEMA 7, designed to meet hazardous locations: Class I, Group C & D; Class II, Group E, F & G; Division I & II.

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -40 to 140°F (-40 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Position indicator and two limit switches.

# 3-WAY TRI-CLAMP STAINLESS STEEL BALL VALVES

Cavity Filled, Electric and Pneumatic Actuators

MODEL CHART						
Size	Cv (gal/min)	Popular Hand Operated Model	Popular Double Acting Pneumatic Model	Popular Spring Return Pneumatic Model	Popular NEMA 4X Two Position Electric (110 VAC) Model	Popular NEMA 4X Modulating Electric (110 VAC) Model
1/2"	14.39	WE33-CHD00-T2	WE33-CDA01-T2	WE33-CSR02-T2	WE33-CTD01-T2-A	WE33-CMD01-T2-A
3/4"	42.25	WE33-DHD00-T2	WE33-DDA01-T2	WE33-DSR02-T2	WE33-DTD01-T2-A	WE33-DMD01-T2-A
1"	86.17	WE33-EHD00-T2	WE33-EDA02-T2	WE33-ESR03-T2	WE33-ETD01-T2-A	WE33-EMD01-T2-A
1-1/2"	223.61	WE33-GHD00-T2	WE33-GDA02-T2	WE33-GSR04-T2	WE33-GTD02-T2-A	WE33-GMD02-T2-A
2"	437.98	WE33-HHD00-T2	WE33-HDA03-T2	WE33-HSR04-T2	WE33-HTD02-T2-A	WE33-HMD02-T2-A

MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR						
Example	WE33	-CSR02	-T4	-N	N	07
Series	WE33					316 SS 3-way tri-clamp
Size and Actuator		CHD00 DHD00 EHD00 GHD00 HHD00 CDA01 DDA01 EDA02 GDA02 HDA03 CSR02 DSR02 ESR03 GSR04 HSR04				1/2" hand operated 3/4" hand operated 1" hand operated 1-1/2" hand operated 2" hand operated 1/2" double acting 3/4" double acting 1" double acting 1-1/2" double acting 2" double acting 1/2" spring return 3/4" spring return 1" spring return 1-1/2" spring return 2" spring return
Valve Position			T1 T2 T3 T4 L1			Flow path A Flow path B Flow path C Flow path D Flow path E
Solenoid					N A	No solenoid NEMA 4X NAMUR solenoid
Solenoid Voltage					N A B C D E	No solenoid 110 VAC 220 VAC 24 VAC 24 VDC 12 VDC
Positioner and Switches						00 None 01 42AD0 exp limit switch 02 45VD0 exp position transmitter 03 42AD0-B ATEX limit switch 04 42AD0-IE IECEX limit switch 06 QV-210101 poly limit switch 07 VPS and P1 prox switch 08 265ER-D5 positioner 09 285ER-D5 smart positioner

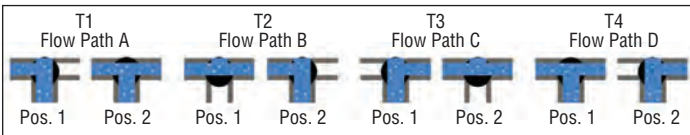
ACCESSORIES	
Model	Description
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster

MODEL CHART - ELECTRIC ACTUATOR				
Example	WE33	-DMD01	-T2	-B
Series	WE33			
Size and Actuator		CTD01 DTD01 ETD01 GTD02 HTD02 CMD01 DMD01 EMD01 GMD02 HMD02 CTI01 DTI01 ETI02 GTI02 HTI03 CMI01 DMI01 EMI02 GMI02 HMI03		
Valve Position			T1 T2 T3 T4 L1	
Actuator Voltage				A B C D

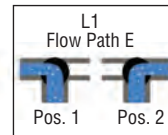
REPAIR KIT	
Model	Valve Series and Size
VRK-42	WE33-1/2"
VRK-43	WE33-3/4"
VRK-44	WE33-1"
VRK-45	WE33-1-1/2"
VRK-46	WE33-2"

Parts List - Included in Kit	
1	PTFE thrust washer
1	FKM O-ring
2	PTFE stem packing
2	PTFE seals
2	RTFE seats

"T" Port Ball



"L" Port Ball

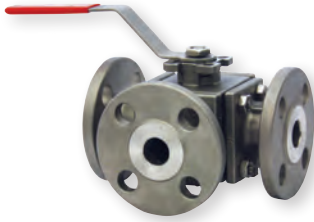


**Dwyer**

SERIES WE34 | W.E. ANDERSON™ BY DWYER

**3-WAY FLANGED STAINLESS STEEL BALL VALVES**

150# ANSI Flange, Vented Ball, Electric or Pneumatic Actuators



WE34-DHD00-L1



WE34-DDA03-T2



WE34-DDA03-T1-AA01



WE34-DDA03-T2-NN08



WE34-DT103-T3-A



The **Series WE34 3-Way Flanged Stainless Steel Ball Valves** incorporate a full port 3-way flanged SS ball valve for great flow rates with minimal pressure drop. The valve features a blowout-proof stem for added safety, reinforced PTFE seats and seals for longer life, and a 316 SS (ASTM CF8M) ball for better performance. Actuators are direct mounted creating a compact assembly for tight spaces. Limit switches are able to be mounted directly to the valves allowing for remote position indication.

The Series WE34 can be configured with either an electric or pneumatic actuator. Electric actuators are available in weatherproof or explosion-proof, a variety of supply voltages and two-position or modulating control. Two-position actuators use the supply voltage to drive the valve open or closed, while the modulating actuator accepts a 4-20 mA input for valve positioning. Actuators feature thermal overload protection and permanently lubricated gear train.

The pneumatic double acting actuator uses an air supply to drive the valve open and closed. The actuator has two supply ports, with one driving the valve open and the other driving the valve closed. Spring return pneumatic actuators use the air supply to open the valve and internally loaded springs return the valve to the closed position. Also available is the SN solenoid valve to electrically switch the air supply pressure between the air supply ports for opening and closing the valve. Actuators are constructed of anodized and epoxy coated aluminum for years of corrosion free service.

**FEATURES/BENEFITS**

- Capable of being configured to fit any application
- Limit switches can be mounted to manual valves for remote monitoring
- Vented ball to reduce operating torque
- Weatherproof or explosion-proof electric actuators
- Double acting or spring return anodized aluminum pneumatic actuators
- Full port design reduces the pressure drop across the valve
- Eliminates threads and reduces installation and maintenance time

**APPLICATIONS**

- Gas or liquid flow control
- Ideal for quick bubble tight shut-off
- Mixing or diverting liquids and gases

**SPECIFICATIONS****VALVE**

**Service:** Compatible liquids and gases.

**Body:** 3-way.

**Line Sizes:** 1/2 to 3".

**End Connections:** 150# ANSI flange.

**Pressure Limits:** 28" Hg to 275 psi (-0.7 to 19 bar) up to 392°F.

**Wetted Materials:** Body and ball: 316 SS (CF8M); Stem: 316 SS; Seat: RTFE/PTFE; Seal, washer, and packing: PTFE.

**Temperature Limits:** -20 to 392°F (-29 to 200°C).

**Other Materials:** O-ring: Fluoroelastomer; Handle: 304 SS; Washer: 301 SS; Stem nut, locking device, gland ring: 304 SS; Handle sleeve: PVC.

**Agency Approvals:** Meets the technical requirements of EU Directive 2011/65/ EU (RoHS II).

**ACTUATORS****Pneumatic "DA" and "SR" Series**

**Type:** DA series is double acting and SR series is spring return (rack and pinion).

**Normal Supply Pressure:** DA: 40 to 115 psi (2.7 to 7.9 bar); SR: 80 psi (5.5 bar).

**Maximum Supply Pressure:** 120 psi (8.6 bar).

**Air Connections:** DA01: 1/8" female NPT; DA02 to DA08: 1/4" female NPT; SR03 to SR09: 1/4" female NPT.

**Housing Material:** Anodized aluminum body and epoxy coated aluminum end caps.

**Temperature Limits:** -40 to 176°F (-40 to 80°C).

**Accessory Mounting:** NAMUR standard.

**Electric "TD" and "MD" Series**

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC (MD models not available in 24 VDC).

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** TD01: 4 s; MD01: 10 s; TD02 and MD02: 20 s; TD03 and MD03: 30 s; TD04 and MD04: 30 s.

**Duty Rating:** 85%.

**Enclosure Rating:** NEMA 4X (IP67).

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -22 to 140°F (-30 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Manual override, position indicator, and TD models come with two limit switches.

**Electric "TI" and "MI" Series**

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC.

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** See instruction manual.

**Duty Rating:** See instruction manual.

**Enclosure Rating:** NEMA 7, designed to meet hazardous locations: Class I, Group C & D; Class II, Group E, F & G; Division I & II.

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -40 to 140°F (-40 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Position indicator and two limit switches.



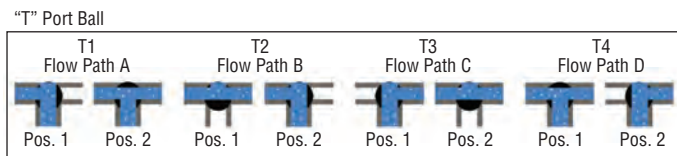
# 3-WAY FLANGED STAINLESS STEEL BALL VALVES

150# ANSI Flange, Vented Ball, Electric or Pneumatic Actuators

MODEL CHART						
Size	Cv (gal/min)	Popular Hand Operated Model	Popular Double Acting Pneumatic Model	Popular Spring Return Pneumatic Model	Popular NEMA 4X Two Position Electric (110 VAC) Model	Popular NEMA 4X Modulating Electric (110 VAC) Model
1/2"	26	WE34-CHD00-T2	WE34-CDA02-T2	WE34-CSR03-T2	WE34-CTD02-T2-A	WE34-CMD01-T2-A
3/4"	50	WE34-DHD00-T2	WE34-DDA02-T2	WE34-DSR03-T2	WE34-DTD02-T2-A	WE34-DMD01-T2-A
1"	94	WE34-EHD00-T2	WE34-EDA03-T2	WE34-ESR05-T2	WE34-ETD02-T2-A	WE34-EMD02-T2-A
1-1/2"	260	WE34-GHD00-T2	WE34-GDA05-T2	WE34-GSR06-T2	WE34-GTD03-T2-A	WE34-GMD03-T2-A
2"	380	WE34-HHD00-T2	WE34-HDA06-T2	WE34-HSR07-T2	WE34-HTD03-T2-A	WE34-HMD03-T2-A
2-1/2"	650	WE34-IHD00-T2	WE34-IDA07-T2	WE34-ISR08-T2	WE34-ITD04-T2-A	WE34-IMD04-T2-A
3"	1000	WE34-JHD00-T2	WE34-JDA08-T2	WE34-JSR09-T2	WE34-JTD04-T2-A	WE34-JMD04-T2-A

MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR							
Example	WE34	-JDA08	-T1	-A	B	00	
<b>Series</b>	WE34						316 SS 3-way 150# ANSI flange
<b>Size and Actuator</b>		CHD00 DHD00 EHD00 GHD00 HHD00 IHD00 JHD00 CDA02 DDA02 EDA03 GDA05 HDA06 IDA07 JDA08 CSR03 DSR03 ESR05 GSR06 HSR07 ISR08 JSR09					1/2" hand operated 3/4" hand operated 1" hand operated 1-1/2" hand operated 2" hand operated 2-1/2" hand operated 3" hand operated 1/2" double acting 3/4" double acting 1" double acting 1-1/2" double acting 2" double acting 2-1/2" double acting 3" double acting 1/2" spring return 3/4" spring return 1" spring return 1-1/2" spring return 2" spring return 2-1/2" spring return 3" spring return
<b>Valve Position</b>			T1 T2 T3 T4 L1				Flow path A Flow path B Flow path C Flow path D Flow path E
<b>Solenoid</b>				N A			No solenoid NEMA 4X NAMUR solenoid
<b>Solenoid Voltage</b>				N A B C D E			No solenoid 110 VAC 220 VAC 24 VAC 24 VDC 12 VDC
<b>Positioner and Switches</b>						00	None 01 42AD0 exp limit switch 02 45VD0 exp position transmitter 03 42AD0-B ATEX limit switch 04 42AD0-IE IECEX limit switch 06 QV-210101 poly limit switch 07 VPS and P1 prox switch 08 265ER-D5 positioner 09 285ER-D5 smart positioner

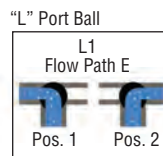
ACCESSORIES	
Model	Description
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster



MODEL CHART - ELECTRIC ACTUATOR						
Example	WE34	-HMD03	-T3	-A	WE34-HMD03-T3-A	
<b>Series</b>	WE34					316 SS 3-way 150# ANSI flange
<b>Size and Actuator</b>		CTD02 DTD02 ETD02 GTD03 HTD03 ITD04 JTD04 CMD01 DMD01 EMD02 GMD03 HMD03 IMD04 JMD04 CTI02 DTI02 ETI03 GTI05 HTI06 ITI06 JTI08 CMI02 DMI02 EMI03 GMI05 HMI06 IMI06 JMI08				1/2" NEMA 4X two-position 3/4" NEMA 4X two-position 1" NEMA 4X two-position 1-1/2" NEMA 4X two-position 2" NEMA 4X two-position 2-1/2" NEMA 4X two-position 3" NEMA 4X two-position 1/2" NEMA 4X modulating 3/4" NEMA 4X modulating 1" NEMA 4X modulating 1-1/2" NEMA 4X modulating 2" NEMA 4X modulating 2-1/2" NEMA 4X modulating 3" NEMA 4X modulating 1/2" exp two-position 3/4" exp two-position 1" exp two-position 1-1/2" exp two-position 2" exp two-position 2-1/2" exp two-position 3" exp two-position 1/2" exp electric modulating 3/4" exp electric modulating 1" exp electric modulating 1-1/2" exp electric modulating 2" exp electric modulating 2-1/2" exp electric modulating 3" exp electric modulating
<b>Valve Position</b>			T1 T2 T3 T4 L1			Flow path A Flow path B Flow path C Flow path D Flow path E
<b>Actuator Voltage</b>				A B C D		110 VAC 220 VAC 24 VAC 24 VDC

REPAIR KIT	
Model	Valve Series and Size
VRK-50	WE34-1/2"
VRK-51	WE34-3/4"
VRK-52	WE34-1"
VRK-54	WE34-1-1/2"
VRK-55	WE34-2"
VRK-56	WE34-2-1/2"
VRK-57	WE34-3"

Parts List - Included in Kit	
1	PTFE thrust washer
1	FKM O-ring
2	PTFE stem packing
2	PTFE seals
2	RTFE seats



Valves,  
Ball, Automated



SERIES 3PBV | W.E. ANDERSON™ BY DWYER

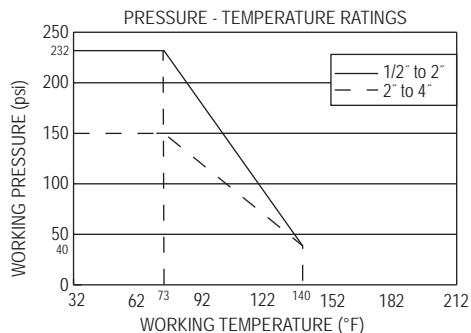
# 3-WAY PLASTIC AUTOMATED BALL VALVES

## Electric and Pneumatic Actuators



Size	Position				
	A	B	C	D	E
1/2"	3.85	2.45	4.55	13.7	5.11
3/4"	9.50	6.65	10.2	26.6	10.5
1"	14.4	9.80	17.2	53.2	18.6
1-1/4"	27.3	18.9	32.2	73.5	33.3
1-1/2"	33.3	23.1	42.0	119	43.4
2"	63.0	43.4	84.0	224	85.4

Cv values



The Series 3PBV 3-Way Plastic Automated Ball Valves are ideal for mixing or diverting services in industrial, chemical, turf and irrigation, and pool and spa applications, as well as for use with potable water. The valve features a 3-seat design for efficient automation, reinforced TFE seats and EPDM seals for longer life, and an all PVC construction for heavyweight durability at a lightweight cost. Valves also come standard with field selectable NPT or socket process connections.

The 3PBV is an economical automated valve package with either an electric or pneumatic actuator. Electrically actuated models are weatherproof, NEMA 4 (IP56), powered by standard 115 VAC supply, and are available in either two-position or proportional control. Two-position actuators use the 115 VAC input to drive each of the valve ports open or closed, while the modulating actuator accepts a 4-20 mA input for infinite valve positioning. Actuator features include thermal overload protection to withstand stall conditions, visual position indication and a permanently lubricated gear train.

The pneumatic double acting actuator uses an air supply to drive each of the actuator ports. Spring return pneumatic actuators use the air supply to drive the valve stem one direction, and internally loaded springs return the valve to its original position. Also available is the SV3 solenoid valve to electrically switch the supply pressure between the air supply ports. Actuators are constructed of anodized aluminum and are epoxy coated for years of corrosion free service.

**FEATURES/BENEFITS**

- Available with a variety of electric and pneumatic actuators
- Field selectable socket or NPT connections

**APPLICATIONS**

- Gas or liquid flow control
- Mixing or diverting liquids and gases

**HOW TO ORDER:**

1. Select **Model Number** to specify pipe size and actuator.
2. Choose a **Port Configuration** to determine valve flow path.  
**Example:** 3PBVPSR204-L1

MODEL CHART					
Size	Cv	Double Acting Pneumatic	Spring Return Pneumatic	Two Position Electric	Modulating Electric
		Model*	Model*	Model*	Model*
1/2"	See Chart	3PBVPDA102	3PBVPSR202	3PBVPU1102	3PBVPV1202
3/4"	Below	3PBVPDA103	3PBVPSR203	3PBVPU1103	3PBVPV1203
1"		3PBVPDA104	3PBVPSR204	3PBVPU1104	3PBVPV1204
1-1/4"		3PBVPDA105	3PBVPSR205	3PBVPU1105	3PBVPV1205
1-1/2"		3PBVPDA206	3PBVPSR306	3PBVPU1206	3PBVPV1206
2"		3PBVPDA207	3PBVPSR307	3PBVPU1207	3PBVPV1207

\*Complete model includes **Port Configuration** - see "How to Order".

