



SERIES APM, MPM & PPM

PANEL METERS AND PUMP CONTROLLERS

Open Channel Flow, Rate and Total, Multi-Pump Control



APM



MPM



PPM

The **SERIES APM** Analog Panel Meter is a 1/8 DIN digital panel meter perfect for displaying flow rate and total simultaneously from several analog inputs such as a 4 to 20 mA or 0 to 10 V from any flow transmitter. When utilized with an ultrasonic level transmitter, such as the Mercoid Series ULT, this series provides an economical way to measure open channel flow. The dual line display can be configured to read flow rate, total, grand total, as well as engineering units.

The **SERIES MPM** Multi Pump Meter is also a 1/8 DIN digital panel meter but for multi-pump alternation control. This series features, non-latching, sampling, and fail-safe action in addition to its ability to alternate up to four pumps. This series is also capable of linearizing nonlinear inputs with a variety of pre-programmed math functions. This is helpful in applications where volume is monitored in odd shaped tanks as well as open channel flow monitoring. It accepts 0 to 20 mA, 4 to 20 mA, 0 to 5 V, 1 to 5 V or 0 to ± 10 V standard.

The **SERIES PPM** Pulse Panel Meter is a 1/8 DIN digital panel meter specifically designed for a variety of pulse inputs. This series is particularly well-suited for flow applications with its large six-digit, dual-line display that can display flow rate and total simultaneously with up to 4 programmable relay options and 4 to 20 mA output. This series features latching, non-latching, sampling, and fail-safe action in addition to its pump alternation function.

For more information on these products: See page 376

MODEL A-900 & A-901 | MERCOID BY DWYER

1/4 DIN CONTROL ENCLOSURES

Weatherproof, Durable, Pre-Cut Mounting Hole



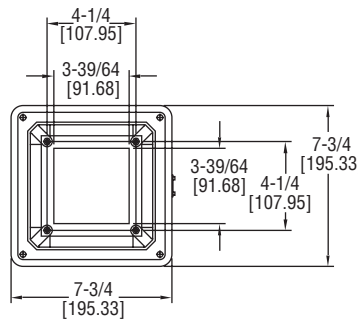
Level/Pump Controllers



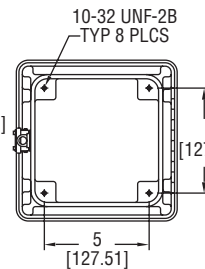
A-900



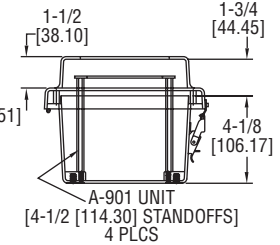
A-901



Top View



Bottom View



Side View

The **MODEL A-900 & A-901** are rated weatherproof type NEMA 4X to protect controls from dirt, dust, oil, and water. The Model A-900 comes with a standard 1/4 DIN cutout in the front cover and the Model A-901 comes with a clear plastic front window. Both units feature a lockable latch to prevent unauthorized removal of the control from the enclosure.

FEATURES/BENEFITS

- UV stabilized for outdoor use
- Fiberglass material is easily punched or drilled for conduit connections
- Compatible with Love Series 2500, 2600, 4B, 4C, 4G, and Mercoid Series MPC, MPCJR

APPLICATIONS

- Wastewater remote pump stations
- Outdoor industrial ovens/furnaces/boilers

FOR MODELS: 25XX3, 26XX3, 26X33, MPC, MPCJR		
Ambient Temperature	A-900 Maximum Current	A-901 Maximum Current
77°F (25°C)	10 amps	10 amps
104°F (40°C)	10 amps	9 amps
131°F (55°C)	7.5 amps	6 amps

SPECIFICATIONS

Service: Indoor or outdoor.
Rating: NEMA 1, 2, 3, 3R, 4, 4X, 12 and 13.
Materials: Body: UV stabilized fiberglass reinforced polyester; Snap latch: 304 SS; Hinge: SS; Mounting feet and screws: 304 SS; Window: UV stabilized polycarbonate; Cover gasket: Neoprene.
Enclosure Rating: NEMA 4X (IP66).
Control Temperature Limits: When using the enclosures with controls that have 10 A relay outputs the extra heat generation decreases the maximum ambient temperature value that the control can be used at inside the enclosure. Other outputs on our controls are not a concern.
Agency Approvals: UL.

MODEL CHART

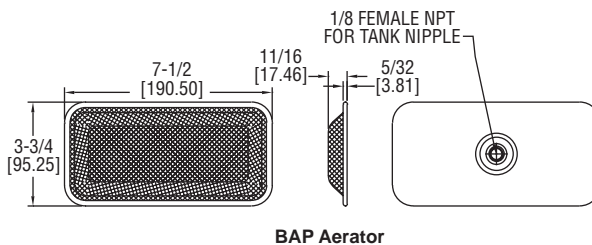
Model	Description
A-900	Weatherproof enclosure, NEMA 4X, control direct panel mounts in the front of the enclosure
A-901	Weatherproof enclosure, NEMA 4X, clear plastic window with rear panel for mounting the control inside the enclosure

ACCESSORY

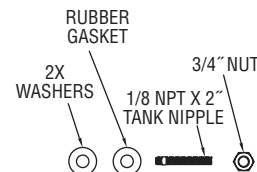
Model	Description
A-600	R/C snubber

BIN AERATOR PAD

Inexpensive, Quiet Operation



BAP Aerator



Mounting Hardware

The **SERIES BAP** Bin Aerator Pad provides positive flow of dry, finely ground materials from any bin using the proven principle of aeration. It features simple and quick installation, is inexpensive, and adapts to any bin configuration.

FEATURES/BENEFITS

- Provides positive, uniform, and easily controlled flow with quiet operation
- Non-clogging

APPLICATIONS

- Powder and bulk

MODEL CHART

Model	Description
BAP-C	Zinc plated steel with gal. steel mesh & cotton diffuser
BAP-SSC	316SS with 316SS mesh & cotton diffuser
BAP-F	Zinc plated steel with gal. steel mesh & fiberglass diffuser
BAP-SSF	316SS with 316SS mesh & fiberglass diffuser
BAP-K	Optional external mounting kit



BAP-K

SPECIFICATIONS

Temperature Limit: BAP-C and BAP-SSC: 180°F (82°C) BAP-F and BAP-SSF: 600°F (316°C).
Supply Pressure: 3 to 5 psi (0.2 to 0.3 bar).
Air Consumption: See chart.
Air Connection: 1/8" NPT male.
Materials: See model chart.

AIR CONSUMPTION GUIDE

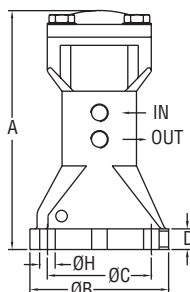
1 psi (0.07 bar)	4.2 CFM (118.9 LPM)
2 psi (0.14 bar)	5.7 CFM (161.4 LPM)
3 psi (0.21 bar)*	6.5 CFM (184.1 LPM)
4 psi (0.28 bar)	7.1 CFM (201.0 LPM)
5 psi (0.34 bar)	7.6 CFM (215.2 LPM)

*Recommended for most applications

SERIES APV | PROXIMITY BY DWYER

PISTON VIBRATOR

Air Cushioned or Piston Vibrators



Model	A	B	C	D	H	IN/OUT
APV-X1	5-7/16 [138.11]	3-5/32 [80.17]	2-3/8 [60.33]	31/64 [12.30]	23/64 [9.13]	1/8 BSPT
APV-X2	6-35/64 [166.69]	3-15/16 [100.01]	2-61/64 [75.01]	41/64 [16.27]	7/16 [11.11]	1/4 BSPT
APV-X3	8-13/64 [208.36]	5-33/64 [140.10]	4-9/64 [105.17]	41/64 [16.27]	19/32 [15.08]	1/4 BSPT

The **SERIES APV** Piston Vibrator uses compressed air to push the piston from one side and cause vibration power. APV-C models are air cushioned to provide low noise, making it suitable for quiet area applications. APV-I models allow direct impact on the tank to help get rid of dust or material accumulated inside of pipes and tanks.

FEATURES/BENEFITS

- High strength aluminum alloy housing
- Frequency and amplitude of vibration can be adjusted as needed
- Low frequency and direct impact models available

APPLICATIONS

- Bin vents
- Bag houses
- Dust collectors

SPECIFICATIONS

Temperature Limit: 212°F (100°C).
Noise Level Range: APV-C: 60-75 dBA; APV-I: 80-115 dBA.
Supply Pressure: 29 to 87 psi (2 to 6 bar).
Air Consumption: See model chart.
Air Connection: 1/8" BSPT female with 1/4" OD push to connect adapter on APV-C1 and APV-I1; 1/4" BSPT female with 1/4" OD push to connect adapter on APV-C2, APV-C3, APV-I2 and APV-I3. Also includes muffler for exhaust port.
Housing Material: Aluminum.

HOW THEY OPERATE

There are air-breathing tubes located in both ends of the cylinder. Compressed air pushes the piston from one side to the other. Vibration power arises when the piston moves back and forth in the body. In APV-C air cushion at both ends produced by the to-and-fro motion will keep the piston from striking the body. Therefore, the piston will not produce much noise. In APV-I, air cushion at the top end is produced by the to-and-fro compression. This will keep the piston from striking onto the body top. The piston will strike directly on the bottom side of the body to produce a strong impact.

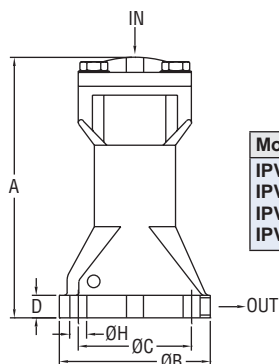
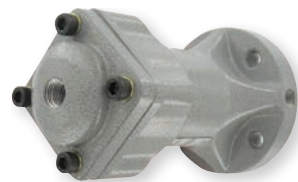
MODEL CHART

Model	Frequency (V.P.M.) Pressure Input			Force lbf (N) Pressure Input			Air Consumption cfm (l/min) Pressure Input	Weight lb (kg)
	29 psi (2 bar)	58 psi (4 bar)	87 psi (6 bar)	29 psi (2 bar)	58 psi (4 bar)	87 psi (6 bar)		
APV-C1	1765	2308	2857	44 (195)	85 (380)	126 (560)	8.12 (230)	1.98 (0.9)
APV-C2	1333	1677	1875	62 (275)	119 (531)	161 (715)	8.79 (249)	4.19 (1.9)
APV-C3	1000	1200	1340	91 (404)	175 (780)	231 (1030)	9.50 (269)	9.92 (4.5)
APV-I1	1973	2885	3571	1818 (8086)	3044 (13542)	3996 (17776)	8.8 (250)	2.2 (1.0)
APV-I2	1744	2459	3000	3245 (14443)	4934 (21948)	6048 (26904)	9.5 (270)	4.6 (2.1)
APV-I3	1277	1875	1973	3470 (15434)	7799 (34692)	8276 (36816)	10.6 (300)	10.6 (4.8)

V.P.M. = vibrations per minute

AIR HAMMER

Single Impacting Type



Model	A	B	C	D	H	IN/OUT
IPV-1	5-7/16 [138.11]	3-5/32 [80.17]	2-3/8 [60.33]	31/64 [12.30]	23/64 [9.13]	1/4 BSPT
IPV-2	6-35/64 [166.69]	3-15/16 [100.01]	2-61/64 [75.01]	41/64 [16.27]	7/16 [11.11]	1/4 BSPT
IPV-3	8-13/64 [208.36]	5-33/64 [140.10]	4-9/64 [105.17]	41/64 [16.27]	19/32 [15.08]	1/4 BSPT
IPV-4	10-19/32 [269.08]	6-25/32 [172.24]	5-33/64 [140.10]	61/64 [24.21]	3/4 [19.05]	3/8 BSPT

The **SERIES IPV** Air Hammer helps to smooth the flow and prevent accumulation inside of containers. It is often applied to a pipe or clean elbow in a tank filled with humidity or low specific gravity material.

FEATURES/BENEFITS

- High strength aluminum housing
- Impact force and interval timing can be adjusted as needed
- Magnetic hammer stores magnetic strength to increase the piston's impact power
- Includes muffler for exhaust port.

APPLICATIONS

- Bin vents
- Bag houses
- Dust collectors

HOW IT OPERATES

The IPV series air hammer contains a powerful magnet inside the hammer. The hammer and magnet are tightly closed before activation. As the inlet air pressure gets higher than the force, this tightens the hammer and magnet. The hammer and magnet will separate and cause more strength for impact power. The spring will bring the hammer back to the initial position automatically after the impact. By doing this, the air pressure will be released and the strength of the air pressure will be delivered to the target impact container. It will help to smooth the flow and prevent accumulation inside the container.

SPECIFICATIONS

Temperature Limit: 212°F (100°C).

Noise Level Range: 60 to 75 dBA.

Supply Pressure: 43.5 to 87 psi (3 to 6 bar).

Air Consumption: See model chart.

Air Connection: 1/4" BSPT female with 1/4" OD push to connect adapter on IPV-1, IPV-2 and IPV-3; 3/8" BSPT female with 3/8" OD push to connect adapter on IPV-4.

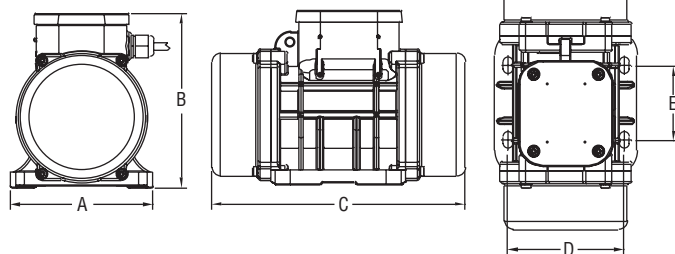
MODEL CHART

Model	Impulse lbf•s (N•S)	Air Consumption in ³ (l) per stroke	Weight lb (kg)
IPV-1	.225 (1.0)	1.71 (0.028)	2.43 (1.1)
IPV-2	.630 (2.8)	5.0 (0.082)	3.97 (1.8)
IPV-3	1.66 (7.4)	14.0 (0.228)	8.82 (4.0)
IPV-4	2.81 (12.5)	27.8 (0.455)	18.52 (8.4)

SERIES EBV | PROXIMITY BY DWYER

ELECTRIC BIN VIBRATOR

Adjustable Vibration Intensity



DIMENSIONS - IN (MM)					
Model	A	B	C	D	E
EBV-1	5-1/8 (130)	5-23/64 (136)	8-5/16 (211)	4-11/64 (106)	2-43/64 (68)
EBV-2	5-1/8 (130)	5-23/64 (136)	8-5/16 (211)	4-11/64 (106)	2-43/64 (68)
EBV-3	5-1/8 (130)	6-17/64 (159)	9-3/32 (231)	4-11/64 (106)	2-43/64 (68)
EBV-4	6-7/64 (155)	6-23/32 (170)	10-23/64 (263)	4-7/16 (113)	5-1/8 (130)

The **SERIES EBV** Electric Bin Vibrator features an adjustable force, which increases the application flexibility and reduces equipment downtime and labor expense. The low amperage draw at 120 V reduces power consumption and makes the vibrators usable in any application. The EBV is capable of running continuously at 100% force output without overheating or mechanical damage.

FEATURES/BENEFITS

- NEMA 4X (IP66) aluminum housing
- Centrifugal force can be adjusted as needed
- Silent operation at 20 dB

SPECIFICATIONS

Power Requirements: 120 VAC.

Power Consumption: See model chart.

Temperature Limits: -4 to 104°F (-20 to 40°C).

Enclosure: Aluminum.

Enclosure Rating: NEMA 4X (IP66).

Noise Level: 20 dB.

Electrical Connection: Electrical junction box.

Rotational Speed: 3600 RPM.

Weight: See model chart.

Agency Approvals: CE.

