

Manufacturing Excellence Since 1931

pressure • temperature • test & data • air quality

flow • level • process control • valves



2021

dwyer-inst.com



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



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

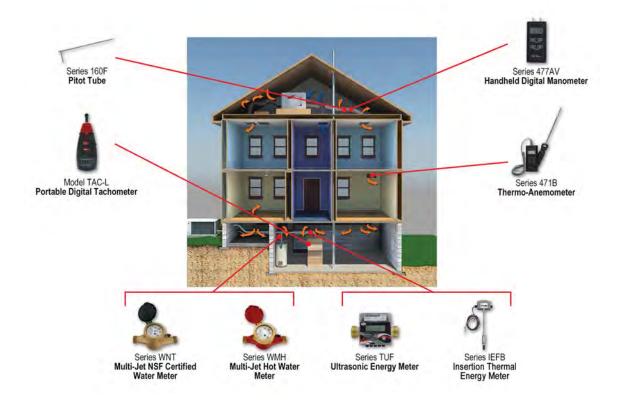
SILVER

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

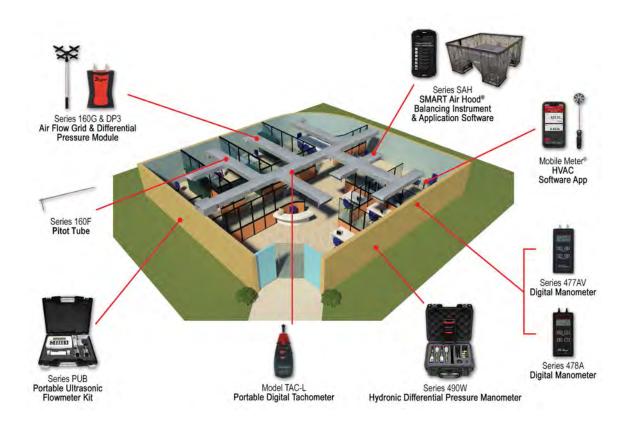
BRONZE

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

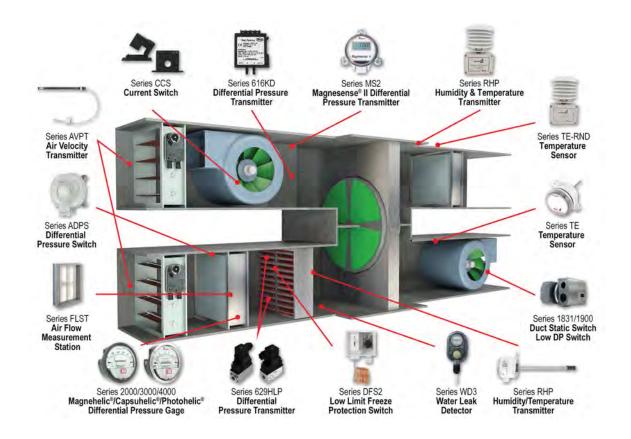
HVAC TESTING



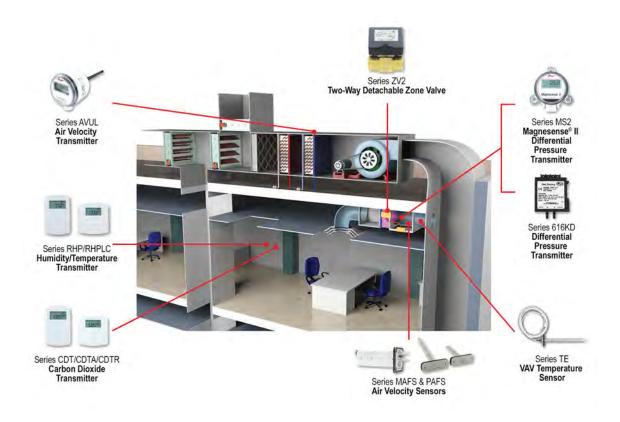
BUILDING BALANCING



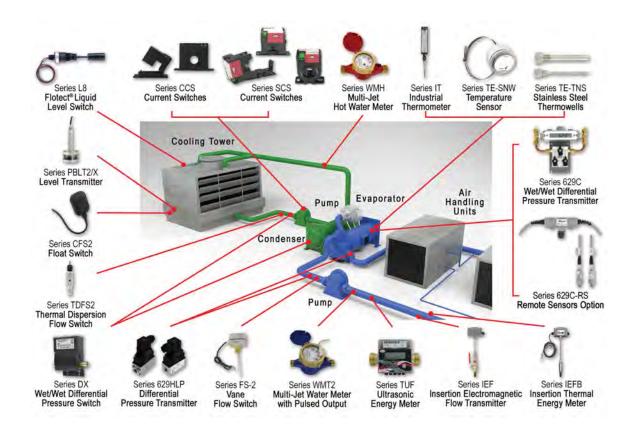
AIR HANDLER



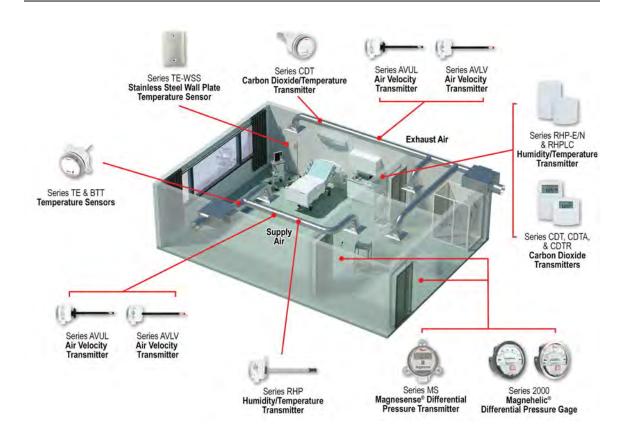
TERMINAL UNIT



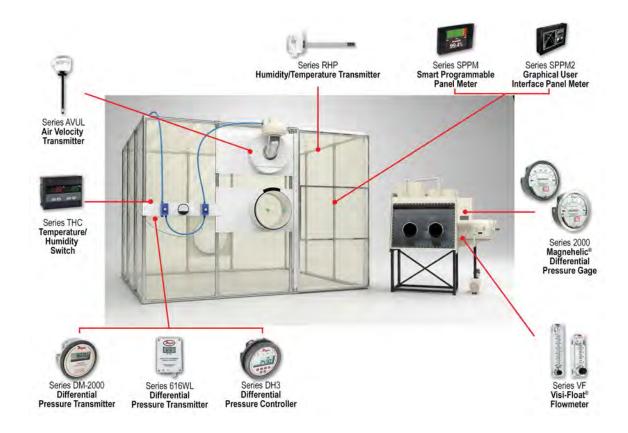
CHILLER PLANT



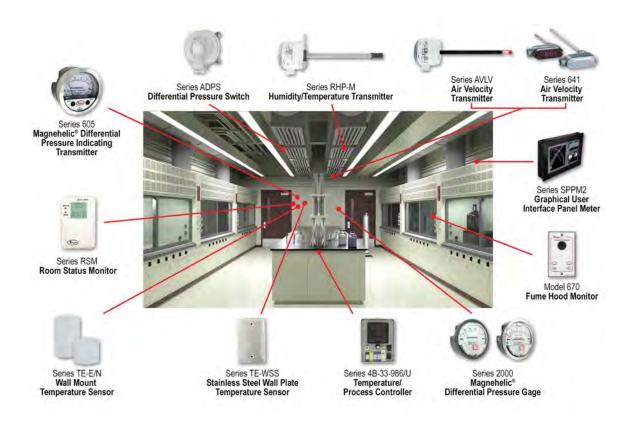
ISOLATION ROOM



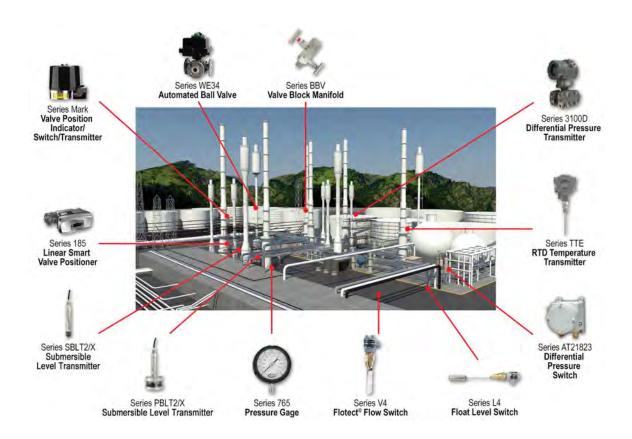
CONTAINMENT CHAMBER/BOX



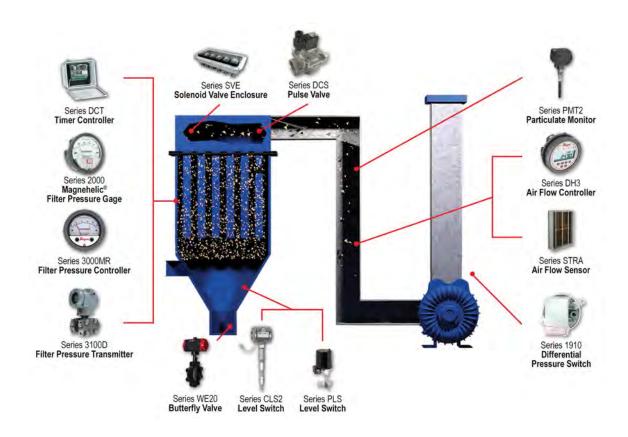
CLEAN ROOM



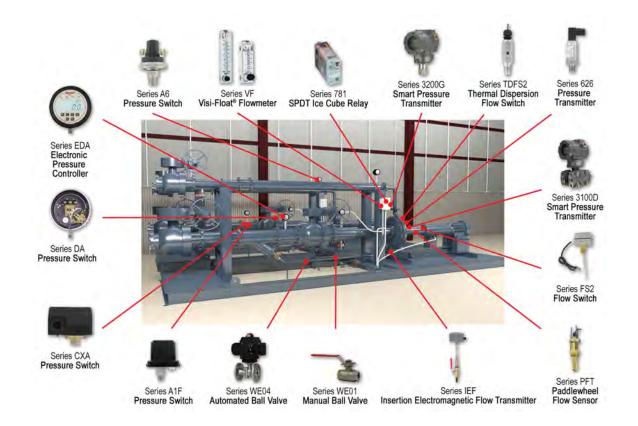
MIDSTREAM REFINERY/CHEM PLANT



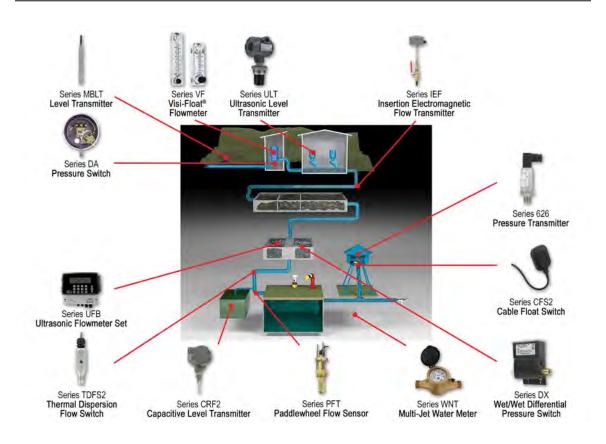
DUST COLLECTOR



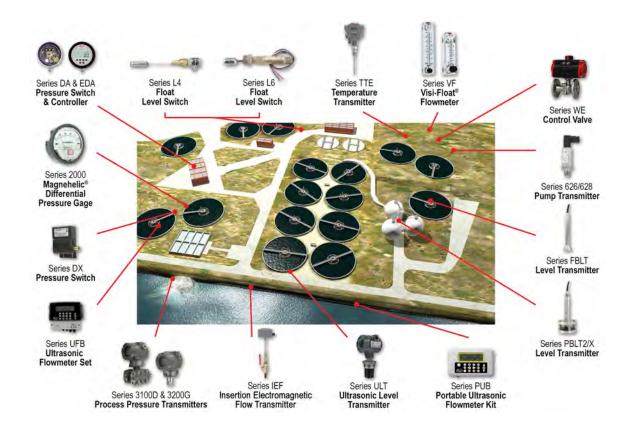
PUMP SKID



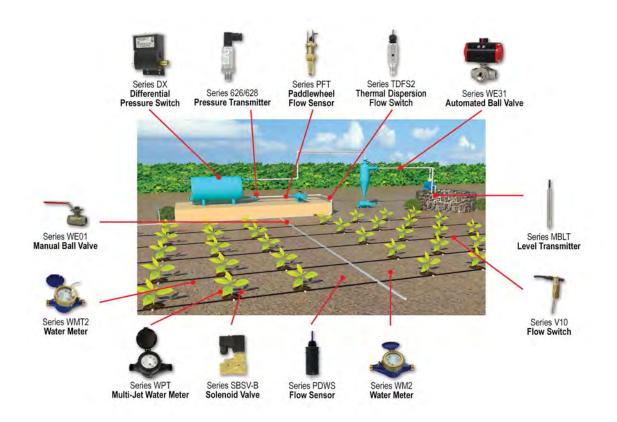
CLEAN WATER



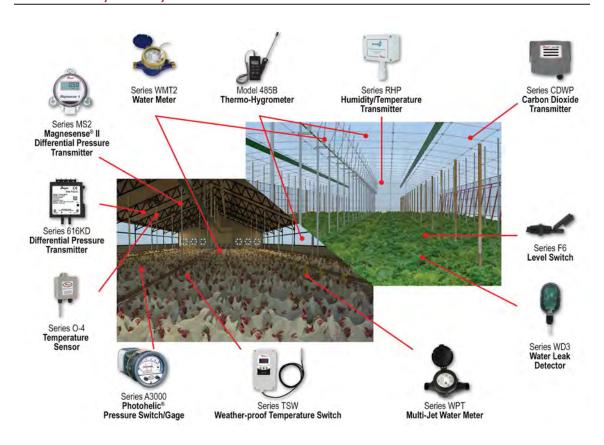
WASTEWATER



IRRIGATION



POULTRY/HOG/GREENHOUSES



RECENT INNOVATIONS



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

PAGE 163



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

PAGE 164



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

PAGE 216



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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RECENT INNOVATIONS



CARBON DIOXIDE TRANSMITTER

SERIES CDWP

- Single beam dual wavelength NDIR CO2 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 CO2 based refrigerants

PAGE 226



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

PAGE 232



INSERTION ELECTROMAGNETIC FLOW TRANSMITTER **SERIES IEF**

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



PAGE 292



ULTRASONIC ENERGY METERS

SERIES TUF

- Manufactured to comply with EN1434-1 requirements
- · Compact energy monitoring
- BACnet or Modbus® communication outputs

PAGE 293



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

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

- Prices and Specifications are subject to change without notice.
- Shipping dates are approximate. They are dependent upon credit approval and subject to delays beyond our control.
- 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.
- 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.
- 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.
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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.

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TYPICAL APPLICATIONS page 382

TECHNICAL INFORMATION page 383



Valves, Ball, Automated pages 384-400, 404-412



Manual pages 401-403







Actuators pages 416-417



























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

WIRELESSHART® 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



2-WAYAutomated Ball Valves



3-WAYAutomated Ball Valves





Dwyer 2-WAYAutomated Ball Valves

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

POSITIONERS

SERIES	165 & 265 - pages 442-443	185 & 285 - page 444	195 & 295 - page 445
Body Material	Aluminum or 316 SS	Aluminum or 316 SS	Aluminum
Stroke	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°
Air Supply	20 to 101 psig	35 to 116 psi	35 to 116 psi
Enclosure Rating	IP66	NEMA 4X	NEMA 4X



HAND LEVER

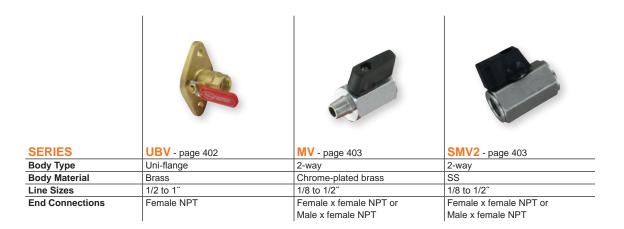
SERIES	DBV - page 401	BV2M - page 401	DBVL - page 402	SWBV - page 402
Body Type	2-way	2-way	2-way	2-way
Body Material	Brass	CF8M	Low lead brass	Brass
Line Sizes	1/4 to 3"	1/4 to 3"	1/4 to 3"	1/4 to 3"
End Connections	Female NPT	Female NPT	Female NPT	Sweat

POSITION INDICATORS/ SWITCHES/ TRANSMITTERS

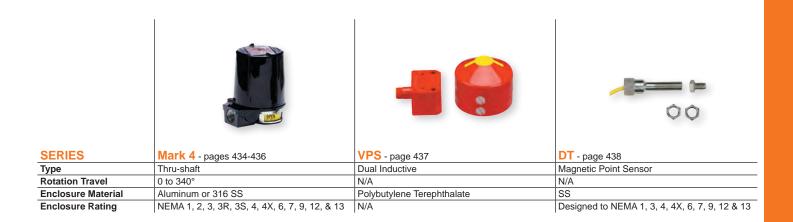
	THE STATE OF THE S		
SERIES	QV - page 433	Mark 1 - pages 434-436	Mark 3 - pages 434-436
Туре	Thru-shaft	Magnetic drive	Magnetic drive
Rotation Travel	5 to 360° (switches only)	0 to 340°	1 to 25 revolutions
Enclosure Material	Polycarbonate	Aluminum or 316 SS	Aluminum or 316 SS
Enclosure Rating	NEMA 4, 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

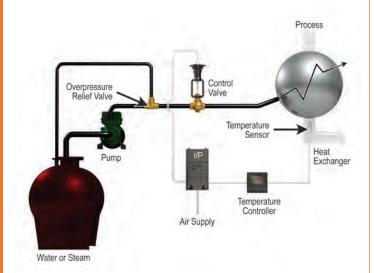


HAND LEVER Ball Valves



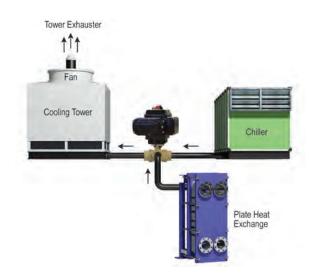
POSITION INDICATORS/ SWITCHES/ TRANSMITTERS





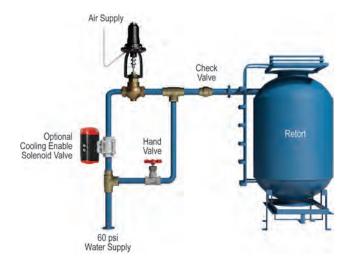
Process temperature control using pneumatic Hi-Flow™ control

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 $^{\mbox{\tiny TM}}$ 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.



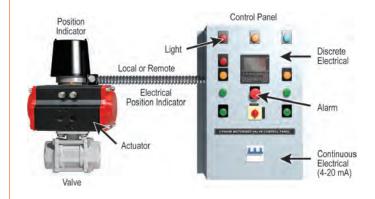
Water-side economizer system includes Series WE31 3-way ball valve for accurate control of flow

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



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 $\operatorname{Hi-Flow}^{\mathrm{TM}}$ 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 C_V 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 C_V 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

C_V = 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 C_V is determined, selection of the proper size control valve can be obtained by comparing the required C_V to the C_V 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 C_V 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

Liquid C_V = q $\left(\frac{g}{AP}\right)^{1/2}$

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

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

CRITICAL FLOW

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

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

2-PIECE NPT STAINLESS STEEL BALL VALVES Full Port, Vented Ball, Electric or Pneumatic Actuators



WE01-EHD00



WF01-FDA02



WE01-EDA02-AA01



WE01-ETI02-A



WF01-FTD01-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

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

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

Cycle Time (per 90°): See instruction

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

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	MODEL CHART							
					Popular NEMA 4X	Popular NEMA 4X		
	Cv	PopularHand	Popular Double Acting	Popular Spring Return	Two Position Electric	Modulating Electric		
Size	(gal/min)	Operated Model	Pneumatic Model	Pneumatic Model	(110 VAC) Model	(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		

Example	WE01	-EDA02	-A	Α	01		WE01-EDA02-AA01
Series	WE01						316 SS 2-piece NPT
Size and		CHD00					1/2" hand operated
Actuator		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
		CSR02					1/2" spring return
		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
Solenoid			N				No solenoid
			Α				NEMA 4X NAMUR solenoid
Solenoid				Ν			No solenoid
Voltage				Α			110 VAC
				В			220 VAC
				С			24 VAC
				D			24 VDC
				Е			12 VDC
Positioner					00		None
and					01		42AD0 exp limit switch
Switches					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
Options						NO	Fail open spring return actuator

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

			_	ACTUATOR		
Example		-GMD01	-A	WE01-GMD01-A		
Series	WE01			316 SS 2-piece NPT		
Size and		CTD01		1/2" NEMA 4X two-position		
Actuator		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		
		CTI01		1/2" exp two-position		
		DTI01		3/4" exp two-position		
		ETI02		1" exp two-position		
		FTI02		1-1/4" exp two-position		
		GTI02		1-1/2" exp two-position		
		HTI04		2" exp two-position		
		ITI05		2-1/2" exp two-position		
		JTI06		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		
		GMI02		1-1/2" exp electric modulating		
		HMI04		2" exp electric modulating		
		IMI05		2-1/2" exp electric modulating		
		JMI06		3" exp electric modulating		
Actuator			Α	110 VAC		
Voltage			В	220 VAC		
			С	24 VAC		
			D	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 s	seats					
211111111111111111111111111111111111111	,000					

2-PIECE NPT BRASS BALL VALVES

Full Port, Vented Ball, Electric or Pneumatic Actuators









WE08-EDA02

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

Other Materials: O-ring: NBR; Handle, stem nut, ferrule: SS; Handle sleeve:

Vinyl; Body and cap: Nickle 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

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

Housing Material: Anodized aluminum body and epoxy coated aluminum end

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

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



DuyerSERIES WEOS | W.E. ANDERSON™ BY DWYER 2-PIECE NPT BRASS BALL VALVES Full Port, Vented Ball, Electric or Pneumatic Actuators

MODE	MODEL CHART							
		Popular	Popular	Popular	Popular NEMA 4X	Popular NEMA 4X		
		Hand	Double Acting	Spring Return	Two Position	Modulating		
	Cv	Operated	Pneumatic	Pneumatic	Electric	Electric		
Size	(gal/min)	Model	Model	Model	(110 VAC) Model	(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 CH	IART - I	HAND OP	ER	ATE	ED 8	k PNI	EUMATIC ACTUATOR
Example	WE08	-EDA02	-A	Α	01		WE08-EDA02-AA01
Series	WE08						Brass 2-piece NPT
Size and		CHD00					1/2" hand operated
Actuator		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
		CDA02					1/2" double acting
		DDA02					3/4" double acting
		EDA02					1" double acting
		FDA03					1-1/4" double acting
		GDA03					1-1/2" double acting
		HDA03					2" double acting
		CSR02					1/2" spring return
		DSR03					3/4" spring return
		ESR03					1" spring return
		FSR03					1-1/4" spring return
		GSR03					1-1/2" spring return
		HSR04					2" spring return
Solenoid			N				No solenoid
			Α				NEMA 4X NAMUR solenoid
Solenoid				N			No solenoid
Voltage				Α			110 VAC
				В			220 VAC 24 VAC
				С			= : :::=
				D E			24 VDC 12 VDC
Positioner				_	00		None
and					01		42AD0 exp limit switch
Switches					02		45VD0 exp position transmitter
OWITCHES					03		42AD0-B ATEX limit switch
					06		QV-210101 poly limit switch
					07		VPS and P1 prox switch
					08		265ER-D5 positioner
					09		285ER-D5 smart positioner
Options					00	NO	Fail open spring return actuator
- 1700				_		,	I opining rotation dotation

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

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

USA: California Proposition 65

3-PIECE NPT STAINLESS STEEL BALL VALVES Full Port, Vented Ball, Electric or Pneumatic Actuators



WE02-DHD00



WF02-DDA01



WE02-DDA01-AA01



WF02-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

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

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.

with two limit switches

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

Electric "TI" and "MI" Series Power Requirements: 110 VAC, 220 VAC, 24 VAC or 24 VDC.