OPTIONS		
To order add suffix:	Description	Actuator Size*
-EX	Explosion proof electric actuators	XX1-XX6
*Example: Third digit in U12 or V12 is the size		
<b>Note:</b> For optional electric acuator supply voltages, contact factory for model number change		

**SPECIFICATIONS**

**Service:** Compatible liquids or gases.  
**Body:** 3-way.  
**Line Size:** 1/2" to 2".  
**End Connections:** Female NPT or socket (field-selectable).  
**Pressure Limit:** 1/2" to 1": 232 psi (16.0 bar) @ 73°F (23°C); 1-1/4" to 2": 150 psi (10.3 bar) @ 73°F (23°C) WOG; Vacuum: 29" Hg. See chart for curve.  
**Wetted Materials:** Body, end connectors: PVC; Ball, stem: PVC; Seat: TFE; Stem seal: EPDM.  
**Temperature Limit:** 32 to 140°F (0 to 60°C).

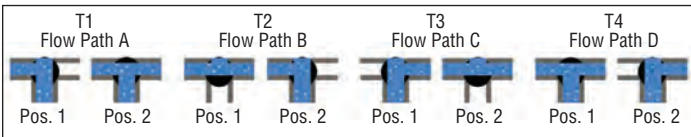
**ACTUATORS**  
**Electric**  
**Power Requirements:** 120 VAC, 50/60 Hz, single phase. Optional 220 VAC, 24 VAC, 12 VDC, and 24 VDC.  
**Power Consumption (Locked Rotor Current):** Two position: 1/2" to 1-1/2": .55 A, 2": 0.75 A; Modulating: 0.75 A.  
**Cycle Time:** (per 90°): Two position: 1/2" to 1-1/2": 2.5 s, 2": 5 s; Modulating: 5 s.  
**Duty Cycle:** Two position: 1/2" to 1-1/2": 75%, 2": 25%; Modulating: 75%.  
**Enclosure Rating:** NEMA 4. Optional NEMA 7 (Class 1, Div. II groups A, B, C, D).  
**Housing Material:** Aluminum with thermal bonding polyester powder finish.

**Temperature Limit:** 0 to 150°F (-18 to 65°C).  
**Conduit Connection:** 1/2" female NPT.  
**Modulating Input:** 4-20 mA.  
**Standard Features:** Manual override and visual position indicator except modulating units.

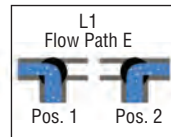
**Pneumatic "DA" and "SR" Series**  
**Type:** DA series is double acting and SR series is spring return (rack and pinion).  
**Normal Supply Pressure:** 80 psi (5.5 bar).  
**Maximum Supply Pressure:** 120 psig (8 bar).  
**Air Connections:** DA/SR1 to 5: 1/8" female NPT, all other sizes: 1/4" female NPT.  
**Air Consumption (per stroke):** DA1: 2.32 in<sup>3</sup>; DA2, SR2: 9.34 in<sup>3</sup>; SR3: 17.21 in<sup>3</sup>.  
**Cycle Time (per 90°):** DA1: .03 s; DA2: .04 s; SR2: .09 s; SR3: .14 s.  
**Housing Material:** Anodized aluminum body and epoxy coated aluminum end caps.  
**Temperature Limit:** -4 to 180°F (-20 to 82°C).  
**Accessory Mounting:** NAMUR standard.  
**Standard Features:** Visual position indicator.

Valves, Ball, Automated

**"T" Port Ball**

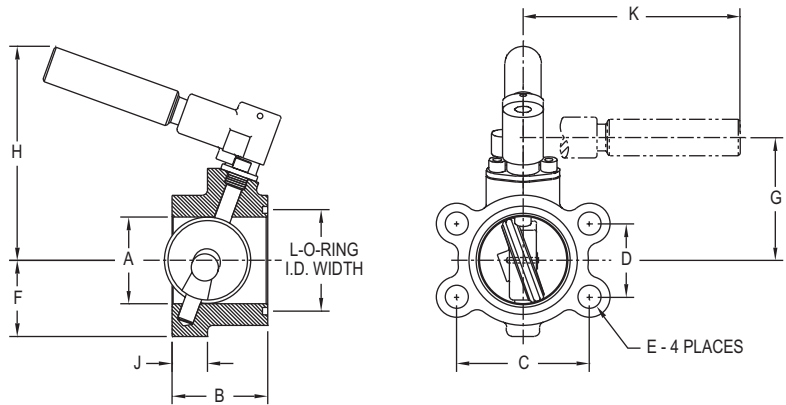


**"L" Port Ball**



# BUTTERFLY VALVE

Low Cost, S.A.E. Flange, Hydraulic Reservoir Shut Off Valve



Size	A in [mm]	B in [mm]	C in [mm]	D in [mm]	E in [mm]	F in [mm]	G in [mm]	H in [mm]	J in [mm]	K in [mm]	L in [mm]	I.D. X W.D.
2"	2 [50.80]	2 [50.80]	3-1/16 [77.79]	1-11/16 [42.86]	1/2 [12.70]	1-3/4 [44.45]	2-13/16 [71.44]	5-1/8 [130.18]	13/16 [20.64]	5 [127.00]	2-1/4 [57.15]	1/8 [3.18]
2-1/2"	2-1/2 [63.50]	2 [50.80]	3-1/2 [88.90]	2 [50.80]	1/2 [12.70]	2-1/16 [52.39]	3-1/8 [79.38]	5-1/8 [130.18]	13/16 [20.64]	5 [127.00]	2-3/4 [69.85]	1/8 [3.18]
3"	3 [76.20]	2-1/2 [63.50]	4-3/16 [106.36]	2-7/16 [61.91]	5/8 [15.88]	2-5/16 [58.74]	3-3/8 [85.73]	5-1/8 [130.18]	1-1/16 [26.99]	5 [127.00]	3-3/8 [85.73]	1/8 [3.18]
4"	4 [101.60]	3-1/4 [82.55]	5-1/8 [130.18]	3-1/16 [77.79]	5/8 [15.88]	2-3/4 [69.85]	4 [101.60]	5-5/8 [142.88]	1-1/4 [31.75]	5 [127.00]	4-3/8 [111.13]	1/8 [3.18]
5"	5 [127.00]	4 [101.60]	6 [152.40]	3-5/8 [92.08]	5/8 [15.88]	3-5/16 [84.14]	4-3/8 [111.13]	6 [152.40]	1-1/2 [38.10]	5 [127.00]	5-3/8 [136.53]	1/8 [3.18]

The **Series SAE Butterfly Valve** is an ideal low cost hydraulic reservoir shut off valve. These valves are designed to meet the demanding needs of the fluid power industry. Unique features include an O-ring flange face seal complying with S.A.E. J518 dimensional requirements. This design provides for bubble tight reservoir shut off up to 25 psi (1.72 bar) and a max temperature of 180°F (82.2°C). The compact envelope dimension reduces space requirements. Unit allows for adjustment by incorporating an open/close detent position lock which can be infinitely positioned to achieve a desired flow rate. The unique design resists the vibrations associated with hydraulic pumps and pumping systems. Optional fluoroelastomer seals and locking handle are available.

**FEATURES/BENEFITS**

- Flange face complies with S.A.E. J518 dimensional requirements
- Bubble tight shut-off
- Locking handles are available

**APPLICATIONS**

- Hydraulic reservoir isolation on injection molding or earth moving equipment
- Used to isolate the hydraulic reservoir during maintenance

MODEL CHART	
Model	Flange Size
SAE-20	2"
SAE-25	2-1/2"
SAE-30	3"
SAE-40	4"
SAE-50	5"

OPTIONS	
To order add suffix:	Description
-VIT	Fluoroelastomer O-ring seals
Example: SAE-30-VIT	
-LHR	Locking handle
Example: SAE-30-LHR	

**SPECIFICATIONS**

**Service:** Compatible liquids and gases.  
**Line Size:** 2" to 5".  
**Body Style:** 2-way, lug butterfly.  
**End Connections:** O-ring flange face seal (S.A.E. J518).  
**Pressure Limit:** Shut-off: 25 psi (1.72 bar) bubble tight; Body shell: 500 psi (34.5 bar).  
**Wetted Materials:** Body and disc/vane: Cast iron; O-rings: Buna-N or fluoroelastomer; Stem: Steel.  
**Temperature Limits:** Buna-N: 180°F (82°C); Fluoroelastomer: 300°F (149°C).



SERIES WE20 | W.E. ANDERSON™ BY DWYER

## BUTTERFLY VALVES

Lug or Wafer, EPDM or PTFE, Electric or Pneumatic Actuators



WE20-CHD00-LE



WE20-EDA06-LE



WE20-ETD04-LE-A



WE20-CDA04-WP-AA07



WE20-CDA04-WP-NN08



The **Series WE20 Butterfly Valves** are offered in lug or wafer body styles and is equipped with a PTFE or EPDM liner. The most critical aspect of the Series WE20 Butterfly Valves is the cartridge seat design, which alleviates installation problems associated with common "dove tail design" seats. Valve torques are lower and more consistent as the seat dynamics are not dependent on being coupled between two flanges. Precision machining of the disc and body allow the cartridge design to maintain a tighter disc to seat tolerance, providing a perfect low torque seal each and every time the valve is cycled. The seat to disc seal is independent of flange support and capable of full rated dead end service.

Actuators are directly mounted creating a compact assembly for tight spaces. Limit switches are able to be mounted directly to the valves allowing for remote position indication.

The Series WE20 can be configured with either an electric or pneumatic actuator. Electric actuators are available in weatherproof or explosion-proof, a variety of supply voltages and two-position or modulating control. Two-position actuators use the supply voltage to drive the valve open or closed, while the modulating actuator accepts a 4-20 mA input for valve positioning. Actuators feature thermal overload protection and permanently lubricated gear train. The pneumatic double acting actuator uses an air supply to drive the valve open and closed. The actuator has two supply ports, with one driving the valve open and the other driving the valve closed. Spring return pneumatic actuators use the air supply to open the valve, and internally loaded springs return the valve to the closed position.

The pneumatic double acting actuator uses an air supply to drive the valve open and closed. The actuator has two supply ports with one driving the valve open and the other driving the valve closed. Spring return pneumatic actuators use the air supply to open the valve and internally loaded springs return the valve to the closed position. Also available is the SV3 solenoid valve to electrically switch the air supply pressure between the air supply ports for opening and closing the valve. Actuators are constructed of anodized and epoxy coated aluminum for years of corrosion free service.

## FEATURES/BENEFITS

- Machined flats attach disc/stem - no pins
- Phenolic backed cartridge seat design for extended service and ease of replacement
- Extended neck for insulation - no fabricated extensions required
- Capable of being configured to fit any application
- Limit switches can be mounted to manual valves for remote monitoring
- Available with a variety of electric and pneumatic actuators

## APPLICATIONS

- Gas or liquid flow control

## SPECIFICATIONS

## VALVE

**Service:** Compatible liquids, gases, and steam.

**Body:** 2-way, wafer or lug butterfly.

**Line Sizes:** 2 to 12".

**End Connections:** Lug and wafer pattern designed for flanges that are ANSI Class 125 (B16.1) and ANSI Class 150 (B16.5) dimension.

**Pressure Limits:** 225 psi (15.5 bar).

**Wetted Materials:** Body material: Ductile iron; Disc: 316 SS; Seat: EPDM or PTFE; O-ring: EPDM; Stem: 410 SS.

**Temperature Limits:** Disc: EPDM: -50 to 250°F (-46 to 121°C); PTFE: 0 to 300°F (-18 to 149°C).

**Bearings:** Nylatron.

**Operator:** 2 to 6" 10-position locking hand lever; 8 to 12": manual gear.

## ACTUATORS

## Pneumatic "DA" and "SR" Series

**Type:** DA series is double acting and SR series is spring return (rack and pinion).

**Normal Supply Pressure:** DA: 40 to 115 psi (2.7 to 7.9 bar); SR: 70 to 115 psi (4.8 to 7.9 bar).

**Maximum Supply Pressure:** 120 psi (8.6 bar).

**Air Connections:** DA03 thru DA11: 1/4" FNPT; SR03 thru SR11: 1/4" FNPT.

**Housing Material:** Anodized aluminum body and epoxy coated aluminum end caps.

**Temperature Limits:** -40 to 176°F (-40 to 80°C).

**Accessory Mounting:** NAMUR standard.

## Electric "TD" and "MD" Series

**Power Requirements:** 110 VAC, 220 VAC or 24 VAC.

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** TD01 and MD01: 4 s; TD02 and MD02: 20 s; TD03 and MD03: 30 s; TD04 and MD04: 30 s; TD05 and MD05: 30 s; TD06 and MD06: 45 s; TD07 and MD07: 30 s.

**Duty Rating:** 85%.

**Enclosure Rating:** NEMA 4X (IP67).

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -22 to 140°F (-30 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Manual override, position indicator, and TD models come with two limit switches.

## Electric "TH and MH Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC.

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** See instruction manual.

**Duty Rating:** See instruction manual.

**Enclosure Rating:** NEMA 7, designed to meet hazardous locations: Class I, Group C & D; Class II, Group E, F & G; Division I & II.

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -22 to 140°F (-30 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Position indicator and two limit switches.

# BUTTERFLY VALVES

Lug or Wafer, EPDM or PTFE, Electric or Pneumatic Actuators

MODEL CHART						
Size	Cv (gal/min)	Popular Hand Operated Model	Popular Double Acting Pneumatic Model	Popular Spring Return Pneumatic Model	NEMA 4X Two-Position Electric (110 VAC) Model	NEMA 4X Modulating Electric (110 VAC) Model
2"	135	WE20-AHD00-WE	WE20-ADA03-WE	WE20-ASR04-WE	WE20-ATD02-WE-A	WE20-AMD02-WE-A
2-1/2"	220	WE20-BHD00-WE	WE20-BDA03-WE	WE20-BSR04-WE	WE20-BTD02-WE-A	WE20-BMD02-WE-A
3"	302	WE20-CHD00-WE	WE20-CDA04-WE	WE20-CSR06-WE	WE20-CTD02-WE-A	WE20-CMD02-WE-A
4"	600	WE20-DHD00-WE	WE20-DDA05-WE	WE20-DSR07-WE	WE20-DTD03-WE-A	WE20-DMD03-WE-A
5"	1022	WE20-EHD00-WE	WE20-EDA06-WE	WE20-ESR08-WE	WE20-ETD04-WE-A	WE20-EMD04-WE-A
6"	1579	WE20-FHD00-WE	WE20-FDA07-WE	WE20-FSR09-WE	WE20-FTD04-WE-A	WE20-FMD04-WE-A
8"	3136	WE20-GHD00-WE	WE20-GDA08-WE	WE20-GSR10-WE	WE20-GTD05-WE-A	WE20-GMD05-WE-A
10"	5340	WE20-HHD00-WE	WE20-HDA09-WE	WE20-HSR11-WE	WE20-HTD06-WE-A	WE20-HMD06-WE-A
12"	8250	WE20-IHD00-WE	WE20-IDA11-WE	WE20-ISR11-WE	WE20-ITD07-WE-A	WE20-IMD07-WE-A

MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR							
Example	WE20	-BSR04	-WE	-A	A	00	WE20-BSR04-WE-AA00
Series	WE20						Butterfly valve
Size and Actuator		AHD00 BHD00 CHD00 DHD00 EHD00 FHD00 GHD00 HHD00 IHD00 ADA03 BDA03 CDA04 DDA05 EDA06 FDA07 GDA08 HDA09 IDA11 ASR04 BSR04 CSR06 DSR07 ESR08 FSR09 GSR10 HSR11 ISR11					2" hand operated 2-1/2" hand operated 3" hand operated 4" hand operated 5" hand operated 6" hand operated 8" hand operated 10" hand operated 12" hand operated 2" double acting 2-1/2" double acting 3" double acting 4" double acting 5" double acting 6" double acting 8" double acting 10" double acting 12" double acting 2" spring return 2-1/2" spring return 3" spring return 4" spring return 5" spring return 6" spring return 8" spring return 10" spring return 12" spring return
Body Type /Liner			WE WP LE LP				Wafer-EPDM Wafer-PTFE Lug-EPDM Lug-PTFE
Solenoid				N A			No solenoid NEMA 4X NAMUR solenoid
Solenoid Voltage					N A B C D E		No solenoid 120 VAC 220 VAC 24 VAC 24 VDC 12 VDC
Positioner and Switches						00 01 02 03 04 06 07 08 09	None 42AD0 exp limit switch 45VD0 exp position transmitter 42AD0-B ATEX limit switch 42AD0-IE IECEX limit switch QV-210101 poly limit switch VPS and P1 prox switch 265ER-D5 positioner 285ER-D5 smart positioner
Options							NO Fail open spring return actuator

MODEL CHART - ELECTRIC ACTUATOR							
Example	WE20	-DMH05	-WE	-A		WE20-DMH05-WE-A	
Series	WE20						Butterfly valve
Size and Actuator		ATD02 BTD02 CTD02 DTD03 ETD04 FTD04 GTD05 HTD06 ITD07 AMD02 BMD02 CMD02 DMD03 EMD04 FMD04 GMD05 HMD06 IMD07 ATH03 BTH03 CTH05 DTH05 ETH06 FTH08 GTH09 HTH10 ITH11 AMH03 BMH03 CMH05 DMH05 EMH06 FMH08 GMH09 HMH10 IMH11					2" NEMA 4X two-position 2-1/2" NEMA 4X two-position 3" NEMA 4X two-position 4" NEMA 4X two-position 5" NEMA 4X two-position 6" NEMA 4X two-position 8" NEMA 4X two-position 10" NEMA 4X two-position 12" NEMA 4X two-position 2" NEMA 4X modulating 2-1/2" NEMA 4X modulating 3" NEMA 4X modulating 4" NEMA 4X modulating 5" NEMA 4X modulating 6" NEMA 4X modulating 8" NEMA 4X modulating 10" NEMA 4X modulating 12" NEMA 4X modulating 2" exp two-position 2-1/2" exp two-position 3" exp two-position 4" exp two-position 5" exp two-position 6" exp two-position 8" exp two-position 10" exp two-position 12" exp two-position 2" exp electric modulating 2-1/2" exp electric modulating 3" exp electric modulating 4" exp electric modulating 5" exp electric modulating 6" exp electric modulating 8" exp electric modulating 10" exp electric modulating 12" exp electric modulating
Material/ Liner			WE WP LE LP				Wafer-EPDM Wafer-PTFE Lug-EPDM Lug-PTFE
Actuator Voltage					A B C D		110 VAC 220 VAC 24 VAC 24 VDC

ACCESSORIES	
Model	Description
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster





**Dwyer**

SERIES 38R | W.E. ANDERSON™ BY DWYER

# SELF-ACTING TEMPERATURE CONTROL VALVE

Requires No External Power



The **Series 38R Self-Acting Temperature Control Valve** requires no external power sources and is ideal for regulating the temperature of tanks, process streams and various types of industrial equipment. The actuators are made with a rugged die-cast aluminum housing with a fully enclosed bellow assembly and internal over-range protection. Valves are offered in 1/2" through 6" connection sizes and 1/8" through 6" port sizes. The valve bodies are available in single-seated direct or reverse-acting, double-seated direct or reverse-acting, and 3-way designs with four choices of body material: bronze, cast-iron, cast-steel, and 316 SS. Actuators are available with or without indicating dials or in Fail-Safe. Non-indicating actuators feature a lower profile and should be implemented where space constraints may be an issue while the indicating actuator allows the operator to verify the process temperature and aid in temperature adjustment. Fail-Safe actuators are designed to cause the valve to fail in the safe control position (open in cooling application, closed in a heating application) should some accidental damage occur to the terminal system, resulting in loss of pressure charge. Also available with the Series 38R are a wide range of capillaries, bulbs, and thermowells.