MODEL CHART

Model	Max Power		Centrifugal Force		Current Max Amps	Weight lb
	Kw	Hp	Kg	lb		
EBV-1	0.09	0.12	71	156.5	1.03	9.3
EBV-2	0.11	0.15	95	209.4	1.3	10.1
EBV-3	0.21	0.28	189	416.7	2.62	15.4
EBV-4	0.28	0.38	323	712.1	3.43	21.6

SELECTION GUIDE pages 366-369	TYPICAL APPLICATIONS pages 370-371	 Panel Meters/Indicators pages 372-378	 Annunciators/Alarm Modules page 379	 Signal Conditioners/Isolating Transmitters page 380
 Relays pages 381-382	 Current Transformers/Switches pages 382-385	 Power Supplies/Transformers pages 386-387	 Signal Converters page 388	 Power Supplies pages 388-389
 Fan Speed Controls page 390	 Intrinsically Safe Barriers pages 390-392	 Timers page 393	 Timer Controllers pages 394-398	 Particulate (Dust or Broken Bag) Transmitters/Sensors pages 399-401
 Vibration Controls page 402	 Control Enclosures pages 402-404			

FEATURED PRODUCTS

PARTICULATE TRANSMITTER

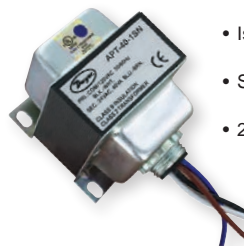
SERIES PMT2 | page 399



- Non-stick PTFE coated probe to prevent false readings from moist and conductive dusts, condensate, and dust buildup
- Simple 2-wire installation for PLC and control panels

AC POWER TRANSFORMERS

SERIES APT | pages 386-387



- Isolated 24 VAC secondary voltage
- Single or multi-tap primary voltage
- 20, 40, 50, 75, 96, or 150 VA ratings

PANEL METERS

Displays

**SPPM2** - page 372**SPPM** - page 373**DPM** - page 374**DPMX** - page 375

SERIES	SPPM2 - page 372	SPPM - page 373	DPM - page 374	DPMX - page 375
Display	Graphical full color TFT	Graphical full color TFT	3-1/2 digit, or 4-1/2 digit, 7 segment backlit LCD (Amber, Green or Red)	3-1/2 digit, 7 segment backlit LCD (Red)
Panel Size	4.3" diag.	2.4", 2.8", 3.5" diag.	2-3/8" by 1-1/8"	10-19/32" by 4-5/32"
Display Units	User defined	User defined	None, °F, °C, %, psi, V, A, KW, PF	None
Input Signal	4 analog (0 to 50 mA, or 0 to 40 VDC), 8 digital I/O	0 to 50 mA, or 0 to 40 VDC	4 to 20 mA, 0 to 200 mVDC, 0 to 5 VDC, 0 to 10 VDC	4 to 20 mA, 0 to 200 mVDC, 0 to 5 VDC, 0 to 10 VDC
Output	2 digital I/O, 4 PWM	None	None	None

SWITCHES & TRANSFORMERS

Current Sensors

**SCS** - page 382**MCS** - page 383**CCS** - page 383**MSCS** - page 384

SERIES	SCS - page 382	MCS - page 383	CCS - page 383	MSCS - page 384
Type	Current switch	Miniature switch	Current switch	Miniature switch
Case	Solid or split core	Solid core or terminal	Solid or split core	Split core
Range	0.15 A to 200 A	0.5 to 50 A or 0.01 to 1 A	0.5 to 200 A	0.15 to 60 A (0.15 A fixed set-point)
Output	1 A @ 30 VAC/DC NO Solid State Output; Optional 10 A @ 260 VAC (5 A @ 30 VDC) SPST relay	0.3 A @ 130 VAC/DC NO output	0.3 A @ 135 VAC/DC NO output or 1 A @ 240 VAC NO output	1 A @ 30 VAC/DC NO solid state output




PANEL METERS

Displays

				
SERIES	LCI132 - page 375	PM - page 376	LPI/BPI - page 377	BGM - page 378
Display	4 digit, 7 segment LED (Red)	2 - 6 digit, 7 segment LED (Red)	4 digit LCD or LED	4 digit LED (Red) plus 31 segment bar
Panel Size	1/32 DIN	1/8 DIN	Stand alone	5.125" by 1.3"
Display Units	None	User defined	None	Consult factory
Input Signal	V (DC), mA (DC) or V (AC), A (AC/DC)	mA, V DC, Pulse, Open Collector, NPN, PNP, Switch Contact	4 to 20 mA, Thermocouple, or RTD	4 to 20 mA, 0 to 5 VDC, or 0 to 10 VDC
Output	None	None, 4 to 20mA, or Relay	None	None or 2-SPST relay

SWITCHES & TRANSFORMERS

Current Sensors

			
SERIES	SSCS - page 384	CCT40/50 - page 385	CCT60/70 - page 385
Type	Current switch with set-point base on motor HP	Current transformer	Current transformer
Case	Split core	Solid or split core	Solid or split core
Range	1 to 100 HP	10/20/50 A or 100/150/200 A	10/20/50 A or 100/150/200 A
Output	1 A @ 30 VAC/DC NO Solid State Output; Optional 10 A @ 260 VAC (5 A @ 30 VDC) SPST relay	0 to 5 VDC, 0 to 10 VDC, or 4 to 20 mA	4 to 20 mA, true RMS

SUPPLIES & TRANSFORMERS

Power Converters



SERIES	APT - pages 386-387	A-700 - page 388	BPS - page 389	SCD-PS - page 389
Input Voltage	24 VAC, 120 VAC, 240 VAC, 120/208/240/277 VAC, 120/208/240/277/480 VAC, 50/60 Hz	100/120/220/230/240 VAC $\pm 10\%$, 47 to 63 Hz	24 VAC/VDC 50/60 Hz	120 to 240 VAC/VDC, 50/60 Hz
Output Voltage	24 VAC	24 to 28 VDC regulated	1.5 to 27 VDC (full wave rectified and regulated) adjustable 1.5 to 29 VDC	24 VDC $\pm 3\%$
Output Current	20, 40, 75, 100, 150 VA	Options from 0.5 A to 4.8 A	0.5 A or 1.5 A	1 A

DUST COLLECTOR PULSE VALVE CONTROLLERS




Timers



SERIES	DCT500A - page 394	DCT500ADC - page 394	DCT600 - page 395
Output Channels	4, 6, or 10	4, 6, or 10	4, 6, 10, 22, or 32
Input	Dry contact	Dry contact	Dry contact
Power	102 to 132 VAC	10 to 35 VDC	85 to 270 VAC
Size	4-7/8" by 6-3/4"	4-7/8" by 6-3/4"	4-7/8" by 6-3/4" or 6-7/8" by 8-3/4"
Approvals	CE, cULus	CE	CE, cULus

DUST COLLECTOR PULSE VALVE CONTROLLERS

Timers

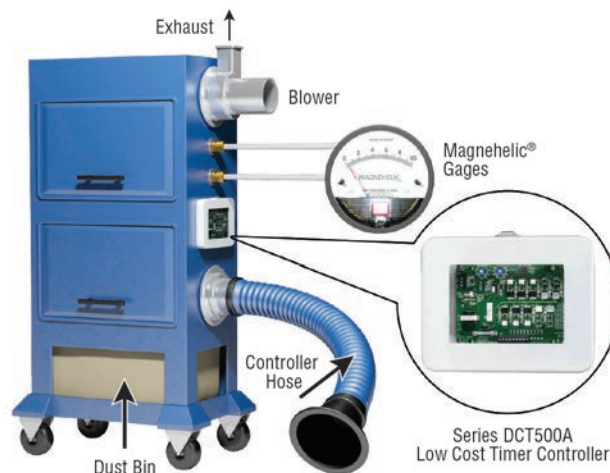
			
SERIES	DCT1000 - page 396	DCT1000DC - page 397	SVT - page 398
Output Channels	6, 10, or 22; up to 255 with expansion board	6, 10, or 22; up to 255 with expansion board	2, 3, 4, 5, or 6; up to 60 with expansion board. Housing includes pilot solenoid valves
Input	Dry contact or integral pressure sensor	Dry contact or integral pressure sensor	Dry contact
Power	85 to 270 VAC	10 to 30 VDC	90 to 240 VAC or 24 VAC/DC
Size	6-7/8" by 8-3/4"	6-7/8" by 8-3/4"	See catalog page
Approvals	cULus	CE	CE

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



Monitor the test environment for accurate laboratory tests.

The Love Controls Model LCR20 dual pen circular chart recorder can be used to monitor the humidity and temperature in an environmental chamber. The 10" chart size makes it easy to see the blue and red pen markings on the chart paper. The recorder takes in most common thermocouples and process inputs for both channels. It is recommended that the LCR20 be used with a Dwyer® RHP series humidity / temperature transmitter for best results.



Dust Collector Timer Controller shows filter condition in dust collector.

This portable dust collector can be rolled from job to job in an industrial building. An operator places the large diameter collection hose where it is needed and dust is collected by filters located inside the access doors on the units side. The top mounted blower draws air through the filters. To monitor the pressure drop across the filters, the manufacturer supplies a Magnehelic® differential pressure gage. When the pressure drop due to dust build up on the filter indicates that cleaning is necessary, the DCT500A Dust Collector Timer Controller is manually activated to initiate a cleaning cycle which involves solenoid valves releasing pulses of air. This process removes the dust from the filters where it drops into a storage bin. A Dwyer® Minihelic® differential pressure gage can be used instead of the Magnehelic® gage, and, if automatic cleaning is required, a Photohelic® differential pressure switch/gage can provide the electrical contact to actuate the cleaning cycle when the pressure drop reaches the preset limit.



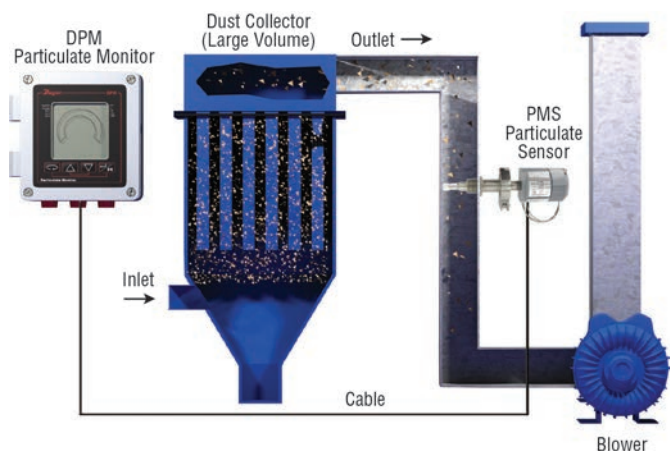
Button Data Logger monitors food and beverage temperature in refrigerated transport vehicles.

When transporting temperature-sensitive products such as meat, produce, beer and wine over long distances, it is necessary to verify that the storage compartment has not exceeded the critical preservation temperature at any time. Dwyer® BDL Button Data Loggers offer a low cost way to measure and record storage temperatures throughout transport. By placing several "buttons" throughout the storage compartment and setting an appropriate measurement interval, transportation services can retrieve data at the completion of delivery to assure their customers of adequate preservation temperatures.



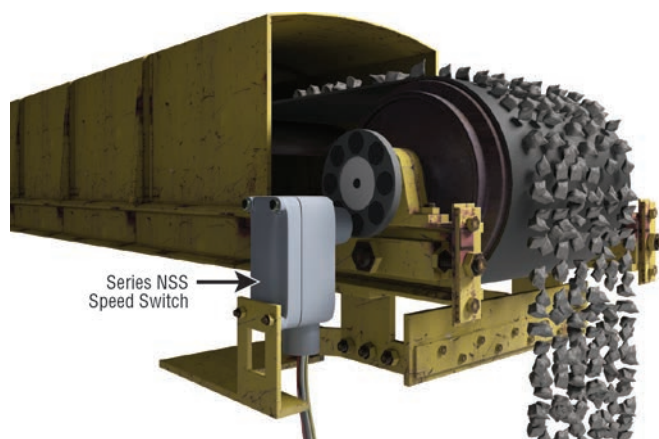
Bag house cleaning system uses Dust Collector Timer Controller to initiate optimum cleaning cycle.

A Dwyer® DCT1000 Dust Collector Timer Controller with attachable DCP pressure sensing module monitors and controls the dust levels and corresponding pressure drop across the filter bags. The DCT1000/DCP control automatically activates the cleaning cycle when the DCT1000's pre-programmed set points have been exceeded. This on-demand control system alleviates excessive air compressor usage by preventing unnecessary cleaning which lowers energy and maintenance costs.



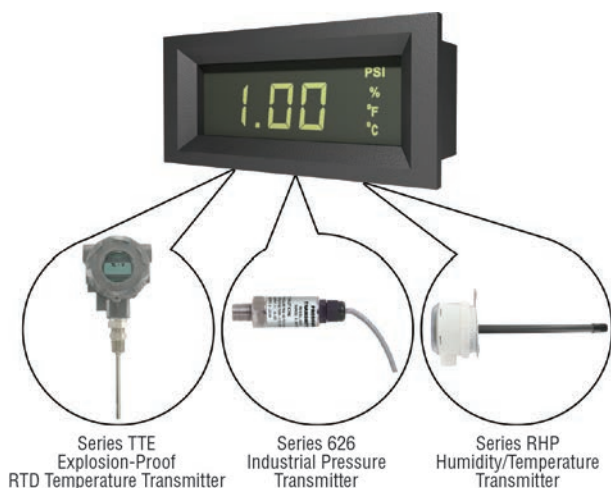
Detect broken filters in dust collectors.

The Dwyer® Series DPM Particulate Monitor and PMS Particulate Sensor combine to make a particulate monitoring system for the exhaust stream of dust collectors. The amount of particulate leaking out of the dust collector is measured using low maintenance induction technology and shown on a display for easy viewing. The DPM has programmable thresholds of leakage for switch output indication of dust collector problems such as broken or leaking filters. Proper use of the system will allow the user to catch breaking filters early. Advantages of the system are maintaining regulatory compliance, maximizing product recovery, optimizing filtration efficiency, preventing fines and plant shutdowns, and reducing the amount of pollutants released.



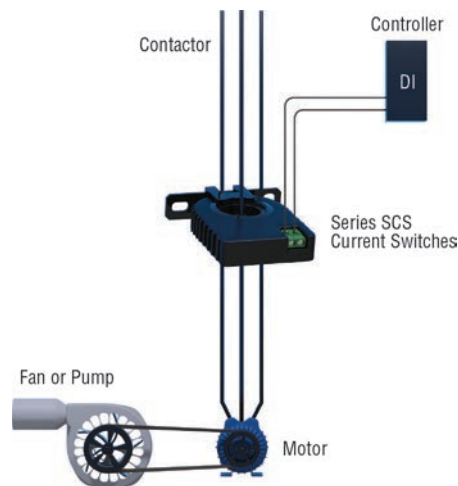
Monitoring belt conveyor for proper operation.

A Proximity Series NSS Speed Switch is used to monitor the speed of a product belt conveyor indicating proper operation. Common applications include grain, feed, aggregate, mining, and textiles. Belt slippage or a slowdown in belt speed indicates problems that could lead to product waste or could generate sparks leading to a fire or explosion. The belt's speed is monitored via the rotational speed of the shaft at the end of the belt. The NSS is a non-contact magnetic actuated system allowing easy installation and long operational life. A magnetic disc is installed on the rotating shaft and the sensor is mounted across from it. The sensor picks up the rotation of the disc to detect the rotational speed of the belt. Inside the sensor is a programmable switch that can be set for any speed. In this application as the speed decreases and hits the set point the switch is activated for indication of a problem. Proper usage of an NSS can help with predictive maintenance and decrease down-time.



Providing remote indication of pressure, humidity or temperature.

The Series DPML, DPMP and DPMW Digital LCD Panel Meters provide remote indication in the designated engineering units for pressure, humidity and temperature measurements. The panel meters can take in a voltage or current input signal from transmitters such as the Dwyer® Series TTE, Series 626 or Series RHP. The jumper selection allows the user to choose the appropriate engineering units.

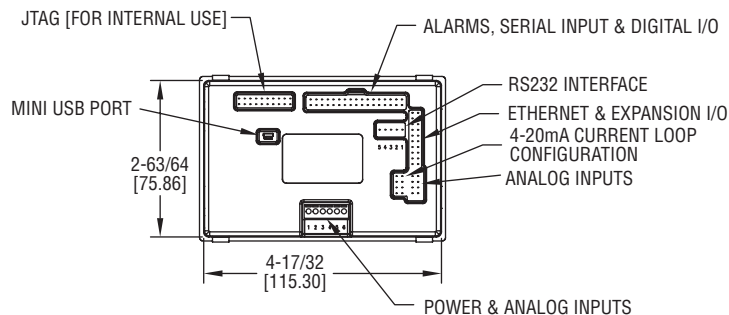
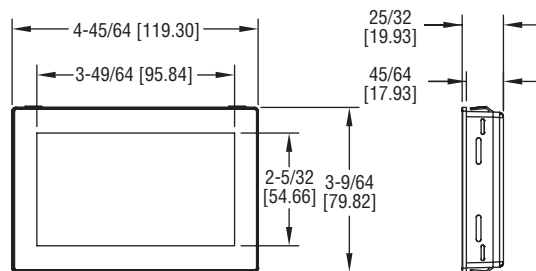


Monitor the status of your fan or pump.

The Dwyer® Series SCS Current Switches monitor the input current into a fan or pump motor starter in order to monitor the status of the equipment. As the current passes through the core of the switches, it generates enough energy to power up the switch eliminating the need for extra power wires. The solid core models are typically used on new installations, while the split core models are able to mount on existing or new installations.

GRAPHICAL USER INTERFACE PANEL METER

4.3" (109 mm) Touch Screen Display, Fully Customizable



The **SERIES SPPM2** Graphical User Interface Panel Meter is a configurable, full-color 4.3" (109 mm) touch screen display that can be used in a variety of applications. By using the free Windows® based Interface Panel Design Studio software, users can personalize the display with buttons, switches, and analog and digital scales to suit their needs. A development kit is also available, which includes a development board with buttons, dials, LEDs, and screw terminals to test the functionality of all inputs and outputs.

FEATURES/BENEFITS

- Large 4.3" touch screen display can be powered from USB or 5 to 30 VDC supply
- Free design software allows users to drag and drop elements onto the screen to quickly develop their specific interface
- Accepts up to 4 analog inputs, 8 digital I/O, 4 PWM outputs, and 2 open collector alarm outputs

APPLICATIONS

- Lift station pump control
- Room condition monitoring display
- Walk-in refrigeration/freezer control

MODEL CHART

Model	Description
SPPM2-43	4.3" interface panel
SPPM2-43-D	4.3" interface panel with development board

SPECIFICATIONS

Inputs: Mini-USB, 6-line screw terminal analog, 4 x ± 40 V, or 4 to 20 mA, 8 x digital I/O.

Outputs: 4 x PWM, 2 x alarms (open collector).

Accuracy: $\pm 0.05\%$ ± 0.1 mV (typ).

Resolution: 0.04 mV (max) or 4 decimal places.

Power Supply: USB port or 5 to 30 VDC.

Current Consumption: 400 mA at 5 VDC.

Display: 4.3" (10.9 cm) TFT LCD with 262k colors.

Display Resolution: 480 x 272 pixels.

Sampling Rate: 10 samples/sec.

Temperature Limits: 32 to 104°F (0 to 40°C).

Warm Up: 15 sec.

Mounting: Panel mount.

Electrical Connection: Multi-pin DIL's, 1 mini-USB, and 1 RS232.

Software Requirements: Compatible with Windows® XP, Windows Vista®, Windows® 7, and Windows® 8.

Weight: 6.7 oz (181 g).

Approvals: CE.

DEVELOPMENT BOARD SPECIFICATIONS

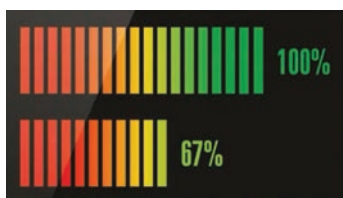
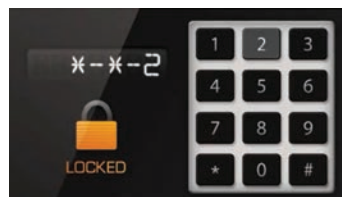
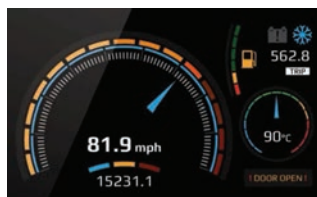
Inputs: 4 x ± 5 VDC.