Power Consumption: See instruction

Cycle Time (per 90°): See instruction

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

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

MODE	L CHART					
		Popular	Popular Double	Popular Spring	Popular NEMA 4X	Popular NEMA 4X
	Cv	Hand Operated	Acting Pneumatic	Return Pneumatic	Two Position Electric	Modulating Electric
Size	(gal/min)	Model	Model	Model	(110 VAC) Model	(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 OF	IADT I	IAND OF		A T.	-D 0	DNI	TIMATIC ACTUATOR
		-CSR02	_	_		PNE	EUMATIC ACTUATOR
Example Series	WE02	-C5K02	-N	N	09		WE02-CSR02-NN09 316 SS 3-piece NPT
Size and	VVEU2	CHD00					1/2" hand operated
Actuator		DHD00					3/4" hand operated
Actuator		EHD00					
		FHD00					1" hand operated 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
		EDA01					1" double acting
		FDA02					1-1/4" double acting
		GDA02					1-1/2" double acting
		HDA03					2" double acting
		IDA03					2-1/2" double acting
		JDA04					3" double acting
		CSR02					1/2" spring return
		DSR02					3/4" spring return
		ESR03					1" spring return
		FSR03					1-1/4" spring return
		GSR04					1-1/4 spring return
		HSR05					2" spring return
		ISR07					2-1/2" spring return
		JSR07					3" spring return
Solenoid		331(07	N	\vdash			No solenoid
Soleliola			A				NEMA 4X NAMUR solenoid
Solenoid			Α	N			No solenoid
Voltage				A			110 VAC
voitage				В			220 VAC
				С			24 VAC
				D			24 VDC
				F			12 VDC
Positioner				-	00		None
and					01		42AD0 exp limit switch
Switches					02		45VD0 exp position transmitter
Owitories					03		42AD0-B ATEX limit switch
					04		42AD0-BATEX limit switch
					06		QV-210101 poly limit switch
					07		VPS and P1 prox switch
					08		265ER-D5 positioner
					09		285ER-D5 smart positioner
Options					09	NO	Fail open spring return actuator
Options						INO	i all open spring return actuator

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

			_	ACTUATOR
Example		-ETD01	-B	WE02-ETD01-B
Series	WE02			316 SS 3-piece NPT
Size and		CTD01		1/2" NEMA 4X two-position
Actuator		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
		CTI01		1/2" exp two-position
		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
Actuator			Α	110 VAC
Voltage			В	220 VAC
			С	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 Lis	st - Included in Kit				
1 PTFE t	hrust washer				
1 FKM O	-ring				
2 PTFE s	stem packing				
2 PTFE s	seals				
2 RTFE s	seats				

3-PIECE TRI-CLAMP STAINLESS STEEL BALL VALVES Cavity Filled, Full Port, Electric or Pneumatic Actuators



WE03-DHD00



WF03-DDA01



WE03-DDA01-AA07



WF03-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/

FU (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

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

MODE	L CHART					
		Popular	Popular Double	Popular Spring	Popular NEMA 4X	Popular NEMA 4X
	Cv	Hand Operated	Acting Pneumatic	Return Pneumatic	Two Position Electric	Modulating Electric
Size	(gal/min)	Model	Model	Model	(110 VAC) Model	(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 CH	IΔRT - I	HAND OP	FR	ΔΤΕ	א ח=	PNF	EUMATIC ACTUATOR
Example	WE03		_		06		WE03-EDA02-AA06
Series	WE03						316 SS 3-piece tri-clamp
Size and		CHD00					1/2" hand operated
Actuator		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
			Α				NEMA 4X NAMUR solenoid
Solenoid				N			No solenoid
Voltage				Α			110 VAC
				В			220 VAC
				С			24 VAC
				D			24 VDC
				Е			12 VDC
Positioner					00		None
and					01		42AD0 exp limit switch
Switches					02		45VD0 exp position transmitter
					03		42AD0-B ATEX limit switch
					04		42AD0-IE IECEX limit switch
					07		QV-210101 poly limit switch VPS and P1 prox switch
					08		265ER-D5 positioner
					09		285ER-D5 positioner
Options					09	NO	Fail open spring return actuator
Options						INO	i all open spring return actuator

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

			IC /	ACTUATOR
Example	WE03	-CMD01	-A	WE03-CMD01-A
Series	WE03			316 SS 3-piece tri-clamp
Size and		CTD01		1/2" NEMA 4X two-position
Actuator		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
		CMI01		1/2" exp electric modulating
		DMI01		3/4" exp electric modulating
		EMI02		1" exp electric modulating
		GMI02		1-1/2" exp electric modulating
		HMI02		2" exp electric modulating
Actuator			Α	110 VAC
Voltage			В	220 VAC
			С	24 VAC
			D	24 VDC

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					
I alto Li	st - Iliciaaca III Kit				
	hrust washer				
	hrust washer				
1 PTFE t	hrust washer				
1 PTFE t	hrust washer i-ring stem packing				

Model Valve Series and Size

REPAIR KIT

2-PIECE FLANGED STAINLESS STEEL BALL VALVES 150# ANSI Flange, Vented Ball, Electric or Pneumatic Actuators



WE04-DHD00







WE04-CTI01-A



WF04-DDA02-AA03







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 value

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

Agency Approvals: Meets the technical requirements of EU Directive 2011/65/

FU (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

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

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

Cycle Time (per 90°): See instruction

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

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

MODE	MODEL CHART										
		Popular	Popular Double	Popular Spring	Popular NEMA 4X	Popular NEMA 4X					
	Cv	Hand Operated	Acting Pneumatic	Return Pneumatic	Two Position Electric	Modulating Electric					
Size	(gal/min)	Model	Model	Model	(110 VAC) Model	(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 CH	IART - I	HAND OP	ER/	ΛΤΕ	D &	PNE	EUMATIC ACTUATOR
Example	WE04				05		WE04-GDA03-AB05
Series	WE04						316 SS 2-piece flanged
Size and		CHD00					1/2" hand operated
Actuator		DHD00					3/4" hand operated
		EHD00					1" 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
		EDA03					1" double acting
		GDA03					1-1/2" double acting
		HDA03					2" double acting
		IDA04					2-1/2" double acting
		JDA04					3" double acting
		CSR02					1/2" spring return
		DSR02					3/4" spring return
		ESR03					1" spring return
		GSR04					1-1/2" spring return
		HSR05					2" spring return
		ISR06					2-1/2" spring return
		JSR06					3" spring return
Solenoid			N				No solenoid
			Α				NEMA 4X NAMUR solenoid
Solenoid				Ν			No solenoid
Voltage				Α			110 VAC
				В			220 VAC
				С			24 VAC
				D			24 VDC
				Е			12 VDC
Positioner					00		None
and					01		42AD0 exp limit switch
Switches					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
Options						NO	Fail open spring return actuator

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

MODEL	MODEL CHART - ELECTRIC ACTUATOR								
Example				WE04-ITD03-B					
Series	WE04	-11003	-0	316 SS 2-piece flanged					
Size and	****	CTD01		1/2" NEMA 4X two-position					
Actuator		DTD01		3/4" NEMA 4X two-position					
Actuator		ETD01		1" 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					
		GMD01		1-1/2" NEMA 4X modulating					
		HMD02		2" NEMA 4X modulating					
		IMD03		2-1/2" NEMA 4X modulating					
		JMD03		3" NEMA 4X modulating					
		CTI01		1/2" exp two-position					
		DTI01		3/4" exp two-position					
		FTI02		1" exp two-position					
		GTI03		1-1/2" exp two-position					
		HTI04		2" exp two-position					
		ITI04		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					
		GMI03		1-1/2" exp electric modulating					
		HMI04		2" exp electric modulating					
		IMI04		2-1/2" exp electric modulating					
		JMI05		3" exp electric modulating					
Actuator			Α	110 VAC					
Voltage			В	220 VAC					
			С	24 VAC					
			D	24 VDC					

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

3-PIECE SOCKET WELD STAINLESS STEEL BALL VALVES

Full Port, Vented Ball, Electric or Pneumatic Actuators





WE05-JTD03-A





WF05-FDA02

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

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/

FU (RoHS II)

ACTUATORS

Pneumatic "DA" and "SR" Series Type: DA series is double acting and

SR series is spring return (rack and 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

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

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

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

MODE	MODEL CHART									
		Popular	Popular	Popular	Popular NEMA 4X	Popular NEMA 4X				
	Cv	Hand Operated	Double Acting	Spring Return	Two Position Electric	Modulating Electric				
Size	(gal/min)	Model	Pneumatic Model	Pneumatic Model	(110 VAC) Model	(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		-CSR02	_	_	_	PINE	WE05-CSR02-NN09	
Series	WE05	COILOZ	- 14		03		316 SS 3-piece socket weld	
Size and	111200	CHD00					1/2" hand operated	
Actuator		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	
		CSR02					1/2" spring return	
		DSR02					3/4" spring return	
		ESR03					1" spring return	
		FSR03					1-1/4" spring return	
		GSR04					1-1/2" spring return	
		HSR05 ISR07					2" spring return	
		JSR07					2-1/2" spring return 3" spring return	
Solenoid		JORUI	N	H			No solenoid	
Solenoid			A				NEMA 4X NAMUR solenoid	
Solenoid			А	N			No solenoid	
Voltage				A			120 VAC	
voitage				В			220 VAC	
				С			24 VAC	
				D			24 VDC	
				E			12 VDC	
Positioner				_	00		None	
and					01		42AD0 exp limit switch	
Switches					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	
Options						NO	Fail open spring return actuator	

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

				<u> </u>
MODEL C	HART -	ELECTR	IC A	ACTUATOR
Example	WE05	-ETD01	-B	WE05-ETD01-B
Series	WE05			316 SS 3-piece socket weld
Size and		CTD01		1/2" NEMA 4X two-position
Actuator		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
		CTI01		1/2" exp two-position
		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
Actuator			Α	110 VAC
Voltage			В	220 VAC
			С	24 VAC
			D	24 VDC

REPAIR	REPAIR KIT								
Model	Model Valve Series and Size								
VRK-10	WE05-1/2"								
VRK-11	WE05-3/4"								
VRK-12	VRK-12 WE05-1"								
VRK-14	VRK-14 WE05-1-1/2"								
VRK-15	VRK-15 WE05-2"								
VRK-16	/RK-16 WE05-2-1/2"								
VRK-17	VRK-17 WE05-3"								
Parts Lis	Parts List - Included in Kit								
1 PTFE t	hrust washer								
1 FKM O	1 FKM O-ring								
2 PTFE stem packing									
2 PTFE s	2 PTFE seals								
2 RTFE s	seats								

3-PIECE NPT STAINLESS STEEL V-BALL VALVES V-Port, Vented Ball, Electric or Pneumatic Actuators



WE06-DHD00-T



WF06-DDA01-T



WE06-DDA01-T-AA01



WE06-CTI01-T-A



WF06-DTD01-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

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

- \bullet 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/ FU (RoHS II)

ACTUATORS

Pneumatic "DA" and "SR" Series Type: DA series is double acting and

SR series is spring return (rack and 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

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

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

Modulating Input: 4-20 mA. Standard Features: Position indicator

and two limit switches.

3-PIECE NPT STAINLESS STEEL V-BALL VALVES V-Port, Vented Ball, Electric or Pneumatic Actuators

MODE	MODEL CHART										
	Cv (gal/min)		Popular Hand	Popular Double Acting	Popular Spring Return	Popular NEMA 4X Two Position	Popular NEMA 4X Modulating				
Size	e 60° 90° Operated Model Pneumatic Model		Pneumatic Model	Pneumatic Model	Electric (110 VAC) Model	Electric (110 VAC) Model					
1/2″	7.9	9.1	WE06-CHD00-T	WE06-CDA01-T	WE06-CSR02-T	WE06-CTD01-T-A	WE06-CMD01-T-A				
3/4"	13.6	14.2	WE06-DHD00-T	WE06-DDA01-T	WE06-DSR02-T	WE06-DTD01-T-A	WE06-DMD01-T-A				
1″	22.3	29.1	WE06-EHD00-T	WE06-EDA02-T	WE06-ESR03-T	WE06-ETD01-T-A	WE06-EMD01-T-A				
1-1/4"	31.5	53.7	WE06-FHD00-T	WE06-FDA02-T	WE06-FSR03-T	WE06-FTD01-T-A	WE06-FMD01-T-A				
1-1/2"	46.2	75.5	WE06-GHD00-T	WE06-GDA03-T	WE06-GSR04-T	WE06-GTD02-T-A	WE06-GMD01-T-A				
2″	104.7	138.4	WE06-HHD00-T	WE06-HDA03-T	WE06-HSR05-T	WE06-HTD02-T-A	WE06-HMD02-T-A				
2-1/2"	147.5	220.3	WE06-IHD00-T	WE06-IDA04-T	WE06-ISR07-T	WE06-ITD03-T-A	WE06-IMD03-T-A				
3″	209.1	308.3	WE06-JHD00-T	WE06-JDA05-T	WE06-JSR07-T	WE06-JTD03-T-A	WE06-JMD03-T-A				

MODEL CH							UMAT	IC ACTUATOR
Example	WE06	-CSR02	-T	-N	N	09	٧	VE06-CSR02-T-NN09
Series	WE06						3	16 SS 3-piece NPT
Size and		CHD00					1.	/2" hand operated
Actuator		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
		CSR02					1.	/2" spring return
		DSR02						/4" spring return
		ESR03					- 1	" spring return
		FSR03						-1/4" spring return
		GSR04						-1/2" spring return
		HSR05					- 1	" spring return
		ISR07					2	-1/2" spring return
		JSR07					- 1	" spring return
V-Ball			Т				6	0° v-ball
Angle			N				9	0° v-ball
Solenoid				N			N	lo solenoid
				Α			N	IEMA 4X NAMUR solenoid
Solenoid					N		N	lo solenoid
Voltage					Α		1	20 VAC
					В		2	20 VAC
					С		2	4 VAC
					D		2	4 VDC
					E		1	2 VDC
Positioner						00		lone
and						01	4	2AD0 exp limit switch
Switches						02	- 1	5VD0 exp position transmitter
						03	- 1	2AD0-B ATEX limit switch
						04		2AD0-IE IECEX limit switch
						06		QV-210101 poly limit switch
						07		PS and P1 prox switch
						08		65ER-D5 positioner
						09		85ER-D5 smart positioner
Options				-				ail open spring return actuator

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

`							
MODEL CHART - ELECTRIC ACTUATOR							
Example	WE06	-ETD01	-T	-B	WE06-ETD01-T-B		
Series	WE06				316 SS 3-piece NPT		
Size and		CTD01			1/2" NEMA 4X two-position		
Actuator		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		
		CTI01			1/2" exp two-position		
		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		
V-Ball			Т		60° v-ball		
Angle			N		90° v-ball		
Actuator				Α	110 VAC		
Voltage				В	220 VAC		
				С	24 VAC		
				D	24 VDC		

REPAIR KIT					
Model	Valve Series and Size				
VRK-10	WE06-1/2"				
VRK-11	WE06-3/4"				
VRK-12	WE06-1"				
VRK-14	WE06-1-1/2"				
VRK-15	WE06-2"				
VRK-16	WE06-2-1/2"				
VRK-17	WE06-3"				
Parts List - Included in Kit					
1 PTFE thrust washer					
1 FKM O-ring					
2 PTFE stem packing					
2 PTFE seals					
2 RTFE seats					
Z R I F E Sedis					

2-PIECE FLANGED STAINLESS STEEL V-BALL VALVES 150# ANSI Flange, V-Ball, Electric or Pneumatic Actuators



WE07-DHD00-T



WF07-DDA01-T-AA03



WE07-DDA01-T-NN09



WF07-DTD01-T-A



WE07-CTI01-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/

FU (RoHS II)

ACTUATORS

Pneumatic "DA" and "SR" Series Type: DA series is double acting and SR series is spring return (rack and

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

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

Duty Rating: 85%.

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

Temperature Limits: -22 to 140°F

(-30 to 60°C)

MD03: 30 s

Electrical Connection: 1/2" female

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

Modulating Input: 4-20 mA. Standard Features: Position indicator

and two limit switches.

2-PIECE FLANGED STAINLESS STEEL V-BALL VALVES 150# ANSI Flange, V-Ball, Electric or Pneumatic Actuators

MODEL CHART								
	Cv (gal/min)			Popular	Popular	Popular NEMA 4X	Popular NEMA 4X	
			Popular	Double Acting	Spring Return	Two Position	Modulating	
	Hand Operated		Pneumatic	Pneumatic	Electric	Electric		
Size	60°	90°	Model	Model	Model	(110 VAC) Model	(110 VAC) Model	
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	

Series Size and	WE07	-CSR02			IN.	09		WE07-CSR02-T-NN09
	WE07	00.102	- •	-14	14	03		
	VVEU7	CLIDOO						316 SS 2-piece 150# ANSI flange
		CHD00						1/2" hand operated
Actuator		DHD00						3/4" hand operated
		EHD00						1" 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
		EDA03						1" double acting
		GDA03						1-1/2" double acting
		HDA03						2" double acting
		IDA04						2-1/2" double acting
		JDA04						3" double acting
		CSR02						1/2" spring return
		DSR02						3/4" spring return
		ESR03						1" spring return
		GSR04						1-1/2" spring return
		HSR05						2" spring return
		ISR06						2-1/2" spring return
		JSR06						3" spring return
V-Ball			Т					60° v-ball
Angle			N					90° v-ball
Solenoid			İ	N				No solenoid
				Α				NEMA 4X NAMUR solenoid
Solenoid					Ν			No solenoid
Voltage					Α			120 VAC
					В			220 VAC
					С			24 VAC
					D			24 VDC
					Е			12 VDC
Positioner						00		None
and						01		42AD0 exp limit switch
Switches						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
Options						50	NO	Fail open spring return actuator

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

		RIC	AC	TUATOR
WE07	-ETD01	-T	-B	WE07-ETD01-T-B
WE07				316 SS 2-piece 150# ANSI flange
	CTD01			1/2" NEMA 4X two-position
	DTD01			3/4" NEMA 4X two-position
	ETD01			1" NEMA 4X two-position
	GTD02			1-1/2" NEMA 4X two-position
	HTD02			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
	0.01100	Т		60° v-ball
		N		90° v-ball
		-	Α	110 VAC
			l	220 VAC
			C	24 VAC
			D	24 VDC
	WE07	WE07 -ETD01 WE07 CTD01 DTD01 ETD01 GTD02	WE07 -ETD01 -T WE07 CTD01 DTD01 ETD01 GTD02 HTD02 HTD02 ITD03 JTD03 JTD03 JTD03 GMD01 DMD01 EMD01 GMD01 HMD02 IMD03 JMD03 CTI01 DTI01 ETI02 GT103 HT104 IT104 JT105 CMI01 DMI01 EMI02 GMI03 HMI04 IMI04 JMI05 T	WE07

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 t	hrust washer				
1 FKM O	-ring				
2 PTFE stem packing					
2 PTFE seals					
2 RTFE s	seats				

PLASTIC AUTOMATED BALL VALVES

Electric and Pneumatic Actuators



The Series PBV Plastic Automated Ball Valves are ideal for services in industrial, chemical, turf and irrigation, and pool and spa applications, as well as for use with potable water. The valve features a shear-proof stem designed to prevent leakage in the event of damage, reinforced TFE seats and EPDM seals for longer life, and an all-plastic construction (PVC or CPVC) for heavyweight durability at a lightweight cost. Valves also come standard with selectable NPT or socket process connections.

Valves also come standard with selectable NPT or socket process connections. The PBV 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

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

- Shear proof stem
- · All plastic construction

APPLICATIONS

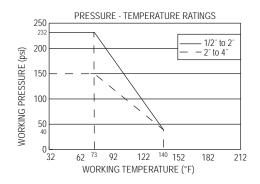
· Gas or liquid flow control

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

MODE	MODEL CHART - PVC							
		Double Acting Pneumatic	Spring Return Pneumatic	Two Position Electric	Modulating Electric			
Size	CV	Model	Model	Model	Model			
1/2" 3/4" 1" 1-1/4" 1-1/2" 2" 2-1/2" 3" 4"	25 51 97 204 285 540 712 1294 2629	PBVPDA102 PBVPDA103 PBVPDA104 PBVPDA105 PBVPDA206 PBVPDA207 PBVPDA308 PBVPDA309 PBVPDA410	PBVPSR202 PBVPSR203 PBVPSR204 PBVPSR205 PBVPSR306 PBVPSR307 PBVPSR608 PBVPSR609 PBVPSR710	PBVPU1102 PBVPU1103 PBVPU1104 PBVPU1105 PBVPU1106 PBVPU1207 PBVPU1308 PBVPU1509 PBVPU1510	PBVPV1202 PBVPV1203 PBVPV1204 PBVPV1205 PBVPV1206 PBVPV1207 PBVPV1308 PBVPV1509 PBVPV1510			
Note: A	Note: All spring return actuators are factory standard as spring (fail) close. For spring (fail) open valves, add suffix "-FO" to the model number.							

MODE	MODEL CHART - CPVC							
		Double Acting Pneumatic	Spring Return Pneumatic	Two Position Electric	Modulating Electric			
Size	CV	Model	Model	Model	Model			
1/2" 3/4" 1" 1-1/4" 1-1/2" 2" 2-1/2" 3"	25 51 97 204 285 540 712 1294	PBVCDA102 PBVCDA103 PBVCDA104 PBVCDA105 PBVCDA206 PBVCDA207 PBVCDA308 PBVCDA309	PBVCSR202 PBVCSR203 PBVCSR204 PBVCSR205 PBVCSR306 PBVCSR307 PBVCSR609	PBVCU1102 PBVCU1103 PBVCU1104 PBVCU1105 PBVCU1207 PBVCU1207 PBVCU1308 PBVCU1509	PBVCV1202 PBVCV1203 PBVCV1204 PBVCV1205 PBVCV1206 PBVCV1207 PBVCV1308 PBVCV1509			
4"	2629	PBVCDA410	PBVCSR710	PBVCU1510	PBVCV1510			

Note: All spring return actuators are factory standard as spring (fail) close. For spring (fail) open valves, add suffix "-FO" to the model number.



SPECIFICATIONS

Service: Compatible liquids or gases.

Body: 2-way. Line Size: 1/2" to 4".

End Connections: Female NPT or socket (field selectable). **Pressure Limit:** 1/2" to 2": 232 psi

(16.0 bar) @ 73°F (23°C); 2-1/2″ to 4″: 150 psi (10.3 bar) @ 73°F (23°C) WOG. Vacuum: 29″ Hg.

Wetted Materials: Body, end connectors: PVC or CPVC; Ball, stem: PVC or CPVC; Seat: TFE; Stem seal: EPDM.

Temperature Limit: 32 to 140°F (0 to

Other Materials: Stem bearing: Polypropylene (1-1/4" and up)

ACTUATORS

Electric

Power Requirements: 120 VAC. 50/60

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" to 4": 0.75 A, Collection: 1/2" to 1-1/2": .55 A, 2" to 4": 0.75 A, 2-1/2": 1.1 A, 3" and 4": 0.75 A, Cycle Time: (per 90°): Two position: 1/2" to 1-1/2": 2.5 s, 2" and 2-1/2": 5 s, 3" and 4": 15 s; Modulating: 1/2" to 2-1/2": 5 s, 3" and 4": 15 s. and 4": 15 s.

o anu 4: 15 s. **Duty Cycle:** Two position: 1/2" to 1-1/2": 75%, 2" to 4": 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

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

Maximum Supply Pressure: 120 psig

Air Connections: DA/SR1 to 5: 1/8" female NPT, all other sizes: 1/4" female NPT.

Air Consumption: (per stroke) DA1: 2.32 in3; DA2: 9.34 in3; DA3: 17.21 in3; DA4: 20.5 in3; SR2: 9.34 in3; SR3: 17.21 in3; SR6: 54.34 in3; SR7: 85.43 in3. **Cycle Time:** (per 90°) DA1: .03 s; DA2: .04 s; DA3: .08 s; DA4: .12 s; SR2: .09 s; SR3: .14 s; SR6: .46 s; SR7: .83 s. Housing Material: Anodized aluminum

body and epoxy coated aluminum end

Temperature Limit: -4 to 180°F (-20 to

82°C). **Accessory Mounting:** NAMUR

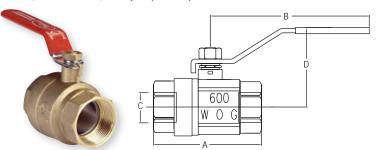
standard Standard Features: Visual position indicator.

Filters and Regulators: See page 446

SERIES DBV | W.E. ANDERSON™ BY DWYER

BRASS BALL VALVE

Full Port, Economical, 600 psi (41 bar)



NPT	Α	В	С	D
Size	in [mm]	in [mm]	in [mm]	in [mm]
1/4"	1-39/64 [40.89]	3-5/32 [80.01]	5/16 [7.87]	1-47/64 [43.94]
3/8"	1-45/64 [43.18]	3-5/32 [80.01]	25/64 [9.91]	1-13/16 [45.97]
1/2"	2-3/16 [55.63]	3-55/64 [98.04]	19/32 [15.24]	2-11/64 [55.12]
3/4"	2-23/64 [59.94]	3-55/64 [98.04]	3/4 [19.05]	2-9/32 [57.91]
1″	2-7/8 [72.90]	4-13/32 [112.01]	63/64 [24.89]	2-11/16 [68.07]
1-1/4"	3-5/16 [84.07]	4-51/64 [121.92]	1-17/64 [32.00	3-5/32 [80.01]
1-1/2"	3-47/64 [95.00]	5-7/16 [137.92]	1-9/16 [39.88]	3-55/64 [98.04]
2″	4-13/32 [112.01]	5-7/16 [137.92]	1-31/32 [50.04]	4-13/64 [106.93]
2-1/2"	5-53/64 [148.08]	8-1/2 [215.90]	2-31/64 [62.99]	4-61/64 [125.98]
3″	6-29/64 [163.83]	8-1/2 [215.90]	2-61/64 [74.93]	5-1/8 [130.05]

The Series DBV Brass Ball Valve is an economical hand lever ball valve ideal for commercial or general industrial use. The Series DBV is the ideal choice for a manual shut off valve, along with many other applications. Valve body, body cap and ball are made of a quality brass for great durability. Seats and stem packing are constructed of PTFE for long lasting service as well. Blowout-proof stem provides safety in the event of overpressure. Full port design allows for maximum Cv while still retaining minimal pressure drop.

FEATURES/BENEFITS

- · Low cost
- · Blowout-proof stem

APPLICATIONS

· Gas or liquid flow control

SPECIFICATIONS

Service: Gases and liquids compatible with wetted materials.

End Connections: 1/4 to 3" female NPT.

Pressure Limits: -29" Hg to 600 psi (-736 mm Hg to 41 bar) WOG.

Temperature limit: -40 to 365°F (-40 to 185°C).

Wetted Materials: Body and body cap: Brass; Ball: Chrome plated brass; Stem:

Brass; Seat and packing: PTFE.

Other Materials: Body gland and stem nut: Brass; Handle cover: Rubber; Handle:

MODEL CHART						
Model	Pipe Size	Model	Pipe Size			
DBV-00	1/4"	DBV-05	1-1/4"			
DBV-01	3/8"	DBV-06	1-1/2"			
DBV-02	1/2"	DBV-07	2"			
DBV-03	3/4"	DBV-08	2-1/2"			
DBV-04	1″	DBV-09	3″			

USA: California Proposition 65

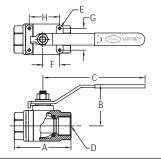
△WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

SERIES BV2M | W.E. ANDERSON™ BY DWYER

TWO-PIECE STAINLESS STEEL BALL VALVE

Full Port, 1000 psig (69 bar)





DIMENS	DIMENSIONS (IN)									
A (Ref)	B (Ref)	C (Ref)	D (NPT)	E (UNC)	F (+.015)	G (+.015)	H (+.015)			
1/4"	2.165	4.055	1/4"	(2) 3/16-24	0.500	1.102	N/A			
3/8"	2.165	4.055	3/8"	(2) 3/16-24	0.500	1.102	N/A			
1/2"	2.559	5.236	1/2"	(2) 3/16-24	0.500	1.102	N/A			
3/4"	2.992	5.236	3/4"	(2) 3/16-24	0.882	1.378	N/A			
1″	3.465	6.024	1″	(2) 3/16-24	0.882	1.378	N/A			
1-1/4"	3.976	6.024	1-1/4"	(2) 1/4-20	1.000	1.500	N/A			
1-1/2"	4.331	7.520	1-1/2"	(2) 1/4-20	1.000	1.500	N/A			
2"	4.882	7.520	2″	(4) 1/4-20	1.000	1.500	2.000			
2-1/2"	6.299	9.724	2-1/2"	(4) 1/4-20	1.382	2.165	2.764			
3″	6.929	9.724	3″	(4) 1/4-20	1.382	2.165	2.764			

The Series BV2M Two-Piece Stainless Steel Ball Valve is the economical choice for high quality, SS ball valves for use in chemical, petrochemical, pulp and paper and general applications. The Series BV2M body and endcaps are constructed of investment cast SS, while stem is 316 SS. Seats and body seals are 15% glass reinforced PTFE providing broad media compatibility and bubble tight shutoff to 1000 psig (69 bar). Internally loaded, blowout-proof stem provides safety in the event of overpressure. Full port design allows for maximum Cv with minimal pressure drop. Integral actuator mounting pads allows for ease of automation.