Please request a copy of our Valve Catalog, CT-VC, or visit our website at [www.dwyer-inst.com](http://www.dwyer-inst.com) to see full model information and ordering details for the Series 38R.

**FEATURES/BENEFITS**

- Self-operated design
- Internal over range protection
- Heavy duty die cast aluminum actuator

**APPLICATIONS**

- Temperature control without external power or control inputs

**SPECIFICATIONS****VALVE BODY**

**Service:** Compatible liquids, gases, and steam.

**Line Size:** 1/2" to 2".

**Body Style:** 2-way or 3-way.

**End Connections:** 1/2" to 2" female NPT.

**Pressure Limit:** 250 psi (17.2 bar).

**Wetted Materials:** Body material: Bronze or 316 SS; Trim: 316 SS; Packing: PTFE.

**Temperature Limits:** 410°F (210°C) @ 250 psi (17.24 bar).

**ACTUATOR**

**Power Requirements:** Fully self-contained, no external power required.

**Indicator:** 3-1/2" dial thermometer, SS case, swivel and angle adjustable (available for indicating actuator only).

**Housing:** Die cast aluminum, epoxy powder coated blue finish.

**Set Point Scale:** Integral to housing.

**Bellows:** High-pressure brass, corrosion resistant, tinplated finish.

**Adjustment Screws:** Brass.

**Range Adjustment Spring:** Cadmium plated.

**Overrange Protection:** 100°F over upper range limit for temporary situations.

**Note:** See website for additional options.



# SELF-ACTING TEMPERATURE CONTROL VALVE

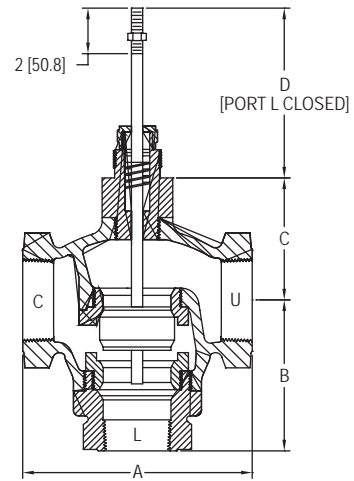
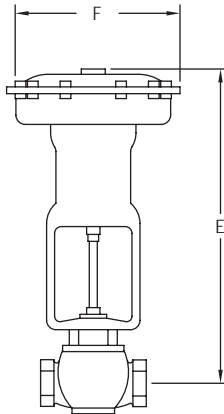
Requires No External Power

MODEL CHART									
Example	38R	-D00VA32	-1	01	36	2	-R09	38R-D00VA32-101362-R09	
Series	38R							Self-acting temperature control valve	
Valve		D00VA32 D01VA32 D02VA32 D03VA32 D04VA32 D05VA32 R00VA32 R01VA32 R02VA32 R03VA32 R04VA32 R05VA32 D00VA42 D01VA42 D02VA42 D03VA42 D04VA42 D05VA42 R00VA42 R01VA42 R02VA42 R03VA42 R04VA42 R05VA42 300WA31 301WA31 302WA31 303WA31 304WA31 305WA31 300WA41 301WA41 302WA41 303WA41 304WA41 305WA41							1/2" NPT single seat two-way bronze valve, direct acting 3/4" NPT single seat two-way bronze valve, direct acting 1" NPT single seat two-way bronze valve, direct acting 1-1/4" NPT single seat two-way bronze valve, direct acting 1-1/2" NPT single seat two-way bronze valve, direct acting 2" NPT single seat two-way bronze valve, direct acting 1/2" NPT single seat two-way bronze valve, reverse acting 3/4" NPT single seat two-way bronze valve, reverse acting 1" NPT single seat two-way bronze valve, reverse acting 1-1/4" NPT single seat two-way bronze valve, reverse acting 1-1/2" NPT single seat two-way bronze valve, reverse acting 2" NPT single seat two-way bronze valve, reverse acting 1/2" NPT single seat two-way 316 SS valve, direct acting 3/4" NPT single seat two-way 316 SS valve, direct acting 1" NPT single seat two-way 316 SS valve, direct acting 1-1/4" NPT single seat two-way 316 SS valve, direct acting 1-1/2" NPT single seat two-way 316 SS valve, direct acting 2" NPT single seat two-way 316 SS valve, direct acting 1/2" NPT single seat two-way 316 SS valve, reverse acting 3/4" NPT single seat two-way 316 SS valve, reverse acting 1" NPT single seat two-way 316 SS valve, reverse acting 1-1/4" NPT single seat two-way 316 SS valve, reverse acting 1-1/2" NPT single seat two-way 316 SS valve, reverse acting 2" NPT single seat two-way 316 SS valve, reverse acting 1/2" NPT three-way bronze valve 3/4" NPT three-way bronze valve 1" NPT three-way bronze valve 1-1/4" NPT three-way bronze valve 1-1/2" NPT three-way bronze valve 2" NPT three-way bronze valve 1/2" NPT three-way 316 SS valve 3/4" NPT three-way 316 SS valve 1" NPT three-way 316 SS valve 1-1/4" NPT three-way 316 SS valve 1-1/2" NPT three-way 316 SS valve 2" NPT three-way 316 SS valve
Actuator			1 2					Non-indicating actuator Indicating actuator	
Bulb and Capillary				01 02 03 04 05 06 07 08 09 10				Brass union connection 316 SS union connection Brass adjustable union connection 316 SS adjustable union connection Brass plain bulb 316 SS plain bulb FEP Covered brass bulb FEP Covered 316 SS bulb Brass union with stainless steel spiral armor 316 SS union with stainless steel spiral armor	
Capillary Length					36			Capillary length in feet. Example 36 is 36' length	
Thermowell						0 1 2		No thermowell 316 SS thermowell, 1-1/4" external connection Brass thermowell, 1-1/4" external connection	
Temperature Range							R03 R04 R05 R06 R07 R09 R10 R11 R12 R13 R14	30 to 115°F (-1 to 46°C) 50 to 140°F (10 to 60°C) 75 to 165°F (24 to 74°C) 105 to 195°F (41 to 91°C) 125 to 215°F (52 to 102°C) 155 to 250°F (68 to 121°C) 200 to 280°F (93 to 138°C) 225 to 315°F (107 to 157°C) 255 to 370°F (124 to 188°C) 295 to 420°F (146 to 216°C) 310 to 440°F (154 to 227°C)	



# HI-FLOW™ CONTROL VALVE

## 3-Way Standard Products for Mixing or Diverting



DIMENSIONS			
Pipe Size	B in [mm]	C in [mm]	D in [mm]
1/2"	2-9/16 [65.1]	2-3/16 [55.6]	4-1/8 [104.8]
3/4"	2-9/16 [65.1]	2-3/16 [55.6]	4-1/8 [104.8]
1"	3 [76.2]	2-7/16 [61.9]	4 [101.6]
1-1/4"	3-3/16 [81.0]	2-1/2 [63.5]	3-3/4 [93.3]
1-1/2"	3-3/4 [95.3]	2-3/4 [69.9]	3-11/16 [93.7]
2"	3-15/16 [100.0]	3-3/16 [81.0]	3-11/16 [93.7]

Use the standard models chart to aid in the selection of the most economical Hi-Flow™ 3-Way Control Valve for your application. Standard models include: LIN-E-AIRE® Air-To-Lower Actuator (port L opens on loss of air)

### Mixing Service

FLOW IN - ports U&L; FLOW OUT - port C  
Specify maximum upstream pressures [USP's]: USP<sub>U</sub> and USP<sub>L</sub>  
To determine shutoff pressure: (USP<sub>U</sub> - USP<sub>C</sub>) + (USP<sub>L</sub> - USP<sub>C</sub>)

### Diverting Service

FLOW IN - port C; FLOW OUT - ports U&L  
Specify maximum upstream pressures [USP's]: USP<sub>C</sub>; based on standard 3-15 psi [.21-1.0 bar] pneumatic control signal  
To determine shutoff pressure: USP<sub>U</sub> + USP<sub>C</sub>

MODEL CHART - HI-FLOW™ CONTROL VALVES, 3-WAY SIMPLIFIED SELECTION GUIDE WITH STANDARD PRODUCTS						
Pipe Size	Cv 100%	Body Material	Model	USP [S] psi [bar]	E in [mm]	F in [mm]
1/2"	6.45	Bronze	3000WA32-220	250 [17.2]	18-1/16 [458.8]	7-3/4 [196.9]
1/2"	6.45	316 SS	3000WA42-220	300 [20.7]	18-1/16 [458.8]	7-3/4 [196.9]
3/4"	10.75	Bronze	3001WA32-220	250 [17.2]	18-1/16 [458.8]	7-3/4 [196.9]
1"	17.42	Bronze	3002WA32-220	200 [13.8]	18-5/16 [465.1]	7-3/4 [196.9]
1"	17.42	Bronze	3002WA32-221	250 [17.2]	19 [482.6]	10-5/8 [269.9]
1"	17.42	316 SS	3002WA42-220	200 [13.8]	18-5/16 [465.1]	7-3/4 [196.9]
1"	17.42	316 SS	3002WA42-221	300 [20.7]	19 [482.6]	10-5/8 [269.9]
1-1/4"	25.30	Bronze	3003WA32-220	120 [8.4]	18-3/8 [466.7]	7-3/4 [196.9]
1-1/4"	25.30	Bronze	3003WA32-221	250 [17.2]	19-1/16 [484.2]	10-5/8 [269.9]
1-1/4"	25.30	316 SS	3003WA42-220	120 [8.3]	18-3/8 [466.7]	7-3/4 [196.9]
1-1/4"	25.30	316 SS	3003WA42-221	300 [20.7]	19-1/16 [484.2]	10-5/8 [269.9]
1-1/2"	32.10	Bronze	3004WA32-220	80 [5.6]	18-5/8 [473.1]	7-3/4 [196.9]
1-1/2"	32.10	Bronze	3004WA32-221	200 [13.8]	19-5/16 [490.5]	10-5/8 [269.9]
1-1/2"	32.10	Bronze	3004WA32-223	250 [17.2]	21-3/8 [542.9]	13-3/8 [339.7]
1-1/2"	32.10	316 SS	3004WA42-220	80 [5.5]	18-5/8 [473.1]	7-3/4 [196.9]
1-1/2"	32.10	316 SS	3004WA42-221	200 [13.8]	19-5/16 [490.5]	10-5/8 [269.9]
1-1/2"	32.10	316 SS	3004WA42-223	300 [20.7]	21-3/8 [542.9]	13-3/8 [339.7]
2"	50.30	Bronze	3005WA32-220	45 [3.1]	19-1/16 [484.2]	7-3/4 [196.9]
2"	50.30	Bronze	3005WA32-221	100 [6.9]	19-3/4 [501.7]	10-5/8 [269.9]
2"	50.30	Bronze	3005WA32-223	175 [12.1]	21-13/16 [554.0]	13-3/8 [339.7]
2"	50.30	316 SS	3005WA42-220	45 [3.1]	19-1/16 [484.2]	7-3/4 [196.9]
2"	50.30	316 SS	3005WA42-221	100 [6.9]	19-3/4 [501.7]	10-5/8 [269.9]
2"	50.30	316 SS	3005WA42-223	175 [12.1]	21-12/16 [554.0]	13-3/8 [339.7]

**Caution:** Use of an actuator supply gas other than air can create a hazardous environment because a small amount of gas continuously vents to atmosphere.





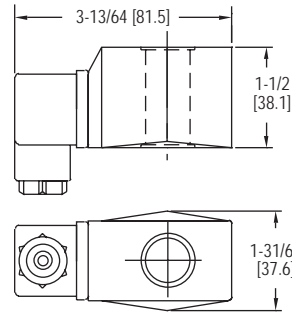


SERIES SRC | W.E. ANDERSON™ BY DWYER

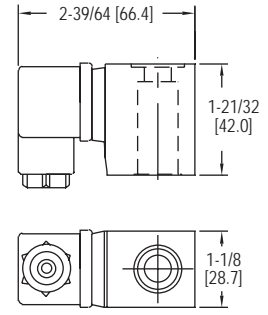


# SOLENOID REPLACEMENT COILS

For the Series SSV and SBSV Solenoid Valves



Models SRC-X180X & SRC-X280X



Models SRC-XXS0X

The Series SRC Solenoid Replacement Coils electrically operate the SSV and SBSV solenoid valves. When the solenoid coil receives an electrical input signal it acts upon the valve, changing its state. These coils are field replaceable with their compatible solenoid valves and come in a wide range of voltages.

**FEATURES/BENEFITS**

- Field replaceable

**APPLICATIONS**

- Replacement coils for SSV and SBSV solenoid valves

**SPECIFICATIONS**

**Compatible Valves:** SSV or SBSV.  
**Power Requirements:** 220 VAC, 110 VAC, 24 VAC or 24 VDC.  
**Electrical Connections:** DIN connection.  
**Enclosure Rating:** NEMA 13 (IP54).  
**Power Consumption:** See table.  
**Agency Approvals:** CE.

SSV COMPATIBLE COILS						
Model	Voltage	50 Hz (VA)		60 Hz (VA)		DC (W)
		Inrush	Holding	Inrush	Holding	
SRC-D1B0P	220 VAC	82	33	82	28	-
SRC-D2B0P	110 VAC	82	33	82	28	-
SRC-D3B0P	24 VAC	72	29	72	25	-
SRC-D4B0P	24 VDC	-	-	-	-	32

**Note:** Consult factory for 220 VAC, 24 VAC and 24 VDC.

SBSV COMPATIBLE COILS						
Model	Voltage	50 Hz (VA)		60 Hz (VA)		DC (W)
		Inrush	Holding	Inrush	Holding	
SRC-D1S0C	220 VAC	55	22	55	18	-
SRC-D2S0C	110 VAC	55	22	55	18	-
SRC-D3S0C	24 VAC	45	18	45	15	-
SRC-D4S0C	24 VDC	-	-	-	-	13

**Note:** Consult factory for 220 VAC, 24 VAC and 24 VDC.

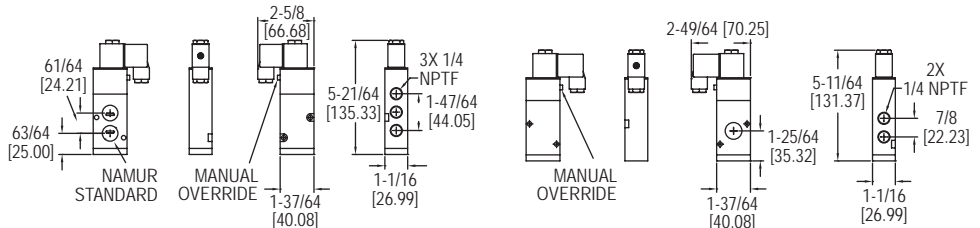
SERIES SN | PROXIMITY® BY DWYER



# NAMUR MOUNT SOLENOID VALVE

Manual Override, 100% Duty Rating

Valves,  
Solenoid



SN-5X models

SN-3X models

The Series SN Namur Mount Solenoid Valve is designed to easily mount directly to pneumatic valve actuators reducing the need for tubing, fittings or brackets, thereby reducing assembly cost. The SN solenoid comes with nitrile o-rings and offers a manual override as a standard feature. The 3/2 solenoids are designed for spring return actuators and 5/2 solenoids are designed to be used with double acting actuators. The SN series is available in a variety of voltages for any application.

**FEATURES/BENEFITS**

- NAMUR mount means the solenoid can be mounted directly to valve actuators
- Designed for double acting or spring return actuators
- 100% continuous duty rating
- Manual override

**APPLICATIONS**

- Direct mount to pneumatic actuators

MODEL CHART							
Model	Power	Action	Actuator Type	Model	Power	Action	Actuator Type
SN-5A	110 VAC	5/2	Double acting	SN-3A	110 VAC	3/2	Spring return
SN-5B	220 VAC	5/2	Double acting	SN-3B	220 VAC	3/2	Spring return
SN-5C	24 VAC	5/2	Double acting	SN-3C	24 VAC	3/2	Spring return
SN-5E	24 VDC	5/2	Double acting	SN-3E	24 VDC	3/2	Spring return
SN-5D	12 VDC	5/2	Double acting	SN-3D	12 VDC	3/2	Spring return

**SPECIFICATIONS**

**Service:** Air only.  
**Power Requirements:** 24 VAC, 110 VAC, 220 VAC, 12 VDC, or 24 VDC.  
**Supply Pressure:** 22 to 116 psi (1.5 to 7.9 bar).  
**Air Connections:** 1/4" female NPT.  
**Temperature Limits:** 23 to 140°F (-5 to 60°C).  
**Electrical Connection:** DIN 43650 form A.  
**Enclosure Rating:** IP65.  
**Mounting:** NAMUR.  
**Standard Features:** Manual override.  
**Weight:** 1.0 lb (.45 kg).  
**Agency Approvals:** CE.