Outputs: 8 x digital I/O's, 4 x PWM outputs.

Serial Communication: RS232.

Power Supply: USB port or 5 to 30 VDC.

Weight: 19.7 oz (560 g).



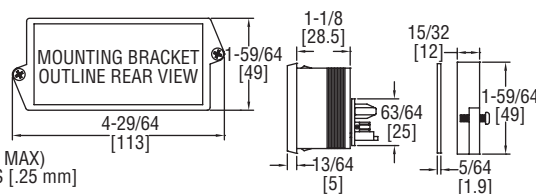
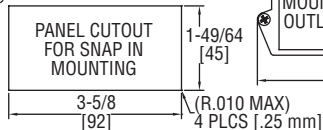
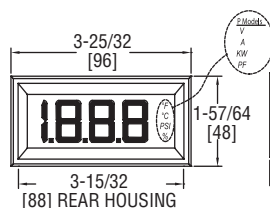
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LCD DIGITAL PANEL METERS

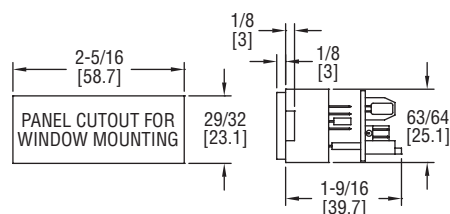
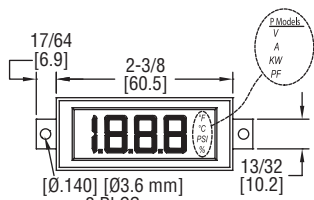
3-1/2 & 4-1/2 Digit LCD, User Selectable Engineering Units, Panel Mount



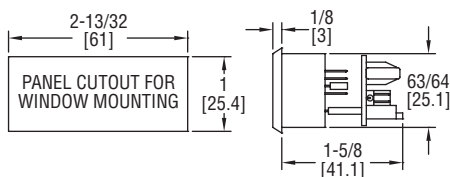
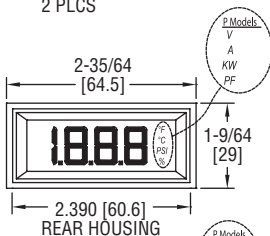
DPMA



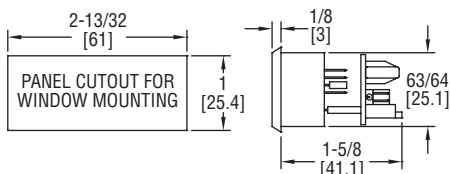
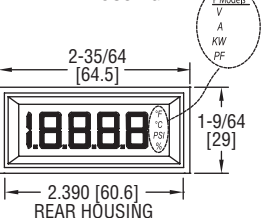
DPMW



DPMP



DPML



The **SERIES DPMA, DPMW, DPMP, & DPML** LCD Digital Panel Meters provide easy viewing on the 3-1/2 or 4-1/2 digit LCD display. On the DPMP and DPML the snap-in bezel mount eliminates mounting hardware for quick installation. The DPMA has a high contrast display for easy viewing in a standard 1/8 DIN package. The DPMW window mounts using two screws to sit flush within the panel cutout. This series can accept 4 to 20 mA, 0 to 200 mVDC, 0 to 5 VDC, or 0 to 10 VDC input signal and requires a 24 VDC power supply to illuminate the colored segments.

FEATURES/BENEFITS

- Panel mount for quick installation
- 3-1/2 or 4-1/2 digit with 0.45" or 1" segments
- Colored segments available in black, red, amber, green, or blue
- Jumper selectable engineering units and decimal point positions

APPLICATIONS

- Display process values from pressure, humidity, temperature, voltage, current, watt, or power factor transmitters

ACCESSORIES

Model	Description
DPM-12P	Regulated 120 VAC to 12 VDC power supply
DPM-24P	Regulated 120 VAC to 24 VDC power supply

SPECIFICATIONS

Input: DPMX-4XX(P): 4 to 20 mA; DPMX-5XX(P): 0 to 200 mVDC, 0 to 5 VDC, or 0 to 10 VDC.
Input Impedance: DPMX-4XX(P): 300Ω nominal; DPMX-5XX(P): 390Ω nominal.
Accuracy: DPMA: $\pm(0.05\% \text{ FS} + 1 \text{ count})$; DPMW/P/L: $\pm(0.1\% \text{ FS} + 2 \text{ count})$.
Power Supply: DPMX-4XX(P): Powered by control loop; DPMX-5XX(P): 12 VDC or 24 VDC.
Backlight Power Supply: 24 VDC @ 35 mA typical.
Span and Zero: Adjustable (± 1999 counts).
Display: DPMA: 3-1/2 digits, 7 segments, 1" (25.4 mm) H; DPMP/W: 3-1/2 digits, 7 segments, 0.45" (11.4 mm) H; DPML: 4-1/2 digits, 7 segments, 0.45" (11.4 mm) H.

Decimal Points: DPMA/W/P: 3-position, user selectable; DPML: 4-position, user selectable.
Polarity: Automatic, "-" displayed.
Operating Temperature: 32 to 122°F (0 to 50°C).
Storage Temperature: -4 to 158°F (-20 to 70°C).
Mounting: DPMA: Snap-in panel mount or clamp (gasket included); DPMW: Window mount; DPMP/L: Snap-in bezel mount.
Connection: Screw terminals.
Conversion Rate: 3 per second.
Warm-Up: 10 minutes typical.
Weight: DPMA: 4 oz (113.4 g); DPMW/P/L: 2 oz (56.7 g).
Agency Approvals: CE.

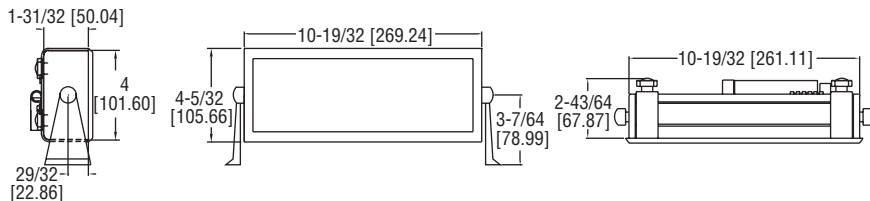
MODEL CHART

Model	Input	Segments	Engineering Units	Digit	Model	Input	Segments	Engineering Units	Digit
DPMA-401	Current	Amber	°F, °C, %, PSI	3-1/2"	DPMW-401P	Current	Amber	V, A, KW, PF	3-1/2"
DPMA-402	Current	Red	°F, °C, %, PSI	3-1/2"	DPMW-402P	Current	Green	V, A, KW, PF	3-1/2"
DPMA-404	Current	Green	°F, °C, %, PSI	3-1/2"	DPMW-403P	Current	Red	V, A, KW, PF	3-1/2"
DPMA-501	Voltage	Amber	°F, °C, %, PSI	3-1/2"	DPMP-401*	Current	Amber	°F, °C, %, PSI	3-1/2"
DPMA-502	Voltage	Red	°F, °C, %, PSI	3-1/2"	DPMP-402*	Current	Green	°F, °C, %, PSI	3-1/2"
DPMA-504	Voltage	Green	°F, °C, %, PSI	3-1/2"	DPMP-403*	Current	Red	°F, °C, %, PSI	3-1/2"
DPMA-401P	Current	Amber	V, A, KW, PF	3-1/2"	DPMP-501*	Voltage	Amber	°F, °C, %, PSI	3-1/2"
DPMA-402P	Current	Red	V, A, KW, PF	3-1/2"	DPMP-502*	Voltage	Green	°F, °C, %, PSI	3-1/2"
DPMA-404P	Current	Green	V, A, KW, PF	3-1/2"	DPMP-503*	Voltage	Red	°F, °C, %, PSI	3-1/2"
DPMA-501P	Voltage	Amber	V, A, KW, PF	3-1/2"	DPMP-401P*	Current	Amber	V, A, KW, PF	3-1/2"
DPMA-502P	Voltage	Red	V, A, KW, PF	3-1/2"	DPMP-402P*	Current	Green	V, A, KW, PF	3-1/2"
DPMA-504P	Voltage	Green	V, A, KW, PF	3-1/2"	DPMP-403P*	Current	Red	V, A, KW, PF	3-1/2"
DPMW-401	Current	Amber	°F, °C, %, PSI	3-1/2"	DPMP-501P*	Voltage	Amber	V, A, KW, PF	3-1/2"
DPMW-402	Current	Green	°F, °C, %, PSI	3-1/2"	DPMP-502P*	Voltage	Green	V, A, KW, PF	3-1/2"
DPMW-403	Current	Red	°F, °C, %, PSI	3-1/2"	DPMP-503P*	Voltage	Red	V, A, KW, PF	3-1/2"

*For 4-1/2 digit display, change DPMP to DPML. Example: DPML-401

EXTRA LARGE DIGITAL PANEL METER

3-1/2 Digit LED Display, 2.3" Segment Height, Process Inputs



The **SERIES DPMX** Extra Large Digital Panel Meter can be easily viewed from across a room or in dark areas. The 2.3" LED segments are available in red, green, or blue. These panel meters come equipped with a universal power supply and user selectable process inputs to fit most applications.

FEATURES/BENEFITS

- Large 10.6" (269.2 mm) x 4.2" (105.7 mm) backlit display
- Protective metal casing with adjustable mounting bracket

APPLICATIONS

- Display process values from various transmitters

MODEL CHART		
Model	Segments	Power Supply
DPMX-1	Blue	90 to 250 VAC
DPMX-2	Green	90 to 250 VAC
DPMX-3	Red	90 to 250 VAC
DPMX-1-LV	Blue	10.5 to 30 VAC/VDC
DPMX-2-LV	Green	10.5 to 30 VAC/VDC
DPMX-3-LV	Red	10.5 to 30 VAC/VDC

SPECIFICATIONS

Inputs: Set voltage: ± 200 mVDC, ± 2 VDC, ± 20 VDC; Adjustable voltage: 200 mVDC, 5 VDC, 10 VDC; Adjustable current: 0(4) to 20 mA DC.
Input Impedance: Set voltage: > 1 M Ω (> 10 M Ω on 200 mV range); Adjustable voltage: 392 k Ω ; Adjustable current: 300 Ω nominal.
Accuracy: $\pm (1\% \text{ FS} + 1 \text{ count})$.
Power Supply: 90 to 250 VAC @ 12 VA or 10.5 to 30 VAC/DC @ 6 VA (depending on model).
Display: 3-1/2 digits, 2.3" H, 7 segment LED.
Sampling Rate: 3 readings per second.
Operating Temperature: 14 to 122°F (-10 to 50°C).
Storage Range: -40 to 167°F (-40 to 75°C).
Warm Up: 10 minutes.
Mounting: 180° gimbal mounting with 30° stops or bezel mount.

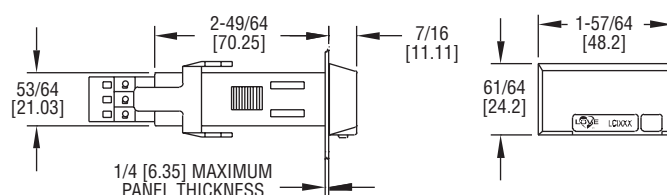
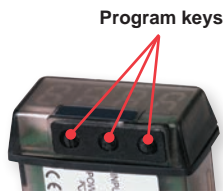
SERIES LCI132

COMPACT PROCESS INDICATOR

1/32 DIN, Fully Programmable



Process Display



The **SERIES LCI132** Process Indicators offer flexibility and value in a low cost, compact 1/32 DIN package. The shallow depth of these full size panel meters allows installation in panels only 2.76" (70 mm) deep with room to spare.

FEATURES/BENEFITS

- Fits in 1/32 DIN panel cutouts
- IP65 (NEMA 4X) front housing
- Fully programmable
- Various voltage and current inputs fit most processes

APPLICATIONS

- Display process values from various transmitters

MODEL CHART		
Model	Input	Supply Voltage
LCI132-00	± 100 VDC; ± 20 VDC; ± 10 VDC; ± 200 VDC; ± 20 mA DC	120/240 VAC
LCI132-01	± 100 VDC; ± 20 VDC; ± 10 VDC; ± 200 VDC; ± 20 mA DC	24/48 VAC
LCI132-10	± 100 VAC; 600 VAC; 5 A (DC) 1 A (AC); -199.9 to +600 VDC; ± 100 VDC -1.999 to 5 A (DC) ± 1 A (DC)	120/240 VAC
LCI132-11	± 100 VAC; 600 VAC; 5 A (DC) 1 A (AC); -199.9 to +600 VDC; ± 100 VDC -1.999 to 5 A (DC) ± 1 A (DC)	24/48 VAC

SPECIFICATIONS

LCI132-0X

Range: Input volts (DC): ± 200 V, ± 20 V, ± 10 V; Input amperes: ± 100 mV, ± 20 mA.
Resolution: Input volts (DC): 0.1 V, 0.01 V, 1 mV; Input amperes: 0.1 mV, 0.01 mA;
 Input impedance: Volts: 1 M Ω , mV: 100 M Ω , mA: 12.1 Ω .

LCI132-1X

Range AC: Input volts: 600.0, 100.0; Input amperes: 5.000, 1.000.
Range DC: Input volts: -199.9, ± 600.0 , ± 100.0 ; Input amperes: -1.999, +5.000, ± 1.000 .

Resolution: Input volts: 0.1 V; Input amperes: 1 mA; Input impedance: Volts: 3 M Ω (106), Amps: 12 m Ω (10-3).

Accuracy at 23°C $\pm 5^\circ\text{C}$: 100/600 VDC 1/5 A DC; 600 V/5 A AC: $\pm (0.2\% \text{ reading} + 3 \text{ digits})$. 100 V / 1 A AC: $\pm (0.4\% \text{ reading} + 4 \text{ digits})$.

Temperature Coefficient: 100 ppm/ $^\circ\text{C}$.

Warm Up: 5 minutes.

Power Supply and Fuses (DIN 41661) (Not supplied): LCI132-X0: 85–265 VAC 50/60 Hz and 100–300 VDC: Fuse: 0.1 A/ 250 V; LCI132-X1: 21–53 VAC 50/60 Hz and 10.5–70 VDC: Fuse 0.5 A/ 250 V.

DISPLAY

Range: -1999 to 9999 (DC) 0 to 9999 (AC).

Type: 4 red digits 10 mm.

Reading Rate: 4/s.

Overflow Indication: OVR.

ENVIRONMENTAL

Operating Temperature: 14 to 140°F (-10 to 60°C).

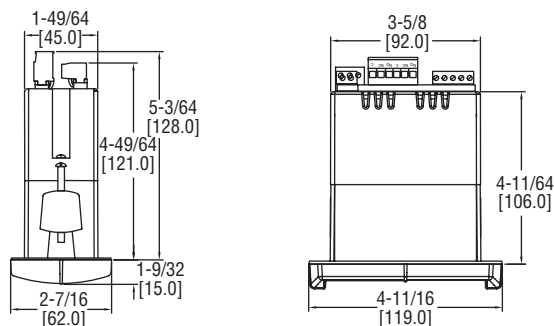
Storage Temperature: -13 to 185°F (-25 to 85°C).

Relative Humidity (non condensed): $< 95\%$ @ 40°C.

Panel Sealing: NEMA 4X (IP66).

DUAL LINE CONFIGURABLE PANEL METERS

1/8 DIN Multi-Pump Alternation Control, Open-Channel Flow, Rate and Totalizer



The Series PM's are a series of 1/8 DIN digital panel meters engineered to take in multiple inputs from a variety of instrumentation for the purpose of displaying or controlling a process parameter.

The **SERIES APM** is a panel meter specifically designed for displaying flow rate and total from a flow meter with an analog output such as 4 to 20 mA or 0 to 10 V. The APM is particularly well-suited for flow applications and can display flow rate and total at simultaneously.

The **SERIES MPM** has the ability to obtain non-linear input signals and linearize them with simple to use math functions such square-root extractor, weirs and flumes exponential linearizer, horizontal round tank linearizer or general purpose 32-point linearizer. Unit accepts 0 to 20 mA, 4 to 20 mA, 0 to 5 V, or ± 10 V inputs and requires 85 to 265 VAC or 12/24 VDC power supply. Choose from RS-232, RS-422/485 serial communication options or any available expansion modules, accessories and enclosures.

The **SERIES PPM** displays flow rate and total simultaneously, with a programmable relay and 4 to 20 mA options for flow rate or flow total. The PPM is designed for displaying flow rate and total from a pulsed input provided by open collector, NPN, PNP, TTL, switch contact, sine wave, or square wave.

FEATURES/BENEFITS

- Three levels of password protection
- Math functions for flow & round horizontal tanks
- 32-point linearization, square root or programmable exponent
- Multi-pump alternation control
- Rate displayed as units per second, minute, hour, or day
- Total, grand total or non-resettable grand total
- Two or four relays & isolated 4 to 20 mA output options
- External 4-relay & digital I/O expansion modules
- RS-232, RS-422/485 serial communication options

APPLICATIONS

- Level monitoring
- Pump control
- Flow rate indication
- Flow totalization
- Open channel flow monitoring
- Process control

SPECIFICATIONS

Input: APM: 0 to 20 mA, 4 to 20 mA, 0 to 5 V, or ± 10 V inputs; MPM: 0 to 20 mA, 4 to 20 mA, 0 to 5 V, or ± 10 V; PPM: Field selectable: Pulse or square wave 0 to 5 V, 0 to 12 V, or 0 to 24 V @ 30 kHz; TTL; open collector 4.7 k Ω pull-up to 5 V @ 30 kHz; NPN or PNP transistor, switch contact 4.7 k Ω pull-up to 5 V @ 40 Hz.

Input Impedance: 50 to 100 Ω .

Accuracy: $\pm 0.03\%$ of calibrated span ± 1 count, square root & programmable exponent accuracy range: 10-100% of calibrated span.

Power Requirements: 85 to 265 VAC 50/60 Hz, 90 to 265 VDC, 20 W max or 12 to 24 VDC $\pm 10\%$, 15 W max.