FEATURES/BENEFITS

- · Wide chemical compatibility
- · Bubble tight shut off to 1000 psig
- · Blowout-proof stem
- · Actuator mounting pad

APPLICATIONS

- · Gas or liquid flow control
- · Chemical, petrochemical, pulp and paper, and other general applications

SPECIFICATIONS

End Connections: Female NPT.

Pressure Limits: 1000 psi (69 bar) WOG, 150 psi (10.3 bar) SWP.

Wetted Materials: Body, ball, end cap: CF8M SS; Stem: 316 SS; Seat, thrust

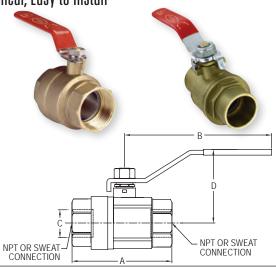
washer: RTFE; End gasket, stem packing: PTFE. Temperature Limits: -20 to 450°F (-29 to 232°C).

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

MODEL CI	MODEL CHART						
Model	Size	Model	Size				
BV2M100	1/4"	BV2M105	1-1/4"				
BV2M101	3/8"	BV2M106	1-1/2"				
BV2M102	1/2"	BV2M107	2″				
BV2M103	3/4"	BV2M108	2-1/2"				
BV2M104	1″	BV2M109	3″				

LOW LEAD NPT BRASS BALL VALVES

Economical, Easy to Install



The Series DBVL & SWBV Low Lead NPT Brass Ball Valves are economical hand lever ball valves ideal for commercial or industrial use where lead content is regulated. The valve body, body cap, and stem are made of a quality low lead brass for great durability and compatibility. The seats and stem packing are constructed of PTFE for long lasting service. A blowout-proof stem provides safety in the event of overpressure, and the full port design allows for the maximum flow coefficient while still retaining minimal pressure drop.

> **APPLICATIONS** Gas or liquid flow control

FEATURES/BENEFITS

- · Low lead brass
- PTFE seats to stem
 Blowout-proof stem

MODEL CHART								
Model	Pipe Size (in)	Model	Pipe Size (in)					
DBVL-00	1/4	SWBV-00	1/4					
DBVL-01	3/8	SWBV-01	3/8					
DBVL-02	1/2	SWBV-02	1/2					
DBVL-03	3/4	SWBV-03	3/4					
DBVL-04	1	SWBV-04	1					
DBVL-05	1-1/4	SWBV-05	1-1/4					
DBVL-06	1-1/2	SWBV-06	1-1/2					
DBVL-07	2	SWBV-07	2					
DBVL-08	2-1/2	SWBV-08	2-1/2					
DBVL-09	3	SWBV-09	3					

DBVL DIMENSIONS								
NPT Size	A in [mm]	B in [mm]	C in [mm]	D in [mm]				
1/4"	1-3/4 [44.6]	3-5/32 [80]	25/64 [10]	1-47/64 [44.2]				
3/8"	1-3/4 [44.6]	3-5/32 [80]	25/64 [10]	1-47/64 [44.2]				
1/2"	2-3/64 [52]	4-1/64 [102]	19/32 [15]	1-7/8 [47.5]				
3/4"	2-23/64 [60]	4-1/64 [102]	3/4 [19]	2-1/64 [51]				
1"	2-3/4 [70]	4-1/7/32 [115]	63/64 [25]	2-23/32 [69]				
1-1/4"	3-5/16 [84]	5 [127]	1-17/64 [32]	3-1/32 [77]				
1-1/2"	3-21/32 [93]	5-19/32 [142]	1-37/64 [40]	3-1/32 [94]				
2"	4-3/16 [106.2]	5-19/32 [142]	1-31/32 [50]	4 [101]				
2-1/2″	5-3/8 [136.6]	8-21/32 [220]	2-33/64 [64]	1-49/64 [121]				
3″	6-1/32 [153.4]	8-21/32 [220]	2-29/32 [74]	5-5/64 [129]				

SWBV DIMENSIONS								
Sweat Size	A in [mm]	B in [mm]	C in [mm]	D in [mm]				
1/4"	1-55/64 [47.24]	3-5/32 [80.01]	23/64 [9.14]	1-47/64 [43.94]				
3/8"	1-55/64 [47.24]	3-5/32 [80.01]	1/2 [12.70]	1-47/64 [43.94]				
1/2"	2-15/64 [56.90]	3-55/64 [98.04]	5/8 [15.75]	2-15/64 [56.90]				
3/4"	2-51/64 [70.87]	3-55/64 [98.04]	7/8 [22.35]	2-23/64 [59.94]				
1"	3-35/64 [89.92]	4-13/32 [112.01]	1-1/8 [28.70]	2-45/64 [68.58]				
1-1/4"	4-1/8 [104.90]	4-51/64 [121.92]	1-3/8 [35.05]	3-3/64 [77.22]				
1-1/2"	4-11/16 [119.13]	5-7/16 [137.92]	1-5/8 [41.40]	3-51/64 [96.27]				
2″	5-35/64 [140.97]	5-7/16 [137.92]	2-1/8 [54.10]	4-5/32 [105.41]				
2-1/2″	6-39/64 [167.89]	8-3/16 [207.77]	2-41/64 [67.06]	4-63/64 [126.49]				
3″	6-57/64 [175.01]	9-11/16 [245.87]	3-13/32 [86.61]	5-1/16 [128.52]				

SPECIFICATIONS

Service: Gases and liquids compatible with wetted materials. End Connections: DBVL: 1/4" to 3" female NPT; SWBV: 1/4" to 3" sweat connections

connections.

Pressure Limits: 1/4" to 2": -29" Hg to 600 psi (-736 mm Hg to 41 bar) WOG;

DBVL: 2-1/2" to 3": -29" Hg to 250 psi (-736 mm Hg to 17 bar) WOG; SWBV: 2-1/2" to 3", -29" Hg to 400 psi (-736 mm Hg to 27 psi) WOG.

Temperature Limits: -40° to 365°F (-40° to 185°C).

Wetted Materials: Body, body cap, and stem: Brass; Seat and packing: PTFE; Ball: DBVL: 1/4" to 1": Chrome plated brass; 1-1/4" to 3": SS; SWBV: SS.

Other Materials: Body gland and stem nut: Brass; Handle and handle nut: Steel; Handle cover: Rubber

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

USA: California Proposition 65

NPT Size A in [mm]

B in [mm]

2-7/8 [72.90]

2-7/8 [72.90]

C in [mm] 35/64 [13.97]

49/64 [19.30]

61/64 [24.38]

1-3/16 [29.97]

1-31/64 [37.85]

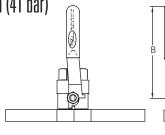
1-37/32 [46.99]

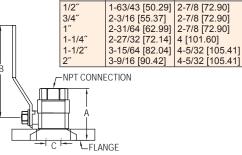
SERIES UBV | W.E. ANDERSON™ BY DWYER

UNI-FLANGED BALL VALVE

Forged Brass Construction, Economical, 600 psi (41 bar)







The Series UBV Uni-Flanged Ball Valve is an economical yet durable ball valve great for residential or industrial use. The forged brass body provides the strength and versatility needed for any application. The ball valve is constructed of quality brass in conjunction with PFTE ball seats to work with up to 600 psi (41 bar) of working pressure. Full port construction helps to reduce flow resistance while still maintaining great durability with it's uni-body construction. Available in a wide variety of sizes for versatile application.

FEATURES/BENEFITS

- Economical
- Unibody construction
- PTFE ball seats

APPLICATIONS

Gas or liquid flow control

SPECIFICATIONS

Service: Gases and liquids compatible with wetted materials. End Connections: Female NPT.

Pressure Limits: -29" Hg to 600 psi (-736 mm Hg to 41.3 bar).

Temperature Limit: -40 to 365°F (-40 to 185°C).

Wetted Materials: Body and cap: Brass; Ball: Chrome plated brass; Stem: Brass; Stem packing and ball seat: PTFE. Other Materials: Gland and stem nut: Brass; Handle: Steel; Grip: Rubber

MODEL CHART								
Model	Pipe Size	Model	Pipe Size	Model	Pipe Size			
UBV-00	1/2"	UBV-02	1"	UBV-04	1-1/2"			
UBV-01	3/4"	UBV-03	1-1/4"	UBV-05	2"			

USA: California Proposition 65

△WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

MINI BRASS BALL VALVES











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 FxF or MxF 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

Dwyer

· 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

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 Model Pipe Size Handle Style Pipe Size MVB-LF1 Lever handle MVB-LM1 Lever handle 1/8' MVB-LF2 MVB-LM2 Lever handle 1/4' 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 1/8" MVB-TM1 1/8 Tee handle Tee handle MVB-TF2 Tee handle 1/4 MVB-TM2 Tee handle 1/4 MVB-TF3 MVB-TM3 Tee handle 3/8' Tee handle 3/8 MVB-TF4 MVB-TM4 Tee handle 1/2" Tee handle 1/2" MVB-WF1 MVB-WM1 Wedge handle Wedge handle 1/8' 1/8 MVB-WF2 MVB-WM2 Wedge handle 1/4" Wedge handle 1/4 MVB-WM3 MVB-WF3 Wedge handle 3/8' 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 MV5-SM3 Screwdriver slot 3/8' 3/8' MV5-SF4 Screwdriver slot MV5-SM4 Screwdriver slot 1/2'

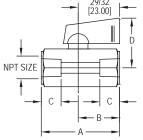
USA: California Proposition 65 **MARNING: Cancer and Reproductive Harm** www.P65Warnings.ca.gov

SERIES SMV2 | W.E. ANDERSON™ BY DWYER

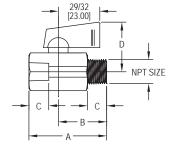
MINI STAINLESS STEEL BALL VALVE

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 FxF or MxF 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

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



WF31-DDA02-L1



WE31-DDA02-T1-AA01



WE31-DTD01-T3-A

WE31-DDA02-T3-NN05



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 blowoutproof 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

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

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

Electric "TI" and "MI" Series Power Requirements: 110 VAC, 220 VAC, 24 VAC or 24 VDC.

with two limit switches.

Power Consumption: See instruction

Cycle Time (per 90°): See instruction

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

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									
			Popular	Popular	Popular NEMA 4X	Popular NEMA 4X			
		Popular	Double Acting	Spring Return	Two Position	Modulating			
	Cv	Hand Operated	Pneumatic	Pneumatic	Electric (110 VAC)	Electric (110 VAC)			
Size	(gal/min)	Model	Model	Model	Model	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 CH				_			1
Example	WE31	-CSR02	-T1	-A	Α	00	
Series	WE31						316 SS 3-way NPT
Size and		CHD00					1/2" hand operated
Range		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
		CDA02					1/2" double acting
		DDA02					3/4" double acting
		EDA03					1" double acting
		FDA03					1-1/4" double acting
		GDA04					1-1/2" double acting
		HDA04					2" double acting
		CSR02					1/2" spring return
		DSR03					3/4" spring return
		ESR04					1" spring return
		FSR05					1-1/4" spring return
		GSR06					1-1/2" spring return
		HSR07					2" spring return
Valve			T1				Flow path A
Position			T2				Flow path B
			ТЗ				Flow path C
			T4				Flow path D
			L1				Flow path E
Solenoid				N			No solenoid
				A			NEMA 4X NAMUR solenoid
Solenoid				, ·	N		No solenoid
Voltage					A		110 VAC
Tollago					В		220 VAC
					C		24 VAC
					D		24 VDC
					E		12 VDC
Positioner					_	00	None
and							42AD0 exp limit switch
Switches							45VD0 exp position transmitter
OWITCHES							42AD0-B ATEX limit switch
							42AD0-B ATEX IIIIII SWIICH
						06	
							VPS and P1 prox switch
							265ER-D5 positioner 285ER-D5 smart positioner

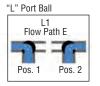
ACCESSORIES					
Model	I Description				
AFR4	Air filter regulator 0 to 120 psi				
VB-01	Volume booster				

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

WE31-1/2" WE31-3/4"					
WE31-3/4"					
VVL010/-					
WE31-1"					
WE31-1-1/2"					
WE31-2"					
t - Included in Kit					
rrust washer					
ring					
2 PTFE stem packing					
2 PTFE seals					
2 RTFE seats					
1					

REPAIR KIT

"I" Port E	sali						
1	T1	T	2	T	3	T	4
Flow Path A Flow Path			Path B	Flow	Path C	Flow	Path D
Section 1	NAME OF TAXABLE PARTY.	and Vision	maga.	10000	THE PARTY	100000	-
18							
Pos. 1	Pos. 2	Pos. 1	Pos. 2	Pos. 1	Pos. 2	Pos. 1	Pos. 2
F 05. 1	FUS. 2	FUS. 1	FUS. 2	FUS. 1	FUS. 2	FUS. 1	FUS. Z



3-WAY NPT BRASS BALL VALVES

Full Port, Electric or Pneumatic Actuators







WE35-DDA02-T1-AA01



WE35-DDA02-L1

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

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

Other Materials: O-ring: NBR; Handle, stem nut, ferrule: SS; Handle sleeve:

Vinyl; Body and cap: Nickle 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

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

pinion).

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

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

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

DwyerSERIES WE35 | W.E. ANDERSON™ BY DWYER 3-WAY NPT BRASS BALL VALVES Full Port, Electric or Pneumatic Actuators

MODE	MODEL CHART										
	Cv	Popular Hand	Popular Double Acting	Popular Spring Return	Popular NEMA 4X Two Position	Popular NEMA 4X Modulating					
Size	(gal/min)	Operated Model	Pneumatic Model	Pneumatic Model	Electric (110 VAC) Model	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					

				_	_	_	UMATIC ACTUATOR
Example	WE35	-CSR02	-T1	-A	Α	00	WE35-CSR02-AA00
Series	WE35						Brass 2-piece NPT
Size and		CHD00					1/2" hand operated
Range		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
		CDA02					1/2" double acting
		DDA02					3/4" double acting
		EDA02					1" double acting
		FDA03					1-1/4" double acting
		GDA03					1-1/2" double acting
		HDA03					2" double acting
		CSR02					1/2" spring return
		DSR02					3/4" spring return
		ESR03					1" spring return
		FSR03					1-1/4" spring return
		GSR03					1-1/2" spring return
		HSR04	_				2" spring return
Valve			T1				Flow path A
Position			T2				Flow path B
			T3				Flow path C
			T4				Flow path D
			L1				Flow path E
Solenoid				N			No solenoid
			_	Α			NEMA 4X NAMUR solenoid
Solenoid					N		No solenoid
Voltage					Α		110 VAC
					В		220 VAC
					С		24 VAC
					D E		24 VDC
Desition					E	00	12 VDC
Positioner						00	None
and Switches						01	· · · · · · · · · · · · · · · · · ·
Switches						02	45VD0 exp position transmitter 42AD0-B ATEX limit switch
							42AD0-B ATEX limit switch
						-	
							QV-210101 poly limit switch VPS and P1 prox switch
							265ER-D5 positioner
						09	285ER-D5 smart positioner

MODEL C	HART	- ELECTR	IC A	СТ	JATOR			
Example	WE35	-GMD01	-T2	-A	WE35-GMD01-A			
Series	WE35				Brass 2-piece NPT			
Size and		CTD01			1/2" electric two-position			
Range		DTD01			3/4" electric two-position			
		ETD01			1" electric two-position			
		FTD01			1-1/4" electric two-position			
		GTD01			1-1/2" electric two-position			
		HTD02			2" electric two-position			
		CMD01			1/2" electric modulating			
		DMD01			3/4" electric modulating			
		EMD01			1" electric modulating			
		FMD01			1-1/4" electric modulating			
		GMD01			1-1/2" electric modulating			
		HMD02			2" electric modulating			
		CTI01			1/2" exp electric two-position			
		DTI01			3/4" exp electric two-position			
		ETI02			1" exp electric two-position			
		FTI02			1-1/4" exp electric two-position			
		GTI02			1-1/2" exp electric two-position			
		HTI03			2" exp electric two-position			
		CMI01			1/2" exp electric two-position			
		DMI01			3/4" exp electric two-position			
		EMI02			1" exp electric two-position			
		FMI02			1-1/4" exp electric two-position			
		GMI02			1-1/2" exp electric two-position			
		HMI03			2" exp electric two-position			
Valve			T1		Flow path A			
Position			T2		Flow path B			
			Т3		Flow path C			
			T4		Flow path D			
			L1		Flow path E			
Actuator				Α	110 VAC			
Voltage				В	220 VAC			
				С	24 VAC			
				D	24 VDC			

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



WF33-FSR03-T1-NN07



WE33-DDA01-L1-AA06



WE33-DTI01-T2-A



WF33-DTD01-T3-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 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: 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

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

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

SERIES WE33 | W.E. ANDERSON™ BY DWYER 3-WAY TRI-CLAMP STAINLESS STEEL BALL VALVES Cavity Filled, Electric and Pneumatic Actuators

Dwyer.

MODE	L CHAI	RT				
			Popular	Popular	Popular NEMA 4X	Popular NEMA 4X
	Cv	Popular	Double Acting	Spring Return	Two Position	Modulating
	(gal/	Hand Operated	Pneumatic	Pneumatic	Electric (110 VAC)	Electric (110 VAC)
Size	min)	Model	Model	Model	Model	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

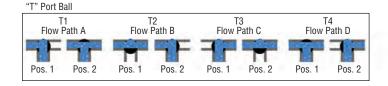
Example	WE33	-CSR02	-T4	-N	N	07	WE33-CSR02-T4-NN07
Series	WE33						316 SS 3-way tri-clamp
Size and		CHD00					1/2" hand operated
Actuator		DHD00					3/4" hand operated
		EHD00					1" hand operated
		GHD00					1-1/2" hand operated
		HHD00					2" hand operated
		CDA01					1/2" double acting
		DDA01					3/4" double acting
		EDA02					1" double acting
		GDA02					1-1/2" double acting
		HDA03					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
Valve			T1				Flow path A
Position			T2				Flow path B
			ТЗ				Flow path C
			T4				Flow path D
			L1				Flow path E
Solenoid				N			No solenoid
				Α			NEMA 4X NAMUR solenoid
Solenoid					N		No solenoid
Voltage					Α		110 VAC
_					В		220 VAC
					С		24 VAC
					D		24 VDC
					Е		12 VDC
Positioner						00	None
and						01	42AD0 exp limit switch
Switches						02	
						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

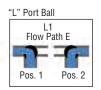
ACCESSORIES					
Model	Description				
AFR4	Air filter regulator 0 to 120 psi				
VB-01	Volume booster				

MODEL C				_	
Example	WE33	-DMD01	-T2	-B	WE33-DMD01-T2-B
Series	WE33				316 SS 3-way tri-clamp
Size and		CTD01			1/2" NEMA 4X two-position
Actuator		DTD01			3/4" NEMA 4X two-position
		ETD01			1" NEMA 4X two-position
		GTD02			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
		GMD02			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
		HTI03			2" exp two-position
		CMI01			1/2" exp electric modulating
		DMI01			3/4" exp electric modulating
		EMI02			1" exp electric modulating
		GMI02			1-1/2" exp electric modulating
		HMI03			2" exp electric modulating
Valve			T1		Flow path A
Position			T2		Flow path B
			Т3		Flow path C
			T4		Flow path D
			L1		Flow path E
Actuator				Α	110 VAC
Voltage				В	220 VAC
				С	24 VAC
				D	24 VDC

Valve Series and Size
WE33-1/2"
WE33-3/4"
WE33-1"
WE33-1-1/2"
WE33-2"
st - Included in Kit
thrust washer
)-ring
stem packing
seals
seats

REPAIR KIT





Valves, Ball, Automated

3-WAY FLANGED STAINLESS STEEL BALL VALVES

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



WE34-DHD00-L1







WE34-DTI03-T3-A



WE34-DDA03-T2

WE34-DDA03-T2-NN08

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

Temperature Limits: -40 to 176°F

Accessory Mounting: NAMUR

(-40 to 80°C).

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

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

Electric "TI" and "MI" Series Power Requirements: 110 VAC, 220 VAC, 24 VAC or 24 VDC.

with two limit switches.

Power Consumption: See instruction

Cycle Time (per 90°): See instruction

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

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

Standard Features: Position indicator

and two limit switches.

SERIES WE34 | W.E. ANDERSON™ BY DWYER 3-WAY FLANGED STAINLESS STEEL BALL VALVES 150# ANSI Flange, Vented Ball, Electric or Pneumatic Actuators

MODE	L CHART					
		Popular	Popular Double	Popular Spring	Popular NEMA 4X	Popular NEMA 4X
	Cv	Hand Operated	Acting Pneumatic	Return Pneumatic	Two Position Electric	Modulating Electric
Size	(gal/min)	Model	Model	Model	(110 VAC) Model	(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 CL	MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR									
Example	WE34				_		WE34-JDA08-T1-AB00			
Series	WE34	-3DA00	-11			00	316 SS 3-way 150# ANSI flange			
Size and	VVL34	CHD00			\vdash		1/2" hand operated			
Actuator		DHD00					3/4" hand operated			
riotaator		EHD00					1" hand operated			
		GHD00					1-1/2" hand operated			
		HHD00					2" hand operated			
		IHD00					2-1/2" hand operated			
		JHD00					3" hand operated			
		CDA02					1/2" double acting			
		DDA02					3/4" double acting			
		EDA03					1" double acting			
		GDA05					1-1/2" double acting			
		HDA06					2" double acting			
		IDA07					2-1/2" double acting			
		JDA08					3" double acting			
		CSR03					1/2" spring return			
		DSR03					3/4" spring return			
		ESR05					1" spring return			
		GSR06					1-1/2" spring return			
		HSR07					2" spring return			
		ISR08					2-1/2" spring return			
		JSR09					3" spring return			
Valve			T1				Flow path A			
Position			T2				Flow path B			
			T3				Flow path C			
			T4				Flow path D			
			L1				Flow path E			
Solenoid				N			No solenoid			
Solenoid				Α	N		NEMA 4X NAMUR solenoid No solenoid			
Voltage					A		110 VAC			
voitage					В		220 VAC			
					C		24 VAC			
					D		24 VDC			
					E		12 VDC			
Positioner					Ē	00	None			
and							42AD0 exp limit switch			
Switches							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			

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

				1		100	200LIT DO POSITIONICI		VICI
						09	285ER-D5 smart positioner		VR
								· · · · · · · · · · · · · · · · · · ·	VRI
ACCES	SORIES								VR
Model	Descript	tion				1			VR
AFR4	Air filter r	regulator 0	to 1	120	psi	1		<u>[</u>	VR
VB-01	Volume b	ooster						L	Part
	1					_			1 P1
									1 Fk

"T" Port B	all						
T1 T2		T3		T4			
Flow F	Path A	Flow Path B		Flow Path C		Flow Path D	
THE REAL PROPERTY.	2442107	100	1000		markets.	24,075, 0	100000
				-			
Pos. 1	Pos. 2	Pos. 1	Pos. 2	Pos. 1	Pos. 2	Pos. 1	Pos. 2



Valve Series and Size					
WE34-1/2"					
WE34-3/4"					
WE34-1"					
WE34-1-1/2					
WE34-2"					
WE34-2-1/2"					
WE34-3"					
Parts List - Included in Kit					
1 PTFE thrust washer					
1 FKM O-ring					
2 PTFE stem packing					
2 PTFE seals					
eats					

DEDAID KIT

3-WAY PLASTIC AUTOMATED BALL VALVES

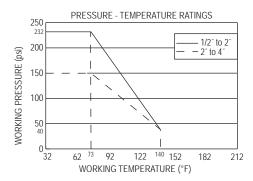
Electric and Pneumatic Actuators





	Position										
Size	Α	В	С	D	Е						
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"											
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

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

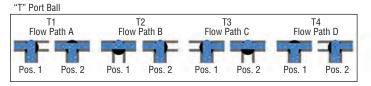
- · Gas or liquid flow control
- · Mixing or diverting liquids and gases

HOW TO ORDER:

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

MODEL	MODEL CHART							
		Double Acting Pneumatic	Spring Return Pneumatic	Two Position Electric	Modulating Electric			
Size	Cv	Model*	Model*	Model*	Model*			
1/2"	See	3PBVPDA102	3PBVPSR202	3PBVPU1102	3PBVPV1202			
3/4"	Chart	3PBVPDA103	3PBVPSR203	3PBVPU1103	3PBVPV1203			
1″	Below	3PBVPDA104	3PBVPSR204	3PBVPU1104	3PBVPV1204			
1-1/4"		3PBVPDA105	3PBVPSR205	3PBVPU1105	3PBVPV1205			
1-1/2"		3PBVPDA206	3PBVPSR306	3PBVPU1206	3PBVPV1206			
2″		3PBVPDA207	3PBVPSR307	3PBVPU1207	3PBVPV1207			
*Comple	*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						
Note: For optional electric acutator supply voltages, contact factory for model number change						



"L" Port Ball L₁ Flow Path E Pos. 2

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, CD)

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 (noinia

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 in3; DA2, SR2: 9.34 in3; SR3: 17.21

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).

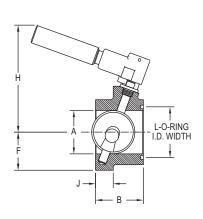
Accessory Mounting: NAMUR standard.

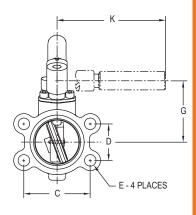
Standard Features: Visual position indicator

Filters and Regulators: See page 446

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







	Α	В	С	D	E	F	G	Н	J	K	L	I.D. X
Size	in [mm]	in [mm]	in [mm]	in [mm]	in [mm]	in [mm]	in [mm]	in [mm]	in [mm]	in [mm]	in [mm]	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

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).

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 | Power Consumption: See instruction 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

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

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.