Model SN mounted to an actuator

# PILOT SOLENOID VALVE

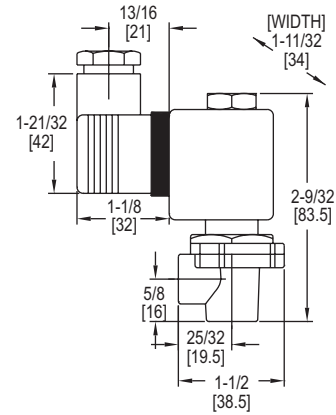
For Use with Remote Valves



RSV1D



RSV1L



The **Series RSV Pilot Solenoid Valve** is used to operate the Series RDCV remote type diaphragm valve to air pulse clean filters in dust collectors. Consult factory for mounting of RSV valves with our DCT timer boards together in one enclosure all pre-wired.

**FEATURES/BENEFITS**

- Filtered and oil-free
- Weatherproof enclosure package available
- Can be mounted with DCT timer boards in one enclosure, consult factory

**APPLICATIONS**

- For use with RDCV remote valve

MODEL CHART			
Model	Voltage	Electrical Connections	Cv Value
RSV1D	110 VAC	DIN	.33
RSV2D	220 VAC	DIN	.33
RSV3D	24 VDC	DIN	.33
RSV1L	110 VAC	Wire leads	.33
RSV2L	220 VAC	Wire leads	.33
RSV3L	24 VDC	Wire leads	.33

**SPECIFICATIONS**

**Service:** Compatible gases, filtered and oil free.  
**Wetted Materials:** Body: Aluminum; Core and spring: 304 SS; Seals: NBR.  
**Pressure Limits:** Min of 4.4 psi (0.3 bar), max of 124.7 psi (8.6 bar).  
**Temperature Limits:** Ambient: -4 to 122°F (-20 to 50°C); Operating: -4 to 185°F (-20 to 85°C).  
**Power Requirements:** 110 VAC, 220 VAC, or 24 VDC.  
**Power Consumption:** 12 W, inrush: 17 VA, holding: 14.5 VA.  
**Enclosure Rating:** NEMA 4X (IP66).  
**Electrical Connection:** DIN connection or wire leads, 18 AWG, 22" (55 cm) long.  
**Process Connection:** 1/8" female NPT.  
**Mounting Orientation:** Any position.  
**Weight:** 0.60 lb (0.27 kg).  
**Pneumatic Tube Length:** Maximum of 9.8' (3 m).  
**Agency Approvals:** CE.

**SERIES SVE**

# SOLENOID VALVE ENCLOSURES

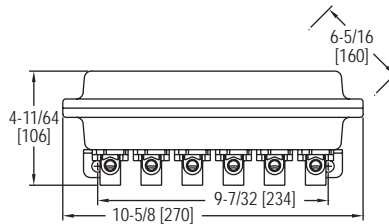
For the Series RSV Remote Solenoid Valves



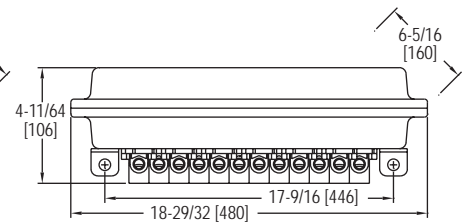
SVE06WP61



SVE06WP61



SVE06



SVE12

The **Series SVE Solenoid Valve Enclosures** are multi-valve enclosures for the RSV pilot valve. The SVE offers a convenient weatherproof enclosure package with all solenoids pre-wired to a terminal block. Enclosures are available in 6 or 12 valve size with choice of pilot valve voltage.

**FEATURES/BENEFITS**

- Weatherproof enclosure
- Can order pre-wired to terminal block
- Available in 6 or 12 valve size

**APPLICATIONS**

- For use with RSV only, compatible gases

MODEL CHART			
Model	Quantity of Solenoid	Enclosure Type	Voltage
SVE06WP61	6	Weatherproof	110 VAC
SVE06WP62	6	Weatherproof	220 VAC
SVE06WP63	6	Weatherproof	24 VDC
SVE12WP121	12	Weatherproof	110 VAC
SVE12WP122	12	Weatherproof	220 VAC
SVE12WP123	12	Weatherproof	24 VDC

**SPECIFICATIONS**

**Service:** (For RSV) Compatible gases, filtered and oil free.  
**Wetted Materials:** (For RSV) Body: Aluminum; Core and spring: 304 SS; Seals: NBR.  
**Pressure Limits:** (For RSV) Min of 4.4 psi (0.3 bar), max of 124.7 psi (8.6 bar).  
**Temperature Limits:** Ambient: -4 to 122°F (-20 to 50°C); Operating: -4 to 185°F (-20 to 85°C).  
**Power Requirement:** (For RSV) 110 VAC, 220 VAC, or 24 VDC.  
**Power Consumption:** (For RSV) 12 W, inrush: 17 VA, holding: 14.5 VA.  
**Enclosure Rating:** NEMA 4X (IP66).  
**Enclosure Material:** Anodized aluminum with NBR gasket.  
**Electrical Connection:** All RSV are pre-wired to a terminal strip.  
**Process Connection:** (For RSV) 1/8" female NPT.  
**Conduit Connection:** 3/4" female NPT.  
**Mounting Orientation:** Any position.  
**Pneumatic Tube Length:** Max of 9.8' (3 m).

Valves,  
Solenoid

# DIAPHRAGM VALVES

Pulse Valves, Ideal for Dust Collection Systems and Bag Houses



DCV62T1D



DCV20C1D



RDCV62T



RDCV20C

The **Series DCV/RDCV Diaphragm Valves** are ideal for use with the Series DCT1000 and Series DCT500 duct collection timer boards for controlling the air pulse in jet pulse type dust collectors to clean the filters. Both the Series DCV and RDCV have the option for either coupling or NPT connections. The coupling connection allows for a quick and simple installation. Only the stub pipe and blowtube need to be cleaned and deburred before the valve is fit into position. The "T" Series DCV has female threaded connections. Both the "C" and "T" versions have a 90° angle between the inlet and outlet the most suitable configuration for pulse valve applications. The design offers not only ease of installation, but also minimal airflow restriction for an exceptional cleaning pulse. The valves are offered in both integrated and remote coil configurations.

#### FEATURES/BENEFITS

- Thermoplastic polyurethane diaphragm for longer life
- High flow factor for effective cleaning
- Valve can be mounted in any position
- Quick on and off response time

#### APPLICATIONS

- Dust collection systems
- Bag houses
- For use with DCT1000 and DCT500

#### SPECIFICATIONS

**Service:** Compatible gases, filtered and oil free.

**Wetted Materials:** Body: aluminum; Trim: 304 SS; Diaphragm and seals: NBR; Diaphragm disc: Polyamide.

**Other Materials:** Cover: aluminum; Body bolts and spring: 304 SS.

**Pressure Limits:** Minimum of 4.4 psi (0.3 bar), maximum of 124.7 psi (8.6 bar).

**Temperature Limits:** Ambient: -4 to 140°F (-20 to 60°C) for RDCV models; -4 to 122°F (-20 to 50°C) for DCV models; Operating: -4 to 185°F (-20 to 85°C).

**Power Requirements:** 110 VAC, 220 VAC, or 24 VDC for DCV models.

**Power Consumption:** 12 W, inrush: 17 VA; holding: 14.5 VA for DCV models.

**Electrical Connection:** DIN connection for DCV models.

**Enclosure Rating:** NEMA 4X (IP65) for DCV models.

**Process Connection:** See Catalog page.

**Mounting Orientation:** Any position.

**Agency Approval:** CE.

#### MODEL CHART

Model	Size	Solenoid	Connection	Number of Diaphragms	Cv Factor (gal/min)
RDCV20T	3/4"	Remote	NPT	1	114
RDCV20C	3/4"	Remote	Coupling	1	114
DCV20T1D	3/4"	Integral*	NPT	1	114
DCV20C1D	3/4"	Integral*	Coupling	1	114
RDCV25T	1"	Remote	NPT	1	23
RDCV25C	1"	Remote	Coupling	1	23
DCV25T1D	1"	Integral*	NPT	1	23
DCV25C1D	1"	Integral*	Coupling	1	23
RDCV35T	1-1/2"	Remote	NPT	1	42
RDCV35C	1-1/2"	Remote	Coupling	1	42
DCV35T1D	1-1/2"	Integral*	NPT	1	42
DCV35C1D	1-1/2"	Integral*	Coupling	1	42
RDCV45T	1-1/2"	Remote	NPT	2	51
RDCV45C	1-1/2"	Remote	Coupling	2	51
DCV45T1D	1-1/2"	Integral*	NPT	2	51
DCV45C1D	1-1/2"	Integral*	Coupling	2	51
RDCV50T	2"	Remote	NPT	2	106
DCV50T1D	2"	Integral*	NPT	2	106
RDCV62T	2-1/2"	Remote	NPT	2	136
DCV62T1D	2-1/2"	Integral*	NPT	2	136
RDCV76T	3"	Remote	NPT	2	167
DCV76T1D	3"	Integral*	NPT	2	167

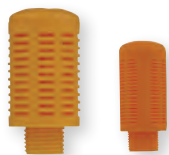
\*110 VAC with DIN Connector

#### MODEL CHART

Example	DCV	20	T	ID	DCV20T1D
<b>Construction</b>	DCV				Integrated coil
	RDCV				Remote coil
<b>Size</b>		20			3/4"
		25			1"
		35			1-1/2"
		45			1-1/2" (2 diaphragms)
		50			2"
		62			2-1/2"
		76			3"
<b>Connection</b>			T		NPT
			C		Coupling
<b>Voltage</b>				1D	110 VAC (for integrated coil only)
				2D	220 VAC (for integrated coil only)
				3D	24 VDC (for integrated coil only)

#### ACCESSORIES

Model	Description	Fits Valve Sizes
A-237	1/8" NPT	3/4", 1", 1-1/2", RSV
A-238	3/8" NPT	1-1/2", 2", 2-1/2", 3"



A-238

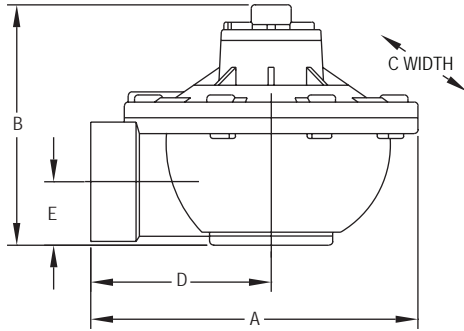
A-237

The Muffler Accessory can be easily field installed to any diaphragm valve with an exhaust. Pneumatic exhaust ports are on the diaphragm valves that have dual diaphragms and the units with the integral mounted solenoid. The muffler decreases the amount of noise when the air is exhausted from the valve. Valves with dual diaphragms and an integral solenoid have two exhaust ports and will require one A-237 and one A-238.

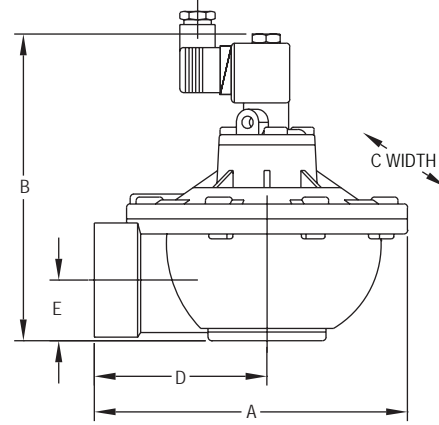


# DIAPHRAGM VALVES

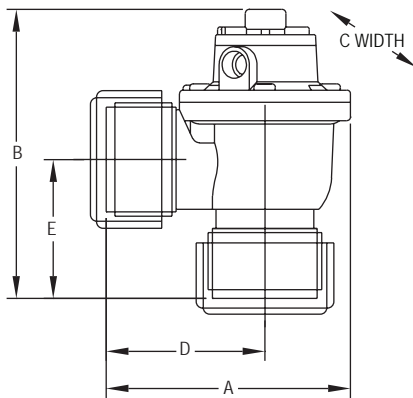
Pulse Valves, Ideal for Dust Collection Systems and Bag Houses



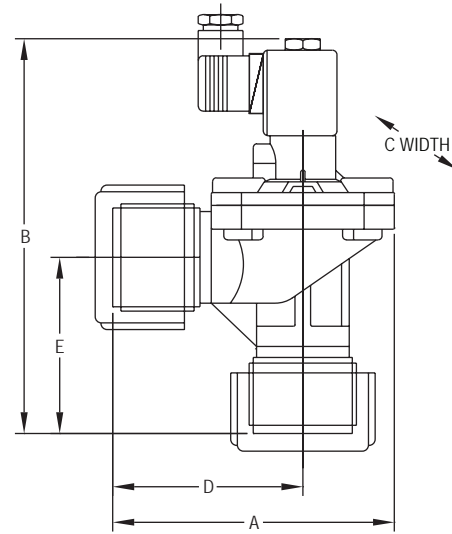
Remote NPT



Integrated NPT



Remote coupling



Integrated coupling

DIMENSIONAL CHART										
Solenoid	Connection	Model	A (mm)	B (mm)	C (mm)	Weight lb (kg)	D (mm)	E (mm)		
Remote	NPT	RDCV20T	3-15/16" (100)	2-31/32" (75)	3-7/16" (87)	1.12 (.51)	2-3/16" (56)	25/32" (20)		
		RDCV25T	4-1/8" (105)	3" (76)	3-1/4" (83)	1.15 (.52)	2-1/2" (64)	7/8" (22)		
		RDCV35T	5-1/8" (130)	4-29/32" (125)	4-3/8" (111)	2.0 (.91)	4-1/2" (114)	1-9/32" (33)		
		RDCV45T	5-25/32" (147)	5-5/32" (131)	4-3/8" (111)	2.2 (1.0)	3-5/8" (91)	3" (76)		
		RDCV50T	8-1/16" (205)	5-7/8" (148)	7-1/4" (184)	4.2 (1.9)	4-15/32" (113)	1-9/16" (40)		
		RDCV62T	8-9/32" (210)	6-11/16" (170)	7-1/4" (184)	5.5 (2.5)	4-21/32" (118)	1-29/32" (48)		
		RDCV76T	8-19/32" (218)	7-27/32" (199)	7-7/8" (200)	6.6 (3.0)	4-21/32" (118)	2-1/2" (63)		
	Coupling	RDCV20C	4-13/32" (112)	4" (102)	3-7/16" (87)	1.37 (.62)	2-5/8" (67)	1-25/32" (45)		
		RDCV25C	4-5/8" (117)	5" (127)	3-1/4" (83)	2.1 (.96)	3" (76)	2-3/4" (70)		
		RDCV35C	5-13/16" (147)	5-15/32" (139)	4-3/8" (111)	2.4 (1.1)	3-5/8" (91)	3" (76)		
		RDCV45C	5-25/32" (147)	6-25/32" (172)	4-3/8" (111)	3.2 (1.45)	3-5/8" (91)	3" (76)		
		Integrated	NPT	DCV20T_D	3-15/16" (100)	2-31/32" (75)	3-7/16" (87)	1.31 (.59)	2-3/16" (56)	25/32" (20)
				DCV25T_D	4-1/8" (105)	3" (76)	3-1/4" (83)	1.33 (.60)	2-1/2" (64)	7/8" (22)
				DCV35T_D	5-1/8" (130)	4-29/32" (125)	4-3/8" (111)	2.2 (.99)	4-1/2" (114)	1-9/32" (33)
DCV45T_D	5-25/32" (147)			5-5/32" (131)	4-3/8" (111)	2.4 (1.1)	3-5/8" (91)	3" (76)		
DCV50T_D	8-1/16" (205)			5-7/8" (148)	7-1/4" (184)	4.4 (2.0)	4-15/32" (113)	1-9/16" (40)		
DCV62T_D	8-9/32" (210)			6-11/16" (170)	7-1/4" (184)	5.7 (2.6)	4-21/32" (118)	1-29/32" (48)		
DCV76T_D	8-19/32" (218)			7-27/32" (199)	7-7/8" (200)	6.8 (3.1)	4-21/32" (118)	2-1/2" (63)		
Coupling	DCV20C_D	4-13/32" (112)	4" (102)	3-7/16" (87)	1.55 (.70)	2-5/8" (67)	1-25/32" (45)			
	DCV25C_D	4-5/8" (117)	5" (127)	3-1/4" (83)	2.3 (1.0)	3" (76)	2-3/4" (70)			
	DCV35C_D	5-13/16" (147)	5-15/32" (139)	4-3/8" (111)	2.6 (1.2)	3-5/8" (91)	3" (76)			
	DCV45C_D	5-25/32" (147)	6-25/32" (172)	4-3/8" (111)	3.4 (1.5)	3-5/8" (91)	3" (76)			

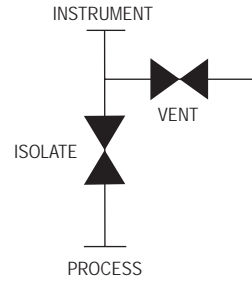
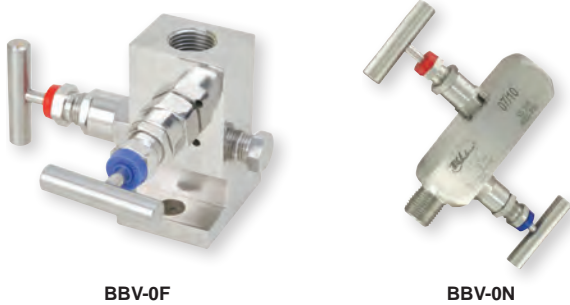






# 2-VALVE BLOCK MANIFOLDS

Stainless Steel Body, NPT Connections



The **Series BBV-0 2-Valve Block Manifolds** are perfect for use over a broad range of industrial applications including oil refineries, nuclear power stations, petrochemical processing, and more. The Series BBV-0 is forged from 316 stainless steel bar stock and designed to withstand repeated open and close operations. Suited to control oil, water, toxic fluids, chemicals, air, and steam; the 2-valve block manifold has (1) isolate and (1) vent valves. Each valve stem is precision machined with hard seats to reduce operating torque.

**FEATURES/BENEFITS**

- 6000 psi pressure limit
- 316 SS body, stem and valve assembly
- PTFE stem packing

**APPLICATIONS**

- Industrial gage or transmitter isolation

**SPECIFICATIONS**

**Service:** Compatible liquids, gases, or steam.  
**End Connections:** Process connection: 1/2" male NPT; Instrument connection: No flange; 1/2" female NPT; Flange: 1/2" DIN 19213 flange; Vent/test: 1/4" female NPT.  
**Wetted Materials:** Body, stem, valve assembly: 316 SS; Stem packing: PTFE.  
**Pressure Limit:** 6000 psi (400 bar).  
**Temperature Limit:** 464°F (240°C).  
**Other Materials:** Handle: 304 SS.