Display: Dual-line 6-digit display, 0.60 in and 0.46 in.

Decimal Points: Five positions, user selectable.

Temperature Limits: Operating: -40 to 149°F (-40 to 65°C); Storage: -40 to 185°F (-40 to 85°C).

Enclosure Rating: NEMA 4X, IP65 front.

Electrical Connections: Removable screw terminal blocks accept 12 to 22 AWG wire, RJ45 for external relays, digital I/O, and serial communication adapters.

Output Signal: 4 to 20 mA.

Power Consumption: 85 to 265 VAC models: 200 mA @ 24 VDC; 12 to 24 VDC models: 100 mA @ 24 VDC; Second supply with output 2 models: 40 mA @ 24 VDC.

Switch Rating: 2 or 4 SPDT (Form C) internal and/or 4 SPST (Form A) external; rated 3 A @ 30 VDC and 125/250 VAC resistive load; 1/14 HP @ 125/250 VAC for inductive loads.

Time Delay: 0 to 999.9 seconds, on & off relay time delays; programmable and independent for each relay.

Shipping Weight: 9.5 oz (269 g).

Agency Approvals: CE, UL.

OPEN CHANNEL FLOW CAPABILITY

Series APM when utilized with an ultrasonic level transmitter, such as the Mercoind Series ULT, provides an economical way to measure open channel flow.

DIFFERENTIAL PRESSURE FLOW

The APM can display flow rate and total by extracting the square root from the 4 to 20 mA signal from a differential pressure transmitter, such as the Dwyer 629, that is being used with a flow element such as Dwyer orifice plate Series OP or TE. The user-selectable, low-flow cut-off feature gives a reading of zero when the rate is below a user selectable value.

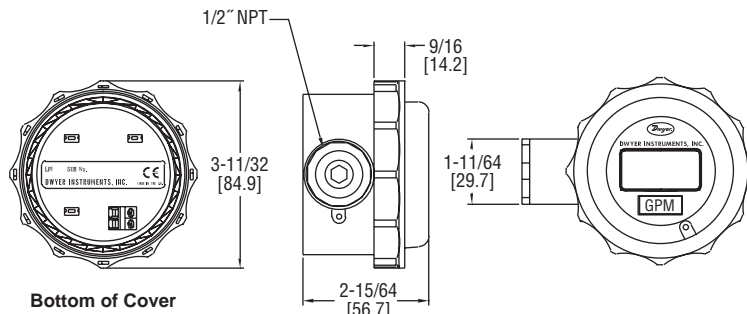
PUMP CONTROL

With the two or four contact output option the APM or MPM can be used as a programmable pump controller when used with a Dwyer level transmitter. The APM also has programmable on and off points for up to four pumps, quadruplex pumping systems with alternation capability. When using the 4-relay model with the four external relay accessory, the APM can do 8 contacts for any combination of pump control and 8 programmable alarms.

MODEL CHART					
Model	Model	Model	Power	Output 1	Output 2
APM-100	MPM-100	PPM-100	85 to 265 VAC	None	None
APM-101	MPM-101	PPM-101	85 to 265 VAC	None	4 to 20 mA
APM-120	MPM-120	PPM-120	85 to 265 VAC	2 relays	None
APM-121	MPM-121	PPM-121	85 to 265 VAC	2 relays	4 to 20 mA
APM-140	MPM-140	PPM-140	85 to 265 VAC	4 relays	None
APM-141	MPM-141	PPM-141	85 to 265 VAC	4 relays	4 to 20 mA
APM-200	MPM-200	PPM-200	12 to 24 VDC	None	None
APM-201	MPM-201	PPM-201	12 to 24 VDC	None	4 to 20 mA
APM-220	MPM-220	PPM-220	12 to 24 VDC	2 relays	None
APM-221	MPM-221	PPM-221	12 to 24 VDC	2 relays	4 to 20 mA
APM-240	MPM-240	PPM-240	12 to 24 VDC	4 relays	None
APM-241	MPM-241	PPM-241	12 to 24 VDC	4 relays	4 to 20 mA

LOOP POWERED PROCESS INDICATORS

Square Root Function and User Defined Curves 4-Digit LED



The **MODEL LPI** Micro-Pressure Based Loop Powered Indicator accepts a 4-20 mA input signal and displays the associated process variable such as pressure, level, flow, temperature, or relative humidity. The indicator is housed in a NEMA 4X (IP66) polycarbonate enclosure with a 1/2" female NPT side port. Users can quickly modify the instrument configuration via three push buttons on the front of the unit.

FEATURES/BENEFITS

- NEMA 4X (IP66) enclosure for outdoor applications
- Programmable input/output scaling, engineering units, offset, decimal point position, and password protection
- Bright red four-digit LED

APPLICATIONS

- Displays process values from various transmitters

SPECIFICATIONS @ 68°F (20°C)

Input: 4 to 20 mA.
Maximum Input Current: 100 mA for 1 minute.
Accuracy: $\pm 0.02\%$ FS.
Stability: Zero: 0.002%/°C; Span: 100 ppm/°C.
Power Requirements: 2-wire 4 to 20 mA loop powered.
Display: 4-digit, 7.6 mm (high) red LED.
Maximum Display Range: -1999 to 9999.
Ambient Operating Temperature: -4 to 167°F (-20 to 75°C).
Storage Temperatures: -58 to 185°F (-50 to 85°C).
Weight: 6.0 oz (170 g).
Front Panel Protection: NEMA 4X (IP66).
Agency Approvals: CE.

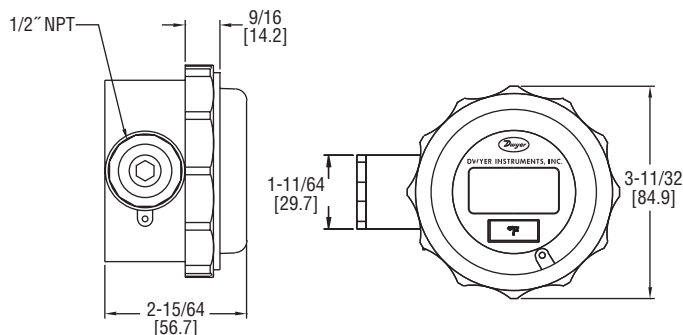
MODEL CHART

Model	Description
LPI-111	Loop powered indicator with plastic enclosure

SERIES BPI

BATTERY POWERED TEMPERATURE INDICATOR

RTD or T/C Input, 4-Digit Display, Selectable °F or °C



The **SERIES BPI** Battery Powered Indicator accepts RTD or thermocouple input and provides local or remote display of temperature measurements. The indicator is housed in a NEMA 4X (IP66) enclosure for additional protection from the environment. Users can quickly modify the instrument configuration via three push buttons on the front of the unit.

FEATURES/BENEFITS

- Programmable input type, engineering units (°F/°C), offset temperature, decimal point position, and password protection
- Four-digit segmented display

APPLICATIONS

- Provides local temperature indication in areas without power availability

SPECIFICATIONS

Inputs: Thermocouple or RTD depending on model.
Accuracy: Thermocouple input: $\pm 0.1\%$ FS, $\pm 0.5^\circ\text{C}$ (plus sensor); RTD: $\pm 0.2^\circ\text{C}$ $\pm 0.1\%$ of reading (plus sensor error).
Power Requirements: 3.6 V AA lithium metal battery, included, user replaceable.
Battery Life: > 2 years.
Display: 4-digit LCD.
Resolution: 0.1°C.
Ambient Operating Temperature: 14 to 158°F (-10 to 70°C).
Storage Temperature: -4 to 185°F (-20 to 85°C).
Weight: 6.0 oz (170 g).
Front Panel Protection: NEMA 4X (IP66).
Agency Approvals: CE.

MODEL CHART

Model	Input
BPI-101	3-wire Pt100 or Ni120
BPI-102	K, J, T, N, R, S, E, or F thermocouples

MEASURING RANGES

Sensor	Range °F (°C)
K	-328 to 2498 (-200 to 1370)
J	-148 to 2192 (-100 to 1200)
T	-346 to 752 (-210 to 400)
N	-292 to 2372 (-180 to 1300)
R	14 to 3200 (-10 to 1760)
S	14 to 3200 (-10 to 1760)
E	-328 to 1832 (-200 to 1000)
F	-148 to 1112 (-100 to 600)
Pt100Ω	-148 to 1472 (-100 to 800)
Ni120	-148 to 1472 (-100 to 800)

BAR GRAPH METER

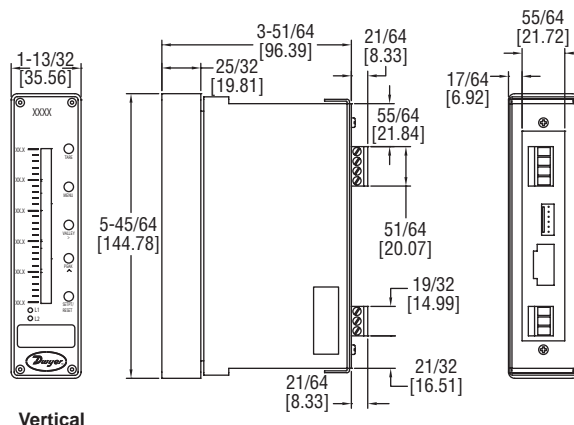
Clear Relative Position & High Resolution In One



Vertical



Horizontal



Vertical

The **SERIES BGM** Digital Bar Graph Meter is a durable option to replace a wide range of analog meters. This product utilizes a keypad that allows for easy access of features without navigating through complex menu structures. The LED bar graph can be used in addition to the 4-digit LED display, which adds a visual indicator of the measured value for better analysis.

FEATURES/BENEFITS

- Bar graph visual indicator
- High resolution for better precision
- Many configurable options to design a meter for any need

APPLICATIONS

- Visual location and indication of flow, level or air velocity

ACCESSORY	
Model	Description
A-BGM-RPM	Remote programmer module

MODEL CHART											
Example	BGM	-H	0	0	-N	W	D	-AE	-AO	BGM-H00-NWD-AE-AO	
Series	BGM									Bar graph meter	
Orientation		H								Horizontal	
		V								Vertical	
Enclosure			0							None	
Rating			4							NEMA 4X**	
Relays				0						None	
				2						2 relay outputs	
Voltage					N					None	
Retransmission					E					Voltage retransmission	
Power Supply						W				120 VAC 50/60 Hz	
						S				5 to 12 VDC	
						D				10 to 30 VDC	
Signal Input							D			0 to ±10 VDC	
							A			4 to 20 mA	
							B			0 to 5 VDC	
Scale Label*							AE			Feet	
							AF			FPM	
							AH			Inches w.c.	
							AI			Inch/sec	
							AM			Level	
							AZ			Tank level	
Scale Range*							AO			0 to 5	
							AQ			0 to 10	
							AT			0 to 20	
							AV			0 to 30	
							AW			0 to 40	
							AX			0 to 50	
							AZ			0 to 75	
							BA			0 to 100	

*Contact factory for additional options

**NEMA 4X option requires A-BGM-RPM for programming

SPECIFICATIONS

Inputs: 0 to ±10 VDC or 4 to 20 mA.

Accuracy: ±0.05% FS.

Power Requirements: 120 VAC 50/60 Hz, 5 to 12 VDC, or 10 to 30 VDC model dependent.

Power Consumption: 120 VAC: 2.4 W @ 20 mA max; 5 to 12 VDC: 1.2 W @ 100 mA max; 10 to 30 VDC: 1.5 W @ 50 mA max.

Display: LED display: 4 red colored digits, 0.3" height; LED graph: 31 element bar, 0.2" W x 3.1" L (5.08 mm W x 78.74 mm L).

Decimal Point: 3 positions, user selectable.

Temperature Limits: Operating: -13 to 176°F (-25 to 80°C); Storage: -67 to 176°F (-55 to 80°C).

Enclosure Rating: NEMA 1 or NEMA 4X**, model dependent IP65 front.

Electrical Connections: Removable screw terminal blocks.

Outputs: 2 SPST relay outputs (optional).

Switch Rating: 1 A @ 200 V.

Enclosure Material: Bezel: Black epoxy enameled steel; Window: Acrylic; Case and mounting bracket: 304 SS.

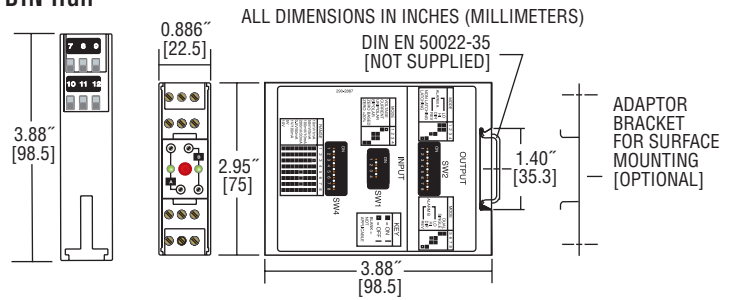
Time Delay: 0.5 sec.

Weight: 40 oz (1.13 kg).

**NEMA 4X option requires A-BGM-RPM for programming

PROCESS/TEMPERATURE ALARM SWITCH MODULE

Two Form C (SPDT) Switches, Small Size, Mounts Easily on 35 mm DIN Rail



The **SERIES SC1** Limit/Alarm Switch Modules are on-off or limit switches with selectable process signal. Each unit has two form C (SPDT) relays which can operate independently, or be logically connected to operate as a DPDT output.

FEATURES/BENEFITS

- Accepts current, voltage, thermocouple, or RTD inputs
- Mounts on standard 35 mm DIN rail
- Two color LED indicator to indicate the status of each output relay
- Programmable input type, scale range, output action, and output type

APPLICATIONS

- Stand alone CO monitoring in parking garage
- Industrial processing equipment

MODEL CHART		
Model	Description	Power Supply
SC1090	4 to 20 mA, 10 to 50 mA, 0 to 20 mA, 0 to 10 V, -10 to 10 mV	85 to 265 VDC/VAC
SC1290	Thermocouple type J, K, R, S, T, E	85 to 265 VDC/VAC
SC1490	RTD Pt1000 Ni100, Ni120, Cu10, Ni-Fe1000, Ni-Fe2000	85 to 265 VDC/VAC
SCL1090	4 to 20 mA, 10 to 50 mA, 0 to 20 mA, 0 to 10 V, -10 to 10 mV	12 to 24 VDC/VAC
SCL1290	Thermocouple type J, K, R, S, T, E	12 to 24 VDC/VAC
SCL1490	RTD Pt1000 Ni100, Ni120, Cu10, Ni-Fe1000, Ni-Fe2000	12 to 24 VDC/VAC

SPECIFICATIONS

Input: See table.
Power Supply: SC models: 85 to 265 VDC/VAC, 50 to 400 Hz; SCL models: 12 to 24 VDC/VAC, 50 to 400 Hz.
Isolation: 1500V rms between outputs, input, and power.
Set Points: Adjustable 0 to 100% of span.
Deadband: Adjustable 0.25% to 100% of span.
Drift: $\pm 0.02\%/^{\circ}\text{C}$ typical $\pm 0.05\%/^{\circ}\text{C}$ maximum.
Ambient Temperature Range: Operating: 32 to 131°F (0 to 55°C); Storage: -40 to 176°F (-40 to 80°C).
Excitation Current: (SC1490) Cu10 Ω = 5 mA; Pt100 Ω , Ni100 Ω , Ni120 Ω = 500 μA ; Pt500 Ω , NiFe1000 Ω = 100 μA ; Pt1000 Ω = 50 μA .
Lead Compensation Error: (SC1490) $\approx 0.02\%/^{\circ}\text{C}$.
Open Lead Protection: (SC1490) upscale only.
Input Impedance: SC1090: Voltage input = 1 M Ω , current input = 10 Ω ; SC1290: 3 M Ω .
Sensor Burnout Protection: Selectable.
Relay Output: Form C, SPDT, one per set point, 5A @ 250 VAC, resistive.
Latch Circuit Reset: Automatic at power up. Manual with reset switch on front of module.
Indicators: One dual color LED per set point. Red = relay on, green = relay off.
Wiring Terminals: Screw driven compression type.

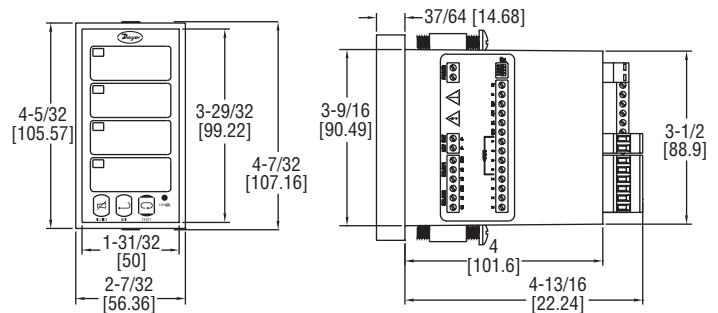
ACCESSORY

Model	Description
A-360	Aluminum DIN rail 1 m

SERIES AN2

INDICATING ALARM ANNUNCIATOR

Up to 8 Inputs, Integral Power Supply



The **SERIES AN2** Indicating Alarm Annunciator provides visible and audible alarms for up to eight inputs. Audible alarm conditions can be acknowledged, reset, or silenced either via the front panel push buttons or the rear terminal block. The annunciator also has two SPDT relay outputs that can be used to initiate external alarms, buzzers, or paging devices.