SERIES WE20 | W.E. ANDERSON™ BY DWYER BUTTERFLY VALVES Lug or Wafer, EPDM or PTFE, Electric or Pneumatic Actuators

MODE	MODEL CHART								
		Popular	Popular	Popular	NEMA 4X Two-	NEMA 4X			
	Cv	Hand Operated	Double Acting	Spring Return	Position Electric	Modulating Electric			
Size	(gal/min)	Model	Pneumatic Model	Pneumatic Model	(110 VAC) Model	(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 CHAR		JUPE	ᄄᇝᄶ		ס כ	(FI	MEON	
Example WE	20 -BSF	204						WE20-BSR04-WE-AA00
Series WE	-	104 -	VVL	-~	_	00		Butterfly valve
Size and	AHD	00						2" hand operated
Actuator	BHD							2-1/2" hand operated
11010000	CHD							3" hand operated
	DHD							4" hand operated
	EHD	00						5" hand operated
	FHD							6" hand operated
	GHE							8" hand operated
	HHD							10" hand operated
	IHDO							12" hand operated
	ADA BDA							2" double acting 2-1/2" double acting
	CDA							3" double acting
	DDA							4" double acting
	EDA							5" double acting
	FDA							6" double acting
	GDA	.08						8" double acting
	HDA	.09						10" double acting
	IDA1							12" double acting
	ASR							2" spring return
	BSR							2-1/2" spring return
	CSR							3" spring return
	DSR							4" spring return
	ESR FSR							5" spring return 6" spring return
	GSR							8" spring return
	HSR							10" spring return
	ISR1							12" spring return
Body		Īv	NΕ					Wafer-EPDM
Туре		V	NΡ					Wafer-PTFE
/Liner		L	_E					Lug-EPDM
		L	-P					Lug-PTFE
Solenoid				N A				No solenoid NEMA 4X NAMUR solenoid
Solenoid		-		_	N			No solenoid
Voltage					A			120 VAC
90					В			220 VAC
					С			24 VAC
					D			24 VDC
					Е			12 VDC
Positioner						00		None
and Switches						01 02		42AD0 exp limit switch 45VD0 exp position transmitter
Switches						02		42AD0-B ATEX limit switch
						03		42AD0-BATEX little switch
						06		QV-210101 poly limit switch
						07		VPS and P1 prox switch
						08		265ER-D5 positioner
						09		285ER-D5 smart positioner
Options								Fail open spring return actuator

MODEL CH	_			_	
Example	WE20	-DMH05	-WE	-A	WE20-DMH05-WE-A
Series	WE20				Butterfly valve
Size and Actuator		ATD02 BTD02 CTD02 CTD02 DTD03 ETD04 FTD04 GTD05 ITD07 AMD02 BMD02 DMD03 EMD04 FMD04 GMD05 DMD03 EMD04 FMD06 IMD07 ATH03 BTH03 BTH03 CTH05 ETH06 FTH08 GTH09 ITH11 AMH03 BMH03 CMH05 DMH05 EMH06 FMH08 GMH05 DMH05 EMH08 GMH08 GMH01 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 6" NEMA 4X two-position 10" NEMA 4X two-position 12" 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 6" NEMA 4X modulating 6" NEMA 4X modulating 10" NEMA 90 modulating 10" NEMA
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					

PNEUMATIC AND ELECTRIC ACTUATORS

Actuators for Valve and Damper Automation



ACT-SR03





ACT-TD01-110VAC

ACT-MI02-110VAC

The W.E. Anderson Series ACT Actuators are available in either pneumatic or electric models. The wide range of torques and voltages means there is an actuator for almost any application. The standard ISO 5211 mounting configuration makes installation to any valve or damper quick and simple.

W.E. Anderson pneumatic ACT models are a compact rack-and-pinion design with a symmetrical structure that ensures fast and steady action, high precision and high output power. The corrosion resistant anodized aluminum body is designed to withstand the harsh and abusive industrial environments and provide reliable service. We offer

double acting and spring return models in a variety of sizes to fit any application. W.E. Anderson electric ACT models are available in two-position or modulating configurations and NEMA 4X or NEMA 7 rated enclosures. All electric actuators utilize a high grade powder coated aluminum enclosure with visual indicators. The two-position models come standard with two auxiliary switches, and modulating models offer an output for position monitoring. Certain models are equipped with manual overrides allowing the operator to cycle the valve manually for installation or maintenance checks.

FEATURES/BENEFITS

- ISO 5211 Mounting configuration for easy installation
 Pneumatic actuators offer corrosion resistance anodized finish
- · NAMUR mounting configuration on pneumatic actuators
- Two-position electric actuators include auxiliary limit switches
 Modulating electric actuators offer an output for position monitoring

APPLICATIONS

· Designed for quarter turn valve or damper control

SPECIFICATIONS

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

Air Connections: DA01: 1/8" female NPT; DA02 to DA14: 1/4" female NPT; SR02 to SR14: 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 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; TD05 and MD05: 30 s; TD06 and MD06: 45 s; TD07 and MD07: 45 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

Electric "TI" and "MI" Series Power Requirements: 110 VAC, 220

with two limit switches.

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.
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.

MODEL CHART			
Pneumatic Model	Description	Electric Model	Description
ACT-DA01	Double acting pneumatic actuator, 98 in-lb	ACT-TD01-110VAC	Electric two-position, 177 in-lb, 110 VAC
ACT-DA02	Double acting pneumatic actuator, 207 in-lb	ACT-TD02-110VAC	Electric two-position, 442 in-lb, 110 VAC
ACT-DA03	Double acting pneumatic actuator, 365 in-lb	ACT-TD03-110VAC	Electric two-position, 885 in-lb, 110 VAC
ACT-DA04	Double acting pneumatic actuator, 603 in-lb	ACT-TD04-110VAC	Electric two-position, 1770 in-lb, 110 VAC
ACT-DA05	Double acting pneumatic actuator, 792 in-lb	ACT-TD05-110VAC	Electric two-position, 3540 in-lb, 110 VAC
ACT-DA06	Double acting pneumatic actuator, 1135 in-lb	ACT-TD06-110VAC	Electric two-position, 8850 in-lb, 110 VAC
ACT-DA07	Double acting pneumatic actuator, 1690 in-lb	ACT-MD01-110VAC	Electric modulating, 265 in-lb, 110 VAC
ACT-DA08	Double acting pneumatic actuator, 2993 in-lb	ACT-MD02-110VAC	Electric modulating, 442 in-lb, 110 VAC
ACT-DA09	Double acting pneumatic actuator, 4506 in-lb	ACT-MD03-110VAC	Electric modulating, 885 in-lb, 110 VAC
ACT-DA10	Double acting pneumatic actuator, 6866 in-lb	ACT-MD04-110VAC	Electric modulating, 1770 in-lb, 110 VAC
ACT-DA11 ACT-DA12	Double acting pneumatic actuator, 11065 in-lb	ACT-MD05-110VAC	Electric modulating, 3540 in-lb, 110 VAC
ACT-DA12	Double acting pneumatic actuator, 15207 in-lb Double acting pneumatic actuator, 23834 in-lb	ACT-TIO1-110VAC	Electric modulating, 8850 in-lb, 110 VAC EXP electric two-position, 100 in-lb, 110 VAC
ACT-DA13	Double acting pneumatic actuator, 33516 in-lb	ACT-TI02-110VAC	EXP electric two-position, 100 in-lb, 110 VAC
ACT-SR02	Spring return pneumatic actuator, 95 in-lb	ACT-TI02-110VAC	EXP electric two-position, 300 in-lb, 110 VAC
ACT-SR03	Spring return pneumatic actuator, 33 in-lb	ACT-TI04-110VAC	EXP electric two-position, 400 in-lb, 110 VAC
ACT-SR04	Spring return pneumatic actuator, 274 in-lb	ACT-TI05-110VAC	EXP electric two-position, 675 in-lb, 110 VAC
ACT-SR05	Spring return pneumatic actuator, 381 in-lb	ACT-TI06-110VAC	EXP electric two-position, 1000 in-lb, 110 VAC
ACT-SR06	Spring return pneumatic actuator, 536 in-lb	ACT-TI07-110VAC	EXP electric two-position, 1500 in-lb, 110 VAC
ACT-SR07	Spring return pneumatic actuator, 815 in-lb	ACT-TI08-110VAC	EXP electric two-position, 2000 in-lb, 110 VAC
ACT-SR08	Spring return pneumatic actuator, 1411 in-lb	ACT-TI09-110VAC	EXP electric two-position, 3840 in-lb, 110 VAC
ACT-SR09	Spring return pneumatic actuator, 2460 in-lb	ACT-TI10-110VAC	EXP electric two-position, 5000 in-lb, 110 VAC
ACT-SR10	Spring return pneumatic actuator, 3733 in-lb	ACT-TI11-110VAC	EXP electric two-position, 7020 in-lb, 110 VAC
ACT-SR11	Spring return pneumatic actuator, 6166 in-lb	ACT-MI01-110VAC	EXP electric modulating, 100 in-lb, 110 VAC
ACT-SR12	Spring return pneumatic actuator, 5253 in-lb	ACT-MI02-110VAC	EXP electric modulating, 200 in-lb, 110 VAC
ACT-SR13	Spring return pneumatic actuator, 7923 in-lb	ACT-MI03-110VAC	EXP electric modulating, 300 in-lb, 110 VAC
ACT-SR14	Spring return pneumatic actuator, 9546 in-lb	ACT-MI04-110VAC	EXP electric modulating, 400 in-lb, 110 VAC
		ACT-MI05-110VAC	EXP electric modulating, 675 in-lb, 110 VAC
		ACT-MI06-110VAC	EXP electric modulating, 1000 in-lb, 110 VAC
		ACT-MI07-110VAC	EXP electric modulating, 1500 in-lb, 110 VAC
		ACT-MI08-110VAC	EXP electric modulating, 2000 in-lb, 110 VAC
		ACT-MI09-110VAC ACT-MI10-110VAC	EXP electric modulating, 3840 in-lb, 110 VAC
		ACT-MI10-110VAC	EXP electric modulating, 5000 in-lb, 110 VAC EXP electric modulating, 7020 in-lb, 110 VAC
			, , ,
Note: Optional volta	ages available for the electric actuators. Change	the -110 VAC to -220	VAC, 24 VDC or 24 VAC. The ACT-MD is not

available with 24 VAC.

PNEUMATIC AND ELECTRIC ACTUATORS Actuators for Valve and Damper Automation

MODEL CH	MODEL CHART - DOUBLE ACTING ACTUATOR TORQUE									
	Double	Acting	Pneum	atic Actu	uator Out	put Tor	que (in-Il	၁)		
	Air Pre	Air Pressure								
Model	40 psi	50 psi	60 psi	70 psi	80 psi	90 psi	100 psi	110 psi	115 psi	
ACT-DA01	49	61	74	86	98	110	123	135	142	
ACT-DA02	104	130	155	181	207	233	259	285	300	
ACT-DA03	182	228	274	319	365	411	456	502	529	
ACT-DA04	302	377	453	528	603	679	754	830	875	
ACT-DA05	396	495	594	693	792	891	990	1089	1148	
ACT-DA06	567	709	851	993	1135	1277	1419	1561	1646	
ACT-DA07	845	1056	1267	1478	1690	1901	2112	2323	2450	
ACT-DA08	1497	1871	2245	2619	2993	3367	3742	4116	4340	
ACT-DA09	2253	2816	3379	3942	4506	5069	5632	6195	6533	
ACT-DA10	3433	4291	5149	6008	6866	7724	8582	9440	9955	
ACT-DA11	5532	6916	8299	9682	11065	12448	13831	15214	16044	
ACT-DA12	7603	9504	11405	13306	15207	17107	19008	20909	22050	
ACT-DA13	11917	14896	17875	20855	23834	26813	29792	32772	34559	
ACT-DA14	16758	20948	25137	29327	33516	37706	41896	46085	48599	

ACCESSORIES					
Models	Description				
VB-01 SN-5A	Air filter regulator 0 to 120 psi Volume booster 5/2 NAMUR 110 VAC solenoid 3/2 NAMUR 110 VAC solenoid				

MODEL CH	MODEL CHART - SPRING RETURN ACTUATOR TORQUE														
			Torque List of Spring Return Pneumatic Actuator (in-lb)												
		Sprin	Spring Air Pressure												
	Spring	Torqu		70 psi		80 psi		90 psi		100 ps	i	110 ps	i	115 ps	i
Model	Sets	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
ACT-SR02	10	69.9	95.5	111.4	85.8	137.3	111.7	163.2	137.6	189.1	163.5	215	189.4	230.6	204.9
	10	120	176	199	143	245	189	291	235	336	280	382	326	409	353
ACT-SR04	10	180	274	348	254	424	330	499	405	575	481	650	556	695	601
	10	263	381	430	312	529	411	628	510	727	609	826	708	885	767
ACT-SR06	10	385	536	608	458	750	599	891	741	1033	883	1175	1025	1260	1110
ACT-SR07	10	695	815	783	663	994	874	1206	1085	1417	1297	1628	1508	1755	1635
ACT-SR08	10	937	1411	1682	1208	2056	1583	2430	1957	2804	2331	3178	2705	3403	2930
ACT-SR09	10	1640	2460	2303	1483	2866	2046	3429	2609	3992	3173	4556	3736	4894	4074
ACT-SR10	10	2529	3733	3479	2274	4337	3133	5195	3991	6053	4849	6911	5707	7426	6222
ACT-SR11	10	4104	6166	5578	3516	6961	4899	8344	6282	9727	7665	11111	9048	11940	9878
ACT-SR12	10	5253	8258	8052	5048	9953	6948	11854	8849	13755	10750	15656	12651	16796	13791
ACT-SR13	10	7923	14103	12932	6752	15911	9731	18890	12710	21869	15690	24849	18669	26636	20456
ACT-SR14	10	9546	18350	19781	10977	23970	15167	28160	19357	32349	23546	36539	27736	39053	30249

PNEUMATIC ACTUATOR REPAIR KIT

Springs, Gaskets, and O-rings for Series ACT-DA/SR



ARK-14

The Series ARK Pneumatic Actuator Repair Kit includes a complete set of O-rings for the Series ACT-DA and ACT-SR pneumatic actuators.

FEATURES/BENEFITS

MODEL CHART

Kit includes springs, gaskets and O-rings for ACT-DA/SR

APPLICATIONS

· Repair kit for ACT-DA or ACT-SR actuators

Model	Dwyer Actuator (Model)	Model	Dwyer Actuator (Model)
ARK-00	ACT-DA01	ARK-14	ACT-SR02
ARK-01	ACT-DA02	ARK-15	ACT-SR03
ARK-02	ACT-DA03	ARK-16	ACT-SR04
ARK-03	ACT-DA04	ARK-17	ACT-SR05
ARK-04	ACT-DA05	ARK-18	ACT-SR06
ARK-05	ACT-DA06	ARK-19	ACT-SR07
ARK-06	ACT-DA07	ARK-20	ACT-SR08
ARK-07	ACT-DA08	ARK-21	ACT-SR09
ARK-08	ACT-DA09	ARK-22	ACT-SR10
ARK-09	ACT-DA10	ARK-23	ACT-SR11
ARK-10	ACT-DA11	ARK-24	ACT-SR12

SPECIFICATIONS

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

ACTUATOR REPAIR KIT FOR:



Series ACT-SR/DA

PARTS LIST - INCLUDED IN KIT

- (2) FVMQ O-rings for end caps (2) FVMQ O-rings for piston (2) FVMQ O-rings for stem (2) FVMQ O-rings for adjusting bolt (10) Stainless steel springs (ACT-SR kits only)

Actuators

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.dwyerinst.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.

USA: California Proposition 65

△WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

DwyerSERIES 38R | W.E. ANDERSON™ BY DWYER 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						1/2" NPT single seat two-way bronze valve, direct acting
		D01VA32						3/4" NPT single seat two-way bronze valve, direct acting
		D02VA32						1" NPT single seat two-way bronze valve, direct acting
		D03VA32						1-1/4" NPT single seat two-way bronze valve, direct acting
		D04VA32						1-1/2" NPT single seat two-way bronze valve, direct acting
		D05VA32						2" NPT single seat two-way bronze valve, direct acting
		R00VA32						1/2" NPT single seat two-way bronze valve, reverse acting
		R01VA32						3/4" NPT single seat two-way bronze valve, reverse acting
		R02VA32						1" NPT single seat two-way bronze valve, reverse acting
		R03VA32						1-1/4" NPT single seat two-way bronze valve, reverse acting
		R04VA32						1-1/2" NPT single seat two-way bronze valve, reverse acting
		R05VA32						2" NPT single seat two-way bronze valve, reverse acting
		D00VA42						1/2" NPT single seat two-way 316 SS valve, direct acting
		D01VA42						3/4" NPT single seat two-way 316 SS valve, direct acting
		D02VA42						1" NPT single seat two-way 316 SS valve, direct acting
		D02VA42						
		D03VA42						1-1/4" NPT single seat two-way 316 SS valve, direct acting
		D04VA42						1-1/2" NPT single seat two-way 316 SS valve, direct acting 2" NPT single seat two-way 316 SS valve, direct acting
		R00VA42						2 NPT single seat two-way 316 SS valve, direct acting 1/2" NPT single seat two-way 316 SS valve, reverse acting
		R00VA42						, ,
		R01VA42						3/4" NPT single seat two-way 316 SS valve, reverse acting
		R02VA42 R03VA42						1" NPT single seat two-way 316 SS valve, reverse acting
								1-1/4" NPT single seat two-way 316 SS valve, reverse acting
		R04VA42						1-1/2" NPT single seat two-way 316 SS valve, reverse acting
		R05VA42						2" NPT single seat two-way 316 SS valve, reverse acting
		300WA31						1/2" NPT three-way bronze valve
		301WA31						3/4" NPT three-way bronze valve
		302WA31						1" NPT three-way bronze valve
		303WA31						1-1/4" NPT three-way bronze valve
		304WA31						1-1/2" NPT three-way bronze valve
		305WA31						2" NPT three-way bronze valve
		300WA41						1/2" NPT three-way 316 SS valve
		301WA41						3/4" NPT three-way 316 SS valve
		302WA41						1" NPT three-way 316 SS valve
		303WA41						1-1/4" NPT three-way 316 SS valve
		304WA41						1-1/2" NPT three-way 316 SS valve
		305WA41						2" NPT three-way 316 SS valve
Actuator			1					Non-indicating actuator
			2					Indicating actuator
Bulb and Capillary				01				Brass union connection
				02				316 SS union connection
				03				Brass adjustable union connection
				04				316 SS adjustable union connection
				05				Brass plain bulb
				06				316 SS plain bulb
				07				FEP Covered brass bulb
				08				FEP Covered 316 SS bulb
				09				Brass union with stainless steel spiral armor
				10				316 SS union with stainless steel spiral armor
Capillary Length					36			Capillary length in feet. Example 36 is 36' length
Thermowell						0		No thermowell
						1		316 SS thermowell, 1-1/4" external connection
						2		Brass thermowell, 1-1/4" external connection
Temperature Range							R03	30 to 115°F (-1 to 46°C)
							R04	50 to 140°F (10 to 60°C)
							R05	75 to 165°F (24 to 74°C)
							R06	105 to 195°F (41 to 91°C)
							R07	125 to 215°F (52 to 102°C)
							R09	155 to 250°F (68 to 121°C)
							R10	200 to 280°F (93 to 138°C)
							R11	225 to 315°F (107 to 157°C)
							R12	255 to 370°F (124 to 188°C)
							R13	205 to 420°E (146 to 216°C)
							R14	295 to 420°F (146 to 216°C) 310 to 440°F (154 to 227°C)

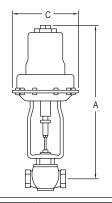
HI-FLOW[™] CONTROL VALVES

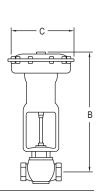
Globe Valves, Ideal for Steam and Water Flow Control, 1/2" to 2-1/2" Sizes, 2-Way or 3-Way











2-way with positioner

2-way with air-to-close actuator

2-way with air-to-open actuator

Hi-Flow™ Control Valves are single seated, top or cage guided globe valves probably the simplest, from a construction standpoint, yet most versatile control valve in use. The Hi-Flow™ valve can fit applications with a smaller size valve since the valve

in use. The Hi-Flow[™] valve can fit applications with a smaller size valve since the valve has a greater flow capacity than most conventional valves of the same size. Coupled with the high flow capacity, the Hi-Flow[™] valve maintains a wide rangeability of 50:1 to insure precise control. Heavy duty Hi-Flow[™] valves are ruggedly constructed of the highest quality materials, precision machined, and performance tested to assure years of trouble free service. Standard packing consists of PTFE V-rings and wiper to minimize friction without leakage at high operating pressures. Available in brass, iron, or 316 SS body, trim is 316 SS with all welded plug construction to provide superior durability and expressor resistance. durability and corrosion resistance.

FEATURES/BENEFITS

- Wide rangeability of 50:1
- Exceptional shut-off and leak rate that meets ANSI/FCI 70-2 Class IV (0.01% of Cv in the closed position)
- Selectable fail safe condition with Air-to-Raise or Air-to-Lower actuators and Push-to-Open or Push-to-Close valve bodies Linear or equal percentage flow characteristics Low flow options of restricted trim or needle plug

- · Removable and replaceable seat ring

APPLICATIONS

- Flow control, mixing, or diverting service
- Perfect for steam, water or compatible glycol solutions

HOW TO ORDER

Select model number from model chart or standard product chart and supply maximum upstream pressure, USP.

Use the chart below to aid in the selection of Hi-Flow™ Control Valve. As long as the maximum upstream pressure (USP) is less than, or equal to, the value listed, the model shown can be manufactured and calibrated to your specific requirements. Specify maximum upstream pressure, USP, when ordering.

SPECIFICATIONS

VALVE BODY

Service: Compatible liquids, gases, and steam.

Line Size: 1/2" to 2". Body Style: 2-way or 3-way globe. End Connections: 1/2" to 2" female

Pressure Limit: Iron and bronze body: 250 psi (17.2 bar); 316 SS body: 300 psi (20.7 bar).

Wetted Materials: Body material: Iron, bronze, or 316 SS; Trim: 316 SS.

Packing: PTFE

Temperature Limits: 20 to 400°F (-7 to 204.4°C).

ACTUATOR

Type: Pneumatic spring/diaphragm.
Control Signal: 3 to 15 psi (0.21 to 1.0 bar) standard. Custom ranges available. bar) standard. Custom ranges available. Maximum Supply Pressure: 220, 222, and 230: 100 psi (6.89 bar). 221, 223, 231, and 233: 50 psi (3.45 bar). Air Connection: 1/4" female NPT. Temperature Limit: 150°F (66°C).

Note: Positioners and current-to-pressure transducers available factory mounted.

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.

MODEL CHART - CONTROL VALVES - HI-FLOW™ SERIES, 2-WAY, STOCKED MODELS									
Pipe Size	Cv 100%	Body Material	Air-To-Open Model	Set at USP psig [bar]	Adjustable USP Range psig [bar]				
1/2" 3/4" 1"	6.45 10.75 17.42	Bronze Bronze Bronze	2000VA32-230-QS 2001VA32-230-QS 2002VA32-230-QS	125 [8.6] 125 [8.6] 125 [8.6]	96-200 [6.8-13.8] 81-155 [5.6-10.7] 123-166 [8.5-11.5]				
1-1/4" 1-1/4"	17.42 25.30 25.30	Bronze Bronze Bronze	2002VA32-231-QS 2003VA32-230-QS 2003VA32-231-QS	125 [8.6]	71-155 [4.9-10.7] 66-98 [4.6-6.8] 121-165 [8.3-11.4]				
1-1/2" 2" 2"	32.10 50.30 50.30	Bronze Bronze Bronze	2004VA32-231-QS 2005VA32-231-QS 2005VA32-233-QS	88 [6.1]	104-137 [7.2-9.5] 68-88 [4.7-6.1] 116-145 [8 0-10 0]				

MODE	EL CHA	RT - 2-WA	Y SIMPLIFIED S	SELECTION G	JIDE WITH STAN	DARD PRODU	CTS			
				Max USP				Max USP		
Pipe	Cv	Body	Air-To-Open	psi [bar]	Α	С	Air-To-Close	psi [bar]	В	C
Size	100%	Material	Model	3-15 [.21-1.0]	in [mm]	in [mm]	Model	3-15 [.21-1.0]	in [mm]	in [mm]
1/2"	6.45	Bronze	2000VA32-230	250 [17.2]	19-3/4 [501.7]	7-3/4 [196.9]	2000VA32-220	250 [17.2]	18-7/16 [468.3]	7-3/4 [196.9]
1/2"	6.45	316 SS	2000VA42-230	300 [20.7]	19-3/4 [501.7]	7-3/4 [196.9]	2000VA42-220	300 [20.7]	18-7/16 [468.3]	7-3/4 [196.9]
3/4"	10.75	Bronze	2001VA32-230	250 [17.2]	19-3/4 [501.7]	7-3/4 [196.9]	2001VA32-220		18-7/16 [468.3]	7-3/4 [196.9]
3/4"		Bronze	2001VA32-231		20-3/8 [517.5]		2001VA32-221		19-1/8 [485.8]	10-5/8 [269.9]
3/4"		316 SS	2001VA42-230		19-3/4 [501.7]	7-3/4 [196.9]	2001VA42-220		18-7/16 [468.3]	7-3/4 [196.9]
3/4"		316 SS	2001VA42-231		20-3/8 [517.5]		2001VA42-221		19-1/8 [485.8]	10-5/8 [269.9]
1″		Bronze	2002VA32-230		20-3/16 [512.8]	7-3/4 [196.9]	2002VA32-220		18-7/8 [479.4]	7-3/4 [196.9]
1″		Bronze	2002VA32-231				2002VA32-221		19-9/16 [496.9]	10-5/8 [269.9]
1"		316 SS	2002VA42-230		20-3/16 [512.8]	7-3/4 [196.9]	2002VA42-220		18-7/8 [479.4]	7-3/4 [196.9]
1"		316 SS	2002VA42-231		20-13/16 [528.6]				19-9/16 [496.9]	10-5/8 [269.9]
1-1/4"		Bronze	2003VA32-230						19 [482.6]	7-3/4 [196.9]
1-1/4″		Bronze	2003VA32-231		20-15/16 [531.8]				19-11/16 [500.1]	
1-1/4″		Bronze	2003VA32-233		25-13/32 [645.3]				23-1/8 [587.4]	13-3/8 [339.7]
1-1/4″		316 SS	2003VA42-230				2003VA42-220			7-3/4 [196.9]
1-1/4″		316 SS	2003VA42-231		20-15/16 [531.8]					
1-1/4″		316 SS	2003VA42-233	300 [20.7]			2003VA42-223		23-1/8 [587.4]	13-3/8 [339.7]
1-1/2"		Bronze	2004VA32-230		20-11/16 [525.5]					7-3/4 [196.9]
1-1/2"		Bronze	2004VA32-231		21-5/16 [541.3]		2004VA32-221		20-1/16 [509.6]	10-5/8 [269.9]
1-1/2"		Bronze 316 SS	2004VA32-233 2004VA42-230	250 [17.2] 65 [4.5]	25-25/32 [654.8]				23-1/2 [596.9] 19-3/8 [492.1]	13-3/8 [339.7]
1-1/2"		316 SS	2004VA42-230 2004VA42-231		20-11/16 [525.5] 21-5/16 [541.3]		2004VA42-220 2004VA42-221		201/16 [509.6]	7-3/4 [196.9] 10-5/8 [269.9]
1-1/2"		316 SS	2004VA42-231 2004VA42-233				2004VA42-221 2004VA42-223		23-1/2 [596.9]	13-3/8 [339.7]
2"		Bronze	2004VA42-233 2005VA32-230			7-3/4 [196.9]	2004VA42-223 2005VA32-220		19-5/8 [498.5]	7-3/4 [196.9]
2"		Bronze	2005VA32-230 2005VA32-231		21-9/16 [547.7]		2005VA32-220 2005VA32-221		20-5/16 [515.9]	10-5/8 [269.9]
2"		Bronze	2005VA32-231		26-1/32 [661.2]		2005VA32-223		23-3/4 [603.3]	13-3/8 [339.7]
2"		316 SS	2005VA42-230				2005VA42-220		19-5/8 [498.5]	7-3/4 [196.9]
2"		316 SS	2005VA42-231		21-9/16 [547.7]		2005VA42-221		20-5/16 [515.9]	10-5/8 [269.9]
2"		316 SS	2005VA42-233		26-1/32 [661.2]		2005VA42-223		23-3/4 [606.3]	13-3/8 [339.7]

USA: California Proposition 65

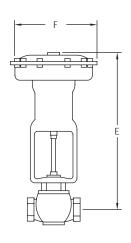
△WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

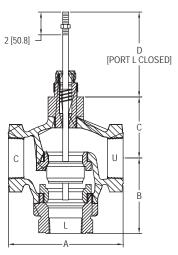
Transducers: See page 440 (Series 2800) See page 441 (Series 2900) @Positioners: See page 442 (Series 165) Filters and Regulators: See page 446



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 [95.3]						
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

To determine shutoff pressure: (USPu - USPc) + (USPL - USPc)

Diverting Service

FLOW IN - port C; FLOW OUT - ports U&L

Specify maximum upstream pressures [USP's]: USPc; based on standard 3-15 psi [.21-1.0 bar] pneumatic control signal To determine shutoff pressure: USPu + USPc

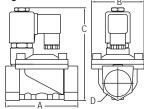
MODEL	_ CHAF	RT - HI-FL	OW™ CONTROL	VALVES, 3-V	WAY SIMPLIFIED	SELECTION
GUIDE	WITH S	STANDAR	D PRODUCTS			
Pipe	Cv	Body		USP [S]	E	F
Size	100%	Material	Model	psi [bar]	in [mm]	in [mm]
1/2"	6.45	Bronze	3000WA32-220	250 [17.2]	18-1/16 [458.8]	7-3/4 [196.9]
1/2"	6.45	316 SS	3000WA42-220	300 [20.7]	18-1/16 [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.