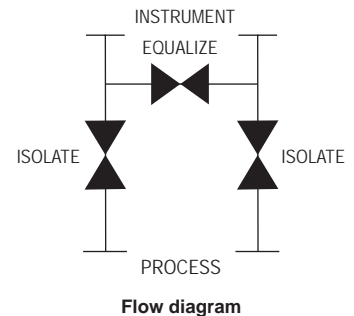
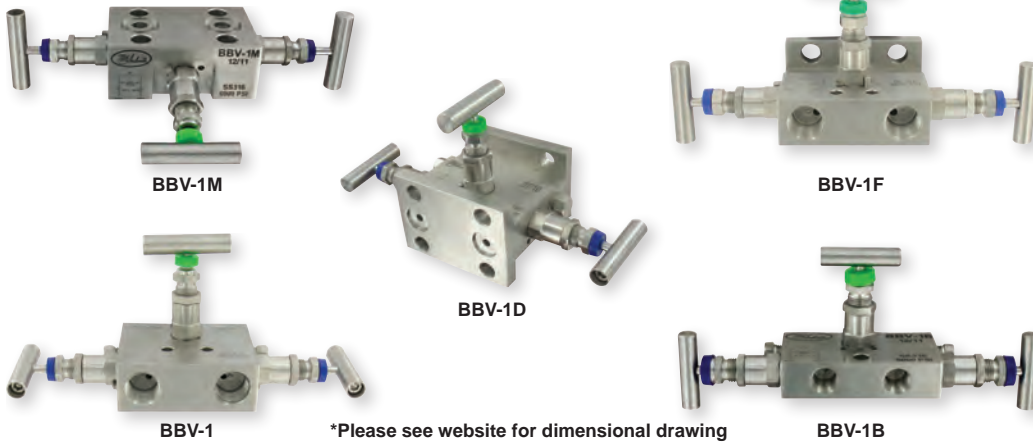
**MODEL CHART**

Model	Description
BBV-0F	Flanged 2-valve block manifold
BBV-0N	2-valve block manifold

SERIES BBV-1 | W.E. ANDERSON™ BY DWYER

# 3-VALVE BLOCK MANIFOLDS

Stainless Steel Body, NPT Connections



The **Series BBV-1 3-Valve Block Manifolds** can be used over a broad range of industrial applications including oil refineries, nuclear power stations, petrochemical processing, and more. The Series BBV-1 body is forged from 316 stainless steel bar stock and designed to withstand repeated open and close operations. Suited to control oil, water, toxic fluids, chemicals, air, and steam.

**FEATURES/BENEFITS**

- High pressure shut-off
- All stainless steel and PTFE wetted materials
- Precision machined hard seats to reduce operating torque

**APPLICATIONS**

- Industrial gage or transmitter isolation

**SPECIFICATIONS**

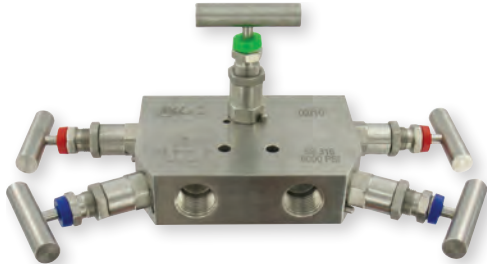
**Service:** Compatible liquids, gases, or steam.  
**End Connections:** BBV-1B: 1/4" NPT x 1/4" NPT; BBV-1: 1/2" NPT x 1/2" NPT; BBV-1F: 1/2" NPT x DIN 19213 flange; BBV-1M: 1/2" NPT x DIN 19213 flange; BBV-1D: DIN 19213 flange x DIN 19213 flange.  
**Wetted Materials:** Body, stem, valve assembly: 316 SS; Stem packing: PTFE.  
**Pressure Limit:** 6000 psi (400 bar).  
**Temperature Limit:** 464°F (240°C).  
**Other Material:** Handle: 304 SS.

**MODEL CHART**

Model	Description
BBV-1B	Mini 3-valve block manifold
BBV-1	3-valve block manifold
BBV-1F	Flanged 3-valve block manifold
BBV-1M	Multiplanar 3-valve manifold
BBV-1D	Double flanged 3-valve block manifold

# 5-VALVE BLOCK AND BLEED MANIFOLDS

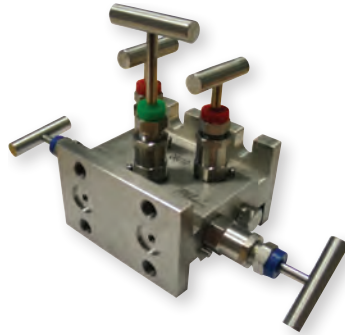
Stainless Steel Body, NPT Connections



BBV-21



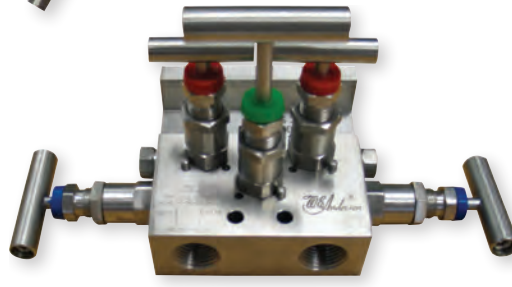
BBV-21F



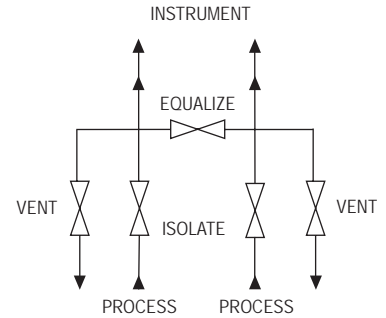
BBV-23F



BBV-22



BBV-22F



Flow diagram

Series BBV-2 5-Valve Block and Bleed Manifolds are ideal for use over a broad range of industrial applications including oil refineries, nuclear power stations, petrochemical processing, and more. The Series BBV-2 body is forged from 316 stainless steel bar stock and designed to withstand repeated open and close operations. Suited to control oil, water, toxic fluids, chemicals, air, and steam; the 5-Valve Block and Bleed Manifold has (2) isolate, (1) equalizing, and (2) vent valves. Each valve stem is precision machined with hard seats to reduce operating torque.

Flanged models are designed to mount to an industrial differential pressure transmitter. The BBV-21F and BBV-22F come with four 7/16-20 UNF mounting bolts and two PTFE gaskets. The BBV-23F comes with eight 7/16-20 UNF mounting bolts and two PTFE gaskets.

#### FEATURES/BENEFITS

- High pressure shut-off
- All stainless steel and PTFE wetted materials
- Precision machined hard seats to reduce operating torque

#### APPLICATIONS

- Industrial gage or transmitter isolation

#### SPECIFICATIONS

**Service:** Compatible liquids, gases, or steam.

**End Connections:** Process connection: No flange: 1/2" female NPT; Flange: DIN 19213 flange; Instrument connection: No flange: 1/2" female NPT; Flange: DIN 19213 flange; Vent/test: 1/4" female NPT.

**Wetted Materials:** Body, stem, valve assembly: 316 SS; Stem packing: PTFE.

**Pressure Limit:** 6000 psi (400 bar).

**Temperature Limit:** 464°F (240°C).

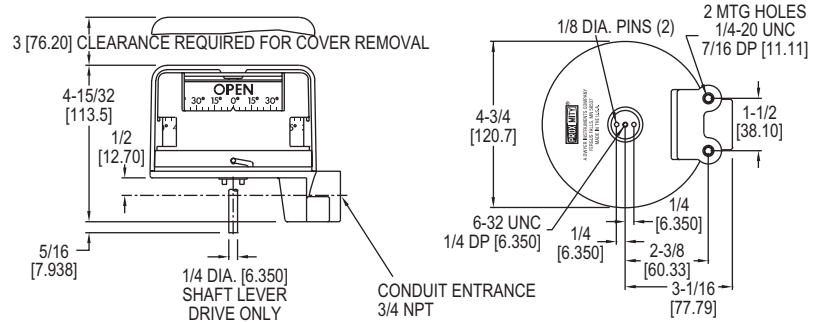
**Other Materials:** Handle: 304 SS.

#### MODEL CHART

Model	Description
BBV-21	5-valve manifold with side mounted vent valves
BBV-21F	Flanged 5-valve manifold with side mounted vent valves
BBV-22	5-valve manifold with top mounted vent valves
BBV-22F	Flanged 5-valve manifold with top mounted vent valves
BBV-23F	Double flanged 5-valve manifold with top mounted vent valves

# QUICK-VIEW® VALVE POSITION INDICATORS/SWITCHES

Ultra-Low Cost, Compact, Backlit, Corrosion Resistant



The Series QV Quick-View® Valve Position Indicators/Switches, now UL and CSA rated, are produced by Proximity with up to four individual mechanical or proximity switches. The Quick-View® indicator is also available with optional backlighting.

**FEATURES/BENEFITS**

- The lowest cost position indication
- Extremely compact design
- Easily interchangeable with key competition
- Backlighting option available for maximum visibility
- Quick-View® Indicator and mounting kits, including NAMUR kits, are stocked for fast delivery
- Flame retardant
- UV protection
- Hazardous location option

**APPLICATIONS**

- Rotary or linear valve indication
- Industrial damper position monitoring

**SPECIFICATIONS**

**Minimum Rotation Travel (Switches only):** 5°.  
**Maximum Rotation Travel (Switches only):** 360°.  
**Temperature Limits:** -40 to 180°F (-40 to 82°C).  
**Switch Type:** SPDT.  
**Electrical SPDT Switch Ratings:** QV-X1XXXX: 10 A @ 125/250 VAC; 0.5 A 125 VDC; 10 A @ 24 VDC mech. switch; QV-X2XXXX: 1 A @ 125 VAC; 1A @ 24 VDC mech. switch; QV-X3XXXX: 2 A @ 125 VAC; 2A @ 30 VDC prox. switch; QV-X4XXXX: 5-25 VDC namur sensor; QV-X5XXXX: 10-30 VDC inductive sensor; QV-X6XXXX: 10 A @ 125/250 VAC mech. switch.  
**Lighting Supply Voltage:** 24-28 VDC.  
**Enclosure Material:** Polycarbonate housing and conduit.  
**Conduit Entrance:** One 3/4" NPT.  
**Enclosure Rating:** NEMA 4, 4X (IP66, IP56). Optional explosion-proof, rated: Class I, Groups A, B, C, D; Class II, Groups F & G; Div. 2.  
**Maximum Altitude:** 2000 m (6560 ft).  
**Agency Approvals:** CE, CSA, cULus.

MODEL CHART	
Model	Backlighting
QV-210101	No
QV-210111	Yes
<p><b>Note:</b> Stocked position indicators include two 10 amp SPDT mechanical snap switches, are direct drive type and include the standard quarter-turn OPEN/CLOSED visual indicator. Standard units are CSA &amp; UL approved but not for hazardous locations. Specify "EX" for hazardous location option. Consult factory for optional VI colors</p>	



Model QV mounted to an actuator

MODEL CHART							
Example	QV	-2	1	01	0	1	QV-210101
<b>Series</b>	QV						Quick-View® valve position indicator/switch
<b>Number of Switches</b>		0	1	2	3	4	None* One* Two* Three* Four*
<b>Switch Type</b>		0	1	2	3	4	No switches* 10A mechanical snap switch 1A mechanical gold contacts 2A Proximity reed switch* 5-25 VDC namur sensor 10-30 VDC inductive sensor 10A mechanical snap switch
<b>Driving Style</b>			01	02	03		Direct* Lever* Namur*
<b>Lighting Option</b>				0	1		None* 24-28 VDC bright white LED's
<b>Visual Indication</b>					0	1	None Standard (open closed)* Upside down (open closed)*
<b>Additional Options</b>						EX	Class I, Div. II, Groups A, B, C & D; Class II, Div. II Groups F & G.
*EX, Explosion-proof option available.							<b>Note:</b> The 1st, 2nd, 3rd and 6th codes can not all be zero.

# POSITION INDICATORS/SWITCHES/TRANSMITTERS



**Mark 1**  
stainless steel  
(environmentally sealed  
for corrosive areas)



**Mark 1**  
polyester coated aluminum  
(environmentally sealed  
for corrosive areas)



**Mark 1**  
magnetic coupling cutaway  
Model 12VDOJ2



**Mark 3**  
multi turn



**Mark 4**  
thru-shaft cutaway  
Model 42RDOJ2



The Proximity™ Series Mark Position Indicators/Switches/Transmitters are a line of position indicators with a selection of various output options. Three model styles make up the Mark series to cover almost any application. Standard models in the Mark Series have visual position indicators and are weatherproof, explosion-proof, and submersible. A large variety of outputs are available to fit specific applications. There is a choice of 1 to 6 switch outputs of 14 varieties including inductive sensors, high temperature switches, gold contact switches, hermetically sealed switches, and high current switches. Besides the switch outputs the Series offers potentiometer outputs, transmitters, and HART® Communication. The units are purchased for either direct drive applications, such as rotary valves, or lever drive applications, such as linear valves. Adjustable visual indicator is standard on direct drive units that displays OPEN / CLOSED status and degrees.

A magnetic drive that completely seals the switch compartment from the atmosphere for maximum leak protection is utilized in the Mark 1. The Mark 3 uses the same magnetic drive of the Mark 1, but it can be used for multi-turn applications with 1 to 25 revolutions, such as gate valves. A through shaft drive is incorporated in the Mark 4 making the unit a more cost effective alternative to the Mark 1 for applications that are not as demanding.

#### APPLICATIONS

- Rotary valve actuators and dampers
- Linear valve actuators and cylinders
- Manual valves
- Gear operators
- Positioners

#### MARK 1 FEATURES/BENEFITS

- Features a magnetic coupling that isolates the switch compartment, completely sealing the unit from the surrounding atmosphere for maximum hazard and leak protection
- EZ set cams on switch models provide simple set point adjustment
- Flexible design allows multiple switches and transmitter options
- Ideal for corrosive environments

#### MARK 3 FEATURES/BENEFITS

- Features a magnetic coupling that isolates the switch compartment, completely sealing the unit from the surrounding atmosphere for maximum hazard and leak protection
- Multi-Turn models that can provide switch signals between 1 and 25 revolutions, and transmitter models for up to 10 revolutions without gear reduction
- Flexible design allows multiple switches and transmitter options
- Ideal for corrosive environments

#### MARK 4 FEATURES/BENEFITS

- Thru-Shaft design that features a 1" bushing for long life and O-rings to seal the switch compartment for hazard, corrosion, and leak protection
- EZ set cams on switch models provide simple set point adjustment
- Flexible design allows multiple switches and transmitter options
- A more cost effective alternative to the Mark 1 Series for less demanding applications

#### MODEL CHART

Model	Function	Design	Model	Function	Design
12AD0	2 SPDT	Magnetic coupling	42AD0	2 SPDT	Thru-shaft drive
12AL0	2 SPDT (lever drive)	Magnetic coupling	44AD0	4 SPDT	Thru-shaft drive
14AD0	4 SPDT	Magnetic coupling	45VD0	2 SPDT and 4-20 mA position transmitter	Thru-shaft drive
15VD0	2 SPDT and 4-20 mA position transmitter	Magnetic coupling	42VD0-J1	2 SPDT	Thru-shaft drive
12AD1	2 SPDT	Magnetic coupling	44VD0-J1	4 SPDT	Thru-shaft drive
14AD1	4 SPDT	Magnetic coupling			
12VD0-J1	2 SPDT	Magnetic coupling			
14VD0-J1	4 SPDT	Magnetic coupling			

#### Stainless Mounting Kit

1/4 turn actuator  
Manual 1/4 turn valves  
Linear control valves

Mounting kits with drive yoke (see drawing), or slotted lever arm, bracket, fasteners and other stainless steel hardware fit over 2000 popular valves and actuators. A high strength spring tempered stainless steel drive yoke/coupling is tailored to fit securely to a specific valve or actuator stem. There is no slippage or binding. No special alignment fixtures are required due to switch offset design and yoke to stem engagement that makes installation a "snap". Each kit is specially designed for a particular valve or actuator, making field mounting simple with standard tools. Please specify make and model of valve or actuator on order.

Mounting kits can be used interchangeably with all models since external mounting features are identical. Rotary valves utilize direct drive couplings and a slotted lever drive is used with linear valves. Lever drives convert linear motion to rotary. Stainless steel visual indicators are standard for direct drive, automated quarter-turn valve applications.