FEATURES/BENEFITS

- Includes integral 24 VDC power supply to power most switches
- Can be set to any common ISA sequences

APPLICATIONS

- Water and wastewater panels
- Tank level monitoring
- Temperature monitoring process

SPECIFICATIONS

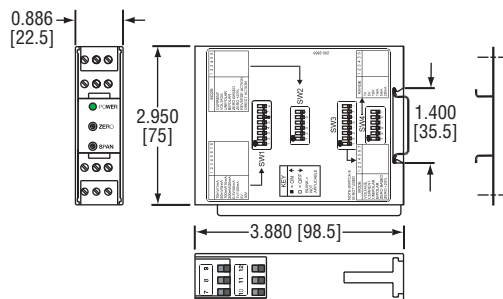
Inputs: NO or NC switches, open collector transistor (open circuit voltage = 3.3 VDC); Logic levels: LO = 0 to 0.9 VDC, HI = 2.4 to 28 VDC (100 K Ω input impedance).
Outputs: Two SPDT relay (3 A @ 250 VAC or 30 VDC, resistive; 1/14 HP @ 125/250 VAC, inductive).
Temperature Limits: -40 to 149°F (-40 to 65°C).
Power Requirements: 85 to 265 VAC 50/60 Hz, 90 to 265 VDC; 12 to 36 VDC, 12 to 24 VAC (depending on model).
Power Consumption: 20 W (6 W on low voltage models).
Mounting: 1/8 DIN.
Housing Material: UL rated 94V-0 high impact plastic.
Enclosure Rating: NEMA 4X (IP66) front panel.
Weight: 9.6 oz (272 g).
Agency Approvals: CE, UL.

MODEL CHART

Model	Number of Outputs	Power Supply
AN24-1	4	85 to 265 VAC
AN24-2	4	12 to 36 VDC
AN28-1	8	85 to 265 VAC
AN28-2	8	12 to 36 VDC

ISO VERTER® II SIGNAL CONDITIONING MODULES

Accepts Virtually All Standard Process Signals



The **SERIES SC4** Iso Verter® II Signal Conditioning Modules completely isolate the input from the output and from ground. The SC4380 Process Signal Converter/Isolator accepts virtually all standard process signals as input, and isolates and retransmits the signal in either the same units or any other standard process signal. The SC4151 RTD Transmitters and SC4130 Thermocouple Transmitters both offer a fixed scale range input, which is selected when ordered, and a linearized, isolated, field selectable 4 to 20 mA or 0 to 10 VDC output.

FEATURES/BENEFITS

- Up to 1500 VAC RMS electrical isolation
- Easily installed on industry standard 35 mm DIN rail
- Low voltage SCL units also available

APPLICATIONS

- Signal conditioners used in panels for isolation
- Converting signals for boilers and control systems

SPECIFICATIONS

Isolation: 1500 VAC RMS.

Linearity: 0.1% FS.

Drift: $\pm 0.02\%/^{\circ}\text{C}$ typical, $\pm 0.05\%/^{\circ}\text{C}$ maximum.

Power Supply: SC: 85 to 265 VDC/VAC 50 to 400 Hz; SCL: 12 to 24 VDC/VAC 50 to 400 Hz.

Output Loads: Current: 600 Ω max voltage: 500 Ω min (20 mA maximum).

Input Characteristics: SC4380: Voltage: 1 M Ω impedance; Current: 10 Ω ;

SC4151: RTD Search current < 500 μA ; SC4130: 3 M Ω impedance.

Case Size: 0.866" W (22.5 mm) x 2.950" H (75.0 mm) x 3.880" D (98.5 mm).

Mounting: Mounts on industry standard 35 mm DIN Rail (DIN EN50022-35).

MODEL CHART	
Model	Description
SC4130	Thermocouple transmitters
SCL4130	Low voltage thermocouple transmitters
SC4151	RTD transmitters
SCL4151	Low voltage RTD transmitters
SC4380	Iso Verter® II process signal converter/isolators
SCL4380	Low voltage Iso Verter® II process signal converter/isolators

OPTIONS - SC4130 & SCL4130

To order add suffix:	Description
A	J, -100 to 200°C
C	J, 0 to 100°C
D	J, 0 to 500°F
E	J, 0 to 250°C
F	J, 0 to 750°C
G	J, 0 to 1000°F
H	K, -150 to 350°F
J	K, -100 to 200°C
K	K, 0 to 500°F
L	K, 0 to 250°C
M	K, 0 to 1000°F
N	K, 0 to 500°C
P	K, 0 to 2000°F
R	K, 0 to 1000°C
S	T, -300 to 250°F
T	T, -200 to 200°C

OPTIONS - SC4151 & SCL4151

To order add suffix:	Description
A	DIN, -100 to 200°C
B	DIN, 0 to 100°C
C	DIN, 0 to 150°C
D	DIN, 0 to 200°F
E	DIN, 0 to 200°C
F	DIN, 0 to 400°F
G	DIN, 0 to 250°C
H	DIN, 0 to 500°F
J	DIN, 0 to 500°C
K	DIN, 0 to 1000°F

OPERATING RANGES - SC4380 & SCL4380

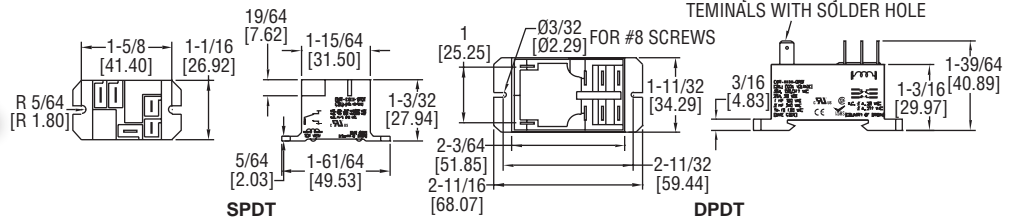
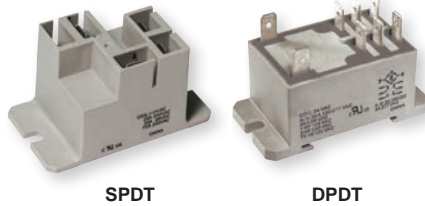
Inputs		Outputs	
Current	Voltage	Current	Voltage
0 to 5 mA	0 to 100 mV	0 to 1 mA	0 to 1 V
0 to 10 mA	0 to 200 mV	0 to 5 mA	0 to 5 V
0 to 10 mA	0 to 500 mV	0 to 20 mA	0 to 10 V
0 to 20 mA	0 to 1 V	1 to 5 mA	1 to 5 V
0 to 50 mA	0 to 5 V	4 to 20 mA	2 to 10 V
0 to 100 mA	0 to 10 V		
1 to 5 mA	1 to 5 V		
4 to 20 mA	2 to 10 V		
10 to 50 mA			

ACCESSORY

Model	Description
A-360	Aluminum DIN rail 1 m

ELECTROMECHANICAL RELAY

30 Amp, SPDT and DPDT Operation



The **SERIES 9** Electromechanical Relay is small in size, features Class F insulation for a max coil temperature of 155°C, quick-connect terminals for simple connection, and is panel mountable. The relays are compact and impervious to shock and vibration.

FEATURES/BENEFITS

- Compact size for flange mounting
- Quick-connect terminals to allow for easy installation

APPLICATIONS

- Motor control
- Lighting control
- Refrigeration compressor systems

MODEL CHART			
Model	Operation	Input Voltage	Coil Resistance
9AS5A5224	AC	24 VAC 50/60 Hz	500 Ω
9AS5A52120	AC	120 VAC 50/60 Hz	3000 Ω
92S11A22D24	AC	24 VAC 50/60 Hz	250 Ω
92S11A22D120	AC	120 VAC 50/60 Hz	1600 Ω
9AS5D5224	DC	24 VDC	576 Ω
92S11D22D12	DC	12 VDC	86 Ω
92S11D22D24	DC	24 VDC	1600 Ω

SPECIFICATIONS

Operating and Load Voltage Range: 12 to 277 VAC; 5 to 110 VDC.

Electrical Connection: Quick-connect tab terminals. SPDT 0.187" coil terminal/0.25" contact terminal; DPDT 0.25" coil terminal/0.25" contact terminal.

Switching Operation: SPDT or DPDT.

Electrical Rating: SPDT: NO 30 A @ 240 VAC / 28 VDC; NC 10 A @ 240 VAC / 28 VDC; DPDT: 30 A @ 240 VAC 20 A @ 28 VDC.

Temperature Limits: Storage: -40 to 185°F (-40 to 85°C); Operation: -40 to 131°F (-40 to 55°C).

Voltage Loss: 2.5 VA (VAC); 1W (VDC). **Cycle Life:** 100,000 cycles (electrical); 10,000,000 cycles (mechanical).

Housing: Polyester resin.

Weight: 1.16 oz (45 g) (SPDT); 3 oz (85 g) (DPDT).

Agency Approvals: CE, cULus, (EMR-XXXX-DPDT), cURus (EMR-XXXX-SPDT).

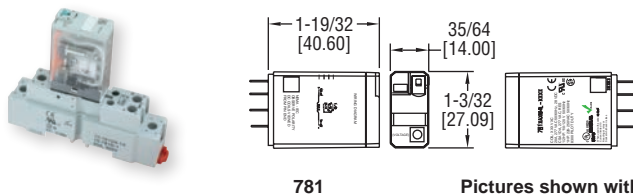
ACCESSORIES

Model	Description
16-9ADIN1	Din adaptor
A-360	Aluminum DIN rail 1 m

SERIES 781 & 782

ICE CUBE RELAYS

SPDT or DPDT Operation



781

Pictures shown with socket accessory (sold separately)

782

The **SERIES 781 & 782** Electromechanical Ice Cube Relays are full-featured relays that can be used to handle loads up to 15 amps for AC or DC circuits. It features a flag status indicator and a LED status lamp to let the user know when the relay is activated. In order to differentiate between AC and DC actuated models, the push-to-test button is color coded and a removable lock-down lever holds the test button in place.

FEATURES/BENEFITS

- Clear plastic housing to easily view the contacts
- Flag and LED status indicators for visual confirmation of relay state
- Socket mounted for quick installation/replacement

APPLICATIONS

- Refrigeration compressor systems
- HVAC motor controls
- Water/wastewater pump control

SPECIFICATIONS

Operating and Load Voltage Range: 24 to 240 VAC; 24 VDC.

Electrical Connection: Silver alloy plug-in contacts.

Switching Operation: SPDT or DPDT.

Electrical Rating: Depends on model, see model chart.

Temperature Limits: Storage: -40 to 185°F (-40 to 85°C); Operation: -40 to 131°F (-40 to 55°C).

Power Consumption: 781: 0.9 VA; 0.7W; 782: 1.2 VA; 0.9W.

Cycle Life: 100,000 cycles (electrical); 10,000,000 cycles (mechanical).

Housing: Plastic polycarbonate.

Weight: 781: 1.02 oz (29 g); 782: 1.3 oz (36 g).

Agency Approvals: CE, CSA, cULus, cURus.

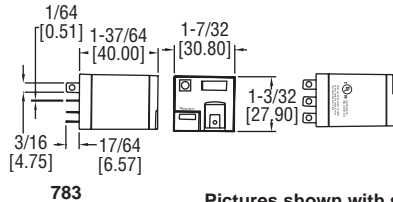
ACCESSORIES

Model	Description
70-781D5-1A	Socket for 781 series relay
70-782D8-1A	Socket for 782 series relay

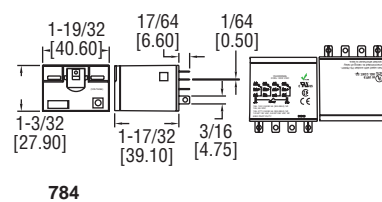
MODEL CHART				
Model	Operation	Input Voltage	Coil Resistance	Electrical Rating
781XAXRM4L-24A	AC	24 VAC 50/60 Hz	180 Ω	15 A @ 277 VAC (50/60 Hz) or 28 VDC
781XAXRM4L-120A	AC	120 VAC 50/60 Hz	4430 Ω	15 A @ 277 VAC (50/60 Hz) or 28 VDC
781XAXRM4L-240A	AC	240 VAC 50/60 Hz	15720 Ω	15 A @ 277 VAC (50/60 Hz) or 28 VDC
781XAXRM4L-24D	DC	24 VDC	750 Ω	15 A @ 277 VAC (50/60 Hz) or 28 VDC
782XBXRM4L-24A	AC	24 VAC 50/60 Hz	180 Ω	15 A @ 120 VAC 50/60 Hz; 12 A @ 277 VAC 50/60 Hz or 28 VDC (UL); 10 A @ 277 VAC 50/60 Hz (CSA)
782XBXRM4L-120A	AC	120 VAC 50/60 Hz	4430 Ω	15 A @ 120 VAC 50/60 Hz; 12 A @ 277 VAC 50/60 Hz or 28 VDC (UL); 10 A @ 277 VAC 50/60 Hz (CSA)
782XBXRM4L-240A	AC	240 VAC 50/60 Hz	15720 Ω	15 A @ 120 VAC 50/60 Hz; 12 A @ 277 VAC 50/60 Hz or 28 VDC (UL); 10 A @ 277 VAC 50/60 Hz (CSA)
782XBXRM4L-24D	DC	24 VDC	650 Ω	15 A @ 120 VAC 50/60 Hz; 12 A @ 277 VAC 50/60 Hz or 28 VDC (UL); 10 A @ 277 VAC 50/60 Hz (CSA)

ICE CUBE RELAYS

3PDT or 4PDT Operation



Pictures shown with socket accessory (sold separately)



The **SERIES 783 & 784** Electromechanical Ice Cube Relays are full-featured relays that can be used to handle loads up to 15 amps for AC or DC circuits. It features a flag status indicator and a LED status lamp to let the user know when the relay is activated. In order to differentiate between AC and DC actuated models, the push-to-test button is color coded and a removable lock-down lever holds the test button in place.

FEATURES/BENEFITS

- Clear plastic housing to easily view the contacts
- Flag and LED status indicators for visual confirmation of relay state
- Socket mounted for quick installation/replacement

APPLICATIONS

- Refrigeration compressor systems
- HVAC motor controls
- Water/wastewater pump control

MODEL CHART			
Model	Operation	Input Voltage	Coil Resistance
783CXM4L-24A	AC	24 VAC 50/60 Hz	103 Ω
783CXM4L-120A	AC	120 VAC 50/60 Hz	2770 Ω
783CXM4L-24D	DC	24 VDC	400 Ω
784DXM4L-24A	AC	24 VAC 50/60 Hz	84.5 Ω
784DXM4L-120A	AC	120 VAC 50/60 Hz	2220 Ω
784DXM4L-24D	DC	24 VDC	388 Ω

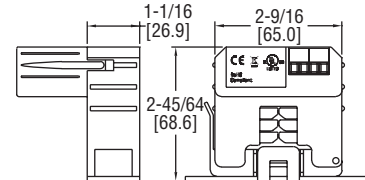
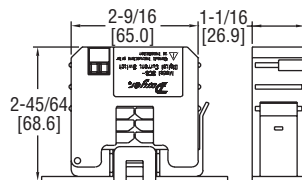
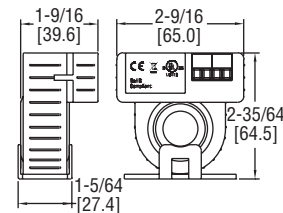
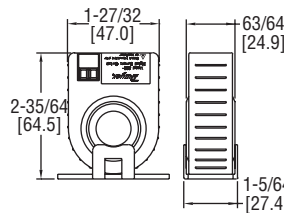
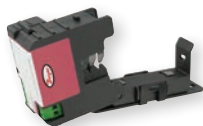
SPECIFICATIONS	
Operating and Load Voltage Range: 24 to 240 VAC; 24 VDC.	
Electrical Connection: Silver alloy plug-in contacts.	
Switching Operation: 3PDT or 4PDT.	
Electrical Rating: 15 A @ 120 VAC 50/60 Hz; 12 A @ 277 VAC 50/60 Hz or 28 VDC.	
Temperature Limits: Storage: -40 to 185°F (-40 to 85°C); Operation: -40 to 131°F (-40 to 55°C).	
Power Consumption: 783: 1.5 VA; 1.4 W; 784: 1.5 VA; 1.5 W.	
Cycle Life: 100,000 cycles (electrical); 10,000,000 cycles (mechanical).	
Housing: Plastic polycarbonate.	
Weight: 783: 2.1 oz (60 g); 784: 2.8 oz (80 g).	
Agency Approvals: CE, CSA, cULus, cURus.	

ACCESSORIES	
Model	Description
70-783D11-1A	Socket for 783 series relay
70-784D14-1	Socket for 784 series relay
70-ASMM-24	Protection modules, MOV suppressor, 24 VAC/VDC
70-ASMM-120	Protection modules, MOV suppressor, 120 VAC/VDC
70-ASMD-250	Protection modules, protection diode, 6 to 250 VDC
16-750/788CBJ-1	Coil bus jumpers

SERIES SCS

CURRENT SWITCHES

Optional Relay Output, Solid or Split Core Case



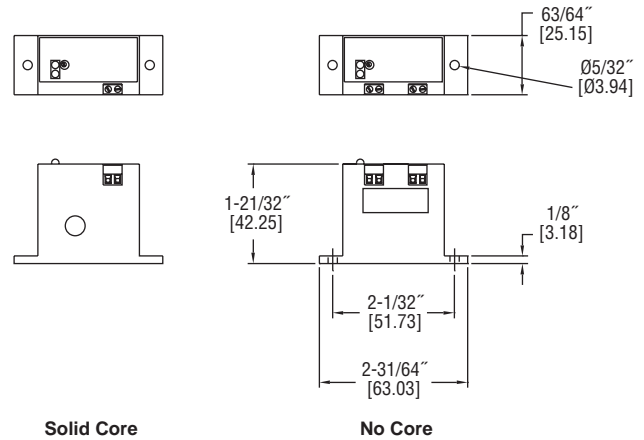
The **SERIES SCS** Low Cost Current Switches are ideal for monitoring whether fans, pumps, or motors are operating. The current flowing through the core of the device powers the circuit without an external power supply. All models have a built in solid state output and are easy to install. Optional LED's and 10 Amp relay modules are available. The Series SCS is available in both split and solid core configurations.

SPECIFICATIONS	
Output: Isolated, 1 A @ 30 VAC/DC max, NO.	
External Relay: SPST N.O., 10 A at 260 VAC (5 A at 30 VDC).	
Power Requirements: None, self-powered.	
Temperature Limits: 5 to 140°F (-15 to 60°C).	
Isolation Voltage: 600 VAC RMS.	
Frequency: 50/60 Hz.	
Enclosure Rating: UL, 94 V-0 flammability rated, ABS plastic housing.	
Agency Approvals: CE, cULus.	