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

BRASS SOLENOID VALVE, 2-WAY GUIDED NC Compact Design, Immune to Mounting Orientation





Model	A	B	C	D	Weight
	in [mm]	in [mm]	in [mm]	NPT	lb [kg]
SBSV-B1NX SBSV-B2NX SBSV-B3NX SBSV-B4NX SBSV-B5NX SBSV-B6NX SBSV-B7NX SBSV-B7NX SBSV-B8NX SBSV-B9NX	1-5/8 [41] 1-5/8 [41] 2-5/8 [66] 2-5/8 [66] 2-61/64 [75] 3-25/32 [96] 5-11/64 [131] 5-11/64 [131]	1-5/32 [29] 1-5/32 [29] 1-57/64 [48]	3-9/32 [83] 3-9/32 [83] 4-7/16 [112] 4-7/16 [112] 4-21/32 [118] 5-11/64 [131] 3-3/4 [146] 5-3/4 [146]	1/8" 1/4" 3/8" 1/2" 3/4" 1" 1-1/4" 1-1/2"	0.82 [0.37] 0.79 [0.36] 1.54 [0.7] 1.98 [0.9] 1.98 [0.9] 3.09 [1.4] 6.17 [2.8] 5.95 [2.7] 10.58 [4.8]

The Series SBSV-B Brass Solenoid Valve is compact, general-service, two-way guide type solenoid valves for air, gas, water and other liquid applications. They are available in brass with a normally closed design and can be oriented in any position. The solenoid enclosure provides protection against dust, while also protecting against seepage of oil and non-corrosive coolants. The Series SBSV-B valves come assembled with an NBR seal, having a maximum process temperature of 176°F (80°C). The series offers a wide range of valve sizes and flow ranges, with connection sizes from 1/8" to 2" NPT and orifices from 3 mm to 50 mm.

FEATURES/BENEFITS

- · Can be oriented in any position
- Compact designField replaceable coils

APPLICATIONS

· Wide variety of applications, suitable air, gas, water and other liquids

SPECIFICA	ATIONS
Service: Co	

Service: Compatible gases and liquids. Line Size: 1/8 to 2" NPT. End Connections: Female NPT.

Operating Pressure: 1/8 to 1/4": 0 psi (0 bar) to 188.5 psi (13 bar); 3/8 to 2": 7.3 psi (0.5 bar) to 188.5 psi (13 bar). Pressure Limit: 246.6 psi (17 bar). Wetted Material: Body: Brass; Spring: 304 SS: Seal: NBR.

Temperature Limits: Process: 176°F (80°C); Ambient: 32 to 149°F (0 to 65°C).

Power Requirements: Standard: 110 VAC; Optional: 220 VAC, 24 VDC, 24 VAC consult factory. ●

Power Consumption: See table.
Enclosure Rating: NEMA 13 (IP54).
Electrical Connection: DIN connection.

Other Materials: Nylon Mounting Orientation: Any position, best if solenoid vertically above valve.

Weight: See table.

Type of Operation: NC.

Age	ncy	App	rovai	s: (

SBSV-B1N1 1/8" 0.12 [3] 0.23 SBSV-B2N1 1/4" 0.12 [3] 0.23 SBSV-B3N1 3/8" 0.51 [13] 4.5 SBSV-B4N1 1/2" 0.51 [13] 4.5 SBSV-B5N1 3/4" 0.79 [20] 7.6 SBSV-B6N1 1" 0.98 [25] 12 SBSV-B7N1 1-1/4" 1.38 [35] 22	MODEL CHART							
SBSV-B2N1 1/4" 0.12 3 0.23 SBSV-B3N1 3/8" 0.51 1/3 4.5 SBSV-B4N1 1/2" 0.51 1/3 4.5 SBSV-B5N1 3/4" 0.79 20 7.6 SBSV-B6N1 1" 0.98 25 12 SBSV-B7N1 1-1/4" 1.38 35 22	Voltage							
SBSV-B8N1 1-1/2" 1.57 [40] 30	110 VAC 110 VAC 110 VAC 110 VAC 110 VAC 110 VAC 110 VAC 110 VAC 110 VAC							

	50 Hz (VA)		60 Hz (V	DC	
Voltage	Inrush	Holding	Inrush	Holding	(W)
220 VAC		22	55	18	-
110 VAC	55	22	55	18	-
24 VAC	45	18	45	15	-
24 VDC	-	-	-	-	13

USA: California Proposition 65

△WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

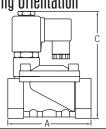
OSolenoid Coils: See page 424 (Series SRC)

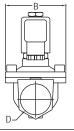
SERIES SBSV-S | W.E. ANDERSON™ BY DWYER

SS SOLENOID VALVE, 2-WAY GUIDED NC

Compact Design, Immune to Mounting Orientation







Model	A	B	C	D	Weight
	in [mm]	in [mm]	in [mm]	NPT	lb [kg]
SBSV-S1FX	1-5/8 [41]	1-5/32 [29]	3-9/32 [83]	1/8"	0.82 [0.37]
SBSV-S2FX	1-5/8 [41]	1-5/32 [29]	3-9/32 [83]	1/4"	0.79 [0.36]
SBSV-S3FX	2-5/8 [66]	1-57/64 [48]	4-7/16 [112]	3/8"	1.65 [0.75]
SBSV-S4FX	2-5/8 [66]	1-57/64 [48]	4-7/16 [112]	1/2"	1.54 [0.7]
SBSV-S5FX	2-61/64 [75]	2-19/64 [58]	4-21/32 [118]	3/4"	1.98 [0.9]
SBSV-S6FX	3-25/32 [96]	2-49/64 [70]	5-11/64 [131]	1"	2.87 [1.3]
SBSV-S7FX	5-11/64 [131]	3-25/32 [96]	3-3/4 [146]	1-1/4"	5.73 [2.6]
SBSV-S8FX	5-11/64 [131]	3-25/32 [96]	3-3/4 [146]	1-1/2″	5.51 [2.5]
SBSV-S9FX	6-1/2 [165]	3-47/64 [120]	6-37/64 [167]	2″	9.7 [4.4]

The SERIES SBSV-S SS Solenoid Valve is compact, general-service, two-way guide type solenoid valves for air, gas, water and other liquid applications. They are available in stainless steel with a normally closed design and can be oriented in any position. The solenoid enclosure provides protection against dust, while also protecting against seepage of oil and non-corrosive coolants. The Series SBSV-B valves come assembled with an NBR seal, having a maximum process temperature of 176°F (80°C). The series offers a wide range of valve sizes and flow ranges, with connection sizes from 1/8" to 2" NPT and orifices from 3 mm to 50 mm.

FEATURES/BENEFITS

- Can be oriented in any position
- Compact design
- · Field replaceable coils

APPLICATIONS

Wide variety of applications, suitable air, gas, water and other liquids

MODEL CHART							
Model	Connection, NPT	Orifice in [mm]	Cv Value	Voltage			
SBSV-S1F1 SBSV-S2F1 SBSV-S3F1 SBSV-S4F1 SBSV-S5F1 SBSV-S6F1 SBSV-S7F1	1/8" 1/4" 3/8" 1/2" 3/4" 1" 1-1/4"	0.12 [3] 0.12 [3] 0.51 [13] 0.51 [13] 0.79 [20] 0.98 [25] 1.38 [35]	0.23 0.23 4.5 4.5 7.6 12	110 VAC 110 VAC 110 VAC 110 VAC 110 VAC 110 VAC 110 VAC			
SBSV-S8F1 SBSV-S9F1	1-1/2" 2" It factory for 22	1.57 [40] 1.97 [50]	30 48	110 VAC 110 VAC			

SBSV-S1FX	1-5/8 [41]	1-5/32 [29]	3-9/32 [83]	1/8"	0.82 [0.37]
SBSV-S2FX	1-5/8 [41]	1-5/32 [29]	3-9/32 [83]	1/4"	0.79 [0.36]
SBSV-S3FX	2-5/8 [66]	1-57/64 [48]	4-7/16 [112]	3/8"	1.65 [0.75]
SBSV-S4FX	2-5/8 [66]	1-57/64 [48]	4-7/16 [112]	1/2"	1.54 [0.7]
SBSV-S5FX	2-61/64 [75]	2-19/64 [58]	4-21/32 [118]	3/4"	1.98 0.9
SBSV-S6FX	3-25/32 [96]	2-49/64 [70]	5-11/64 [131]	1″	2.87 [1.3]
SBSV-S7FX	5-11/64 [131]	3-25/32 [96]	3-3/4 [146]	1-1/4"	5.73 [2.6]
SBSV-S8FX	5-11/64 [131]	3-25/32 [96]	3-3/4 [146]	1-1/2"	5.51 [2.5]
			6-37/64 [167]	2″	9.7 [4.4]

SPECIFICATIONS

Service: Compatible gases and liquids. **Line Size:** 1/8 to 2" NPT.

End Connections: Female NPT

End Connections: Female NPT.
Operating Pressure: 1/8 to 1/4": 0 psi (0 bar) to 188.5 psi (13 bar); 3/8 to 2": 7.3 psi (0.5 bar) to 188.5 psi (13 bar).
Pressure Limit: 246.6 psi (17 bar).
Wetted Material: Body: 316 SS; Spring; 304 SS; Seal: Fluoroelastomer.
Temperature Limits: Process: 176°F (80°C); Ambient: 32 to 149°F (0 to 65°C).
Power Requirements: Standard: 110 VAC; Optional: 220 VAC, 24 VDC, 24 VAC

consult factory.

Power Consumption: See table. Enclosure Rating: NEMA 13 (IP54) Electrical Connection: DIN connection. Other Materials: Nylon.

Mounting Orientation: Any position, best if solenoid vertically above valve.

Weight: See table.

Type of Operation: NC.

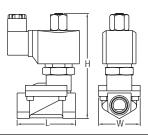
Agency Approvals: CE

	50 Hz (VA)		60 Hz (V	DC	
Voltage	Inrush Holding		Inrush	Holding	(W)
220 VAC		22	55	18	-
110 VAC	55	22	55	18	-
24 VAC	45	18	45	15	-
24 VDC	-	-	-	-	13

OSolenoid Coils: See page 424 (Series SRC)

BRASS SOLENOID VALVE, 2-WAY GUIDED NO Compact Design, Immune to Mounting Orientation





Model	L in [mm]	H in [mm]	W in [mm]	Weight lb [kg]
SSV-B1NX	1-5/8 [41]	3-15/32 [88]	1-9/64 [29]	0.88 [0.40]
SSV-B2NX	1-5/8 [41]	3-17/64 [83]	1-9/64 [29]	0.86 0.39
SSV-B3NX	2-19/32 [66]	4-57/64 [124]	1-57/64 [48]	1.98 0.90
SSV-B4NX	2-19/32 [66]	4-57/64 [124]	1-57/64 [48]	1.98 [0.90]
SSV-B5NX	2-61/64 [75]	5-1/8 [130]	2-9/32 [58]	2.42 [1.10]
SSV-B6NX	3-25/32 [96]	5-5/8 [143]	2-3/4 [70]	3.52 [1.60]
SSV-B7NX	5-5/32 [131]	6-7/32 [158]	3-25/32 [96]	6.60 [3.00]
SSV-B8NX	5-5/32 [131]		3-25/32 [96]	6.16 [2.80]
SSV-B9NX	6-1/2 [165]	7-3/64 [179]	4-47/64 [120]	5.00 [11.0]

The Series SSV-B Brass Solenoid Valve is compact, general-service, two-way guide type solenoid valves for air, gas, water, and other liquid applications. They are available in brass with a normally open design and can be oriented in any position. The solenoid enclosure provides protection against dust while also protecting against seepage of oil and non-corrosive coolants. The Series SSV-B valves come assembled with an NBR seal having a maximum process temperature of 176°F (80°C). The series offers a wide range of valve sizes and flow ranges with connection sizes from 1/8" to 2" NPT and orifices from 3 mm to 50 mm

FEATURES/BENEFITS

- Can be oriented in any positionCompact design

Dwyer

· Field replaceable coils

APPLICATIONS

Wide variety of applications, suitable air, gas, water and other liquids

MODEL CHART								
Model	Connection, NPT	Orifice in [mm]	Cv Value	Voltage				
SSV-B1N1 SSV-B2N1 SSV-B3N1 SSV-B4N1 SSV-B5N1 SSV-B6N1 SSV-B7N1 SSV-B8N1	1/8" 1/4" 3/8" 1/2" 3/4" 1" 1-1/4" 1-1/2"	0.12 [3] 0.12 [3] 0.51 [13] 0.51 [13] 0.59 [20] 0.98 [25] 1.38 [35] 1.57 [40]	0.25 0.25 4.5 4.5 7.6 12 22 30	110 VAC 110 VAC 110 VAC 110 VAC 110 VAC 110 VAC 110 VAC 110 VAC				
SSV-B9N1	2″	1.97 [50]	48	110 VAC				
Note: Cons	ult factory for 220 V	Note: Consult factory for 220 VAC, 24 VAC and 24 VDC.						

SPECIFICATIONS

Service: Compatible gases and liquids. **Line Size:** 1/8 to 2" NPT.

End Connections: Female NPT Operating Pressure: 1/8 to 1/4": 0 psi (0 bar) to 87 psi (6 bar); 3/8 to 2": 7.3 psi (0.5 bar) to 116 psi (8 bar).

Pressure Limit: 174 psi (12 bar).

Wetted Material: Body: Brass; Spring: 304 SS; Seal: NBR.

Temperature Limits: Process: 176°F (80°C); Ambient: 32 to 149°F (0 to 65°C). Power Requirements: Standard: 110 VAC; Optional: 220 VAC, 24 VDC consult

Power Consumption: See table. Enclosure Rating: NEMA 13 (IP54). Electrical Connection: DIN connection. Other Materials: Nylon.

Mounting Orientation: Any position, best if solenoid vertically above valve. Weight: See table.

Type of Operation: NO. Agency Approvals: CE

	50 Hz (VA)		60 Hz (V	DC	
Voltage	Inrush	Holding	Inrush	Holding	(W)
220 VAC		33	82	28	-
110 VAC	82	33	82	28	-
24 VDC	-	-	-	-	32

USA: California Proposition 65

A WARNING: Cancer and Reproductive Harm - www P65Warnings ca gov

OSolenoid Coils: See page 424 (Series SRC)

Power Requirements: Standard: 110 VAC; Optional: 220 VAC; 24 VDC consult factory.

Enclosure Rating: NEMA 13 (IP54). Electrical Connection: DIN connection.

Mounting Orientation: Any position, best if solenoid vertically above valve.

Power Consumption: See table

Other Materials: Nylon.

Type of Operation: NO.

Agency Approvals: CE

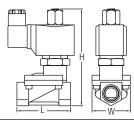
Weight: See table.

SERIES SSV-S | W.E. ANDERSON™ BY DWYER

SS SOLENOID VALVE, 2-WAY GUIDED NO

Compact Design, Immune to Mounting Orientation





Model	in [mm]	H in [mm]	in [mm]	Weight lb [kg]
SSV-S1FX	1-5/8 [41]	3-15/32 [88]	1-9/64 [29]	0.88 [0.40]
SSV-S2FX	1-5/8 [41]	3-17/64 [83]	1-9/64 [29]	0.86 [0.39]
SSV-S3FX	2-19/32 [66]	4-57/64 [124]	1-57/64 [48]	2.09 [0.95]
SSV-S4FX	2-19/32 [66]	4-57/64 [124]	1-57/64 [48]	1.98 [0.90]
SSV-S5FX	2-61/64 [75]	5-1/8 [130]	2-9/32 [58]	2.42 [1.10]
SSV-S6FX	3-25/32 [96]	5-5/8 [143]	2-3/4 [70]	3.30 [1.50]
SSV-S7FX	5-5/32 [131]	6-7/32 [158]	3-25/32 [96]	6.16 [2.80]
SSV-S8FX	5-5/32 [131]	6-7/32 [158]	3-25/32 [96]	5.94 [2.70]
SSV-S9FX	6-1/2 [165]	7-3/64 [179]	4-47/64 [120]	10.1 [4.60]

The Series SSV-S SS Solenoid Valve is compact, general-service, two-way guide type solenoid valves for air, gas, water, and other liquid applications. They are available in stainless steel with a normally open design and can be oriented in any position. The solenoid enclosure provides protection against dust, while also protecting against seepage of oil and non-corrosive coolants. The Series SSV-S valves come assembled with a fluoroelastomer seal, having a maximum process temperature of 248°F (120°C). The series offers a wide range of valve sizes and flow ranges, with connection sizes from 1/8" to 2" NPT and orifices from 3 mm to 50 mm.

FEATURES/BENEFITS

- · Can be oriented in any position
- Compact design
- Field replaceable coils

• Wide variety of applications, suitable air, gas, water and other liquids

MODEL CHART								
Model	Connection, NPT	Orifice in [mm]	Cv Value	Voltage				
SSV-S1F1 SSV-S2F1 SSV-S3F1 SSV-S4F1 SSV-S5F1 SSV-S6F1 SSV-S7F1 SSV-S8F1	1/8" 1/4" 3/8" 1/2" 3/4" 1" 1-1/4" 1-1/2"	0.12 [3] 0.12 [3] 0.51 [13] 0.51 [13] 0.59 [20] 0.98 [25] 1.38 [35] 1.57 [40]	0.25 0.25 4.5 4.5 7.6 12 22 30	110 VAC 110 VAC 110 VAC 110 VAC 110 VAC 110 VAC 110 VAC 110 VAC				
	SSV-S9F1 2" 1.97 [50] 48 110 VAC							
Note: Cons	Note: Consult factory for 220 VAC, 24 VAC and 24 VDC.							

	50 Hz (V	A)	60 Hz (V	DC	
Voltage	Inrush	Holding	Inrush	Holding	(W)
220 VAC		33	82	28	-
110 VAC	82	33	82	28	-
24 VDC	-	-	-	-	32

	50 Hz (V	A)	60 Hz (V	DC	
Voltage	Inrush	Holding	Inrush	Holding	(W)
220 VAC		33	82	28	-
110 VAC	82	33	82	28	-
24 VDC	-	-	-	-	32

SPECIFICATIONS

Service: Compatible gases and liquids. Line Size: 1/8 to 2" NPT. End Connections: Female NPT.

Operating Pressure: 1/8 to 1/4": 0 psi

(0 bar) to 87 psi (6 bar); 3/8 to 2": 7.3 psi (0.5 bar) to 116 psi (8 bar). **Pressure Limit:** 174 psi (12 bar).

Wetted Material: Body: 316 SS; Spring: 304 SS; Seal: Fluoroelastomer.

Temperature Limits: Process: 248°F

(120°C); Ambient: 32 to 149°F (0 to 65°C).

• Solenoid Coils: See page 424 (Series SRC)

CE

CE

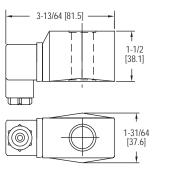
LENOID REPLACEMENT COILS

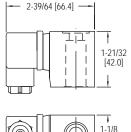
For the Series SSV and SBSV Solenoid Valves











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

APPLICATIONS

· Field replaceable

· Replacement coils for SSV and SBSV solenoid valves

SPECIFICATIONS
Compatible Valves
Da Da!

s: SSV or SBSV.

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

Electrical Connections: DIN connection. Enclosure Rating: NEMA 13 (IP54). Power Consumption: See table. Agency Approvals: CE.

SSV COMPATIBLE COILS									
		50 Hz (VA)		60 Hz (V	DC				
Model	Voltage	Inrush	Holding	Inrush	Holding	(W)			
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	t factory fo	r 220 VAC	24 VAC	and 24 VI	C.				

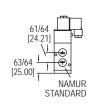
SBSV COMPATIBLE COILS									
		50 Hz (VA)		60 Hz (DC				
Model	Voltage	Inrush	Holding	Inrush	Holding	(W)			
SRC-D1S0C	220 VAC	55	22	55	18	-			
SRC-D2S0C	110 VAC	55	22	55	18	-			
SRC-D3S0C	24 VAC	45	18	45	15	-			
SRC-D4S0C	24 VDC	-	-	-	-	13			
Note: Consul	t factory fo	r 220 VA	C 24 VA	C and 24	L VDC				

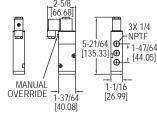
SERIES SN | PROXIMITY® BY DWYER

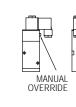
UR MOUNT SOLENOID VALVE

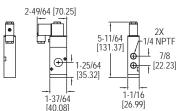
Manual Override, 100% Duty Rating











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	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.



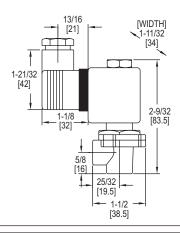
Model SN mounted to an actuator

PILOT SOLENOID VALVE For Use with Remote Valves





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-

FEATURES/BENEFITS

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

APPLICATIONS

wired.

• For use with RDCV remote valve

I	MODEL CHART								
1	Model	Voltage	Electrical Connections	Cv Value					
1	RSV1D	110 VAC	DIN	.33					
1	RSV2D	220 VAC	DIN	.33					
1	RSV3D	24 VDC	DIN	.33					
1	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

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).

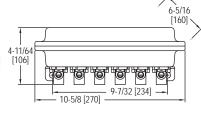
Pneumatic Tube Length: Maximum of 9.8' (3 m).

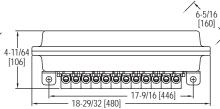
Agency Approvals: CE.

SOLENOID VALVE ENCLOSURESFor the Series RSV Remote Solenoid Valves









SVE12

SVE06WP61

SVE06WP61

SVE06

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 Weatherproof 110 VAC SVE06WP62 6 Weatherproof 220 VAC SVE06WP63 24 VDC Weatherproof SVE12WP121 12 110 VAC Weatherproof SVE12WP122 12 220 VAC Weatherproof 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:

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

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).

DIAPHRAGM VALVESPulse Valves, Ideal for Dust Collection Systems and Bag Houses



DCV62T1D



DCV20C1D



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

MODEL CHART

- 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.

				Number of	Cv Factor
Model	Size	Solenoid	Connection	Diaphragms	(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 Co	nnector			

MODEL CHAR	MODEL CHART								
Example	DCV	20	Т	ID	DCV20T1D				
Construction	DCV				Integrated coil				
	RDCV				Remote coil				
Size		20			3/4"				
		25			1"				
		35			1-1/2"				
		45			1-1/2" (2 diaphragms)				
		50			2"				
		62			2-1/2"				
		76			3″				
Connection			Т		NPT				
			С		Coupling				
Voltage				1D	110 VAC (for integrated coil only)				
				2D	220 VAC (for integrated coil only)				
				3D	24 VDC (for integrated coil only)				

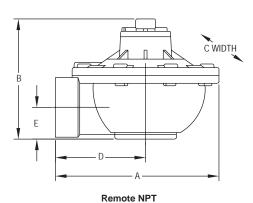
ACCESSORIES								
Model	Description	Fits Valve Sizes						
	1/8" NPT	3/4", 1", 1-1/2", RSV						
A-238	3/8" NPT	1-1/2", 2", 2-1/2", 3"						

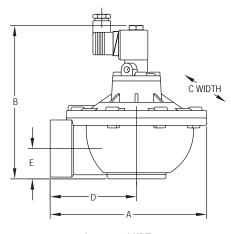


The Muffler Accessory can be easily field installed to any diaphragm valve with an exhaust. Pneumatic exhaust ports are on the diaphragm valves that have dual diaphragms and the units with the integral mounted solenoid. The muffler decreases the amount of noise when the air is exhausted from the valve.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

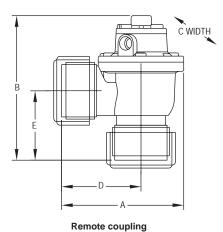


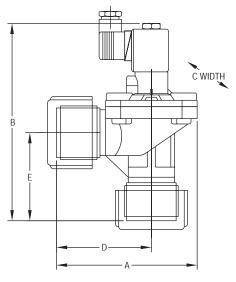
DIAPHRAGM VALVESPulse Valves, Ideal for Dust Collection Systems and Bag Houses





Integrated NPT





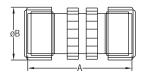
Integrated coupling

DIMENSION	IMENSIONAL 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)	
		_	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)	

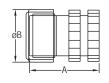
K HEAD CONNECTORS

Coupling Accessories



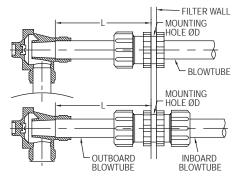






BHC35D

Model	A	B	D	Min L
	in [mm]	in [mm]	in [mm]	in [mm]
BHC25D BHC25DD BHC35D	3-19/32" [91] 2-23/32" [69] 3-31/32" [101]	2-5/16" [58.5] 2-3/4" [70] 2-3/4" [70] 3-15/32" [88]	1-25/32" to 2" [45 to 51] 2-7/32" to 2-7/16" [56 to 62]	3-27/32" [97] 3-27/32" [97] 4-21/32" [118] 4-21/32" [118] 6-3/16" [157] 6-3/16" [157]



The Series BHC Bulk Head Connectors allow for easy installation of blow tube through the dust collector wall and eliminate the need for welding or use of additional flanges. The fittings enable easy removal and reassembly of blow tubes for cleaning and maintenance. BHC models are available in single connection for through tube mounting or double connection for two piece tube mounting.