**Mark Series**  
mounted to an actuator



# POSITION INDICATORS/SWITCHES/TRANSMITTERS

VALVES

Construction	1 3 4			Mark 1, magnetic coupling Mark 3, multi-turn Mark 4, thru-shaft	Available options "A" signifies available with corresponding construction style		
					Mark	1	3
Output Type	1 2 3 31 32 35 310 320 4 5 51 52 7 8 9			1 switch 2 switches 1 kΩ potentiometer 1/2%. Available with switches, see note below.* 1 kΩ potentiometer 1/4%. Available with switches, see note below.* 2 kΩ potentiometer. Available with switches, see note below.* 5 kΩ potentiometer. Available with switches, see note below.* 10 kΩ potentiometer. Available with switches, see note below.* 20 kΩ potentiometer. Available with switches, see note below.* 4 Switches Transmitter 1 kΩ potentiometer 1/2%. 4-20 mA. Available with switches, see note below.* Transmitter 1 kΩ potentiometer 1/4%. Available with switches, see note below.* Transmitter 2 kΩ potentiometer. Available with switches, see note below.* AS-interface and 1 switch. Available with switch types B, I, R, W. AS-interface and 2 switches. Available with switch types B, I, R, W. Transmitter with HART® communication. Available with switches, see note below.*	A	--	A
Switch Type and Rating		A B C D G H I M O R S T V W		SPDT snap, rated: 15 A @ 125/250/480 VAC (-) ; 1/8 hp @ 125 VAC (-), 1/4 hp @ 250 VAC (-), 1/2 A @ 125 VDC (---), 1/4 A @ 250 VDC (---). Inductive sensor. 10-30 VDC (---). Load: 0.1 A. SPDT High Temperature snap, 350°F (176°C) for 600 hours, Rated:15.1 A @ 125/250/277 VAC (-). DPDT snap, rated: 10 A @ 125/250 VAC (-), 0.3 A @ 125 VDC (---),0.15 A @ 250 VDC (---). SPDT gold contact snap, rated: 1 A @ 125 VAC (-). SPDT hermetically sealed snap, rated: 1 A @ 125 VAC (-). NAMUR inductive sensor. 15 mA max @ 5-25 VDC (---). SPDT magnetic blow-out, rated: 10 A @ 125 VAC (-)/VDC (---), 1/4 hp @ 125 VAC (-)/VDC (---). No switches SPDT hermetically sealed reed, rated: 2 A @ 125 VAC (-), 2 A @ 24 VDC (---). SPDT snap, rated: 4 A @ 125/250 VAC (-). SPDT high temperature snap, 250°F (121°C) continuous, rated: 5 A @ 125/250/480 VAC (-). SPDT snap, rated: 10 A @ 125/250 VAC (-), 1/3 hp @ 125/250 VAC (-), 1/2 A @ 125 VDC (---), 1/4 A @ 250 VDC (---), 4 A @ 125 VAC (-) (tungsten). SPDT gold contact snap, rated 0.1 A @ 125 VAC (-).	A	A	A
Driving Method		A D E L M		A direct or yoke drive without visual indicator. Direct drive (or yoke) with visual indicator. Direct or yoke drive with visual indicator, single window. Lever drive (shaft projection) without visual indicator. Lever (shaft projection) with visual indicator.	A	A	A
Enclosure			0 1 2 5 6 7 thru 20	Aluminum, painted black Aluminum, painted white epoxy with SS trim Aluminum, painted red Aluminum, painted (color not yet specified) Cast 316 stainless steel Aluminum, painted (color not yet specified)	A	A	A
Options				C1 Long dwell cam (not on Mark 3) C2 Double cam (not on Mark 3) FKM FKM seals J1 Junction package with one 1/2" NPT female conduit connection and terminal strip. J2 Junction package with two 1/2" NPT female conduit connection and terminal strip. SV1 1 attached solenoid valve (Must be ordered with J1 option). SV2 2 attached solenoid valves (Must be ordered with J2 option). MT Metric threaded conduit connection, M25 X 1.5 (M20 X 1.5 for optional J1 and J2 connections). B Any output type except 91: Directive 2014/34/EU, KEMA 03ATEX2391 X, CE 2813 Ex II 2G Ex db IIC T6 Gb (-25/-40/-50°C ≤ Tamb ≤ 70°C and T5 for -25°C/-40°C/-50°C ≤ Tamb ≤ 80°C). Depending on output switch type selected. B Output type 91: Directive 2014/34/EU, KEMA 03ATEX2391 X, CE 2813 Ex II 2G Ex db IIC T4 Gb (-40°C ≤ Tamb ≤ 80°C). IS Any output type except 91: Directive 2014/34/EU, KEMA 03ATEX1392 X, CE 2813 Ex II 1G Ex ia IIC T4 Ga. IS Output type 91: Directive 2014/34/EU, KEMA 03ATEX1392 X, CE 2813 Ex II 1G Ex ia IIC T4 Ga for -40°C ≤ Tamb ≤ 80°C. IE Any output type except 91:IECEX DEK 11.0056X Ex db IIC T6 Gb (-25/-40/-50°C ≤ Tamb ≤ 70°C and T5 for -25/-40/-50°C ≤ Tamb ≤ 80°C) optional wording depending on output and switch type selected. IE Output type 91: IECEx DEK 11.0056X, Ex db IIC T4 Gb. II Any output type except 91: IECEx DEK 11.0061X Ex ia IIC T4 Ga. II Output type 91: IECEx DEK 11.0061X Ex ia IIC T4 Ga. LB Output type 91 with suffix B directive 2014/34/EU, KEMA 03ATEX2391 X, CE 2813 Ex II 2G Ex db IIC T4 Gb (-40°C ≤ Tamb ≤ 80°C). Battery not included. LB Output Type 91 with suffix IS directive 2014/34/EU, KEMA 03ATEX1392 X, CE 2813 Ex II 2G Ex ia IIC T4 Ga for -40°C ≤ Tamb ≤ 80°C. Battery not included. LB Output type 91 with suffix IE IECEx DEK 11.0056X, Ex db IIC T4 Gb. Battery not included. LB Output type 91 with suffix II IECEx DEK 11.0061X Ex ia IIC T4 Ga. Battery not included. PP Plug J1, J2 ports PT Paper tag STR Stainless steel tag riveted STW Stainless steel tag wired	A	--	A

\*Note: Mark 1 and 4 potentiometer and transmitter outputs will have no switches when ordered with switch type O; 2 switches if ordered with switch types B, C, D, I, R, V, or W; and 4 switches if ordered with switch type S. Mark 3 potentiometer and transmitter outputs will have no switches when ordered with switch type O, and 2 switches if ordered with switch types A, D, G, M or T.  
Example: 12VD0-J1. Mark 1, 2 switches both type V – SPDT, direct drive, painted aluminum enclosure with junction package.  
Example: 15VD0. Mark 1, 2 switches both type V – SPDT, 4-20 mA transmitter, direct drive, painted aluminum enclosure.

Position Indicators/  
Switches/Transmitters



# VALVE POSITION SENSORS

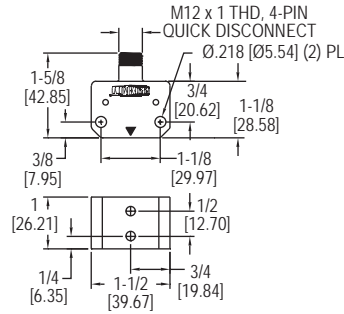
Dual Inductive, 2-Wire AC/DC Sensor, Fully Adjustable Target in 2° Increments



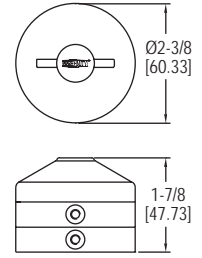
VPS2411



P1



VPS2411



P1

The dual inductive, 2-wire AC/DC **Series VPS Valve Position Sensors** maintain VDI/VDE 3845 dimensions so positioners can be easily mounted on top of the sensor and target. The Model VPS2411 Sensor and Model P1 Target mount easily and directly to actuators with ISO NAMUR topworks (see picture below). Solid state components are fully embedded in an epoxy resin to prevent condensation build-up and to protect against vibration and shock. The rugged PBTP housing provides excellent corrosion resistance and moisture protection.

**FEATURES/BENEFITS**

- Fully adjustable target in 2° increments
- LED indication for visual indication
- 4-pin quick disconnect electrical connection

**APPLICATIONS**

- The VPS is used for control element position monitoring and indication with devices such as rotary valve actuators, rotary valves and dampers.

**SPECIFICATIONS**

**Temperature Limits:** -13 to 176°F (-25 to 80°C).  
**Power Requirements:** 20-140 VAC (50/60 Hz), 10-200 VDC.  
**Enclosure Material:** Polybutylene terephthalate.  
**Switch Type:** Dual NO.  
**Electrical Rating:** 200 mA.  
**Minimum Load Current:** 5 mA.  
**Leakage Current:** 0.8 mA.  
**Voltage Drop:** 5.0 V.  
**Repeatability:** 0.01 mm.  
**Hysteresis:** 3 to 15% of sensing range.  
**Switching Frequency:** 25 Hz.  
**Mounting Holes:** NAMUR mounting - 3.15" x 1.18" (80 x 30 mm) or 5.118" x 1.18" (130 x 30 mm).  
**Electrical Connection:** 4-pin quick disconnect.

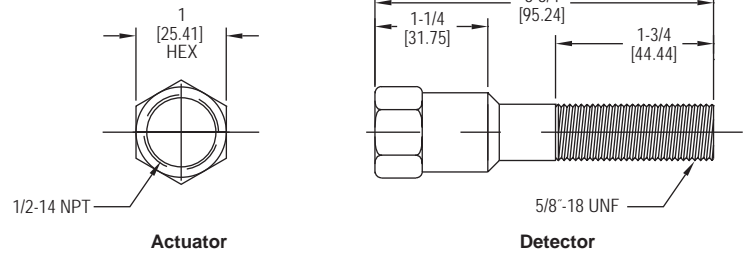
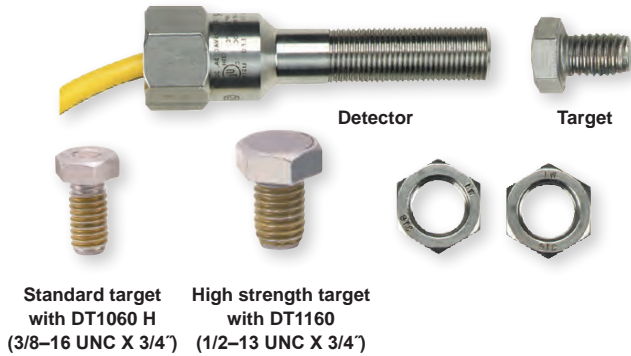
MODEL CHART	
Model	Description
VPS2411	Valve position sensor
P1	Valve position target
VIP82	Quick disconnect cable



Model VPS and P1 mounted on an actuator

# DETECTOR POSITION SENSORS

Reliable Magnetic Point Sensor, Stainless Steel Housing, AC or DC



The **Series DT Detector Position Sensors** are reliable, magnetically actuated, SS, completely interchangeable with competitive units. AC or DC for user friendly operation. They have no moving parts, eliminate costly seal fittings and offer enhanced reliability by eliminating arcing. Unintentional actuation by metals is not a problem. The sensor consists of a durable hermetically sealed reed switch potted in a SS housing and a separate 316 SS magnetic actuator bolt. As the actuator moves within the sensing range of the sensor, the magnet in the actuator changes the state of reed switch contacts inside the sensor. This either opens or closes a circuit depending on wiring configuration. Sensing distance is 0.1" (2.54 mm) for the standard target. Greater sensitivity of a larger magnetic target increases the sensing distance to 0.5" (12.7 mm).

#### FEATURES/BENEFITS

- Excellent for hazardous and corrosive environments
- Can be mounted in any position
- Designed to NEMA 1, 3, 4, 4X, 6, 7, 9, 12 and 13

#### APPLICATIONS

- Position monitoring and indication with devices such as linear valves – actuators and cylinders – rotary valves – dampers

#### SPECIFICATIONS

**Temperature Limits:** -40 to 163°F (-40 to 73°C).

**Switch Type:** Tungsten, SPDT, Form C.

**Electrical Rating:** 3 A @ 125 VAC, 3 A @ 30 VDC.

**Enclosure Rating:** Weatherproof; Hermetically sealed; Explosion-proof UL & CSA listed for Class I, Groups A, B, C, & D; Class II, Groups E, F & G. Divisions 1 & 2.

**Intrinsically Safe:** Simple apparatus (with barrier).

**Operating/Response Time:** 3.0 ms.

**Initial Contact Resistance:** 0.50 Ω (max).

**Repeatability:** 0.005" (.01 cm).

**Hysteresis:** 0.030" (.08 cm).

**Electrical Connection:** Factory sealed leads with 18" min, 4 conductor, PVC insulated, 18 AWG – green/red/black/white (ground/NC/ NO/common).

**Housing:** 316 SS.

**Potting:** Epoxy resin.

**Conduit:** 1/2"-14" female NPT.

**Weight:** 0.32 lb (145 g); 0.45 lb (204 g) with actuator.

**Agency Approvals:** CSA, cULus.

#### MODEL CHART

Model	Description	Sensing Distance
DT1060	Detector and standard actuator	0.1" (2.54 mm)
DT1160	Detector and high strength actuator	0.5" (12.7 mm)

# ELECTRO-PNEUMATIC TRANSDUCERS

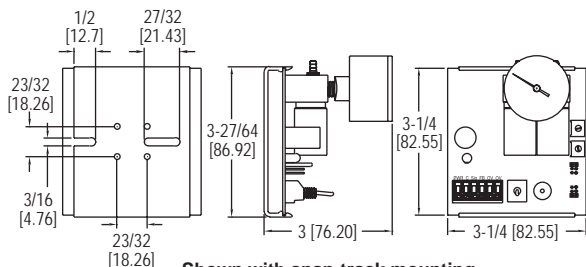
Low Cost, Selectable Input/Output, Manual Override



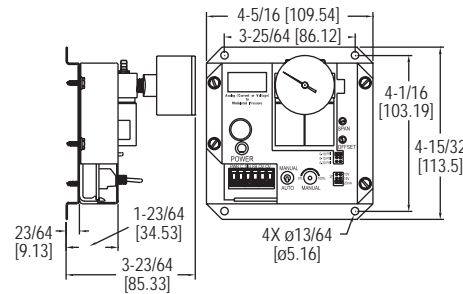
EPTA-B



EPTA-S



Shown with snap-track mounting



Shown with metal bracket mounting

The Series EPTA Electro-Pneumatic Transducers convert an analog input signal to a linearly proportionate pneumatic output by modulating its control valves to regulate branch line pressure to the set point determined by the input signal. All models incorporate two low voltage valves, an integral in-barb filter, a 0 to 30 psi analog gage, an anodized aluminum manifold, and brass barbed fittings. The EPTA offers adjustable span and offset as well as manual override. This unit has no air consumption and is immune to mounting orientation. Output pressure ranges include field-selectable 0 to 10, 0 to 15, and 0 to 20 psig. Also included is an analog 0-5 VDC feedback signal indicating the resultant branch line pressure. Universal 24 VAC/24 VDC supply voltage and field-selectable 4-20 mA, 0-5 VDC, 0-10 VDC, or 0-15 VDC inputs ensure single unit compatibility with most systems. The standard models maintain branch pressure on power loss while the Fail-Safe models will drop the branch pressure to 0 psi on power loss. Mounting configurations include a metal bracket mount in the EPTA-B models and a snap-track mount in the EPTA-S models. The A-400 accessory kit will allow the EPTA-S models to be mounted on a standard DIN rail.

**FEATURES/BENEFITS**

- Adjustable span and offset
- Manual override
- Field selectable output ranges
- Not position sensitive

**APPLICATIONS**

- Pneumatic dampers and valve actuators

MODEL CHART	
Model	Description
EPTA-S0	Standard snap-track mount transducer
EPTA-B0	Standard metal bracket mount transducer
EPTA-S1	Snap-track mount transducer with fail-safe
EPTA-B1	Metal bracket mount transducer with fail-safe

SPECIFICATIONS	
<b>Service:</b> Clean dry air or any inert gas.	<b>Supply Voltage:</b> 24 VDC (+10%/-5%) or 24 VAC (±10%) 50/60 Hz.
<b>Input Signal:</b> DC current (4-20 mA) or DC voltage (0-5/0-10/0-15).	<b>Supply Current:</b> 180 mA max, 200 mA max on fail-safe model.
<b>Input Impedance:</b> Current: 250 Ω; Voltage: Infinite.	<b>Temperature Limits:</b> Operating: 32 to 120°F (0 to 48.8°C); Storage: -20 to 150°F (-6.7 to 65.6°C).
<b>Output Signal:</b> Jumper selectable 0 to 10 psig (0 to 69 kPa), 0 to 15 psig (0 to 103 kPa), or 0 to 20 psig (0 to 138 kPa).	<b>Operating Humidity Range:</b> 5 to 95%, non-condensing.
<b>Feedback Output:</b> 0-5 VDC.	<b>Pressure Connections:</b> 1/4" OD (polyethylene tubing optimum).
<b>Air Supply:</b> 25 psig (172 kPa) max.	<b>Electrical Connections:</b> Plug-in block terminal type with 5 mm pin spacing.
<b>Air Flow:</b> 750 scim.	<b>Wire Size:</b> Up to one 14 AWG per terminal.
<b>Air Consumption:</b> 0 scim normal operation, fail-safe model vents to 0 psi on power loss.	<b>Weight:</b> EPTA-S0: 6.9 oz. (196 g); EPTA-S1: 9.2 oz. (261 g); EPTA-B: 14.5 oz. (411 g).
<b>Accuracy:</b> ±1.0% FS @ room temperature; ±2.0% FS @ 32 to 120°F (0 to 48.8°C).	

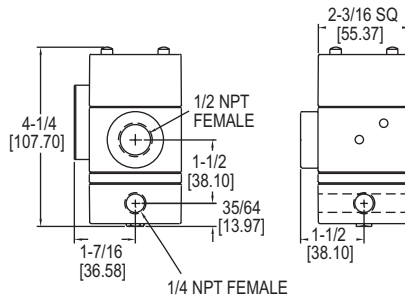
ACCESSORIES	
Model	Description
A-400	DIN mounting kit
A-403	Replacement integral barb filter

USA: California Proposition 65  
 ⚠WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

SERIES IP | PROXIMITY® BY DWYER

# CURRENT TO PRESSURE TRANSDUCER

Intrinsically Safe, NEMA 4X Enclosure, Field Reversible, Low Cost



The Series IP Current to Pressure Transducer converts a current input signal to a linearly proportional pneumatic output pressure. The features include built-in volume booster, low air consumption, field reversible (provides output which is inversely proportional to input signal) and flexible zero and span adjustments. The rugged NEMA 4X enclosure allows splashdown and outdoor installation. The IP can be used for applications that require operation of valve actuators, pneumatic valve positioners, damper and louver actuators, final control elements and relays.