MODEL CHART										
Model	Case	Amperage Range	Set Point	Switch Mode	Snap-on Relay	Model	Case	Amperage Range	Set Point	Snap-on Relay
SCS-120025	Solid	.25 to 200 A	0.25 fixed	Under	No	SCS-220150	Split	1.5 to 200 A	1.5 fixed	No
SCS-111100	Solid	1 to 135 A	Adjustable	Over/under	No	SCS-211125	Split	1.25 to 135 A	Adjustable	No
SCS-11100-R	Solid	1 to 135 A	Adjustable	Over/under	Yes	SCS-220150-R	Split	1.5 to 200 A	1.5 fixed	Yes
SCS-220015	Split	.15 to 200 A	0.15 fixed	Under	No	SCS-211125-R	Split	1.25 to 135 A	Adjustable	Yes

MINIATURE CURRENT SWITCH

Low Cost, Solid or No Core, LED Confirmation, Adjustable Set Point



The **SERIES MCS** Miniature Current Switches are ideal for monitoring the current usage in fuse boxes and small control panels. Both models have adjustable set points and LED indication to show there is power to the unit and when the switch activates. Set points can be adjusted using the potentiometer next to the LED's. Due to the size of the switch, it is only offered in solid core and no core versions. The no core version has terminal blocks which can accept currents up to 1 A directly into the unit.

MODEL CHART				
Model	Case	Set Point	Minimum Set Point	LED
MCS-111050	Solid core	Adjustable	0.50	Red/green
MCS-111001	No core (terminal connection)	Adjustable	0.01	Red/green

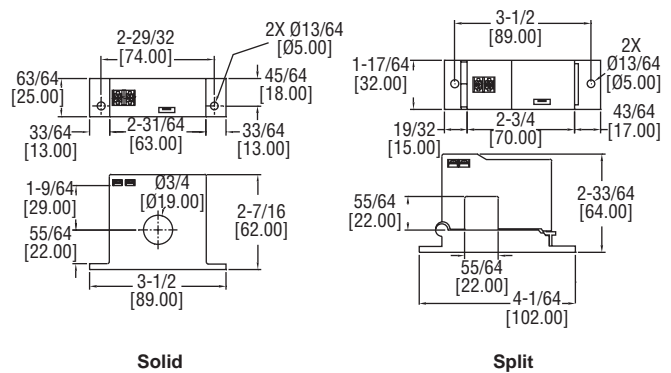
SPECIFICATIONS

Amperage Range: MCS-111050: 0.5 to 50 A AC continuous; MCS-111001: 0.01 to 1 A AC continuous.
Output Rating: Isolated, N.O. 0.3 A @ 130 V DC/AC.
Power Requirements: None, self-powered.
Hysteresis: 1%.
Response Time: <200 ms.
Temperature Limits: 32 to 122°F (0 to 50°C).
Humidity Limits: 10 to 95% RH (non-condensing).
Enclosure Rating: UL 94 V-0 flammability rated ABS, insulation class 600 V.
Weight: 0.5 oz (14.5 g).
Agency Approvals: CE, cULus.

SERIES CCS

CURRENT SWITCHES

Solid or Split Core, LED Visual Confirmation, Fixed or Adjustable Set Point



The **SERIES CCS** Current Switches are ideal for monitoring the operating status of fans, pumps, and motors. These self-powered switches can be hung or tied directly to cables or wires. For use on existing installations, split core models can be installed without disconnecting cables. LED indicators provide a visual confirmation that the current is flowing through the core. Both fixed and adjustable set points are available. The adjustable models utilize a potentiometer to easily adjust the set point.

MODEL CHART					
Model	Case	Set Point	Minimum Set Point	LED	Dry Contact Output
CCS-121050	Solid core	Fixed	0.50	Red	Yes
CCS-111100	Solid core	Adjustable	1.00	Red/green	No
CCS-221100	Split core	Fixed	1.00	Red	Yes
CCS-211150	Split core	Adjustable	1.50	Red/green	No
CCS-131100	Solid core	Adjustable	1.00	Red/green	Yes
CCS-231150	Split core	Adjustable	1.50	Red/green	Yes

SPECIFICATIONS

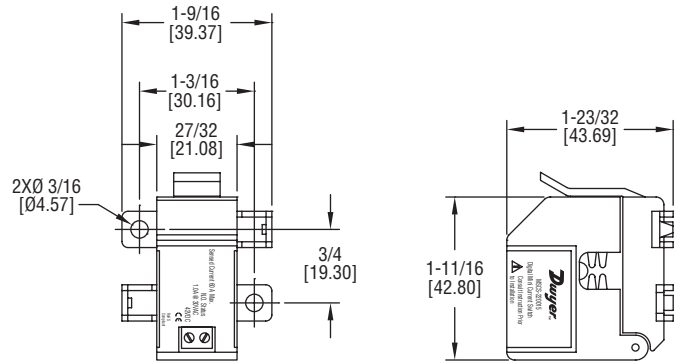
Amperage Range: 0 to 200 A AC.
Maximum Switch Rating: For dry contact models: 0.3 A @ 135 VAC/DC; For non-dry contact models: 1 A @ 240 VAC.
Power Requirements: None, self-powered.
Temperature Limits: -22 to 158°F (-30 to 70°C).
Humidity Limits: 0 to 95% (non-condensing).
Isolation Voltage: 2000 V.
Frequency: 40 to 400 Hz.
Enclosure Rating: UL 94 V-O flammability rated, ABS plastic housing.
Agency Approvals: CE, cULus.



MODEL MSCS

MINIATURE CURRENT SWITCH

Split Core, Integral Mounting Tabs



The **MODEL MSCS** Miniature Current Switch is a low cost solution for monitoring on and off status of light to medium current loads in compact spaces. This unit has a split core design and has a fixed set point of 0.15 amps. It is designed to detect changes in operating current to prevent motor belt loss, slippage, or mechanical failure.

FEATURES/BENEFITS

- Integral mounting flange for quick installation
- Compact size fits in any space

APPLICATIONS

- BAS
- HVAC
- Small industrial motors

MODEL CHART

Model	Motor Application
MSCS-220015	Miniature split core current switch

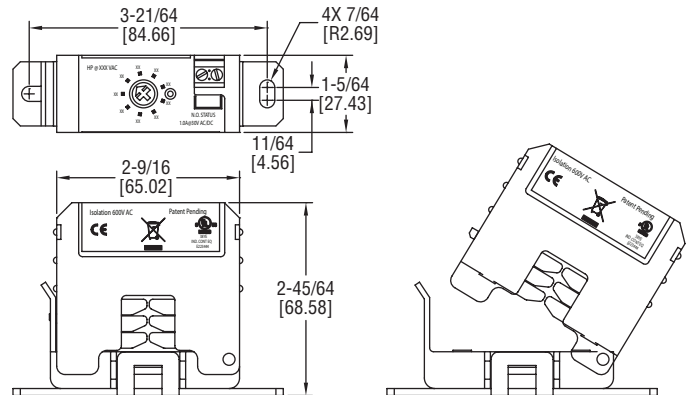
SPECIFICATIONS

Amperage Range: 0.15 to 60 A.
Output: NO.
Power Requirements: None, self-powered.
Temperature Limits: 5 to 140°F (-15 to 60°C).
Humidity Limits: 0 to 95%, non-condensing.
Isolation Voltage: 300 VAC RMS.
Frequency: 50/60 Hz.
Enclosure Rating: UL 94 V-0 flammability rated, ABS plastic housing.
Agency Approvals: CE, cULus.

SERIES SSCS

SURE-SET CURRENT SWITCH

Split Core, Adjustable Set Point



The **SERIES SSCS** Sure-Set Current Switch provides a unique approach to calibration and installing current sensors in a low cost, fast, and accurate design. Selecting the set point has never been easier, with each model having 9 pre-configured adjustable HP set points. This feature eliminates the need to work within a live enclosure, reducing the risk of arc flash on installation.

FEATURES/BENEFITS

- Models for 230 VAC or 480 VAC applications
- Low and high motor HP ranges available
- 9 pre-set HP set points for faster installation

APPLICATIONS

- BAS
- HVAC
- Industrial motors

MODEL CHART

Model	Case	Motor HP Range	Motor Application
SSCS-211100-230	Split	1, 2, 3, 5, 7.5, 10, 15, 20, 25	230 VAC
SSCS-211200-480	Split	2, 3, 5, 7.5, 10, 15, 20, 25, 30	480 VAC
SSCS-211500-230	Split	5, 7.5, 10, 15, 20, 25, 30, 40, 50	230 VAC
SSCS-211150-480	Split	15, 20, 25, 30, 40, 50, 60, 75, 100	480 VAC

SPECIFICATIONS

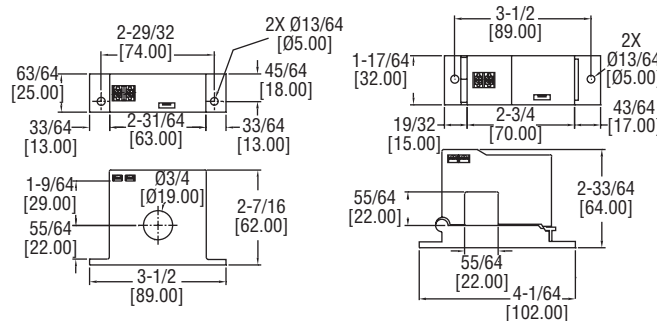
Output: Isolated, NO.
Power Requirements: None, self-powered.
Temperature Limits: 5 to 140°F (-15 to 60°C).
Humidity Limits: 0 to 95%, non-condensing.
Isolation Voltage: 600 VAC RMS.
Frequency: 50/60 Hz.
Enclosure Rating: UL 94 V-0 flammability rated, ABS plastic housing.
Agency Approvals: CE, cULus.

ACCESSORIES

Model	Description
SCT-RLY-12	12 VAC trigger voltage relay module
SCT-RLY-24	24 VAC trigger voltage relay module

CURRENT TRANSFORMERS

Solid or Split Core, Field Selectable Range



The **SERIES CCT40/50** Current Transformers are a low cost alternative for measuring power and monitoring the operation of fans, pumps, or other equipment. For use on existing installations, split core models can be installed without disconnecting cables. Each model offers three jumper selectable ranges and a choice of three different outputs.

MODEL CHART				
Model	Range	Output	Power Requirements	Case
CCT40-202	10/20/50 A	0 to 5 V	Self-powered	Solid core
CCT50-202	100/150/200 A	0 to 5 V	Self-powered	Solid core
CCT40-102	10/20/50 A	0 to 5 V	Self-powered	Split core
CCT50-102	100/150/200 A	0 to 5 V	Self-powered	Split core
CCT40-203	10/20/50 A	0 to 10 V	Self-powered	Solid core
CCT50-203	100/150/200 A	0 to 10 V	Self-powered	Solid core
CCT40-200	10/20/50 A	4 to 20 mA	15 to 42 VDC, loop powered	Solid core
CCT50-200	100/150/200 A	4 to 20 mA	15 to 42 VDC, loop powered	Solid core
CCT40-100	10/20/50 A	4 to 20 mA	15 to 42 VDC, loop powered	Split core
CCT50-100	100/150/200 A	4 to 20 mA	15 to 42 VDC, loop powered	Split core

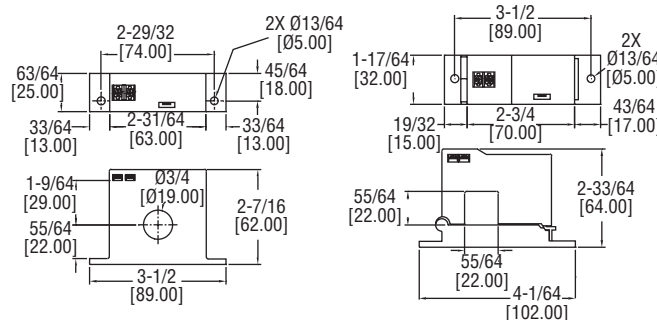
SPECIFICATIONS

Amperage Range: Field selectable; up to 200 A (depending on model).
Output: 0 to 5 V, 0 to 10 V, or 4 to 20 mA (depending on model).
Power Requirements: Self-powered or 15 to 42 VDC loop powered (depending on model).
Accuracy: 1%.
Temperature Limits: -22 to 158°F (-30 to 70°C).
Humidity Limits: 0 to 95% (non-condensing).
Response Time: 250 ms to 90%.
Isolation Voltage: 2000 V.
Frequency: 10 to 400 Hz.
Enclosure Rating: UL 94 V-0 flammability rated, ABS plastic housing.
Agency Approvals: CE, cULus.

SERIES CCT60/70

TRUE RMS CURRENT TRANSFORMERS

Solid or Split Core, Field Selectable Range



The **SERIES CCT60/70** True RMS Current Transformers are a low cost alternative for providing true RMS outputs on distorted AC waveforms. True RMS outputs are ideal for nonlinear loads or noisy circuits. For existing installations, split core models can be installed without disconnecting cables. Each model offers three jumper selectable ranges to reduce the risk of ordering the wrong model.

MODEL CHART		
Model	Range	Case
CCT60-200	10/20/50 A	Solid core
CCT70-200	100/150/200 A	Solid core
CCT60-100	10/20/50 A	Split core
CCT70-100	100/150/200 A	Split core

SPECIFICATIONS

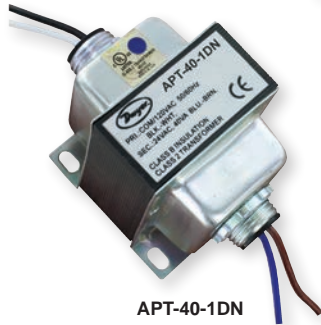
Amperage Range: Up to 200 A (depending on model).
Output: 4 to 20 mA, true RMS.
Power Requirements: 24 VDC nominal.
Accuracy: 1%.
Temperature Limits: -22 to 158°F (-30 to 70°C).
Humidity Limits: 0 to 95% (non-condensing).
Response Time: 250 ms to 90%.
Isolation Voltage: 2000 V.
Frequency: 10 to 400 Hz.
Enclosure Rating: UL 94 V-0 flammability rated, ABS plastic housing.
Agency Approvals: CE, cULus.

AC POWER TRANSFORMERS

20 VA to 150 VA, Single or Dual Hub, Circuit Breaker, UL Class 2



APT-40-1SN



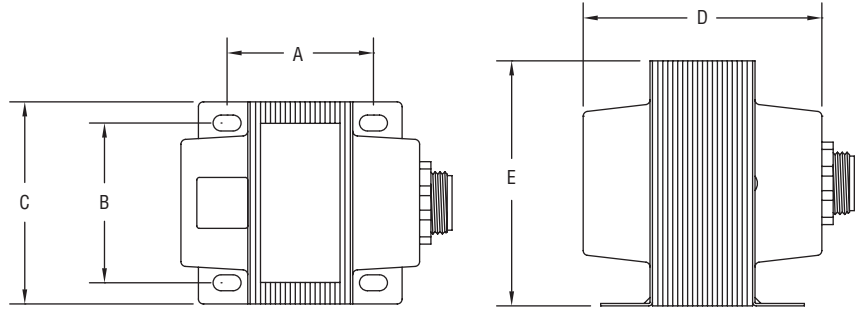
APT-40-1DN



APT-100-1SN



APT-100-1DN



Model	Dimensions in [mm]				
	A	B	C	D	E
APT-20-0SN	1-31/64 (37.6)	1-21/32 (41.9)	1-7/8 (47.5)	2-17/64 (57.4)	2-39/64 (66.2)
APT-20-1SN	1-31/64 (37.6)	1-21/32 (41.9)	1-7/8 (47.5)	2-17/64 (57.4)	2-39/64 (66.2)
APT-40-0SN	1-61/64 (49.5)	1-25/32 (45.2)	2-11/64 (55.0)	2-43/64 (68.0)	2-7/8 (73.0)
APT-40-1SN	1-61/64 (49.5)	1-25/32 (45.2)	2-11/64 (55.0)	2-43/64 (68.0)	2-7/8 (73.0)
APT-40-1DN	1-61/64 (49.5)	1-25/32 (45.2)	2-11/64 (55.0)	2-43/64 (68.0)	2-7/8 (73.0)
APT-40-2SN	1-61/64 (49.5)	1-25/32 (45.2)	2-11/64 (55.0)	2-43/64 (68.0)	2-7/8 (73.0)
APT-40-2DN	1-61/64 (49.5)	1-25/32 (45.2)	2-11/64 (55.0)	2-43/64 (68.0)	2-7/8 (73.0)
APT-40-3SN	1-61/64 (49.5)	1-25/32 (45.2)	2-11/64 (55.0)	2-43/64 (68.0)	2-7/8 (73.0)
APT-40-3DN	1-61/64 (49.5)	1-25/32 (45.2)	2-11/64 (55.0)	2-43/64 (68.0)	2-7/8 (73.0)
APT-40-5DN	1-61/64 (49.5)	1-25/32 (45.2)	2-11/64 (55.0)	2-3/4 (70.0)	2-7/8 (73.0)
APT-50-1SN	1-13/16 (46.0)	1-31/32 (50.2)	2-1/2 (63.5)	2-61/64 (75.0)	3-1/32 (77.0)
APT-50-1DN	1-61/64 (49.5)	1-25/32 (45.2)	2-11/64 (55.0)	2-3/4 (70.0)	2-7/8 (73.0)
APT-50-1SB	1-13/16 (46.0)	1-31/32 (50.2)	2-1/2 (63.5)	3-31/64 (88.5)	3-1/32 (77.0)
APT-50-1DB	1-13/16 (46.0)	1-31/32 (50.2)	2-1/2 (63.5)	3-31/64 (88.5)	3-1/32 (77.0)
APT-50-2SN	2-1/32 (51.5)	1-25/32 (45.2)	2-11/64 (55.0)	2-3/4 (70.0)	2-7/8 (73.0)
APT-50-2DN	1-61/64 (49.5)	1-31/32 (50.2)	2-11/64 (55.0)	2-3/4 (70.0)	2-7/8 (73.0)
APT-50-2SB	1-13/16 (46.0)	1-31/32 (50.2)	2-1/2 (63.5)	3-7/16 (87.1)	3-1/32 (77.0)
APT-50-2DB	1-13/16 (46.0)	1-31/32 (50.2)	2-1/2 (63.5)	3-7/16 (87.1)	3-1/32 (77.0)
APT-50-5SB	1-13/16 (46.0)	1-31/32 (50.2)	2-1/2 (63.5)	3-7/16 (87.1)	3-1/32 (77.0)
APT-50-5DB	1-13/16 (46.0)	1-31/32 (50.2)	2-1/2 (63.5)	3-7/16 (87.1)	3-1/32 (77.0)
APT-75-1SB	2-13/64 (56.0)	1-31/32 (50.2)	2-1/2 (63.5)	3-7/8 (98.5)	3-1/32 (77.0)
APT-75-1DB	2-13/64 (56.0)	1-31/32 (50.2)	2-1/2 (63.5)	3-7/8 (98.5)	3-1/32 (77.0)
APT-75-2SB	2-13/64 (56.0)	1-31/32 (50.2)	2-1/2 (63.5)	3-7/8 (98.5)	3-1/32 (77.0)
APT-75-2DB	2-13/64 (56.0)	1-31/32 (50.2)	2-1/2 (63.5)	3-53/64 (97.1)	3-1/32 (77.0)
APT-75-5SB	2-13/64 (56.0)	1-31/32 (50.2)	2-1/2 (63.5)	3-53/64 (97.1)	3-1/32 (77.0)
APT-75-5DB	2-13/64 (56.0)	1-31/32 (50.2)	2-1/2 (63.5)	3-53/64 (97.1)	3-1/32 (77.0)
APT-100-1SB	2-13/32 (61.0)	1-31/32 (50.2)	2-1/2 (63.5)	4-5/64 (103.5)	3-1/32 (77.0)
APT-100-1DB	2-13/32 (61.0)	1-31/32 (50.2)	2-1/2 (63.5)	4-5/64 (103.5)	3-1/32 (77.0)
APT-100-1DB-20*	2-13/32 (61.0)	1-31/32 (50.2)	2-1/2 (63.5)	4-5/64 (103.5)	3-1/32 (77.0)
APT-100-2SB	2-13/32 (61.0)	1-31/32 (50.2)	2-1/2 (63.5)	4-5/64 (103.5)	3-1/32 (77.0)
APT-100-2DB	2-13/32 (61.0)	1-31/32 (50.2)	2-1/2 (63.5)	4-1/32 (102.1)	3-1/32 (77.0)
APT-100-5SB	2-39/64 (66.0)	1-31/32 (50.2)	2-1/2 (63.5)	4-1/4 (107.1)	3-1/32 (77.0)
APT-100-5DB	2-39/64 (66.0)	1-31/32 (50.2)	2-1/2 (63.5)	4-1/4 (107.1)	3-1/32 (77.0)
APT-150-1DB	2-33/64 (64.0)	1-31/32 (50.2)	2-1/2 (63.5)	3-9/16 (90.5)	3-1/32 (77.0)