FEATURES/BENEFITS

- Available in single connection or double connection
 Enable easy removal and reassembly of blow tubes

APPLICATIONS

· Dust collectors

SPECIFICATIONS

Service: Compatible gases.

Wetted Material: Body, ring nut, DIN nut: Aluminum; Washer: SS41; Gasket: NBR. Pressure Limits: 124.7 psi (8.6 bar).

Temperature Limits: -4 to 185°F (-20 to 85°C).

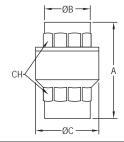
MODEL CHART					
Model	Size	Connections	Model	Size	Connections
BHC20D			BHC25DD		Two
BHC20DD	3/4"	Two	BHC35D		
BHC25D	1″	One	BHC35DD	1-1/2"	Two

ACCESSORIES				
Model Description				
A-237	Muffler			

SERIES BICV | W.E. ANDERSON™ BY DWYER

BRASS INLINE CHECK VALVE Economical, Spring-Loaded for Fast Seating





NPT	A	B	C	CH
Size	in [mm]	in [mm]	in [mm]	in [mm]
1/4"	1-47/64 [44]	51/64 [20]	1-1/16 [27]	51/64 [20]
3/8"	1-47/64 [44]	51/64 [20]	1-1/16 [27]	51/64 [20]
1/2"	2-21/64 [59]	63/64 [25]	1-23/64 [34.5]	63/64 [25]
3/4"	2-9/16 [65]	1-13/64 [30.5]	1-21/32 [42]	1-7/32 [31]
1"	2-49/64 [70]	1-31/64 [37.5]	1-15/16 [49]	1-1/2 [38]
1-1/4"	2-15/16 [74.5]	1-7/8 [47.5]	2-13/32 [61]	1-57/64 [48]
1-1/2"	3-11/64 [80.5]	2-7/64 [53.5]	2-7/8 [73]	2-1/8 [54]
2"	3-3/8 [85.5]	2-11/16 [68]	3-15/32 [88]	2-41/64 [67]
2-1/2"	4-3/8 [111]	3-15/64 [82]	4-25/64 [111.5]	3-17/64 [83]
3"	4-55/64 [123.5]	3-27/32 [97.5]	5-15/64 [133]	3-55/64 [98]
4"	5-13/32 [137.5]	5 [127]	6-27/64 [163]	5-3/64 [128]

The Series BICV Brass Inline Check Valve is ideal for use with a broad array of service mediums including compatible oils, gases, fuels and hydrocarbons. They incorporate a soft seat for a bubble-tight shutoff and are spring-loaded for rapid reseating at high and low temperatures. The Series BICV was designed with a smooth flow profile to minimize head loss and accumulation of debris. The low 0.5 psi (0.04 bar) cracking pressure and patented guided-disc technology ensure reliability at low and high service pressure.

FEATURES/BENEFITS

- Soft seat for bubble-tight shut off
 Spring loaded for rapid reseating at high and low temperatures
- Patented guided-disc technology

APPLICATIONS

To protect equipment against possible damage or contamination resulting from a reversal of flow direction

SPECIFICATIONS

Service: Liquids and gases compatible with wetted material.

Body: 1-piece.

Body: 1-piece.
Line Size: See model chart.
Process Connection: Female NPT.
Pressure Limits: 1/4" to 2": 400 psi (27.6 bar) WOG; 2-1/2" to 4": 175 psi (12.1 bar) WOG; All sizes: 125 psi (8.6 bar) SWP.
Wetted Materials: Valve body: Brass (CW617N); Obstructer: Polyethermide; Seat: 1/4": NBR rubber, 3/8" to 4": Fluoroelastomer; Spring: 302 SS.
Temperature Limits: 10 to 352°F (-12 to 178°C).

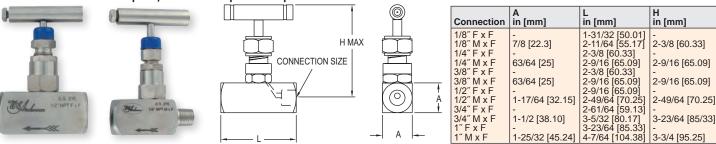
MODEL CHART				
Model	Connection Size	Cv Value	Weight	
BICV-0N00	1/4"	4.55	3.5 oz (100 g)	
BICV-0F01	3/8"	4.55	5.9 oz (168 g)	
BICV-0F02	1/2"	6.0	5.1 oz (145 g)	
BICV-0F03	3/4"	11.0	7.8 oz (222 g)	
BICV-0F04	1″	16.9	10.9 oz (308 g)	
BICV-0F05	1-1/4"	27.4	1.1 lb (.051 kg)	
BICV-0F06	1-1/2"	39.1	1.6 lb (0.73 kg)	
BICV-0F07	2"	60.7	2.3 lb (1.03 kg)	
BICV-0F08	2-1/2"	98.4	4.8 lb (2.19 kg)	
BICV-0F09	3″	158.0	6.7 lb (3.04 kg)	
BICV-0F10	4"	225.4	12.4 lb (5.64 kg)	

USA: California Proposition 65

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

SERIES HNV | W.E. ANDERSON™ BY DWYER

NEEDLE VALVE 1-VALVE BLOCK MANIFOLDS For Use with Gas and Liquids, Pressures Up to 6000 psi



Series HNV Needle Valve 1-Valve Block Manifolds are barstock style needle valves that is designed for isolating instruments from liquids or gases. The valve series features fine threading and large seat area to ensure tight shutoff. Wetted materials are 316 SS and PTFE making these ideal for use with corrosives. The HNV has been tested to assure vibration and thermal stability.

Body includes a lock pin to prevent accidental bonnet disengagement. The HNV is available in male x female and female x female connections from 1/8" to 1". Tee handle is constructed of 316 SS and allows low torque operation.

FEATURES/BENEFITS

- Pressures to 6000 psiFine threading and large seat area to ensure tight shutoff
- Barstock style needle value
 316 SS and PTFE wetted materials
- · Includes lockpin to prevent accidental bonnet disengagement

APPLICATIONS

 Instruments line shut off, instrument isolation, drain valve, specially designed for gas service and liquid applications

SPECIFICATIONS

Service: Gases and liquids compatible with wetted materials. End Connections: NPT.

Wetted Materials: 316 SS and PTFE packing.

Pressure Limits: 6000 psi (431 bar) @ 200°F (93°C). 4000 psi (276 bar) @ 464°F

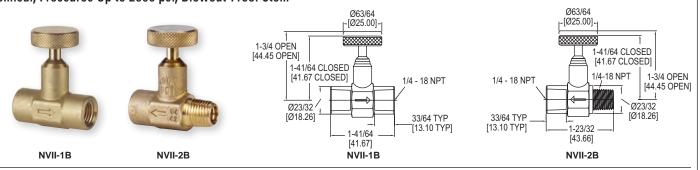
Temperature Limits: 464°F (240°C). Other Materials: Handle: 316 SS

MODEL CHART				
	Female x Female Model	Female x Male Model		
1/8" 1/4" 3/8" 1/2" 3/4" 1"	HNV-SSS31B HNV-SSS32B HNV-SSS33B HNV-SSS34B HNV-SSS35B HNV-SSS36B	HNV-SSS21B HNV-SSS22B HNV-SSS23B HNV-SSS24B HNV-SSS25B HNV-SSS26B		

MODEL NVII | W.E. ANDERSON™ BY DWYER

NEEDLE VALVES

Economical, Pressures Up to 2000 psi, Blowout-Proof Stem



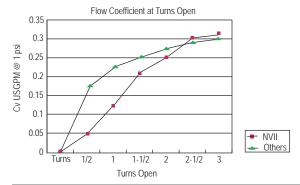
The **Model NVII Needle Valves** provide easy flow regulation in all applications, including shut off and throttling for pressure gages and instruments. With a one piece, hot forged brass body construction, years of maintenance-free service can be expected. The Model NVII, with its tamper-proof design and blowout-proof stem, provides excellent performance and reliability.

FEATURES/BENEFITS

- Pressures to 2000 psi
- One piece body construction
- Tamper proof design and blowout-proof stem

APPLICATIONS

• Instrument line shut off, instrument isolation, drain valve, and pressure gages



SPECIFICATIONS

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

End Connection Size: 1/4" NPT.

Pressure Limit: 2000 psi (138 bar) (CWP).

Wetted Materials: Valve body: Brass (CW617N); Retainer, handwheel: Brass (CW614N); O-ring: Fluoroelastomer.

Temperature Limits: -40 to 350°F (-40 to 176.7°C). (Warning: freezing of the fluid in the installation may severely damage the valve.)

Flow Coefficient: 0.31.

Weight: 0.22 lb.

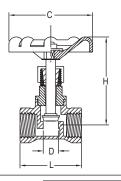
MODEL CHART		
Model Description		
NVII-1B NVII-2B	Needle valve (female x female) Needle valve (male x female)	

USA: California Proposition 65

△WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

HAND OPERATED GLOBE VALVE Low Cost, High Pressure Rating





Pipe	D	L	H (Open)	С
Size	in [mm]	in [mm]	in [mm]	in [mm]
1/4"	13/32 [10]	2-3/64 [52]	4-1/64 [102]	2-3/8 [60]
3/8"	15/32 [12]	2-3/64 [52]	4-1/64 [102]	2-3/8 [60]
1/2"	19/32 [15]	2-3/64 [52]	4-1/64 [102]	2-3/8 [60]
3/4"	25/32 [20]	2-3/8 [60]	4-7/16 [113]	2-3/4 [70]
1″	63/64 [25]	2-53/64 [72]	4-27/32 [123]	2-3/4 [70]
1-1/4"	1-1/4 [32]	3-5/32 [80]	5-53/64 [148]	3-5/32 [80]
1-1/2"	1-37/64 [40]	3-35/64 [90]	6-19/64 [160]	3-17/32 [90]
2″	1-31/32 [50]	4-11/64 [106]	7-3/32 [180]	3-15/16 [100]

The Series HGV Hand Operated Globe Valve is an economical and functional alternative to large actuator/control valve packages. Metal-to-metal seating ensures excellent flow control and shut-off service. The body and bonnet are each constructed of CF8M (316) SS for superb corrosion resistance and chemical compatibility.

FEATURES/BENEFITS

- Threaded ends conform to ANSI B 2.1, BS 21, DIN 259/2999, ISO 228
- SS inside screw, screwed bonnet, swivel disc integral seat, rising stem and hand wheel

APPLICATIONS

- · Compatible liquids and gases
- · Used for regulation of flow pipelines

SPECIFICATIONS

Service: Compatible liquids and gases. End Connections: Female NPT.

Pressure Limits: 725 psi (50.0 bar) from -20 to 200°F (-28.9 to 93.3°C); 500 psi (34.5 bar) at 300°F (148.9°C); 450 psi (31.0 bar) at 325°F (162.8°C); 100 psi (6.9 bar) at 350°F (176.7°C).

Wetted Materials: Body, bonnet, packing nut: CF8M (316) SS. disc, stem, retainer ring; Gland: 316 SS; Packing:

Temperature Limits: -20 to 356°F (-28.9 to 180°C)

Other Materials: Hand wheel: Cast iron; Plate: Aluminum; Wheel nut: 316 SS.

MODEL	MODEL CHART				
Model	Size	Cv Value	Model	Size	Cv Value
HGV00			HGV04		10.69
HGV01			HGV05		
HGV02	1/2"	2.46	HGV06	1-1/2"	25.2
HGV03	3/4"	5.76	HGV07	2″	47.1

SERIES BYS & SYS | W.E. ANDERSON™ BY DWYER

BRASS OR STAINLESS STEEL Y-STRAINERS

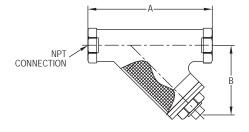
Cost Effective, Excellent Filtration, High Flow



BYS++



SYS



B 12 DI	MENSIONS	
NPT	Α	В
Size	in [mm]	in [mm]
1/4"	1-31/32 [50.04]	2-11/16 [68.07]
3/8"	1-31/32 [50.04]	2-11/16 [68.07]
1/2"	1-31/32 [50.04]	2-11/16 [68.07]
3/4"	2-23/64 [59.94]	3-59/64 [99.57]
1″	2-41/64 [67.06]	4-17/32 [115.06]
1-1/4"	3-3/16 [81.03]	5-25/64 [136.91]
1-1/2"	3-7/16 [87.12]	6-17/64 [159.00]
2″	4-19/64 [108.97]	7-31/64 [189.99]

SYS DI	SYS DIMENSIONS					
NPT	Α	В				
Size	in [mm]	in [mm]				
1/4"	2-33/64 [64.00]	1-27/32 [46.99]				
3/8"	2-33/64 [64.00]	1-27/32 [46.99]				
1/2"	2-33/64 [64.00]	1-27/32 [46.99]				
3/4"	3-1/16 [78.00]	2-15/64 [56.90]				
1″	3-35/64 [90.00]	2-41/64 [67.06]				
1-1/4"	4-11/64 [106.00]	2-53/64 [71.88]				
1-1/2"	4-11/16 [119.00]	3-5/32 [80.01]				
2″	5-33/64 [140.00]	3-21/32 [92.96]				

The Series BYS & SYS Brass or Stainless Steel Y-Strainers are a cost effective option for use in any type of industrial application. Versatile Y configuration and availability in a wide range of sizes allow for many different uses. Body, cap, and plug are made from either a high quality brass or stainless steel to ensure reliability. The seal is constructed of PTFE to ensure long service life. The stainless steel strainer provides excellent filtration to help prevent damage to valves, meters, etc. from rust and dirt, without sacrificing high flow characteristics.

FEATURES/BENEFITS

- Cost effective
- · Stainless steel strainer

APPLICATIONS

· Ideal for installations upstream to proect pumps, control valves, regulators, etc from rust, pipe scale dirt

SPECIFICATIONS

Service: Gases, steam and liquids compatible with wetted materials

End Connections: Female NPT Pressure Limits: See model chart.

Temperature Limits: -10 to 250°F (-23 to 121°C).

Wetted Materials: BYS: Valve body: Cast brass; Cap and plug: Brass; Screen: SS; Seal: PTFE; SYS: Valve body and cap: Cast 316 SS (CF8M); Plug and screen: 316 SS; Seal: PTFE.

MODEL	MODEL CHART				
Model	Pipe Size	Max. Pressure	Model	Pipe Size	Max. Pressure
BYS-00	1/4"	400 psi (27.6 bar)	SYS-00	1/4"	800 psi (55.2 bar)
BYS-01	3/8"	400 psi (27.6 bar)	SYS-01	3/8"	800 psi (55.2 bar)
BYS-02	1/2"	400 psi (27.6 bar)	SYS-02	1/2"	800 psi (55.2 bar)
BYS-03	3/4"	400 psi (27.6 bar)	SYS-03	3/4"	800 psi (55.2 bar)
BYS-04	1″	300 psi (20.7 bar)	SYS-04	1″	800 psi (55.2 bar)
BYS-05	1-1/4"	300 psi (20.7 bar)	SYS-05	1-1/4"	800 psi (55.2 bar)
BYS-06	1-1/2"	300 psi (20.7 bar)	SYS-06	1-1/2"	800 psi (55.2 bar)
BYS-07	2″	300 psi (20.7 bar)	SYS-07	2″	800 psi (55.2 bar)

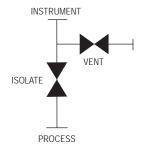
++USA: California Proposition 65

△WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

2-VALVE BLOCK MANIFOLDS Stainless Steel Body, NPT Connections







BBV-0F

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.

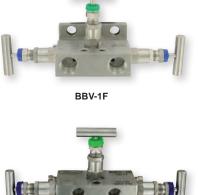
Pressure Limit: 6000 psi (400 bar). Temperature Limit: 464°F (240°C). Other Materials: Handle: 304 SS.

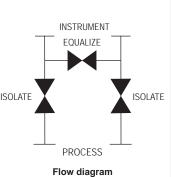
MODEL CHART			
Model	Model Description		
BBV-0F	Flanged 2-valve block manifold		
BBV-0N	2-valve block manifold		

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

RRV-1R

Service: Compatible liquids, gases, or steam.

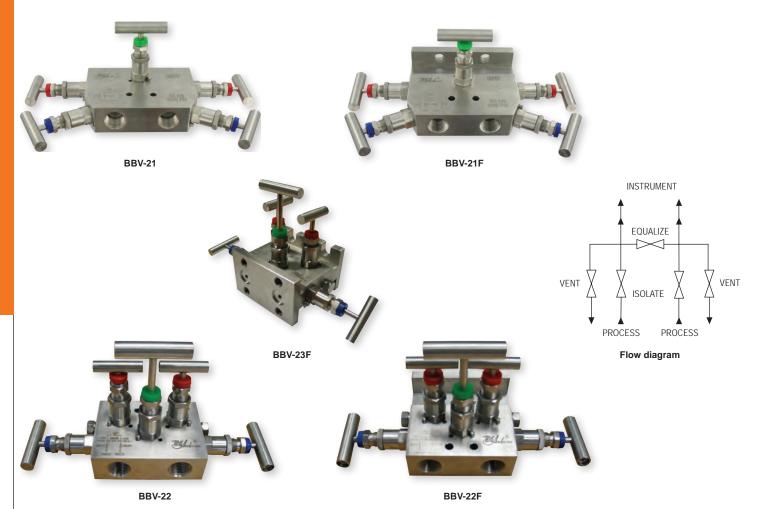
End Connections: BBV-1B: 1/4" NPT x 1/4" NPT; BBV-1: 1/2" NPT x 1/2" NPT BBV-1F: 1/2" NPT x DIN 19213 flange; BBV-1M: 1/2" NPT x DIN 19213 flange; BBV-1D: DIN 19213 flange x DIN 19213 flange.

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



Series BBV-25-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.

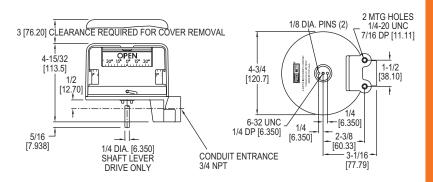
Pressure Limit: 6000 psi (400 bar). Temperature Limit: 464°F (240°C). Other Materials: Handle: 304 SS.

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					



SERIES QV | PROXIMITY® BY DWYER OUICK-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

MODEL CHART	DDEL CHART						
Model	Backlighting						
QV-210101	No						
QV-210111	Yes						
Note: 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 & UL approved but not for hazardous locations. Specify "EX" for hazardous location option. Consult factory for optional VI colors



Model QV mounted to an actuator

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								
Example	QV	-2	1	01	0	1		QV-210101
Series	Q۷							Quick-View® valve position indicator/switch
Number of		0						None*
Switches		1						One*
		2						Two*
		3						Three*
		4			L	L		Four*
Switch Type			0					No switches*
			1					10A mechanical snap switch
			2					1A mechanical gold contacts
			3					2A Proximity reed switch*
			5					5-25 VDC namur sensor 10-30 VDC inductive sensor
			6					10-30 VDC inductive sensor
Driving Style		\vdash	-	01	Н	H		Direct*
Driving Style				02				Lever*
				03				Namur*
Lighting					0	T		None*
Option					1			24-28 VDC bright white LED's
Visual						0		None
Indication						1		Standard (open closed)*
						2		Upside down (open closed)*
Additional							EX	
Options								II, Div. II Groups F & G.
*EX Explosion-proof option available								

EX. Explosion-proof option available.

Note: 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



multi turn



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 is a choice of 1 to 6 switch outputs of 14 varieties including inductive serisors, riight 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
- 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.

- applications

C. A
0.0

Mark Series mounted to an actuator

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		4 SPDT	Thru-shaft drive					
14AD0	4 SPDT `	Magnetic coupling	45VD0	2 SPDT and 4-20 mA	Thru-shaft drive					
15VD0	2 SPDT and 4-20 mA position	Magnetic coupling		position transmitter						
	transmitter		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

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.

SERIES MARK | PROXIMITY® BY DWYER POSITION INDICATORS/SWITCHES/TRANSMITTERS

Dwyer.