**FEATURES/BENEFITS**

- Built-in volume booster
- Low air consumption
- Flexible zero plus span adjustments
- NEMA 4X enclosure
- Field reversible

**APPLICATIONS**

- Applications that require the operation of valve actuators, pneumatic valve positioners, damper and louver actuators, final control elements, relays, air cylinders, web tensioners, clutches and brakes

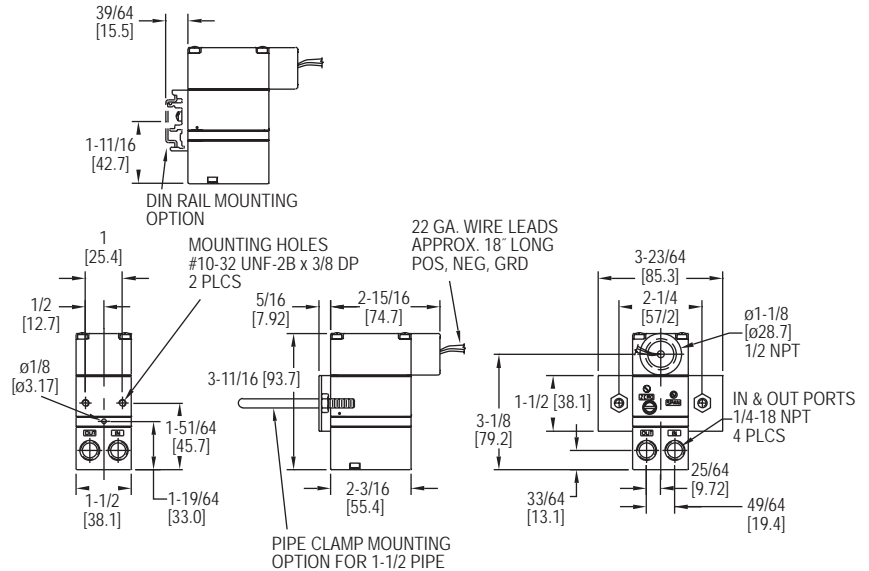
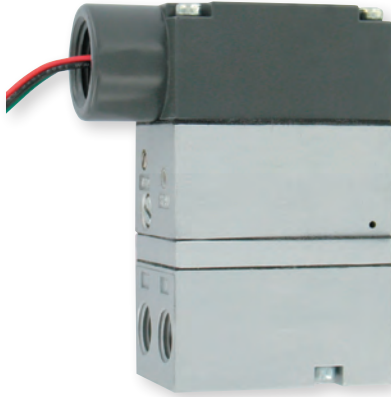
MODEL CHART			
Model	Input Ranges	Output Range	
		psi	kPa
IP-42	4-20 mA	3 to 15	20 to 100
IP-43	4-20 mA	3 to 27	20 to 185
IP-44	4-20 mA	6 to 30	40 to 200

SPECIFICATIONS	
<b>Service:</b> Oil free, clean dry air filtered to 40 microns.	<b>Input Signal:</b> 4-20 mA.
<b>Input Impedance:</b> IP-42: 180 Ω; IP-43 and IP-44: 220 Ω.	<b>Air Pressure:</b> Min: 3 psig (21 kPa) above max output; Maximum: 100 psig (700 kPa).
<b>Linearity:</b> < ±0.75% of span.	<b>Hysteresis:</b> < 1% of span.
<b>Repeatability:</b> < 0.5% of span.	<b>Supply Pressure Sensitivity:</b> < ±0.1% of span per psig (< ±0.15% of span per 10 kPa).
<b>Power Requirements:</b> Loop-powered.	<b>Temperature Limits:</b> -20 to 140°F (-30 to 60°C).
<b>Pressure Connections:</b> 1/4" female NPT.	<b>Electrical Connection:</b> 1/2" female NPT.
<b>Air Consumption:</b> 0.03 SCFM (0.5 m <sup>3</sup> /h) typical.	<b>Output Capacity:</b> 4.5 SCFM (7.6 m <sup>3</sup> /h ANR) at 25 psig (175 kPa) supply; 12 SCFM (20 m <sup>3</sup> /h) at 100 psig (700 kPa) supply.
<b>Relief Capacity:</b> 2 SCFM (3.4 m <sup>3</sup> /h) at 5 psig (35 kPa) above 20 psig (140 kPa) set point.	<b>Weight:</b> 2.1 lb (0.94 kg).
<b>Agency Approvals:</b> CE, FM.	



# CURRENT TO PRESSURE TRANSDUCER

## NEMA 4X Enclosure, Compact Size, Reliable



The **Series 2700 Current to Pressure Transducer** combines economical startup cost, low air consumption, and reliable performance to make the 2700 a great investment. The unit converts a variable current signal to a proportional pneumatic output. It has input and output ports on both the front and back which allows for versatile plumbing. The NEMA 4X enclosure enables the unit to be installed indoors or outdoors, however, the unit is not vibration resistant. It is FM and CSA approved for intrinsically safe operation. The 2700 is designed for remote or panel mounting. An integral volume booster provides high flow capacity, increasing control speed in critical applications. Other features include external zero and span adjustments which are convenient for field calibration.

The **Series 2800 Current to Pressure Transducer** utilizes a closed loop pressure feedback system that closely controls output and compensates for vibration, mounting angle, temperature, and supply pressure variations. These characteristics make this unit ideal for field mounting on a valve. The control mechanism is a piezoceramic actuator encapsulated in a protective skin, which provides a constant defense against humidity and contaminants. These features make this unit ideal for use in demanding applications. The 2800 also comes in a NEMA 4X enclosure and is field reversible. It is FM and CSA approved intrinsically safe, as well. For ease of installation, this model has input and output ports on both the front and back and can be easily panel mounted.

### SERIES 2700 FEATURES/BENEFITS

- NEMA 4X enclosure
- FM and CSA approved for intrinsically safe
- Designed for remote or panel mounting
- Integral volume booster

### APPLICATIONS

- Controlling valve actuators, pneumatic valve positioners, air cylinders, clutches, brakes, dampers, louvers and pumps

### SERIES 2800 FEATURES/BENEFITS

- NEMA 4X enclosure
- FM and CSA approved for intrinsically safe
- Vibration and position insensitive
- Input and output ports on front and back

### MODEL CHART

Model	Input	Output
2713-WP	4-20 mA	3 to 15 psig (0.2 to 1.0 bar)
2716-WP	4-20 mA	6 to 30 psig (0.4 to 2.1 bar)
2813-WP	4-20 mA	3 to 15 psig (0.2 to 1.0 bar)
2816-WP	4-20 mA	6 to 30 psig (0.4 to 2.1 bar)

### OPTIONS

#### Description

Valve mount, for factory mounting and calibration to Hi-Flow™ control valves, add current-to-pressure transducer model number as suffix (Series 2800 only)

### SPECIFICATIONS

**Service:** Oil free, clean dry air filtered to 40 microns.

**Input Signal:** 4-20 mA.

**Air Supply:** Min: 5 psig (0.3 bar) above max output; Max: 100 psig (6.9 bar).

**Output:** 3 to 15 psig (0.2 to 1.0 bar), 6 to 30 psig (0.4 to 2.1 bar).

**Accuracy:** Series 2800: ±0.1% of span.

**Linearity:** Series 2700: < ±0.5% of span.

**Hysteresis:** Series 2700: < 0.5% of span; Series 2800: ±0.1% of span.

**Repeatability:** Series 2700: < 0.5% of span; Series 2800: ±0.1% of span.

**Deadband:** Series 2800: 0.02% of span.

**Supply Pressure Sensitivity:** Series 2700: < 0.1% of span per 1.0 psig (0.1 bar).

**Power Requirement:** Loop powered.

**Temperature Limits:** Series 2700: -20 to 150°F (-29 to 66°C); Series 2800:

Operating: -40 to 160°F (-40 to 71°C); Storage: -40 to 200°F (-40 to 93°C).

**Pressure Connections:** 1/4" female NPT.

**Electrical Connection:** 1/2" female NPT.

**Air Consumption:** Series 2700: 0.03 scfm (0.01 l/s) at midrange typical; Series 2800: 0.025 scfm (0.01 l/s) at midrange typical.

**Output Capacity:** 4.5 scfm (2.1 l/s) at 25 psig (1.7 bar) supply; 12.0 scfm (5.7 l/s) at 100 psig (6.9 bar) supply.

**Enclosure:** Chromate-treated aluminum with epoxy paint.

**Enclosure Rating:** NEMA 4X (IP66) and intrinsically safe.

**Weight:** Series 2700: 1.3 lb (0.59 kg); Series 2800: 0.8 lb (0.37 kg).

**Agency Approvals:** CE, CSA, FM.

### SERIES 2700

**FM Intrinsically Safe Ratings:** Class I, II, III, Division 1, Groups C, D, E, F and G; Class I, Division 2, Groups A, B, C and D; Class II and III, Division 2, Groups F and G.

**CSA Intrinsically Safe Ratings:** Class I, Division 2, Groups C and D; Class II, Groups E, F and G; Class III.

### SERIES 2800

**FM Intrinsically Safe Ratings:** Class I, II, and III, Division 1, Groups C, D, E, F, and G; Class I, Zone 0, Group IIB; Class I, II, and III, Division 2, Groups A, B, C, D, F, and G.

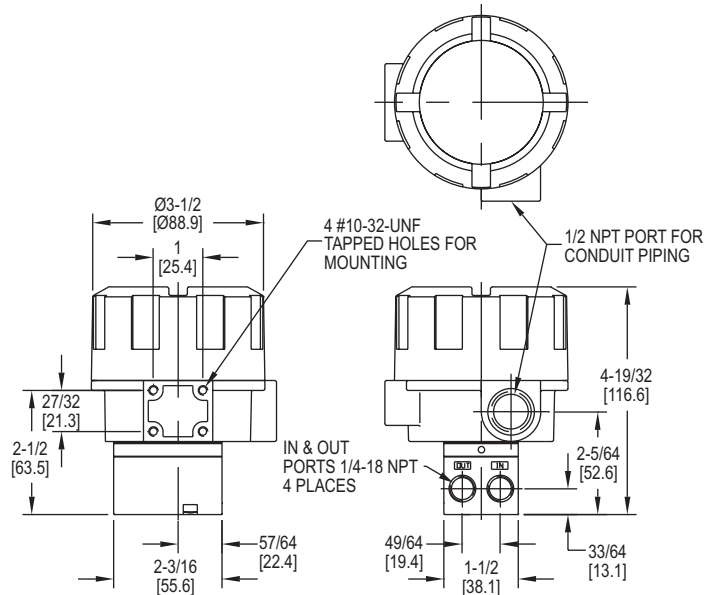
**CSA Intrinsically Safe Ratings:** Class I, Division 2, Groups A, B, C and D; Class II, Division 2, Groups F and G; Class III.

### ACCESSORIES

Model	Description
A-180	Valve mounting bracket, for Hi-Flow™ control valves (Series 2800 only)
A-181	DIN rail mounting kit, suitable for EN-50035, EN-50042, and EN-50022 rails
A-182	Pipe mounting kit, for 1-1/2 and 2" pipes

# CURRENT TO PRESSURE TRANSDUCER

Intrinsically Safe, Explosion-Proof, NEMA 4X Enclosure



The **Series 2900 Current to Pressure Transducer** delivers reliable high performance for the toughest applications in the most hazardous environments. Its NEMA 4X housing is designed and FM and CSA approved for both intrinsically safe and explosion-proof operation. This unit has advanced circuitry which includes electronic feedback control for superior vibration protection and highly accurate output. The 2900 is not position sensitive and the easily accessible zero and span adjustments make field calibration quick and easy. For ease of installation, this model has input and output ports on both the front and back. It is also not vibration sensitive, which makes the 2900 ideal for field mounting on a valve. These features coupled with the unit's compact size help make set-up and installation simple.

**FEATURES/BENEFITS**

- Designed for hazardous environments
- Vibration resistant
- Explosion-proof
- Weatherproof and intrinsically safe

**APPLICATIONS**

- Controlling valve actuators, pneumatic valve positioners, air cylinders, clutches, brakes, dampers, louvers and pumps

MODEL CHART		
Model	Input	Output
2913-E	4-20 mA	3-15 psig (0.2-1.0 bar)
2916-E	4-20 mA	6-30 psig (0.4-2.1 bar)

ACCESSORIES	
Model	Description
A-180	Valve mounting bracket, for Hi-Flow™ control valves (Series 2800 only)

OPTIONS	
Description	
Valve mount, for factory mounting and calibration to Hi-Flow™ control valves, add current-to-pressure transducer model number as suffix (Series 2800 only)	

**SPECIFICATIONS**

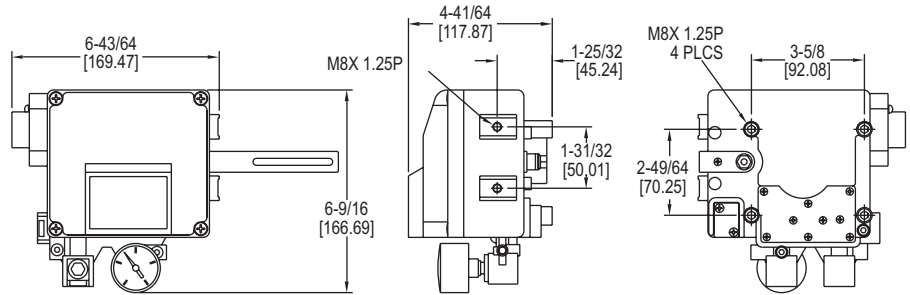
**Service:** Oil free, clean dry air filtered to 40 microns.  
**Input Signal:** 4-20 mA.  
**Air Supply:** Min: 5 psig (0.3 bar) above max output; Max: 100 psig (6.9 bar).  
**Output:** 3 to 15 psig (0.2 to 1.0 bar), 6 to 30 psig (0.4 to 2.1 bar).  
**Accuracy:** ±0.1% of span.  
**Hysteresis:** ±0.1% of span.  
**Repeatability:** ±0.1% of span.  
**Deadband:** 0.02% of span.  
**Power Requirement:** Loop powered.  
**Temperature Limits:** Operating: -40 to 160°F (-40 to 71°C); Storage: -40 to 200°F (-40 to 93°C).  
**Pressure Connections:** 1/4" female NPT.  
**Electrical Connection:** 1/2" female NPT.  
**Air Consumption:** 0.05 scfm (0.02 l/s) at midrange typical.  
**Output Capacity:** 4.5 scfm (2.1 l/s) at 25 psig (1.7 bar) supply; 12.0 scfm (5.7 l/s) at 100 psig (6.9 bar) supply.  
**Enclosure:** Chromate-treated aluminum with epoxy paint.  
**Enclosure Rating:** Weatherproof NEMA 4X (IP66), explosion-proof and intrinsically safe.  
**Weight:** 1.8 lb (0.82 kg).  
**Agency Approvals:** CE, CSA, FM.

**FM Ratings:** Explosion-proof for Class I Division 1, Groups B, C, and D, T6, Dust Ignitionproof for Class I, Division 1, Groups E, F, and G, T6; Intrinsically safe for Class I, II, and III, Division 1, Groups C, D, E, F, and G, T4 hazardous (classified) locations and intrinsically safe for Class I, Zone 0, Group IIB, T4 hazardous (classified) locations and suitable for Class I, Groups A, B, C, D, T4, and Class II and III, Division 2, Groups F and G, T6 hazardous (classified) locations.

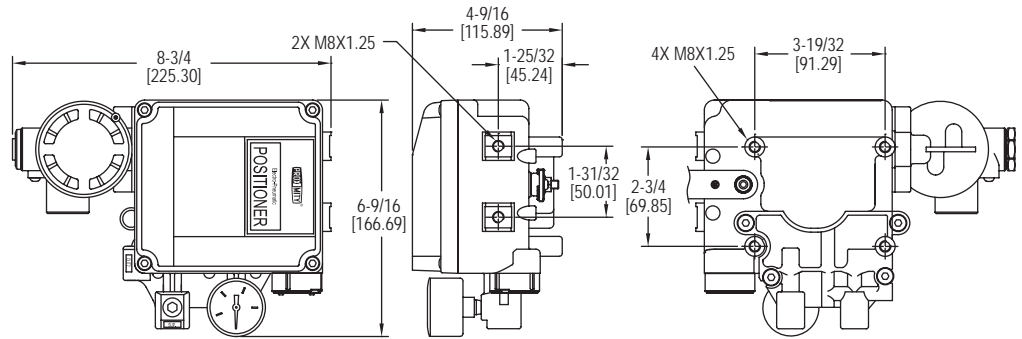
**CSA Ratings:** Class I Division 1, Groups B, C, and D; Class I, Division 2, Groups A, B, C and D; Class II, Division 1, Groups E, F, and G; Class II and III, Division 2, Groups F and G.

# PRECISOR® II PNEUMATIC AND ELECTRO-PNEUMATIC POSITIONERS

Linear Operation, Field Selectable Cam Design, 316 SS Models



Series 165NL



Series 165EL

The Series 165 PRECISOR® II Pneumatic and Electro-Pneumatic Positioners deliver stable process control at an exceptionally low price. Its rugged, durable design makes it ideal for harsh environments while maintaining precise, accurate positioning of the control element. Units can be easily changed from direct to reverse action, or vice versa. Low air consumption keeps operating costs at a minimum, while still responding quickly and accurately. Excellent for use in chemical processing, food and beverage, pulp and paper, and pharmaceutical industries, as well as many others.

#### FEATURES/BENEFITS

- Field selectable cam for direct or reverse acting

#### APPLICATIONS

Series 165 PRECISOR® II Pneumatic and Electro-Pneumatic Positioners provide excellent modulating control when used between the Dwyer Temperature Controllers, Current to Pressure Transducer, and the Hi-Flow™ Valve in such industries as the food and beverage processing, chemical, pharmaceutical, and wood pulp and paper.

#### HOW TO ORDER:

1. Select Model No. to specify input control signal.
2. For proper mounting hardware, order according to which actuator the positioner will be mounted to.