*20" wire 18 AWG leads.

The **SERIES APT** AC Power Transformers provide isolated step-down to 24 VAC with models offering VA ratings of 20, 40, 50, 75, 96, or 150 VA's. These cost efficient transformers are offered in single or dual 1/2" NPT threaded hub mounts with 8-1/2" 18 AWG wire leads, to meet the installation requirements of a variety of building automation and control panel applications in HVAC. All models are UL Class 2 listed.

SPECIFICATIONS

Input Voltage: See model chart.

Input Frequency: 50/60 Hz.

Output Voltage: See model chart.

Output VA Rating: 20, 40, 50, 75, 96, or 150 VA.

Mounting: Slotted foot mount with single, or dual 1/2" NPT hub.

Current Protection: See model chart.

Electrical Connections: Models ending in -20: 20" (508 mm) 18 AWG leads; All other models: 8.5" (210 mm) 18 AWG leads.

Weight: See model chart.

Agency Approvals: CE, cULus.

AC POWER TRANSFORMERS

20 VA to 150 VA, Single or Dual Hub, Circuit Breaker, UL Class 2

MODEL CHART							
Model	Rating	Input Voltage	Output Voltage	Mounting	Current Protection	Wiring	Weight
APT-20-0SN	20 VA	24 VAC	24 VAC	Foot mount w/ single hub	Inherent	Diagram B	1.25 lb (0.57 kg)
APT-20-1SN	20 VA	120 VAC	24 VAC	Foot mount w/ single hub	Inherent	Diagram A	1.29 lb (0.59 kg)
APT-40-0SN	40 VA	24 VAC	24 VAC	Foot mount w/ single hub	Internal fuse	Diagram B	1.96 lb (0.89 kg)
APT-40-1SN	40 VA	120 VAC	24 VAC	Foot mount w/ single hub	Internal fuse	Diagram A	1.98 lb (0.90 kg)
APT-40-1DN	40 VA	120 VAC	24 VAC	Foot mount w/ dual hub	Internal fuse	Diagram A	2.03 lb (0.92 kg)
APT-40-2SN	40 VA	240 VAC	24 VAC	Foot mount w/ single hub	Internal fuse	Diagram C	1.98 lb (0.90 kg)
APT-40-2DN	40 VA	240 VAC	24 VAC	Foot mount w/ dual hub	Internal fuse	Diagram C	2.03 lb (0.92 kg)
APT-40-3SN	40 VA	120/208/240/277 VAC	24 VAC	Foot mount w/ single hub	Internal fuse	Diagram E	2.07 lb (0.94 kg)
APT-40-5DN	40 VA	120/208/240/277/480 VAC	24 VAC	Foot mount w/ dual hub	Internal fuse	Diagram D	2.29 lb (1.04 kg)
APT-50-1SN	50 VA	120 VAC	24 VAC	Foot mount w/ single hub	Internal fuse	Diagram A	2.43 lb (1.10 kg)
APT-50-1DN	50 VA	120 VAC	24 VAC	Foot mount w/ dual hub	Button circuit breaker	Diagram A	2.47 lb (1.12 kg)
APT-50-1SB	50 VA	120 VAC	24 VAC	Foot mount w/ single hub	Button circuit breaker	Diagram A	2.77 lb (1.26 kg)
APT-50-1DB	50 VA	120 VAC	24 VAC	Foot mount w/ dual hub	Internal fuse	Diagram A	2.77 lb (1.26 kg)
APT-50-2SN	50 VA	240 VAC	24 VAC	Foot mount w/ single hub	Internal fuse	Diagram C	2.49 lb (1.13 kg)
APT-50-2DN	50 VA	240 VAC	24 VAC	Foot mount w/ dual hub	Button circuit breaker	Diagram C	2.53 lb (1.15 kg)
APT-50-2SB	50 VA	240 VAC	24 VAC	Foot mount w/ single hub	Button circuit breaker	Diagram C	2.77 lb (1.26 kg)
APT-50-2DB	50 VA	240 VAC	24 VAC	Foot mount w/ dual hub	Button circuit breaker	Diagram C	2.81 lb (1.28 kg)
APT-50-5SB	50 VA	120/208/240/277/480 VAC	24 VAC	Foot mount w/ single hub	Button circuit breaker	Diagram D	2.69 lb (1.22 kg)
APT-50-5DB	50 VA	120/208/240/277/480 VAC	24 VAC	Foot mount w/ dual hub	Button circuit breaker	Diagram D	2.73 lb (1.24 kg)
APT-75-1SB	75 VA	120 VAC	24 VAC	Foot mount w/ single hub	Button circuit breaker	Diagram A	3.53 lb (1.60 kg)
APT-75-1DB	75 VA	120 VAC	24 VAC	Foot mount w/ dual hub	Button circuit breaker	Diagram A	3.57 lb (1.62 kg)
APT-75-2SB	75 VA	240 VAC	24 VAC	Foot mount w/ single hub	Button circuit breaker	Diagram C	3.53 lb (1.60 kg)
APT-75-2DB	75 VA	240 VAC	24 VAC	Foot mount w/ dual hub	Button circuit breaker	Diagram C	3.57 lb (1.62 kg)
APT-75-5SB	75 VA	120/208/240/277/480 VAC	24 VAC	Foot mount w/ single hub	Button circuit breaker	Diagram D	3.60 lb (1.63 kg)
APT-75-5DB	75 VA	120/208/240/277/480 VAC	24 VAC	Foot mount w/ dual hub	Button circuit breaker	Diagram D	3.62 lb (1.64 kg)
APT-100-1SB	100 VA	120 VAC	24 VAC	Foot mount w/ single hub	Button circuit breaker	Diagram A	3.97 lb (1.80 kg)
APT-100-1DB	100 VA	120 VAC	24 VAC	Foot mount w/ dual hub	Button circuit breaker	Diagram A	4.01 lb (1.82 kg)
APT-100-1DB-20*	100 VA	120 VAC	24 VAC	Foot mount w/ dual hub	Button circuit breaker	Diagram A	4.05 lb (1.84 kg)
APT-100-2SB	100 VA	240 VAC	24 VAC	Foot mount w/ single hub	Button circuit breaker	Diagram C	3.97 lb (1.80 kg)
APT-100-2DB	100 VA	240 VAC	24 VAC	Foot mount w/ dual hub	Button circuit breaker	Diagram C	4.01 lb (1.82 kg)
APT-100-5SB	100 VA	120/208/240/277/480 VAC	24 VAC	Foot mount w/ single hub	Button circuit breaker	Diagram D	4.03 lb (1.83 kg)
APT-100-5DB	100 VA	120/208/240/277/480 VAC	24 VAC	Foot mount w/ dual hub	Button circuit breaker	Diagram D	4.05 lb (1.84 kg)
APT-150-1DB	150 VA	120 VAC	24 VAC	Foot mount w/ dual hub	Button circuit breaker	Diagram A	4.98 lb (2.26 kg)

*20" wire 18 AWG leads.

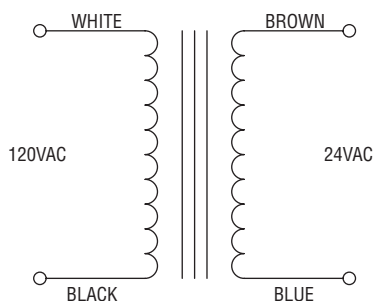


Diagram A

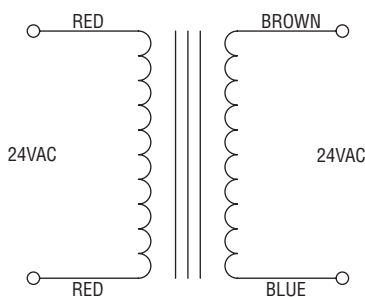


Diagram B

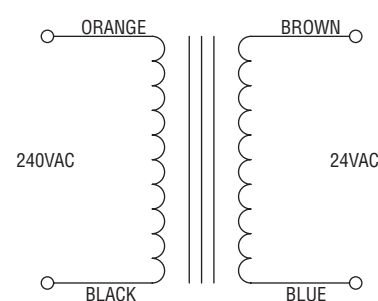


Diagram C

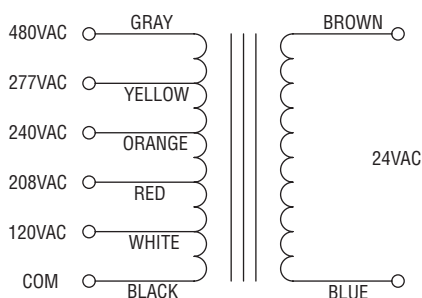


Diagram D

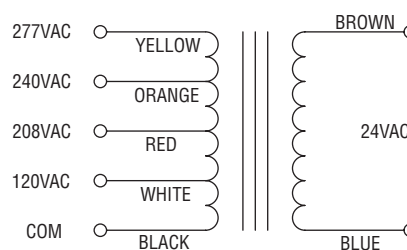
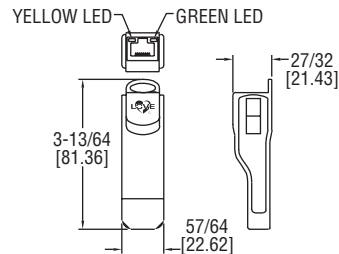


Diagram E

Dwyer**MODEL MN-1****MINI-NODE™ COMMUNICATION SIGNAL CONVERTER**

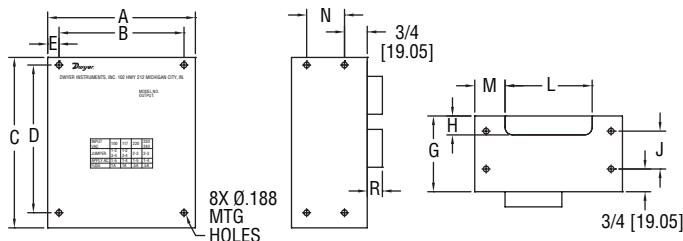
Converts RS-485 to USB, Integral USB Connector, No External Power



The **MODEL MN-1** Mini-Node™ Communication Signal Converter is a low cost device that converts half duplex RS-485 serial communications signals into a signal that can be read by any computer with a USB port. The integral USB connector and RJ-45 connector reduces set up time by eliminating extra wiring. The Model MN-1 is powered via the USB connection which eliminates the need for an external power source. The compact size is great for field installation, control panels, and lab testing.

MODEL CHART

Model	Description
MN-1	Mini-Node™ USB to RS-485 converter

SPECIFICATIONS**Power Requirements:** No external power required.**Power Consumption:** 0.4 W.**Isolated Voltage:** 3000 VDC.**Input Impedance:** 96 kΩ.**USB Connector:** B-type (female).**RS-485 Connector:** RJ-45.**Baud Rate:** 75, 150, 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200 bps.**Compatibility:** Full compliance with USB V.2.0 specification.**SERIES A-700****POWER SUPPLY**

Dim.	0.5 amp	2.4 amp	4.8 amp	Dim.	0.5 amp	2.4 amp	4.8 amp	Dim.	0.5 amp	2.4 amp	4.8 amp
A	4 [101.6]	4-7/8 [123.83]	9 [228.6]	E	25/64 [9.92]	1/4 [6.35]	1/2 [12.7]	L	17/64 [14.68]	2-55/64 [72.63]	-
B	3-3/8 [85.73]	4-1/8 [104.78]	8 [203.2]	G	1-5/8 [41.28]	2-1/2 [63.5]	2-3/4 [69.85]	M	51/64 [20.24]	1-1/32 [26.19]	-
C	4-7/8 [123.84]	5-5/8 [142.88]	4-7/8 [123.83]	H	37/64 [14.68]	43/64 [17.07]	-	N	-	1-1/4 [31.75]	1-1/4 [31.75]
D	4-1/8 [104.78]	4-7/8 [123.83]	4-1/8 [104.78]	J	-	1-1/4 [31.75]	1-1/4 [31.75]	R	29/64 [11.51]	29/64 [11.51]	17/32 [13.49]

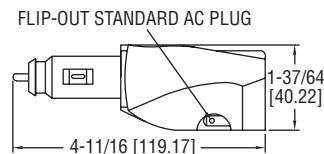
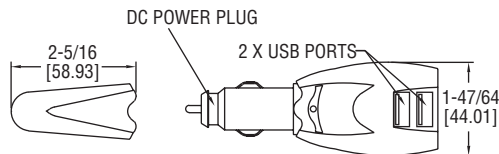
The economical and reliable **SERIES A-700** power supply is suitable for powering all Dwyer pressure, temperature or air velocity transmitters. Inexpensive, open-frame design allows convenient access to input/output solder terminals. Auxiliary inputs are selectable for operation from power sources found worldwide. Compact size eases enclosure installations.

MODEL CHART

Model	Description
A-700	0.5 A
A-700-2	2 A
A-700-4	4.8 A

SPECIFICATIONS**AC Input:** 100/120/220/230-240 VAC ±10%, 47-63 Hz.**DC Output:** 24 to 28 VDC regulated.**Maximum Current Output:** A-700: 0.5 A @ 60 Hz, 0.45 A @ 50 Hz; A-700-2: 2 A @ 60 Hz, 1.8 A @ 50 Hz; A-700-3: 4.8 A @ 60 Hz, 4.5 A @ 50 Hz.**Operating Temperature:** 32 to 122°F (0 to 50°C).**External Fuse Required:** 0.5 A for 100 to 120 VAC, 0.25 A for 220 to 240 VAC.**Dimensions:** 4-7/8"H x 4"W x 1-5/8"D.**Weight:** 2 lb.**MODEL KF-CC-304****USB DUAL POWER**

Charge Two USB Devices at Once!



The **MODEL KF-CC-304** USB Dual Power charger keeps you plugged-in and powered-up at home and on the road. Featuring a robust charging capacity of 1.5 amps, two USB ports for the simultaneous charging of two devices, and a pocket-friendly 2-in-1 design for both wall charging and auto charging, the USB Dual Power is the ultimate charging accessory for USB-powered portable electronics!

FEATURES/BENEFITS

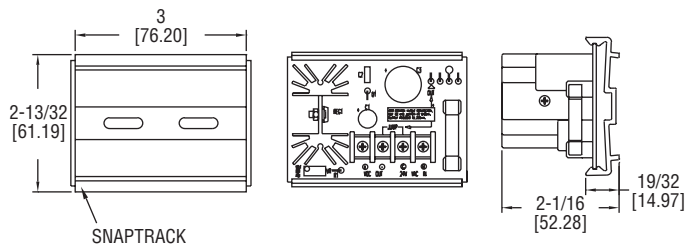
- Provides 1.5 amps of charging power
- Charge two USB devices at once
- Use at home or in the car
- Built-in safety fuse to protect your devices
- Sleek, pocket-friendly design
- LED light indicates ready power source

SPECIFICATIONS**Input:** 100 to 240 VAC 50/60 Hz 0.15 A 12 to 24 VDC.**Output:** Terminal Voltage Current: USB port 1: 5.0 V = 1.5 A; USB port 2: 5.0 V = 1.5 A; USB port 1 + 2: 5.0 V = 750 + 750 mA.**Agency Approvals:** CE.**MODEL CHART**

Model	Description
KF-CC-304	USB dual power

LOW COST DC POWER SUPPLY

Regulated 0.5 A, 1 A Fuse Protection



The **MODEL BPS-005** Low Cost DC Power Supply is a regulated .5 A power supply that accepts 24 VAC input and provides an adjustable 1.5 to 29 VDC output. Output voltage adjustments are made using the on-board potentiometer while measuring the output with a multimeter. A compact snap track design allows the power supply to be surface mounted within a panel.