4 Mark 4, thru-shaft availa	ailable o ' signifie:		
Output Type 2 2 3 1 switch 2 2 switches 2 3 1 kD potentiometer 1/2%. Available with switches, see note below." A A 3 1 kD potentiometer 1/2%. Available with switches, see note below." A A 3 1 kD potentiometer Available with switches, see note below." A A 3 1 kD potentiometer Available with switches, see note below." A A 3 1 kD potentiometer Available with switches, see note below." A A 3 1 kD potentiometer Available with switches, see note below." A A 3 1 kD potentiometer Available with switches, see note below." A A 3 1 kD potentiometer Available with switches, see note below." A A 3 1 kD potentiometer Available with switches, see note below." A A 4 kD potentiometer Available with switches, see note below." A A 4 kD potentiometer Available with switches, see note below." A A 4 kD potentiometer Available with switches, see note below." A A 4 kD potentiometer Available with switches, see note below." A A 4 kD potentiometer Available with switches, see note below." A A 4 kD potentiometer Available with switches, see note below." A A 4 kD potentiometer Available with switches, see note below." A A 4 kD potentiometer Available with switches, see note below." A A 4 kD potentiometer Available with switches, see note below." A A 4 kD potentiometer Available with switches, see note below." A A 4 kD potentiometer Available with switches, see note below." A A 4 kD potentiometer Available with switches, see note below." A A 4 kD potentiometer Available with switches, see note below." A A 4 kD potentiometer Available with switches, see note below." A A 4 kD potentiometer Available with switches, see note below." A A 4 kD potentiometer Available with switches, see note below." A 4 kD potentiometer Available with switches, see note below." A 4 kD potentiometer Available with switches, see note below." A 4 kD potentiometer Available with switches, see note below." A 4 kD potentiometer Available with switches, see note below." A 4 kD potentiometer Available with switches, see note below." A 4 kD potentiometer Available with sw	ailable w	avail	a
Dulput Type	rrespond		
Output Type 2 1 switch 2 switches 3 substitution 4 substitution 4 substitution 4 substitution 5 substitution 4 substitution 5 substitution 5 substitution 5 substitution 5 substitution 6 substitution 6 substitution 6 substitution 6 substitution 6 substitution 6 substitution 7 substitution 8 substitution 9 subst			
2 2 2 2 2 2 2 2 2 2	3	1	1
1	 A		
1	A		
Skip	Α		
10 kg potentiometer. Available with switches, see note below."	A	A	1
320 4 Switch Switches Switches Swe note below." A Switches Switches Swe note below." A Switches Switches Swe note below." A Switches Swe note below." A Switches Switches Swe note below." A Switches S	A	A	1
Transmitter 1 kD potentionmeter 1/2%, 4-20 mA Available with switches, see note below.* A Fransmitter 1 kD potentionmeter 1-4%, available with switches, see note below.* A Se-interface and 1 switch, Available with switches, see note below.* A Se-interface and 1 switch, Available with switches, see note below.* A Se-interface and 1 switch, Available with switches, see note below.* A Se-interface and 1 switch, Available with switches, see note below.* A Series of the see of the s	Α	A	Ā
Transmitter 1 kD potentiometer 1/4%, Available with switches, see note below.* A As-interface and 1 switch. Available with switches, see note below.* A As-interface and 1 switch. Available with switch types 8, 1, R, W, A As-interface and 2 switch. Available with switch types 8, 1, R, W, A As-interface and 2 switch. Available with switch types 8, 1, R, W, A As-interface and 2 switch. Available with switch types 8, 1, R, W, A As-interface and 2 switch. Available with switch types 8, 1, R, W, A As-interface and 2 switch. Available with switch types 8, 1, R, W, A As-interface and 2 switch. Available with switch types 8, 1, R, W, A As-interface and 2 switch. Available with switch types 8, 1, R, W, A As-interface and 2 switch. Available with switch types 8, R, W, A As-interface and 2 switch. Available with switch types 8, R, W, A As-interface and 2 switch. Available with switch types 8, R, W, A As-interface and 2 switch. Available with switch types 8, R, W, A As-interface and 2 switch. Available with switch types 8, R, W, A As-interface and 2 switch. Available with switch types 8, R, W, As-interface and 2 switch. Available with switch types 8, R, W, As-interface and 2 switch. Available with switch types 8, R, W, As-interface and 2 switch. Available with switch types 9, R, W, As-interface and 2 switch. Available with switch types 9, R, W, As-interface and 2 switch. Available with switch types 9, R, W, As-interface and 2 switch. Available with switch types 9, R, W, As-interface and 2 switch. Available with switch types 9, R, W, As-interface and 2 switch. Available with switch types 9, R, W, As-interface and 2 switch. Available with switch types 9, R, W, As-interface and 2 switch. Available with switch types 9, R, W, As-interface and 2 switch. Available with switch types 2, R, W, As-interface and 2 switch. Available with switch types 2, R, W, As-interface and 2 switch. A As interface and 2 switch. Available with switch types 2, R, W, As-interface and 2 switch. Available with switch types 2, R, W, As-interface and	A	A	1
A AS-interface and 1 swirch. Available with swirches, see note below." A AS-interface and 1 swirch. Available with swirch types B, I, R, W A AS-interface and 1 swirch. Available with swirch types B, I, R, W A A AS-interface and 1 swirch. Available with swirch types B, I, R, W A A A AS-interface and 2 swirches. Available with swirch types B, I, R, W A A A A A A A A A	A	A	1
A S-interface and 2 switches, Available with switch types B, I. R, W. A	Α	1	- 11
Switch Type	A 		
Sylot Type and Rating B SPDT snap, rated: 15 A @ 125/250/480 VAC (-); 1/8 hp @ 125 VAC (-), 1/4 hp @ 250 VAC (-), 1/2 A @ 125 VAC (-			
B	Α	Α	F
C		Δ	
D DPDT snap, rated: 10 A @ 125/250 VAC (-), 0.3 A @ 125 VDC (), 0.15 A @ 250 VDC (), A SPDT pold contact snap, rated: 14 A @ 125 VAC (-). A SPDT magnetic blow-out, rated: 10 A @ 125 VAC (-). A NAMMR inductive sealed snap, rated: 14 @ 125 VAC (-). A NAMMR inductive seasors. 15 Am Am 2 ® 5-28 VDC (), 1/4 h p @ 125 VAC (-)/VDC (), A SPDT magnetic blow-out, rated: 10 A @ 125 VAC (-)/VDC (), 1/4 h p @ 125 VAC (-)/VDC (), A SPDT magnetic blow-out, rated: 10 A @ 125 VAC (-), 2 A @ 24 VDC (), A SPDT help integrated: 4 A @ 125/250 VAC (-), 1/2 A @ 24 VDC (), A SPDT help integrated: 4 A @ 125/250 VAC (-), 1/2 A @ 24 VDC (), A SPDT snap, rated: 10 A @ 125/250 VAC (-), 1/3 h p @ 125/250 VAC (-), 1/2 A @ 125/250 VAC (-), SPDT snap, rated: 10 A @ 125/250 VAC (-), 1/3 h p @ 125/250 VAC (-), 1/2 A @ 125/250 VAC (-), 1	A		
H NAMUR inductive sealed snap, rated: 1 A @ 125 VAC (-). NAMUR inductive seasor. 1 5 m Am x@ 5-25 VDC (:=). A NAMUR inductive seasor. 1 5 m Am x@ 5-25 VDC (:=). A NO switches SPDT magnetic blow-out, rated: 10 A @ 125 VAC (-), VDC (:=), 1/4 hp @ 125 VAC (-)/VDC (:=). A NO switches SPDT hermetically sealed reed, rated: 2 A @ 125 VAC (-), 2 A @ 24 VDC (:=). A SPDT snap, rated: 4 A @ 125/250 VAC (-), 1/3 hp @ 125/250/480 VAC (-). A SPDT snap, rated: 10 A @ 125/250 VAC (-), 1/3 hp @ 125/250/480 VAC (-), 1/4 A @ 250 VDC (:=), 1/4 A @ 125 VAC (-) (rungslen). A SPDT snap, rated: 10 A @ 125/250 VAC (-), 1/3 hp @ 125/250 VAC (-), 1/2 A @ 125 VDC (:=), 1/4 A @ 250 VDC (:=), 1/4 A @ 125 VAC (-) (rungslen). A A SPDT snap, rated: 10 A @ 125/250 VAC (-), 1/3 hp @ 125/250 VAC (-), 1/2 A @ 125 VDC (:=), 1/4 A @ 250 VDC (:=	Α		
NAMUR inductive sensor. 15 mA max @ 5-25 VDC (:=:), 1/4 hp @ 125 VAC (-)/VDC (:=:), A SPDT magnetic blow-out, rated: 10 A @ 125 VAC (-)/VDC (:=:), 1/4 hp @ 125 VAC (-)/VDC (:=:), A No switches SPDT harmetically sealed reed, rated: 2 A @ 125 VAC (-), 2 A @ 24 VDC (:=:), A SPDT snap, rated: 4 A @ 125/250 VAC (-), 1/2 hp @ 125/250/480 VAC (-), SPDT high temperature snap, 250°F (121°C) continuous, rated: 5 A @ 125/250/480 VAC (-), SPDT high temperature snap, 250°F (121°C) continuous, rated: 5 A @ 125/250/480 VAC (-), 1/4 A @ 250 A VDC (:=:), 4 A @ 125 VAC (-), 1/3 hp @ 125/250 VAC (-), 1/2 A @ 125 VDC (:=:), 1/4 A @ 250 A VDC (:=:), 4 A @ 125 VAC (-), 1/3 hp @ 125/250 VAC (-), 1/2 A @ 125 VDC (:=:), 1/4 A @ 250 A VDC (:=:), 4 A @ 125 VAC (-), 1/3 hp @ 125/250 VAC (-), 1/2 A @ 125 VDC (:=:), 1/4 A @ 250 A VDC (:=:), 4 A @ 125 VAC (-), 1/3 hp @ 125/250 VAC (-), 1/2 A @ 125 VDC (:=:), 1/4 A @ 250 A VDC (:=:), 4 A @ 125 VAC (-), 1/3 hp @ 125/250 VAC (-), 1/2 A @ 125 VDC (:=:), 1/4 A @ 250 A DC A D	Α	A	1
M		A	/
R S SPDT hermetically sealed reed, rated: 2 A @ 125 VAC (-), 2 A @ 24 VDC (). A A SPDT snap, rated: 4 A @ 125/250 VAC (-). A SPDT snap, rated: 10 A @ 125/250 VAC (-). A SPDT snap, rated: 10 A @ 125/250 VAC (-). A SPDT snap, rated: 10 A @ 125/250 VAC (-). A SPDT snap, rated: 10 A @ 125/250 VAC (-). A SPDT snap, rated: 10 A @ 125/250 VAC (-). A SPDT snap, rated: 10 A @ 125/250 VAC (-). A SPDT snap, rated: 10 A @ 125/250 VAC (-). A SPDT snap, rated: 10 A @ 125/250 VAC (-). A SPDT snap, rated: 10 A @ 125/250 VAC (-). A A SPDT snap, rated: 10 A @ 125/250 VAC (-). A A SPDT snap, rated: 10 A @ 125/250 VAC (-). A A A SPDT snap, rated: 10 A @ 125/250 VAC (-). A A A SPDT snap, rated: 10 A A A A SPDT snap, rated: 10 A A A A A A A A A A	A	A	F
S	A 	Α	1
V			
VDC(A	A	A
Driving Method A A A A A Care to ry oke drive with thout visual indicator. A A A A Care to ry oke drive with thout visual indicator. A A Care to ry oke drive with visual indicator. A A Care to ry oke drive with visual indicator. A A Care to ry oke drive with visual indicator. A A Care to ry oke drive with visual indicator. A A Care to ry oke drive with visual indicator. A A Care to ry oke drive with visual indicator. A A Care to ry oke drive with visual indicator. A A A Care to ry oke drive with visual indicator. A A A Care to ry oke drive with visual indicator. A A A A A A A A A	Α	A	' '
Direct or yoke drive with visual indicator. A Direct or yoke drive with visual indicator. A Lever drive (shaft projection) without visual indicator. A Lever (shaft projection) without visual indicator. A A A A A A A A A	Α	Α	A
E L Direct or yoke drive with visual indicator, single window. A Lever drive (shaft projection) without visual indicator. A A A Lever (shaft projection) without visual indicator. A A A A A A A A A	A		
Lever drive (shaft projection) with visual indicator.	A		
Aluminum, painted black Aluminum, painted white epoxy with SS trim A Aluminum, painted white epoxy with SS trim A Aluminum, painted (color not yet specified) A Aluminum, painted (color not with suffied) A Aluminum, painted (color not with suffied) A Aluminum, painted (color not with suffied) A Alumin	Α	Α	A
1	A		\rightarrow
Aluminum, painted (color not yet specified) Cast 316 stainless steel Aluminum, painted (color not yet specified) Cast 316 stainless steel Aluminum, painted (color not yet specified) Aluminum, painted (color not yet specified) C1 C2 Double cam (not on Mark 3) FKM seals Junction package with one 1/2" NPT female conduit connection and terminal strip. Jacution package with two 1/2" NPT female conduit connection and terminal strip. A Junction package with two 1/2" NPT female conduit connection and terminal strip. A Junction package with two 1/2" NPT female conduit connection and terminal strip. A Junction package with two 1/2" NPT female conduit connection and terminal strip. A Markin threaded solenoid valve (Must be ordered with J1 option). A Markin threaded conduit connection, M25 X 1.5 (M20 X 1.5 for optional J1 and J2 connections). A Part output type except 91: Directive 2014/34/EU, KEMA 03ATEX2391 X,	A	1	- 1
Options Cast 316 stainless steel A Aluminum, painted (color not yet specified) A Aluminum, painted (color not yet specified) A Aluminum, painted (color not yet specified) A Aluminum, painted (color not yet specified) A Aluminum, painted (color not yet specified) A Aluminum, painted (color not yet specified) A Aluminum, painted (color not yet specified) A Aluminum, painted (color not yet specified) A Aluminum, painted (color not yet specified) A Aluminum, painted (color not yet specified) A Aluminum, painted (color not yet specified) A Aluminum, painted (color not yet specified) A Aluminum, painted (color not yet specified) A Aluminum, painted (color not yet specified) A Aluminum, painted (color not yet specified) A A Aluminum, painted (color not yet specified) A Aluminum, painted (color not yet specified) A A Aluminum, painted (color not yet specified) A A Aluminum, painted (color not yet specified) A Aluminum, painted (color not yet specified) A A Aluminum, painted (color not yet specified) Aluminum, painted (co	Α		
7 thru 20	A		
Options C1 Long dwell cam (not on Mark 3) C2 Double cam (not on Mark 3) C2 FKM FKM seals J1 Junction package with one 1/2" NPT female conduit connection and terminal strip. A Junction package with two 1/2" NPT female conduit connection and terminal strip. SV1 1 attached solenoid valve (Must be ordered with J1 option). A A MT Metric threaded conduit connection, M25 X 1.5 (M20 X 1.5 for optional J1 and J2 connections). A A MY Metric threaded conduit connection, M25 X 1.5 (M20 X 1.5 for optional J1 and J2 connections). A Any output type except 91: Directive 2014/34/EU, KEMA 03ATEX2391 X,	Â		
FKM FKM FKM Seals Junction package with one 1/2" NPT female conduit connection and terminal strip. A Junction package with two 1/2" NPT female conduit connection and terminal strip. A Junction package with two 1/2" NPT female conduit connection and terminal strip. A Junction package with two 1/2" NPT female conduit connection and terminal strip. A A Junction package with two 1/2" NPT female conduit connection and terminal strip. A A Junction package with two 1/2" NPT female conduit connection and terminal strip. A A A A A A A A A		1	- 1
J1 Junction package with one 1/2" NPT female conduit connection and terminal strip. Junction package with two 1/2" NPT female conduit connection and terminal strip. SV1 attached solenoid valve (Must be ordered with J1 option). A A Metric threaded conduit connection, M25 X 1.5 (M20 X 1.5 for optional J1 and J2 connections). Any output type except 91: Directive 2014/34/EU, KEMA 03ATEX2391 X,	 A	1	- 1
Junction package with two 1/2" NPT female conduit connection and terminal strip. A A SV1 A SV2 B A A A SV2 B A Any output type except 91: Directive 2014/34/EU, KEMA 03ATEX2391 X, C € 2813 ⓒ II 2G Ex db IIC T4 Ga. Output type 91: Directive 2014/34/EU, KEMA 03ATEX1392 X, C € 2813 ⓒ II 1G Ex ia IIC T4 Ga. Output type except 91: Directive 2014/34/EU, KEMA 03ATEX2391 X, C € 2813 ⓒ II 2G Ex db IIC T4 Gb. Any output type except 91: Directive 2014/34/EU, KEMA 03ATEX1392 X, C € 2813 ⓒ II 1G Ex ia IIC T4 Ga. Output type 91: Directive 2014/34/EU, KEMA 03ATEX1392 X, C € 2813 ⓒ II 1G Ex ia IIC T4 Ga. Output type 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. Any output type 91: IECEx DEK 11.0056X, Ex db IIC T4 Ga. Output type 91: IECEx DEK 11.0061X Ex ia IIC T4 Ga. Output type 91: IECEx DEK 11.0061X Ex ia IIC T4 Ga. Output type 91 with suffix B directive 2014/34/EU, KEMA 03ATEX1392 X, C € 2813 ⓒ II 2G Ex db IIC T4 Gb. A A Output type 91 with suffix B directive 2014/34/EU, KEMA 03ATEX1392 X, C € 2813 ⓒ II 2G Ex db IIC T4 Gb. A A Output type 91 with suffix B directive 2014/34/EU, KEMA 03ATEX1392 X, C € 2813 ⓒ II 2G Ex db IIC T4 Gb. A A Dutput type 91 with suffix B directive 2014/34/EU, KEMA 03ATEX1392 X, C € 2813 ⓒ II 2G Ex db IIC T4 Gb. A A Dutput type 91 with suffix B directive 2014/34/EU, KEMA 03ATEX1392 X, C € 2813 ⓒ II 2G Ex ia IIC T4 Ga. A A Dutput type 91 with suffix B directive 2014/34/EU, KEMA 03ATEX1392 X, C € 2813 ⓒ II 2G Ex ia IIC T4 Ga. A A Dutput Type 91 with suffix B directive 2014/34/EU, KEMA 03ATEX1392 X, C € 2813 ⓒ II 2G Ex ia IIC T4 Ga. A A Dutput Type 91 with suffix B directive 2014/34/EU, KEMA 03ATEX1392 X, C € 2813 ⓒ II 2G Ex ia IIC T4 Ga. A A Dutput Type 91 with suffix B directive 2014/34/EU, KEMA 03ATEX1392 X, C € 2813 ⓒ II 2G Ex ia IIC T4 Ga. A A Dutput Type 91 with suffix B directive 2014/34/EU, KEMA 03ATEX1392 X, C € 2813 ⓒ II 2G Ex ia IIC T4 Ga. A A Dut	A		
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). Any output type except 91: Directive 2014/34/EU, KEMA 03ATEX2391 X,	Α	Α	F
MT Metric threaded conduit connection, M25 X 1.5 (M20 X 1.5 for optional J1 and J2 connections). Any output type except 91: Directive 2014/34/EU, KEMA 03ATEX2391 X,		A	1
B	A		
Selected. Output type 91: Directive 2014/34/EU, KEMA 03ATEX2391 X,	Α	Α	
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LB Output type 91 with suffix B directive 2014/34/EU, KEMA 03ATEX2391 X,	 A	A	1
(-40°C ≤ Tamb ≤ 80°C). Battery not included. LB Output Type 91 with suffix IS directive 2014/34/EU, KEMA 03ATEX1392 X, (€ 2813 () II 2G Ex ia IIC T4 Ga A 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. A		Α	A
		А	
		_	
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PT Paper tag STP Steinless steel tag riveted	A	1	- 1
STR Stainless steel tag riveted A STW Stainless steel tag wired A	A	A	

*Note: Mark 1 and 4 potentiometer and transmitter outputs will have no switches when ordered with switch type 0; 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.

SERIES MARK | PROXIMITY® BY DWYER



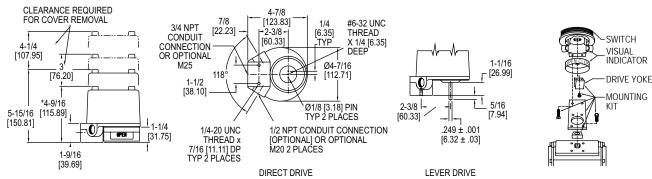








POSITION INDICATORS/SWITCHES/TRANSMITTERS



For Models 11, 12, 41 & 42

SPECIFICATIONS

Mark 1, 3, and 4 with Potentiometer

Wark 1, 3, and 4 with Potentiometer

Accuracy: ± 0.5% of full span. Optional ± 0.25% of full span.

Temperature Limits: -40 to 176°F (-40 to 80°C).(ATEX flameproof, -B suffix and IECEx flameproof, -IE suffix, rated -40 to 145°F (-40 to 63°C) for switch types A, G, M, O, R, S, T, V, or W, -13 to 145°F (-25 to 63°C) for switch types B, D, or I.; ATEX intrinsically safe, -IS suffix and IECEx intrinsically safe, -II suffix, rated -13 to 104°F (-25 to 40°C) for switch types I, -40 to 104°F (-40 to 40°C) for switch types O, R, S, V, or W.

Power Rating: 1.5 watt maximum. Output Signal: 1000 Ω standard. Optional 2000, 5000, 10000, or 20000 Ω . Zero and Span Adjustments: Span trim pot with 2000 Ω adjustment. No zero

Rotational Travel: Mark 1 and 4: Minimum: 0°, Maximum: 340°. Mark 3: 0 to 10 revolutions.

Mark 1, 3, and 4 with Transmitter

Accuracy: ± 0.5% of full span. Optional ± 0.25% of full span.

Temperature Limits: -40 to 176°F (-40 to 80°C). (ATEX flameproof, -B suffix and IECEx flameproof, -IE suffix, rated -40 to 145°F (-40 to 63°C) for switch types A, G, M, O, R, S, T, V, or W, -13 to 145°F (-25 to 63°C) for switch types B, D, or 1; ATEX intrinsically safe, -IS suffix and IECEx intrinsically safe, -II suffix, rated -13 to 104°F (-25 to 40°C) for switch type I, -40 to 104°F (-40 to 40°C) for switch types O, R, S, V, or W.).

Power Requirements: 5-30 VDC.

Position Indicators/ Switches/Transmitter

Current Consumption: 50 mA.

Output Signal: 4-20 mA.

Zero and Span Adjustments: Trim pots for adjusting both. Mark 1 and 4: Span is adjustable from 50 to 300°. Mark 3: Span is adjustable from 1.5 to 8.5 revolutions.

Conduit Connection: 3/4" female NPT standard. Optional one or two 1/2" female NPT. M25 X 1.5 and M20 X 1.5 optional.

Rotational Travel: Mark 1 and 4: Minimum: 50°, Maximum: 300°. Mark 3:

Minimum: 1.5 revolutions, Maximum: 8.5 revolutions.

Mark 1 and 4 Transmitter with HART® communication

Accuracy: ± 0.5% of full span. Optional ± 0.25% of full span.

Temperature Limits: 40 to 176°F (-40 to 80°C). (ATEX flameproof, -B suffix and IECEx flameproof, -IE suffix, rated -40 to 145°F (-40 to 63°C) for switch types A, G, M, O, R, S, V or W, -13 to 145°F (-25 to 63°C) for switch types B, D or I; ATEX intrinsically safe, -IS suffix and IECEx intrinsically safe, -II suffix, rated -40 to 104°F (-40 to 40°C) for switch types O, R, S, V or W; -13 to 104°F (-25 to 40°C) for switch

type I.).

Power Requirements: 8-30 VDC.

Current Consumption: 21 mA.

Output Signal: 4-20 mA.

HART® Receive Impedance: Rx = $500 \text{ k}\Omega$; Cx = 2500 pF. Zero and Span Adjustments: Pushbuttons or HART® communication master for setting both. Mark 1 and 4: Span is adjustable from 0 to 330°. Mark 3: Span is adjustable from 1.5 to 8.5 revolutions.

Conduit Connection: 3/4″ female NPT standard. Optional one or two 1/2″ female

NPT. M25 X 1.5 and M20 X 1.5 optional.

Rotational Travel: Mark 1 and 4: Maximum: 330°.

Mark 1 and 4 Transmitter with WirelessHART® communication

Accuracy: ±0.5% of full span. Optional ±0.25% of full span.

Temperature Limits: -40 to 158°F (-40 to 70°C). ATEX flameproof, -B suffix and IECEx flameproof, -IE suffix: rated -40 to 145°F (-40 to 63°C). ATEX intrinsically safe, -IS suffix and IECEx intrinsically safe, -IS suffix and IECEx intrinsically safe, -II suffix: rated -40 to 176°F (-40 to 80°C).

Power Requirements: 8-30 VDC. Current Consumption: 50 mA max. Power Output: +10 dBm (10 mW). Operating Frequency: 2400 to 2483.5 MHz.
Operating Channels: 15.
Sensitivity: -85dB.

Zero and Span Adjustments: Pushbuttons or WirelessHART® communication

master for setting both. Span is adjustable from -160 to 160°. **Conduit Connection:** Two 1/2″ female NPT, M20 X 1.5 optional.

Rotational Travel: Mark 1 and 4: Maximum: 320°

SPECIFICATIONS

Product Ratings:

Weatherproof and flameproof. NEMA 1, 2, 3, 3R, 3S, 4, 4X, 6, 7, 9, 12, 13.

UL rated: Class I, Div. 1 & 2, Groups B, C, D (Some units available for Group A, consult factory); Class II, Div. 1 & 2, Groups E, F, and G.

CSA rated: Class I, Div. 1 & 2, Groups A, B, C, D; Class II, Div. 1 & 2, Groups E, F, and G. Submersible to 15 meters (IP68); It is up to the end user to source the proper fittings to ensure a watertight seal.

ATEX Compliant

ATEX Compliant.

-B suffix, any Output Type except 91: Directive 2014/34/EU, KEMA 03ATEX2391 X, C € 2813 € Il 2G Ex db IIC T6 Gb for -25°C/-40°C/-50°C ≤ Tamb ≤ 63°C and T5 for -25°C/-40°C/-50°C ≤ Tamb ≤ 63°C, optional wording depending on output and switch type selected. Compliant per EN 60079-0:2012+A11:2013 and EN 60079-

-B suffix, Output Type 91, with or without -LB suffix: Directive 2014/34/EU, KEMA 03ATEX2391 X, **C €** 2813 ♠ II 2G Ex db ib IIC T4 Gb for -40°C ≤ Tamb ≤ 63°C . Compliant per EN 60079-0:2012 + A11:2013, EN 60079-1:2014 and EN 60079-11:2012.

-IS suffix, any Output Type except 91: Directive 2014/34/EU, KEMA 03ATEX1392 X, **(¢** 2813 (x) II 1G Ex ia IIC T4 Ga. Compliant per EN 60079-0:2012 + A11: 2013 and EN 60079-11:2012.

IECEx Compliant

...LE suffix, any Output Type except 91:IECEx DEK 11.0056X Ex db IIC T6 Gb for -25°C/-40°C/-50°C ≤ Tamb ≤ 63°C and T5 for -25°C/-40°C/-50°C ≤ Tamb ≤ 63°C

optional wording depending on output and switch type selected. Compliant per IEC 60079-0:2011 and IEC 60079-1:2014.
-IE suffix, Output Type 91, with or without -LB suffix: IECEx DEK 11.0056X, Ex db ib IIC T4 Gb for -40° ≤ Tamb ≤ 63°C. Compliant per IEC 60079-0:2011, IEC 60079-1:2014 and IEC 60079-11: 2011.

-II suffix, any Output Type except 91: IECEx DEK 11.0061X Ex ia IIC T4 Ga. Compliant per IEC 60079-0:2011, IEC 60079-11:2011, and IEC 60079-26:2014.
-II suffix, Output Type 91, with or without -LB suffix: DEK 11.0061X Ex ia IIC T4 Ga. Compliant per IEC 60079-0:2014, and IEC 60079-11:2011.

Electrical Connections: Screw terminal. Optional factory sealed leads that are 36"

(914.4 mm) of 16 AWG.

Conduit Connection: Standard: one 3/4" female NPT; optional one to two 1/2" female NPT; WirelessHART® models: two 1/2" female NPT; Optional: M25 X 1.5 or M20 X 1.5 connections may be supplied in lieu of 3/4" and 1/2" female NPT for all models

Mounting Orientation: Not position sensitive. Weight: 4 to 6 lb (1.5 to 3.0 kg). Operational Life: Over 10,000,000 cycles. Maximum Altitude: 2000 meters.

Mark 1, 3 and 4 with Switch Outputs
Temperature Limits: -58 to 176°F (-50 to 80°C). Switch Type C rated to 350°F (176°C) for 600 hours, Switch Type T rated to 250°F (121°C) continuous. (ATEX flameproof, -B suffix and IECEx flameproof, -IE suffix, rated -58 to 145°F (-50 to 63°C) for switch type A, G, H, T, or M, -40 to 145°F (40 to 63°C) for switch type O, R, S, V, or W, -13 to 145°F (-25 to 63°C) for switch type B, D, I, or AS Interface; ATEX intrinsically safe, -IS suffix and IECEx intrinsically safe, -II suffix, rated -13 to 104°F (-25 to 40°C) for switch type D or I, -40 to 104°F (-40 to 40°C) for switch type R, V, or W, or -58 to 104°F (-50 to 40°C) for switch type A, G, or H.).

Switch Type: See page reference below.

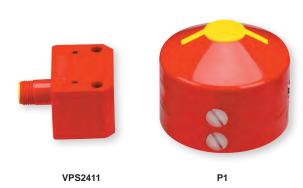
Electrical Rating: See page reference below.

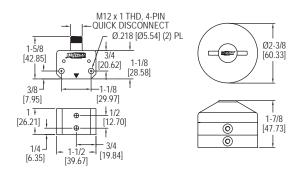
Set Point Adjustment: Mark 1 and 4: 5 to 360°.

HART® is a registered trademark of Hart Communication Foundation

● Switch Type: See page 435 (Series Mark) @Electrical Rating: See page 435 (Series Mark)

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





VPS2411 **P**1

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.



Model VPS and P1 mounted on an actuator

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		
	Description	
VPS2411	/PS2411 Valve position sensor	
	Valve position target	
VIP82	Quick disconnect cable	



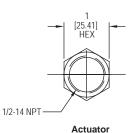


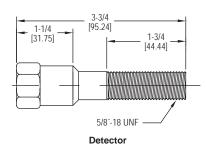
DETECTOR POSITION SENSORSReliable Magnetic Point Sensor, Stainless Steel Housing, AC or DC



Standard target with DT1060 H

High strength target with DT1160 (3/8-16 UNC X 3/4") (1/2-13 UNC X 3/4")





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

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)	

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.

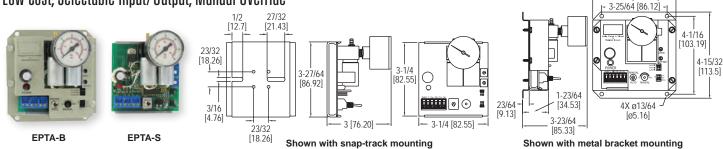
Conduit: 1/2"-14" female NPT.

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

Agency Approvals: CSA, cULus.

ELECTRO-PNEUMATIC TRANSDUCERS

Low Cost, Selectable Input/Output, Manual Override



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

AP	PLI	CA	ΓΙΟΙ	NS

· Pneumatic dampers and valve actuators

SPECIFICATIONS

Service: Clean dry air or any inert gas. Input Signal: DC current (4-20 mA) or DC voltage (0-5/0-10/0-15).

Input Impedance: Current: 250 Ω; Voltage: Infinite.

Output Signal: 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). Feedback Output: 0-5 VDC.

Air Supply: 25 psig (172 kPa) max. Air Flow: 750 scim.

Air Consumption: 0 scim normal operation, fail-safe model vents to 0 psi

on power loss. Accuracy: ±1.0% FS @ room temperature; ±2.0% FS @ 32 to 120°F (0 to 48.8°C).

4-5/16 [109.54]

Supply Voltage: 24 VDC (+10%/-5%) or 24 VAC (±10%) 50/60 Hz. Supply Current: 180 mA max, 200 mA max on fail-safe model.