MODEL CHART		
Model	Input	Enclosure
165NL	3 to 15 psig	Aluminum
165EL	4-20 mA	Aluminum
165EL-SS	4-20 mA	SS

ACCESSORIES - MOUNTING KITS	
Model	For Actuator Models
A-233	220 and 221 air-to-lower
A-234	222 and 223 air-to-lower
A-235	230 and 231 air-to-raise
A-236	233 air-to-raise

#### SPECIFICATIONS

**Input Signal:** Pneumatic: 3 to 15 psig (0.2 to 1 bar); Electro-pneumatic: 4-20 mA DC.

**Input Impedance:** (165EL only): 250 ±15 Ω.

**Enclosure Material:** Aluminum diecasting or 316 SS.

**Air Supply:** 20 to 100 psig (1.4 to 6.9 bar).

**Air Supply Connection:** 1/4" NPT.

**Gage Connection:** 1/8" NPT.

**Electrical Connection:** Screw terminal.

**Conduit Connection:** 1/2" NPT (165EL only).

**Linearity:** ±0.2% FS.

**Hysteresis:** 1% FS.

**Sensitivity:** ±0.2% FS.

**Repeatability:** ±0.5% FS.

**Air Consumption:** 0.10 scfm (3 LPM) at 20 psig (1.4 bar) supply.

**Flow Capacity:** 28 scfm (80 LPM) at 20 psig (1.4 bar) supply.

**Stroke:** 0.5 to 6" (10 to 150 mm).

**Enclosure Rating:** IP66 (NEMA 4X).

**Temperature Limits:** Aluminum: -4 to 158°F (-20 to 70°C); SS: -40 to 158°F (-40 to 70°C).

**Weight:** 165NL: 3.1 lb (1.7 kg); 165EL: 6.1 lb (2.7 kg).

**Agency Approvals:** CE (165EL only).

#### OPTIONS

##### Description

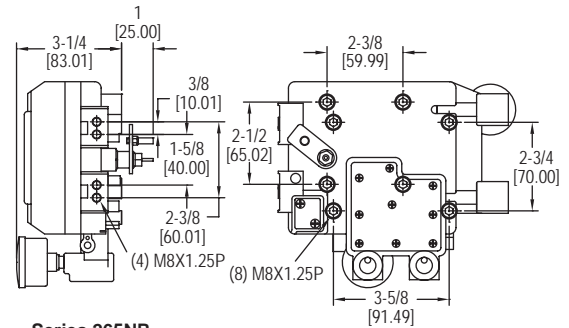
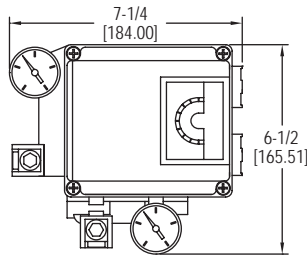
Valve mount, for factory mounting and calibration to Hi-Flow™ control valves, add suffix to valve model number of positioner.  
(Does not include valve or positioner piece)

**Example:** 2004VA32-231-165EL

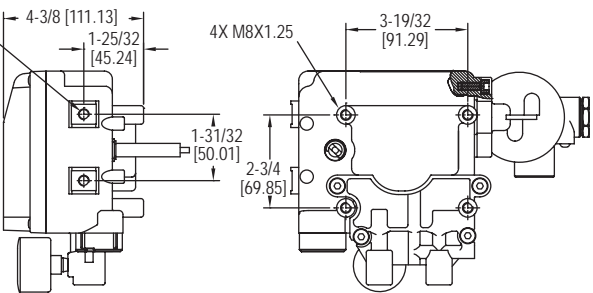
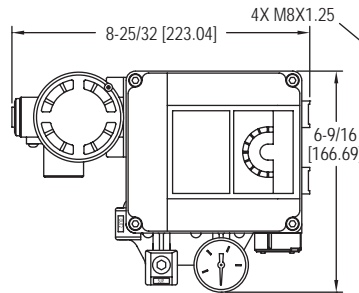


# PRECISOR® II PNEUMATIC AND ELECTRO-PNEUMATIC POSITIONERS

Rotary Operation, Field Selectable Cam Design, 316 SS Models



Series 265NR



Series 265ER

Proximity Series 265 Precisor® II Pneumatic and Electro-Pneumatic Positioners combine outstanding performance with an extremely low price, making it an exceptional value for industrial applications. Rotary valves with single or double acting pneumatic actuators can be precisely controlled, such as our ball and butterfly valves. The Precisor® II positioner proportionally modulates the valve from either an electric 4-20 mA or pneumatic 3 to 15 psig input signal, based on the model chosen and is user-selectable for single or double action. Its rugged, durable design makes it ideal for use in harsh environments, while maintaining precise, accurate positioning of the control elements. Includes a bracket for mounting onto actuators with NAMUR standard connections, and features a versatile linear cam for direct action, reverse action, or split ranges.

**FEATURES/BENEFITS**

- Field selectable cam for direct or reverse acting
- User selectable for single or double action
- Highly visible indicator for local indication
- IP66 enclosure rating

**APPLICATIONS**

- Rotary valves with single or double acting pneumatic actuators

MODEL CHART			
Model	Input	Lever Type	Enclosure
265NR-D5	3 to 15 psig	NAMUR	Aluminum
265ER-D5	4-20 mA	NAMUR	Aluminum
265ER-D5SS	4-20 mA	NAMUR	SS

ACCESSORIES	
Model	Description
A-228	SS steel flex hose, 12" (30.48 cm) L, 1/8" male NPT connections
A-332	Brass adapter, 1/8" female NPT to 1/4" male NPT

**SPECIFICATIONS**

**Input Signal:** Pneumatic: 3 to 15 psig (0.2 to 1 bar); Electro-pneumatic: 4-20 mA DC.  
**Input Impedance:** (265ER only): 250 ±15 Ω.  
**Enclosure Material:** Aluminum diecasting or 316 SS.  
**Air Supply:** 20 to 101 psig (1.4 to 7.0 bar).  
**Air Supply Connection:** 1/4" NPT.  
**Gage Connection:** 1/8" NPT.  
**Electrical Connection:** Screw terminal.  
**Conduit Connection:** 1/2" NPT (265ER only).  
**Linearity:** ±2% FS.  
**Hysteresis:** 1% FS.  
**Sensitivity:** ±0.5% FS.  
**Repeatability:** ±0.5% FS.  
**Air Consumption:** 0.10 scfm (3 LPM) at 20 psig (1.4 bar) supply.  
**Flow Capacity:** 28 scfm (80 LPM) at 20 psig (1.4 bar) supply.  
**Stroke:** 0 to 90°.  
**Enclosure Rating:** IP66.  
**Temperature Limits:** -4 to 158°F (-20 to 70°C).  
**Weight:** 265NR: 3.1 lb (1.7 kg); 265ER: 6.2 lb (2.8 kg).  
**Agency Approvals:** CE (265ER only).



**Pneumatic hosing and fittings**

Hosing and fittings for connecting positioners, current to pressure transducers, air filter gauges and other accessories to pneumatic actuated valves.

USA: California Proposition 65  
 ⚠️WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

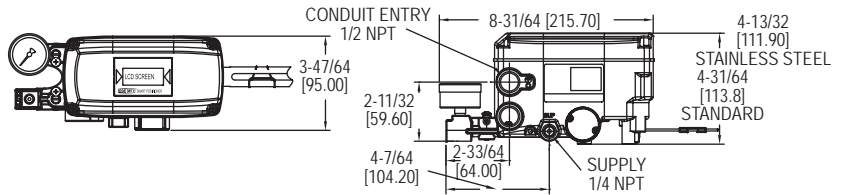
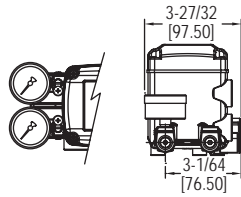
Filters and Regulators: See page 446

# LINEAR AND ROTARY SMART POSITIONERS

Fail Freeze, Linear and Rotary Operation, HART® Communication



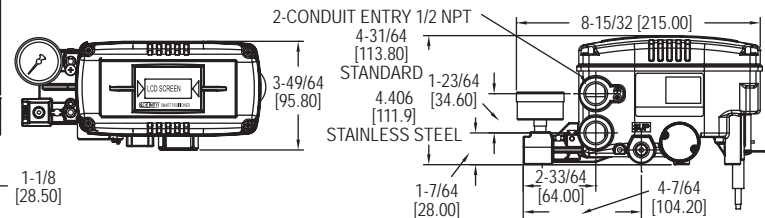
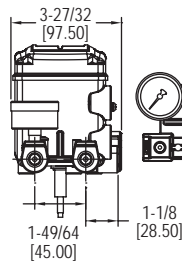
185



185



285



285



Proximity Series 185 & 285 Linear and Rotary Smart Positioners combine an easy to use, high performance unit with a low price. Series 185 models accurately control the valve stroke of linear motion valves and Series 285 models accurately control the valve stroke of rotary motion valves. An analog feedback signal is outputted to stabilize any valve system, and easy to use functions such as auto calibration ensure the accuracy of the unit. The compact design of this unit makes it easy to use with any size actuator. Smart Positioners feature a LCD screen attached to the outer surface of the unit, allowing for an easy inspection of the positioner condition while in the field. Available in user selectable single or double action, with HART® communication as standard. In the event that the 4-20 mA input signal is lost the 185 and 285 will fail in place.

## FEATURES/BENEFITS

- User selectable single or double action
- LCD display

## APPLICATIONS

- Linear motion valves or rotary motion valves with single or double acting actuators

MODEL CHART		
Model	Communication	Enclosure
185EL-D1	HART®	Aluminum
185EL-D1SS	HART®	SS
285ER-D5	HART®	Aluminum
285ER-D5SS	HART®	SS

## SPECIFICATIONS

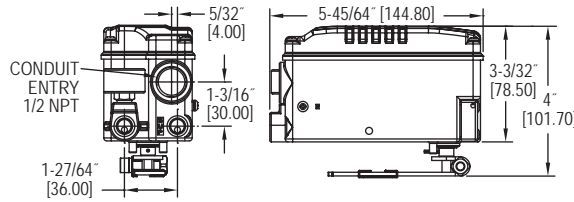
**Input Signal:** 4-20 mA DC.  
**Input Impedance:** 460 Ω max @ 20 mA DC.  
**Enclosure Material:** Aluminum or 316 SS.  
**Air Supply:** 35 to 116 psi (2.4 to 8 bar).  
**Air Connection:** 1/4" NPT.  
**Gage Connection:** 1/8" NPT.  
**Conduit Connection:** 1/2" NPT.  
**Linearity:** ±0.5% FS.  
**Hysteresis:** ±0.5% FS.  
**Sensitivity:** ±0.2% FS.  
**Repeatability:** ±0.3% FS.  
**Air Consumption:** .0004 scfm (.01 LPM) at 20 psig (1.4 bar) supply.  
**Flow Capacity:** 2.1 scfm (60 LPM) at 20 psig (1.4 bar) supply.  
**Stroke:** 0.5 to 6" (10 to 150 mm) or 0 to 90°.  
**Enclosure Rating:** NEMA 4X (IP66).  
**Temperature Limits:** -22 to 185°F (-30 to 85°C).  
**Weight:** 3.3 lb (1.5 kg); SS models: 6.4 lb (2.9 kg).

# COMPACT LINEAR AND ROTARY SMART POSITIONERS

Low Cost, Rotary Operation, HART® Communication



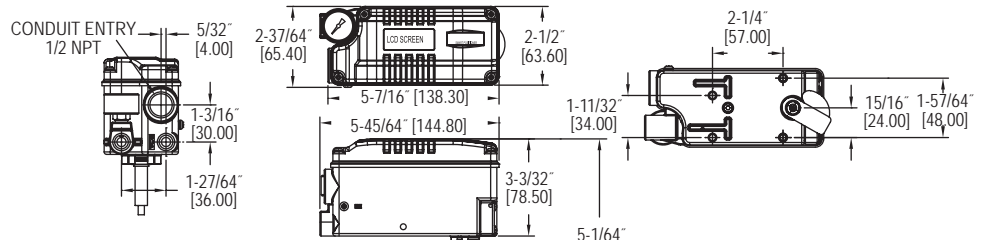
195



195



295



295

Proximity Series 195 & 295 Compact Linear and Rotary Smart Positioners are compact, high performance units with a low price. Series 195 models accurately control the valve stroke of linear motion valves and Series 295 models accurately control the valve stroke of rotary motion valves. An analog feedback signal is outputted to stabilize any valve system, and easy to use functions such as auto calibration ensure the accuracy of the unit. The handheld size of this unit makes it easy to use with any size actuator, and can be used in applications where a larger positioner may not fit. Series 195 and 295 Smart Positioners feature a LCD screen attached to the outer surface of the unit, allowing for an easy inspection of the positioner condition while in the field. Available with HART® communication.

**FEATURES/BENEFITS**

- LCD Display
- Auto calibration, PID control and alarm

**APPLICATIONS**

- Linear motion valves or rotary motion valves with single acting actuators

**SPECIFICATIONS**

- Input Signal:** 4-20 mA DC.
- Input Impedance:** 460 Ω max @ 20 mA DC.
- Enclosure Material:** Aluminum.
- Air Supply:** 35 to 116 psi (2.4 to 8 bar).
- Air Connection:** 1/4" NPT.
- Gage Connection:** 1/8" NPT.
- Conduit Connection:** 1/2" NPT.
- Linearity:** ±0.5% FS.
- Hysteresis:** ±0.5% FS.
- Sensitivity:** ±0.2% FS.
- Repeatability:** ±0.3% FS.
- Air Consumption:** .0004 scfm (.01 LPM) at 20 psig (1.4 bar) supply.
- Flow Capacity:** .32 scfm (9 LPM) at 20 psig (1.4 bar) supply.
- Stroke:** 0.19 to 1.38" (5 to 35 mm) or 0 to 90°.
- Enclosure Rating:** NEMA 4X (IP66).
- Temperature Limits:** -22 to 185°F (-30 to 85°C).
- Weight:** 1.8 lb (.82 kg).

MODEL CHART		
Model	Action	Communication
195EL-S1	Single	None
195EL-S2	Single	HART®
295ER-S1	Single	None
295ER-S2	Single	HART®

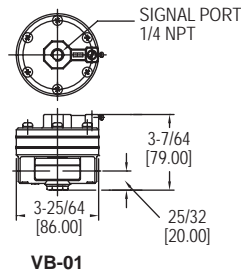
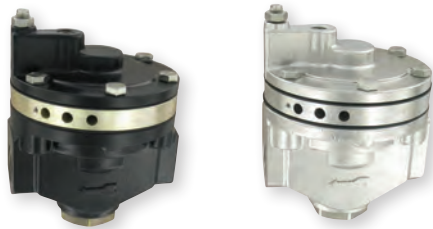
Positioners

**Dwyer**

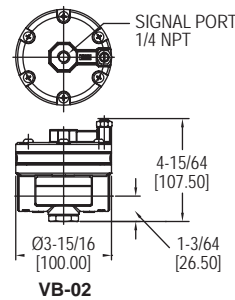
SERIES VB | PROXIMITY® BY DWYER

**VOLUME BOOSTERS**

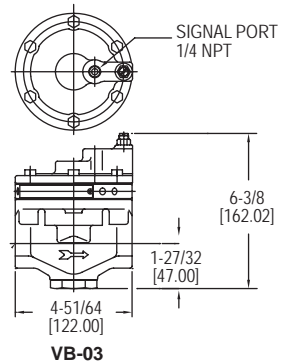
Economical, 1:1 Ratio



VB-01



VB-02



VB-03

The Series VB Volume Boosters are a one to one signal to output relay and an ideal solution to increasing valve stroke speed. A large input signal change to the booster delivers high volume for quick throttling control. Volume booster responds to the slightest changes in input signal, which in turn increases accuracy of the output of air pressure to the actuator. This booster receives the positioner's signal output and supplies the proper air pressure to the actuator to reduce response and adjustment time. Available in aluminum or stainless steel.

**FEATURES/BENEFITS**

- Responds to the slightest change in input signal
- Supplies constant air pressure at a 1:1 ratio

**APPLICATIONS**

- Used with pneumatic control valves

**SPECIFICATIONS**

**Service:** Air only.  
**Wetted Materials:** Body: Aluminum or SS; Diaphragm: Nitrile elastomer.  
**Max Supply Pressure:** 145 psi (10 bar).  
**Max Signal/Output Pressure:** 101.5 psi (7 bar).  
**Signal Connection:** 1/4" NPT.  
**In/Output Pressure Ratio:** 1:1.  
**Temperature Limits:** -4 to 158°F (-20 to 70°C).  
**Linearity:** ±1% FS.  
**In/Output Connection:** See model chart.  
**Weight:** See model chart.

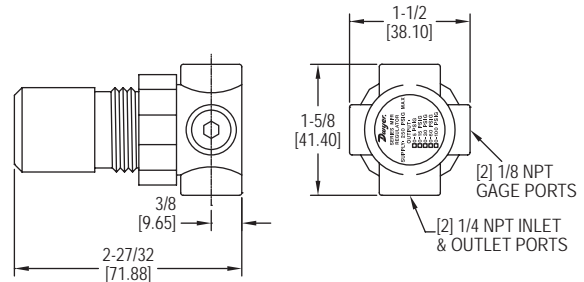
**MODEL CHART**

Model	Cv	Weight	In/Out Connection	Construction
VB-01	1.02	1.1 lb (0.5 kg)	1/4" NPT	Aluminum
VB-01SS	1.02	2.9 lb (1.3 kg)	1/4" NPT	SS
VB-02	2.32	1.7 lb (0.76 kg)	1/2" NPT	Aluminum
VB-02SS	2.32	4.2 lb (1.9 kg)	1/2" NPT	SS
VB-03	4.98	5.1 lb (2.3 kg)	3/4" NPT	Aluminum
VB-03SS	4.98	11 lb (5 kg)	3/4" NPT	SS

SERIES MPR | PROXIMITY® BY DWYER

**MINIATURE PRESSURE REGULATOR**

Air or Water Regulator, Compact and Lightweight, Low Cost



The Series MPR Miniature Pressure Regulator is a compact unit that provides low cost, high performance pressure regulation of compressed air or air/water. The low torque, non-rising adjustment knob with locking capability provides easy and precise adjustment. Models for use with air are self relieving. Models for air/water are non-relieving.

**FEATURES/BENEFITS**

- Low cost
- Easy and precise adjustment
- Compact

**APPLICATIONS**

- Any industrial application that requires water or air pressure regulations and low cost

**SPECIFICATIONS**

**Service:** Compressed air or water.  
**Wetted Materials:** Body: Zinc; Bonnet: Acetal; Diaphragm/seals: Nitrile; Internals: Aluminum, brass, acetal, steel, music wire (MPR2 is plated with electroless nickel for water use).  
**Maximum Supply Pressure:** 250 psig (17.2 bar).  
**Temperature Limits:** 0 to 150°F (-18 to 60°C).  
**Flow Capacity:** 24 SCFM (48 m<sup>3</sup>/hr) at 100 psig (6.9 bar) supply, 60 psig (4.1 bar) output.  
**Process Connection:** Inlet and outlet: Two 1/4" female NPT; Two 1/8" female NPT gage ports.  
**Weight:** 4 oz (113 g).

**ACCESSORIES**

Model	Description
MPR-B	Mounting bracket
MPR-N	Panel mounting nut

MODEL CHART		
Air Model	Air/Water Model	Range
MPR1-0	MPR2-0	0 to 5 psi
MPR1-1	MPR2-1	0 to 15 psi
MPR1-2	MPR2-2	0 to 30 psi
MPR1-3	MPR2-3	0 to 60 psi
MPR1-4	MPR2-4	0 to 100 psi



# Dwyer®

**Manufacturing Excellence Since 1931**

pressure • temperature • test & data • air quality

flow • level • process control • valves



## 2021

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