Temperature Limits: Operating: 32 to 120°F (0 to 48.8°C); Storage: -20 to 150°F (-6.7 to 65.6°C).

Operating Humidity Range: 5 to 95%, non-condensing.

Pressure Connections: 1/4" OD (polyethylene tubing optimum). **Electrical Connections:** Plug-in block

terminal type with 5 mm pin spacing. Wire Size: Up to one 14 AWG per terminal.

Weight: EPTA-S0: 6.9 oz. (196 g); EPTA-S1: 9.2 oz. (261 g); EPTA-B: 14.5 oz. (411 g).

MODEL C	MODEL CHART			
Model Description				
EPTA-S0 Standard snap-track mount transducer				
EPTA-B0 Standard metal bracket mount transduc				
EPTA-S1	Snap-track mount transducer with fail-safe			
FPT∆-R1	Metal bracket mount transducer with fail-safe			

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

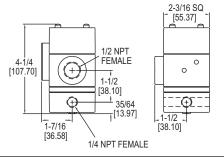
USA: California Proposition 65

⚠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

Input

Field reversible

MODEL CHART

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

SPECIFICATIONS

Service: Oil free, clean dry air filtered to 40 microns Input Signal: 4-20 mA

Input Impedance: IP-42: 180 Ω ; IP-43 and IP-44: 220 Ω .

Air Pressure: Min: 3 psig (21 kPa) above max output; Maximum: 100 psig (700

Linearity: < ±0.75% of span. Hysteresis: < 1% of span.
Repeatability: < 0.5% of span.

Supply Pressure Sensitivity: < ±0.1% of span per psig (< ±0.15% of span per 10

kPa).

Power Requirements: Loop-powered.

Temperature Limits: -20 to 140°F (-30 to 60°C).

Pressure Connections: 1/4" female NPT.

Electrical Connection: 1/2" female NPT.

Air Consumption: 0.03 SCFM (0.5 m3/h) typical.

Output Capacity: 4.5 SCFM (7.6 m3/h ANR) at 25 psig (175 kPa) supply; 12

SCFM (20 m3/h) at 100 psig (700 kPa) supply.

Relief Capacity: 2 SCFM (3.4 m³/h) at 5 psig (35 kPa) above 20 psig (140 kPa) set

point.
Weight: 2.1 lb (0.94 kg).
Agency Approvals: CE, FM.



kPa Model Ranges psi 4-20 mA 3 to 15 20 to 100 4-20 mA 3 to 27 20 to 185 4-20 mA 6 to 30 40 to 200 **IP-42** IP-43 IP-44

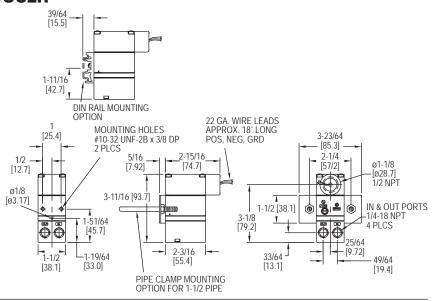
Output Range



RRENT 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

Current to Pressure

- FM and CSA approved for intrinsically safe
- · Designed for remote or panel mounting
- · Integral volume booster

SERIES 2800 FEATURES/BENEFITS

NEMA 4X enclosure

MODEL CHART

- · FM and CSA approved for intrinsically safe
- · Vibration and position insensitive
- · Input and output ports on front and back

APF	LIC	ATI	ONS

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

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.

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)

ACCES	ACCESSORIES		
Model Description			
A-180	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		

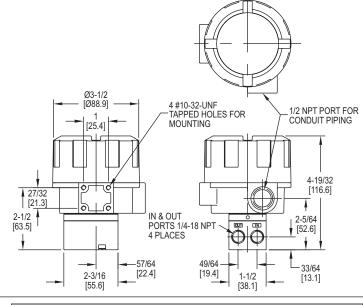




CURRENT TO PRESSURE TRANSDUCER Intrinsically Safe, Explosion-Proof, NEMA 4X Enclosure







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		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)	

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

OPTIONS

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.

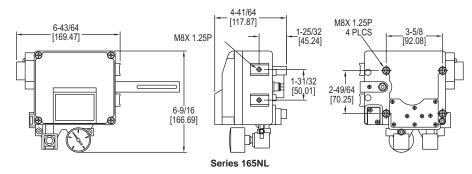
FM Ratings: Explosion-proof for Class I Division 1, Groups B, C, and D. T6, Dust Ignitionproof for Class I, Division 1, Groups E, F, and G, T6; Intrinsically safe for Class I, II, and III, Division 1, Groups C, D, E, F, and G, T4 hazardous (classified) locations and intrinsically safe for Class I, Zone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

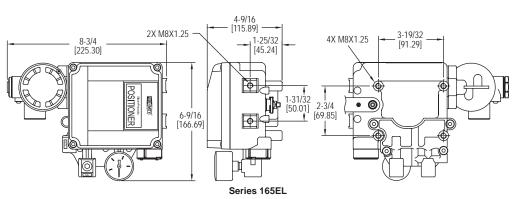
Current to Pressure Transducers

PRECISOR® II PNEUMATIC AND ELECTRO-PNEUMATIC POSITIONERS Linear Operation, Field Selectable Cam Design, 316 SS Models









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	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

Input Impedance: (165EL only): 250 \pm 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).

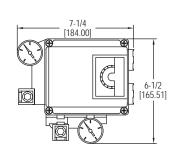
OPTIONS
Description
Valve mount, for factory mounting and calibration to Hi-Flow™ control valves, add
suffix to valve model number of positioner.
(Does not include valve or positioner piece)
Example: 2004VA32-231-165EL

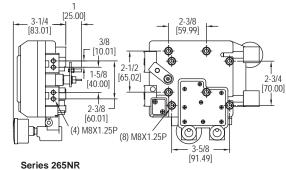
Positioners

Dwyer

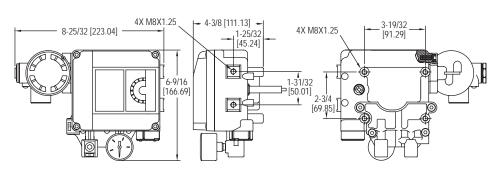
PRECISOR® II PNEUMATIC AND ELECTRO-PNEUMATIC POSITIONERS Rotary Operation, Field Selectable Cam Design, 316 SS Models











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 Enclosur							
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

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).



Hosing and fittings for connecting positioners, current to pressure transducers, air filter gauges and other accessories to pneumatic actuated valves.

USA: California Proposition 65

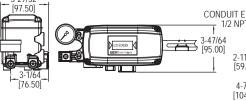
△WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

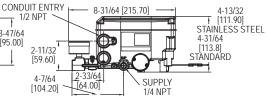
Filters and Regulators: See page 446

LINEAR AND ROTARY SMART POSITIONERSFail Freeze, Linear and Rotary Operation, HART® Communication







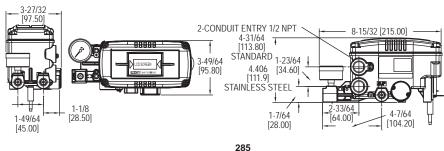




185



285



185



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

· 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).

HART® is a registered trademark of Hart Communication Foundation

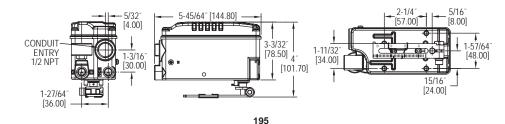
Dwyer

COMPACT LINEAR AND ROTARY SMART POSITIONERS Low Cost, Rotary Operation, HART® Communication

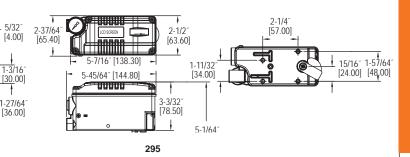
CONDUIT ENTRY.

1/2 NPT





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

· Linear motion valves or rotary motion valves with single acting actuators

MODEL CHART							
Model Action Communication							
195EL-S1	Single	None					
195EL-S2	Single	HART®					
295ER-S1	Single	None					
295ER-S2	Single	HART®					

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).

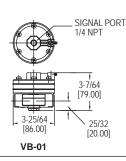
Positioners

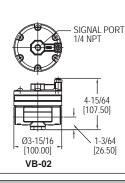
VOLUME BOOSTERS

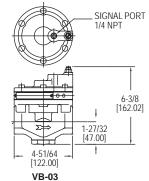
Economical, 1:1 Ratio











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.

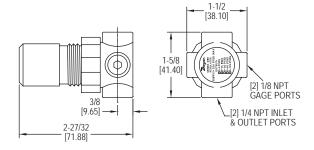
Weight: See model chart.

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 nonrelieving.

FEATURES/BENEFITS

- · Low cost
- · Easy and precise adjustment
- Compact

APPLICATIONS

Any industrial application that requires water or air pressure regulations and low cost

MODEL CHART						
Air Model Air/Water Model Range						
MPR1-0	MPR2-0	0 to 5 psi				
	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				

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 m3/hr) at 100 psig (6.9 bar) supply, 60 psig (4.1 bar)

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				

Volume Boosters /

PRESSURE CONVERSION CHART

in/H ₂ O	P.S.I.	in/Hg	mm/H ₂ O	mm/Hg	kg/cm²	bar	mbar	Pa	kPa
.1 .2	.0036	.0073	2.534 5.067	.1863	.0002	.0002	.4964	24.82 49.64	.0248
.6	.0144	.0293	10.13	.7452 1.118	.0010	.0010	1.489	99.28	.0993
1.0	.0289	.0588	20.34 25.41	1.496 1.868	.0020	.0020	1.992 2.489	199.2 248.9	.1992 .2489
2 3 4	.0722 .1083 .1444	.1470 .2205 .2940	50.81 76.22 101.62	3.736 5.604 7.472	.0051 .0076 .0102	.0050 .0075 .0099	4.978 7.467 9.956	497.8 746.7 995.6	.4978 .7476 .9956
5	.1804	.3673	127.0 152.4	9.335 11.203	.0127 .0152	.0124	12.44 14.93	1244 1493	1.244 1.493
7 8	.2526	.5143	177.8	13.072	.0178	.0174	17.42	1742	1.742
9	.3248	.6613 .7348	228.6 254.0	16.808 18.676	.0228	.0224	22.39 24.88	2239 2488	2.239 2.488
11 12 13	.3970 .4331 .4692	.8083 .8818	279.4 304.8 330.2	20.544 22.412 24.280	.0279 .0304 .0330	.0274 .0299	27.37 29.86 32.35	2737 2986 3235	2.737 2.986 3.235
14 15	.5053 .5414	.9553 1.029 1.102	355.6 381.0	26.148 28.016	.0355	.0324 .0348 .0373	34.84 37.33	3484 3733	3.484 3.733
16 17	.5774	1.176 1.249	406.4 431.8	29.879 31.752	.0406	.0398	39.81 42.31	3981 4231	3.981 4.231
18 19	.6496 .6857	1.322 1.396	457.2 482.6	33.616 35.484	.0457 .0482	.0448 .0473	44.79 47.28	4479 4728	4.479 4.728
20 21	.7218 .7579	1.470 1.543	508.0 533.4	37.352 39.22	.0507	.0498	49.77 52.26	4977 5226	4.977 5.226
22 23 24	.7940 .8301 .8662	1.616 1.690 1.764	558.8 584.2 609.6	41.09 42.96 44.82	.0558 .0584 .0609	.0547 .0572 .0597	54.74 57.23 59.72	5474 5723 5972	5.474 5.723 5.972
25 26	.9023	1.837	635.0 660.4	46.69 48.56	.0634	.0622	62.21	6221 6470	6.221 6.470
27 28	.9745 1.010	1.984 2.056	685.8 710.8	50.43 52.26	.0685	.0672	67.19 69.64	6719 6964	6.719 6.964
29 30	1.047 1.083	2.132 2.205	736.8 762.2	54.18 56.04	.0736 .0761	.0722 .0747	72.19 74.67	7219 7467	7.219 7.467
31	1.119	2.278 2.352	787.5 812.8	57.91 59.77	.0787	.0772	77.15 79.63	7715 7963	7.715 7.963
33 34	1.191 1.227	2.425 2.498	836.2 863.5	61.63 63.49	.0837 .0862	.0821 .0846	82.12 84.60	8212 8460	8.212 8.460
35 36	1.263	2.571	888.9 914.2	65.36 67.22	.0888 .0913 .0938	.0871	87.08 89.56	8708 8956	8.708 8.956 9.204
37 38 39	1.335 1.371 1.408	2.718 2.791 2.876	939.5 964.9 990.9	69.08 70.95	.0964	.0920 .0945 .0971	92.04 94.53 97.08	9204 9453 9708	9.204 9.453 9.708
40	1.444	2.940 3.013	1016	72.86 74.72 76.59	.1015	.0996	99.56 102.0	9956 10204	9.706 9.956 10.20
42 43	1.516 1.552	3.086 3.160	1042 1067 1092	78.45 80.31	.1040 .1066 .1091	.1045	104.5 107.0	10452 10701	10.20 10.45 10.70
44 45	1.588 1.624	3.233 3.306	1118 1143	82.18 84.04	.1116 .1142	.1095 .1120	109.5 112.0	10949 11197	10.95 11.20
46 47	1.660 1.696	3.378 3.453	1168 1194	85.90 87.76	.1167 .1192	.1144	114.5 116.9	11445 11694	11.44 11.69
48 49	1.732 1.768	3.526 3.600	1219 1244	89.63 91.49	.1218	.1194	119.4 121.9	11942 12190	11.94 12.19
50 51 52	1.804 1.841 1.877	3.673 3.748 3.822	1270 1296 1321	93.35 95.27 97.13	.1268 .1294 .1320	.1244 .1269 .1294	124.4 126.9 129.4	12438 12693 12941	12.44 12.69 12.94
53 54	1.913 1.949	3.895 3.968	1346 1372	98.99 100.8	.1345	.1319	131.9 134.4	13190 13438	13.19 13.44
55 56	1.985	4.041	1397	102.7	.1395	.1369	136.9	13686	13.69
57 58	2.057 2.093	4.188 4.261	1448 1473	106.4 108.3	.1146 .1471	.1418 .1443	141.8 144.3	14182 14431	14.18 14.43
59 60	2.129 2.165	4.335 4.408	1498 1524	110.2 112.0	.1497	.1468	146.8 149.3	14679 14927	14.68 14.93
61 62 63	2.202 2.238 2.274	4.483 4.556 4.630	1550 1575 1600	113.9 115.8 117.7	.1548 .1573 .1599	.1518 .1543 .1568	151.8 154.3 156.8	15182 15430 15679	15.18 15.43
64 65	2.310 2.346	4.703 4.776	1626 1651	117.7 119.5 121.4	.1624	.1593	159.3 161.8	15927	15.68 15.93 16.18
66 67	2.382 2.418	4.850 4.923	1676 1702	123.3 125.1	.1674 .1700	.1642	164.2 166.7	16423 16672	16.42 16.67
68 69	2.454 2.490	4.996 5.070	1727 1752	127.0 128.8	.1725 .1750	.1692 .1717	169.2 171.7	16920 17168	16.92 17.17
70 71 72	2.526 2.562 2.598	5.143 5.216 5.290	1778 1803 1828	130.7 132.6 134.4	.1776 .1801 .1826	.1742 .1766 .1791	174.2 176.6 179.1	17416 17664 17912	17.42 17.66 17.91
73 74	2.635 2.671	5.290 5.365 5.438	1854 1880	134.4 136.4 138.2	.1852	.1817	181.7 184.2	18168 18416	17.91 18.17 18.42
75 76	2.707 2.743	5.511 5.585	1905 1930	140.1 141.9	.1903 .1928	.1866 .1891	186.6 189.1	18664 18912	18.66 18.91
77 78 79	2.779 2.815 2.851	5.658 5.731 5.805	1956 1981 2006	143.8 145.7 147.5	.1954 .1979 .2004	.1916 .1941 .1966	191.6 194.1 196.6	19160 19409 19657	19.16 19.41 19.66
80 81	2.887 2.923	5.878 5.951	2032 2057	149.4 151.2	.2030 .2055	.1991 .2015	199.1 201.5	19905 20153	19.90 20.15
82 83	2.959 2.996	6.024	2082	153.1 155.0	.2080	.2040	204.0	20402	20.40
84 85	3.032 3.068	6.173 6.246	2134 2159	156.9 158.8	.2131	.2091	209.1	20905	20.90 21.15
86 87 88	3.104 3.140 3.176	6.320 6.393 6.466	2184 2210 2265	160.6 162.5 164.4	.2182 .2207 .2233	.2140 .2165 .2190	214.0 216.5 219.0	21401 21650 21898	21.40 21.65 21.90
89 90	3.212 3.248	6.450 6.613	2260 2286	166.2 168.1	.2258 .2283	.2215 .2239	221.5 223.9	22146 22394	22.15 22.39
91 92 93	3.284 3.320 3.356	6.686 6.760	2311 2336 2362	169.9 171.8	.2309 .2334 .2359	.2264 .2289 .2314	226.4 228.9 231.4	22642 22890 23130	22.64 22.89
93 94 95	3.356 3.392 3.429	6.833 6.906 6.981	2362 2387 2413	173.7 175.5 177.4	.2384	.2314	231.4 233.9 236.4	23139 23387 23642	23.14 23.39 23.64
96 97	3.456 3.501	7.055 7.128	2438 2464	177.4 179.3 181.2	.2436 .2461	.2389 .2414	238.9 241.4	23890 24138	23.89 24.14
98 99	3.537 3.573	7.201 7.275	2489 2514	183.0 184.9	.2486 .2512	.2439 .2464	243.9 246.4	24387 24635	24.39 24.64
100	3.609	7.348	2540	186.8	.2537	.2488	248.8	24883	24.88

P.S.I.		in/Hg	mm/H ₂ O		kg/cm²	bar	mbar	Pa	kPa
1.0	27.71 30.45	2.036	703.1 773.4	51.75 56.89	.0703	.0689	68.95 75.84	6895 7584 8274	6.895 7.584 8.274
1.2	33.22 35.98	2.443	843.7 914.0	62.06 67.23	.0844	.0827	82.74 89.63	8963	8.963
1.4 1.5 1.6	38.75 41.52 44.29	2.850 3.054 3.258	984.3 1055 1125	72.40 77.57 82.74	.0984 .1055 .1125	.0965 .1034 .1103	96.52 103.4 110.3	9652 10340 11030	9.652 10.34 11.03
1.7 1.8	47.06 49.82	3.461 3.665	1195 1266	87.92 93.09	.1125 .1195 .1266	.1172	117.2 124.1	11720 12410	11.72 12.41
1.9 2.0	52.59 55.36	3.686 4.072	1336 1406	98.26 103.4	.1336 .1406	.1310 .1379	131.0 137.9	13100 13790	13.10 13.79
2.1	58.13 60.90	4.276 4.479	1476 1547	108.6 113.8	.1476 .1547	.1448	144.8 151.7	14480 15170	14.48 15.17
2.3	63.67 66.43	4.683 4.886	1617 1687	118.9 124.1	.1617 .1687	.1586	158.6 165.5	15860 16550	15.86 16.55
2.5 2.6 2.7	69.20 71.97 74.74	5.090 5.294 5.497	1758 1828 1898	129.3 134.5 139.6	.1758 .1828 .1898	.1724 .1793 .1862	172.4 179.3 186.2	17240 17930 18620	17.24 17.93 18.62
2.8 2.9 3.0	77.51 80.27 83.04	5.701 5.904 6.108	1969 2039 2109	144.8 150.0 155.1	.1968 .2039 .2109	.1930 .1999 .2068	193.0 199.9 206.8	19300 19990 20680	19.30 19.99 20.68
3.1 3.2 3.3	85.81 88.58 91.35	6.312 6.515	2180 2250	160.3 165.5	.2180 .2250	.2137 .2206	213.7 220.6	21370 22060	21.37 22.06
3.3 3.4 3.5 3.6	94.11 96.88	6.719 6.922 7.126	2320 2390 2461	170.7 175.8 181.0	.2320 .2390 .2461	.2275 .2344 .2413	227.5 234.4 241.3	22750 23440 24130	22.75 23.44 24.13
3.7	99.65	7.535	2531 2601	186.2 191.3	.2531	.2482	248.2 255.1	24820 25510	24.82
3.8 3.9 4.0	105.2 108.0 110.7	7.737 7.940 8.144	2672 2742 2812	196.5 201.7 206.9	.2672 .2742 .2812	.2620 .2689	262.0 268.9	26200 26890 27580	26.20 26.89
4.0 4.1 4.2	110.7 113.5 116.3	8.144 8.348 8.551	2883 2953	206.9 212.0 217.2	.2812 .2883 .2953	.2758 .2827 .2896	275.8 282.7 289.6	28270 28960	27.58 28.27 28.96
4.3 4.4 4.5	119.0 121.8 124.6	8.775 8.958 9.162	3023 3094 2164	222.4 227.5 232.7	.3023 .3094 .3164	.2965 .3034 .3103	296.5 303.4 310.3	29650 30338 31030	29.65 30.34 31.03
4.6 4.7	127.3 130.1	9.366 9.569	3234 3304	237.9 243.1	.3234 .3304	.3172 .3240	317.2 324.0	31720 32400	31.72 32.40
4.8 4.9 5.0	132.9 135.6 138.4	9.773 9.976 10.18	3375 3445 3515	248.2 253.4 258.6	.3375 .3445 .3515	.3310 .3378 .3447 .3516	331.0 337.8 344.7	33100 33780 34470	33.10 33.78 34.47
5.1 5.2	141.2 143.9	10.38	3586 3656	263.7 268.9	.3586 .3656	.3585	351.6 358.5	35160 35850	35.16 35.85
5.3 5.4	146.7 149.5	10.79 10.99	3726 3797	274.1 279.3	.3726 .3797	.3654	365.4 372.3	36540 37230	36.54 37.23
5.5 5.6 5.7	152.2 155.0 157.8	11.20 11.40 11.60	3876 3973 4008	284.4 289.6 294.8	.3867 .3937 .4007	.3792 .3861 .3930	379.2 386.1 393.0	37920 38610 39300	37.92 38.61 39.30
5.8 5.9 6.0	160.5 163.3 166.1	11.81 12.01 12.22	4078 4148 4218	299.9 305.1 310.3	.4078 .4148 .4218	.3999 .4068 .4137	399.9 406.8 413.7	39990 40680 41370	39.99 40.68 41.37
6.1 6.2 6.3	168.8 171.6 174.4	12.42 12.62 12.83	4289 4359 4429	315.5 320.6 325.8	.4289 .4359 .4429	.4206 .4275 .4344	420.6 427.5 434.4	42060 42750 43440	42.06 42.75 43.44
6.4 6.5	177.2 179.9	13.03 13.23	4500 4570	331.0 336.1	.4500 .4570	.4413 .4482	441.3 448.2	44130 44820	44.13 44.82
6.6	182.7	13.44	4640 4711	341.3 346.5	.4640	.4550	455.0 461.9	45500 46190	45.50 46.19
6.8 6.9 7.0	188.2 191.0 193.8	13.84 14.05 14.25	4781 4851 4922	351.7 356.8 362.0	.4781 .4851 .4921	.4688 .4757 .4826	468.8 475.7 482.6	46880 47570 48260	46.88 47.57 48.26
7.1 7.2	196.5 199.3	14.46 14.66	4992 5062	367.2 372.3	.4992	.4895 .4964	489.5 496.4	48950 49640	48.95 49.64
7.3 7.4	202.1 204.8	14.86 15.07 15.27	5132 5203	377.5 382.7 387.9	.5132 .5203	.5033 .5102	503.3 510.2	50330 51020	50.33 51.02
7.5 7.6	207.6 210.4 215.9	15.47	5273 5343 5484	387.9 393.0 403.4	.5273 .5343 .5484	.5171	517.1 524.0	51710 52400	51.71 52.40
7.8 8.0 8.2	221.4	15.88 16.29 16.70	5625 5765	403.4 413.7 424.1	.5625	.5378 .5516	537.8 551.6 565.4	53780 55160 56540	53.78 55.16 56.54
8.4 8.6	232.5 238.0	17.10 17.51	5906 6047	434.4 444.7	.5906 .6046	.5792 .5929	579.2 592.9	57920 59290	57.92 59.29
8.8 9.0	243.6 249.1	17.92 18.32	6187 6328 6468	455.1 465.4	.6187 .6328 .6468	.6067 .6205	606.7 620.5	60670 62050	60.67 62.05
9.2	254.7 260.2	18.73 19.14	6609	475.8 486.1 496.5	.6609	.6343	634.3 648.1	63430 64810 66100	63.43
9.6 9.8 10.0	265.7 271.3 276.8	19.54 19.95 20.36	6750 6890 7031	506.8 517.1	.6749 .6890 .7031	.6619 .6757 .6895	661.9 675.7 689.5	66190 67570 68950	66.19 67.57 68.95
11.0 12.0	304.5 332.2	22.40 24.43	7734 8437	568.9 620.6	.7734 .8437	.7584 .8274	758.4 827.4	75840 82740	75.84 82.74
13.0 14.0 14.7	359.8 387.5 406.9	26.47 28.50 29.93	9140 9843 10340	672.3 724.0 760.2	.9140 .9843 1.033	.8963 .9652 1.014	896.3 965.2 1014	98630 96520 101400	89.63 96.52 101.4
15.0 16.0 17.0	415.2 442.9 470.6	30.54 32.58 34.61	10550 11250 11950	775.7 827.4 879.1	1.055 1.125 1.195	1.034 1.103 1.172	1034 1103 1172	103400 110300 117200	103.4 110.3 117.2
18.0 19.0 20.0	498.2 525.9 553.6	36.65 36.68 40.72	12660 13360 14060	930.9 982.6 1034	1.265 1.336 1.406	1.241 1.310 1.379	1241 1310 1379	124100 131000 137900	124.1 131.0 137.9
21.0 22.0 23.0	581.3 609.0	42.76 44.79	14770 15470 16170	1086 1138 1189	1.476 1.547 1.617	1.448 1.517 1.586	1448 1517 1586	144800 151700 158600	144.8 151.7 158.6
24.0 25.0	636.7 664.3 692.0	46.83 48.86 50.90	16870 17580	1241 1293	1.617 1.687 1.758	1.655 1.724	1655 1724	165500 172400	165.5 172.4
		N FAC		.200	1.750	1.724	11124	112400	172.7

CONVERSION FACTORS

P.S.I. x 27.71 = in. H₂O
P.S.I. x 2.036 = in. H_g
P.S.I. x 703.1 = mm/H₂O
P.S.I. x 68.95 = mbar
P.S.I. x 51.75 = mm/H_g
P.S.I. x 68.95 = kPa
P.S.I. x 0.0703 = kg/cm²
P.S.I. x 6.895 = kPa

Note: Conversion factors rounded.



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