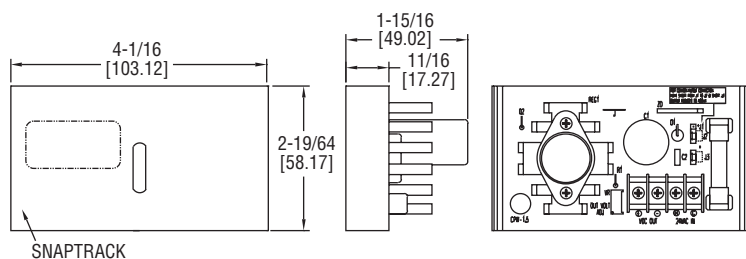
MODEL CHART	
Model	Description
BPS-005	Low cost DC power supply

SPECIFICATIONS	
Input: 24 VAC/VDC 50/60 Hz.	Humidity Limits: 95% (non-condensing).
Output: 24 VDC (full wave rectified and regulated) adjustable 1.5 to 29 VDC, 0.5 A max.	Weight: 0.4 lb.
Maximum Current Output: 0.5 A.	Agency Approvals: Meets the technical requirements of EU Directive 2011/65/ EU (RoHS II).
Over-Current Protection: 1 A fuse.	
Operating Temperature: 32 to 130°F (0 to 55°C).	

MODEL BPS-015

LOW COST DC POWER SUPPLY

Regulated 1.5 A, 3 A Fuse Protection



The **MODEL BPS-015** Building Automation Power Supply is used to convert 24 VAC to a regulated DC power source for transmitters with 4 to 20 mA outputs. The output voltage can be field adjusted from 1.5 V to 27 V using a potentiometer. The 3 A fuse protects the power supply from over-current conditions. The snap-on bracket can be quickly surface mounted to any flat surface.

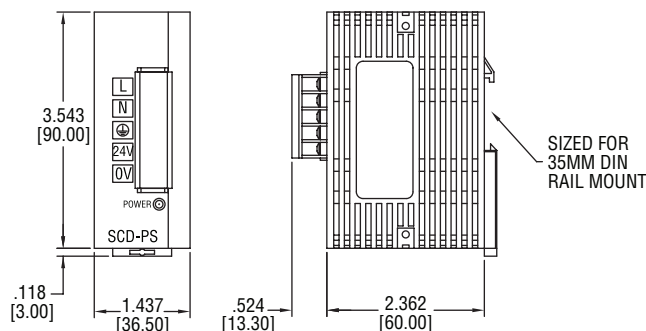
MODEL CHART	
Model	Description
BPS-015	Power supply

SPECIFICATIONS	
Input: 24 VAC/VDC 50/60 Hz.	Humidity Limits: 95% (non-condensing).
Output: 24 VDC (full wave rectified and regulated) adjustable 1.5 to 27 VDC.	Weight: 0.4 lb.
Maximum Current Output: 1.5 A (de-rated to 400 mA for non-isolated circuits).	
Temperature Limits: 32 to 130°F (0 to 55°C).	

MODEL SCD-PS

DIN RAIL MOUNT DC POWER SUPPLY

Regulated 1 A, 24 VDC Output



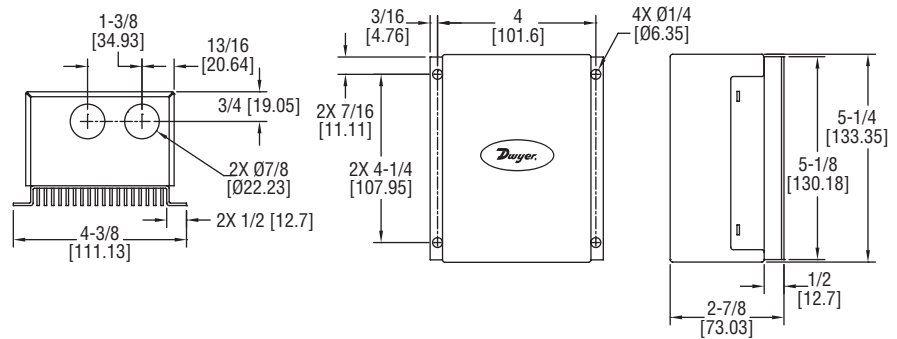
The **MODEL SCD-PS** DIN Rail DC Power Supply is a compact and economical solution for providing DC power to any Dwyer pressure, humidity, temperature, level or air velocity transmitters. Input voltage can range from 100 to 240 VAC, 50/60 Hz without any jumpers or dip switch selections. A plastic cover slides over the terminals in order to prevent shock from accidental touching of high voltage wires.

MODEL CHART	
Model	Description
SCD-PS	DIN Rail DC Power Supply

SPECIFICATIONS	
AC Input: 100 to 240 VAC, 50/60 Hz.	Agency Approvals: CE, cULus.
DC Output: 24 VDC ($\pm 3\%$ VDC).	
Maximum Current Output: 1 A.	
Noise: Under 100 mVp-p typical at full load.	
Temperature Limits: 32 to 131°F (0 to 55°C).	
Weight: 5.6 oz (158 g).	

Dwyer**MODEL FC-1000****ELECTRONIC FAN SPEED CONTROL**

Low Cost, 0 to 10 VDC Input, Selectable Hard Start



The **MODEL FC-1000** Electronic Fan Speed Control provides precise speed modulation of small AC motors. Popular 0-10 VDC input works with most process controllers, eliminating the need for more expensive dampers, damper actuators, and linkages while improving overall energy efficiency of the system. This inexpensive unit enables variable control ventilation fans, condenser fans, and interfacing with VAV box controllers.

FEATURES/BENEFITS

- Compact design allows for use in most areas
- Improves energy efficiency in systems

APPLICATIONS

- Monitoring fans and motors

MODEL CHART

Model	Description
FC-1000	Electronic fan speed control

SPECIFICATIONS

Line Voltage Range: 120 to 277 VAC, 60 Hz.

Input Signal Voltage: 0 to 10 VDC.

Low Voltage Input: 24 VAC, class 2.

Input Signal Impedance: 10K Ω .

Full Load Amp Rating: 9.8 @ 120 VAC, 9.3 @ 208 VAC, 8.0 @ 240 VAC, 6.9 @ 277 VAC.

Locked Rotor Amp Rating: 24.0.

Temperature Limits: -40 to 131°F (-40 to 55°C).

Electrical Connections: Line voltage: 10-32 screw terminals. Signal and low voltage input: 1/4" quick connects.

Transient Protection: 320 V surge suppression. Exceeds IEEE C62.41 standards.

Housing Materials: Cold rolled steel.

Enclosure Rating: NEMA 1.

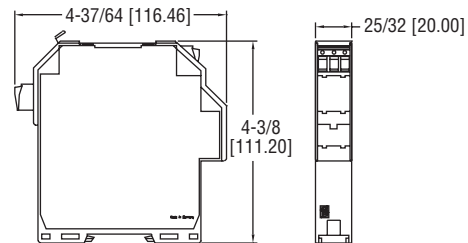
Mounting: Vertical only; four holes provided for #10 screws.

Weight: 1 lb 11 oz (.77 kg).

Agency Approvals: UR.

MODEL KFD0**GALVANIC BARRIER**

Loop Powered, Intrinsically Safe Isolators



The **MODEL KFD0** Loop Powered Galvanic Barrier provides complete isolation for communication with Dwyer® intrinsically safe transmitters approved for use in hazardous areas. This galvanic barrier eliminates the need for a high integrity earth ground required when using shunt type diode type safety barriers. Unlike most other isolators, the Model KFD0-SCSEX1.55 does not require external power and has a low current draw.

FEATURES/BENEFITS

- Designed to mount on most standard DIN rails
- Approved for use in hazardous areas

APPLICATIONS

- Used to isolate voltages for intrinsically safe applications for HHT series

SPECIFICATIONS

Hazardous Area Input: Signal range: 4 to 20 mA (linear transmission 1 to 22 mA); Available transmitter voltage: ≥ 16 V for supply voltage > 21 V.

Safe Area Output: Signal range: 4 to 20 mA; Transmitter voltage: ≤ 30 VDC.

Response Time: ≤ 20 μ s at 0, and ≤ 600 μ s at 800 load.

Maximum Power Dissipation: 150 mW @ 20 mA and V < 24 V.

Temperature Limits: -4 to 140°F (-20 to 60°C).

Temperature Drift: ≤ 0.5 μ A/°C.

Weight: 4.2 oz (120 g).

Agency Approvals: CE, FM.

ACCESSORY

Model	Description
A-360	Aluminum DIN rail 1 m

MODEL CHART

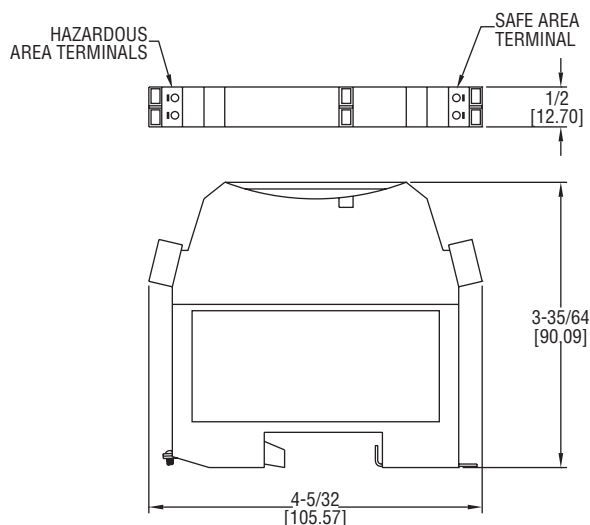
Model	Description	Approval	Dwyer Series	V _o (V)	I _o (mA)	Group	μ F	mH
KFD0-SCS-EX1.55	Loop powered galvanic barrier	FM for class I, zone 1, groups IIC, IIB, IIA; class I, II, III, div. 2, groups A, B, C, D, F, G	HHT-IX	23.1	38.2	IIC (A, B), IIB (C), IIA (D, F, G)	0.042, 0.267, 0.267	0.5, 2.5, 2.5

ZENER BARRIER

Intrinsically Safe Barriers for Hazardous Locations



MTL7787



The **SERIES MTL7706/7787** Zener Barrier is an intrinsically safe shunt-diode barrier that can be used to communicate with and provide isolations for certain Dwyer® transmitters approved for use in hazardous areas. These barriers limit the amount of energy allowed to pass into the hazardous area, which inhibit ignition in flammable atmospheres.

FEATURES/BENEFITS

- Approved for use in hazardous areas

APPLICATIONS

- Electrically isolates pressure and level transmitters from unregulated circuits for intrinsically safe applications

COMPATIBLE MODELS: 637, 608, SBLTX, PBLTX, IS626		
Model	Approval	Dwyer Series
MTL7706	UL for class I; div. 1 groups A, B, C, D CL II; div. 1 groups E, F, G; CL III div. 1	IS626, SBLTX, PBLTX
MTL7706	FM for class I, II, III; div. 1 groups B, C, D, E, F, G	637
MTL7706	FM for class I, II, III; div. 1 groups A, B, C, D, E, F, G	608
Note: Compatible models: 637, 608, SBLTX, PBLTX, IS626		

MODEL CHART						
Model	FM			BASEEFA (ATEX)		
	Group	µF	mH	Group	µF	mH
MTL7706	A & B	0.083	4.2	IIC	0.083	4.2
MTL7787	A & B	0.083	3.05	IIC	0.083	3.05

Region (Authority)	Standard	Approved For	Certificate/ File no.
USA (FM) (UL)	3600, 3610 entity 3611, 3810 UL698, UL913 UL1604	AIS/I,II,III/1/Entity ABCDEFG- SCI-942; NI/I/@/ABCD/T4 [I/O] AEx[ia]IIC-SCI-942 Entity; NI/1/2/IIC/T4; Ta=140°F (60°C)	3010737
Canada (CSA)	CAN/CSA E60070, IEC60079, C22.2	Class I, Div.2, Gps A, B, C, D; Ex nA [ia] IIC T4 Class I, Xone 2, Aex nA IIC T4	1345550
UK (BASEEFA)	EN 50014, EN 50020	EEx ia IIC	BAS01ATEX7217
UK (BASEEFA) Systems	EN 50039	EEx ia IIC	Ex01E2219

SPECIFICATIONS

Transmitter Voltage: 16.2 V at 20 mA with 250 Ω load (negative w.r.t. earth); 11.0 V at 20 mA with 500 Ω load (negative w.r.t. earth).

Safe Area Output: 4 to 20 mA.

Load Resistance: 0 to 500 Ω.

Power Requirement: 20 to 35 VDC w.r.t. earth.

Accuracy: ±2 µA under all conditions.

LED Indicator: Green: Power indication.

Temperature Limits: Operating: -4 to 140°F (-20 to 60°C); Storage: -40 to 176°F (-40 to 80°C).

Humidity: 5 to 95% RH.

Terminals: Accommodate up to 2.5 mm2 stranded or single-core.

Safety Description: 28 µV, 300 Ω, 93 mA.

Weight: 4.9 oz (140 g).

Agency Approvals: See table.

MODEL CHART

Model	Description
MTL7706	Zener barrier
MTL7787	Zener barrier

ACCESSORY

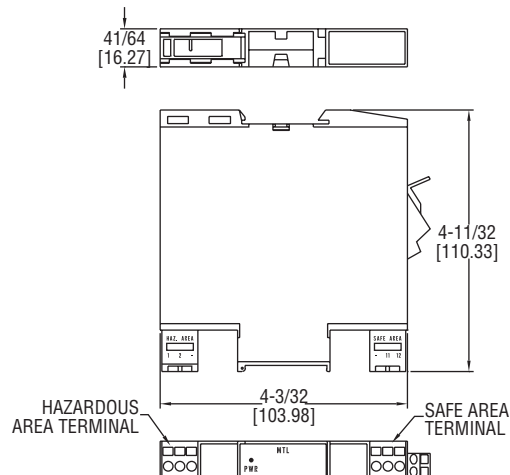
Model	Description
A-360	Aluminum DIN rail 1 m

GALVANIC BARRIER

Intrinsically Safe Isolators for Hazardous Locations



MTL5041



The **SERIES MTL5041/5045** Galvanic Barrier provides intrinsically safe isolation for communication with Dwyer® transmitters approved for use in hazardous areas. This galvanic barrier eliminates the need for a high integrity earth ground required when using shunt type diode type safety barriers. DIN rail mounting and plug-in signal and power connectors simplify installation and maintenance.

FEATURES/BENEFITS

- Designed to mount on most standard DIN rails
- Approved for use in hazardous areas

APPLICATIONS

- Electrically isolates pressure and level transmitters from unregulated circuits for intrinsically safe applications

COMPATIBLE MODELS: 637, 638, 608, 2700, 2800, 2900, SBLTX, PBLTX, IS626

Model	Approval	Dwyer Series
MTL5041	FM for class I, II, III; div. 1 groups C, D, F, G	638
MTL5041	UL for class I; div. 1 groups A, B, C, D class II div. 1 groups E, F, G class III div 1	IS626, SBLTX, PBLTX
MTL5041	FM for class I, II, III; div. 1 groups B, C, D, E, F, G	637
MTL5041	FM for class I, II, III; div. 1 groups A, B, C, D, E, F, G	608
MTL5045	FM for class I, II, III; div. 1 groups C, D, E, F, G	2900
MTL5045	FM for class I, II, III; div. 1 groups C, D, E, F, G	2700/2800

MODEL CHART

Model	FM			BASEEFA (ATEX)			
	Group	µF	mH	Group	µF	mH	µH/Ω
MTL5041/5045	A & B	0.13	4.2	IIC	0.083	3.05	55
	C	0.30	12.6	IIB	0.85	9.15	210
	D	1.04	33.6	IIA	2.15	244	444

Region (Authority)	Standard	Approved For	Certificate/ File no.
USA (FM) (UL)	3600, 3610 entity 3611, 3810 UL913 UL1604	AIS/I,II,III/1/Entity ABCDEFG-SCI-942; NI/I/II/ABCD/T4 [I/O] AEx[ia]IIC-SCI-942 Entity; NI/1/2/IIC/T4; Ta=140°F (60°C)	3010737
Canada (CSA)	CAN/CSA E60070, IEC60079, C22.2	Class I, Div.2, Gps A, B, C, D; Ex nA [ia] IIC T4 Class I, Xone 2, Aex nA IIC T4	1345550
UK (BASEEFA)	EN 50014, EN 50020	EEx ia IIC	BAS01ATEX7217
UK (BASEEFA) Systems	EN 50039	EEx ia IIC	Ex01E2219

SPECIFICATIONS

Hazardous Area Input: Signal range: 0 to 24 mA (including over-range); Transmitter voltage: 16.5 V at 20 mA.

Safe Area Output: Signal range: 4 to 20 mA; Safe-area load resistance: 0 to 1 kΩ; Safe-area output resistance: > 2 MΩ.

Power Requirement: 20 to 35 VDC.

Response Time: Settles to within 10% of final value within 250 µs.

Current Consumption (20 mA signal): 70 mA at 24 VDC; 85 mA at 20 VDC; 55 mA at 35 VDC.

Maximum Power Dissipation (20 mA signal): 1.2 W at 24 VDC.

Isolation: 250 V RMS between input, output and power supply terminals.

Transfer Accuracy at 68°F (20°C): Better than 20 µA (typically 5 µA).

LED Indicator: Green: Power indication.

Temperature Limits: Operating: -4 to 140°F (-20 to 60°C); Storage: -40 to 176°F (-40 to 80°C).

Temperature Drift: <1 µA/°C.

Humidity: 5 to 95% RH.

Mounting: 1.4" (35 mm) top hat rail to: EN 50022-35 x 7.5; BS 5584; 35 x 27 x 7.3 DIN 46277.

Terminals: Accommodate up to 2.5 mm² stranded or single-core.

Safety Description: 28 V, 300 Ω, 93 mA; Um=250 RMS or DC.

Weight: 3.9 oz (110 g).

Agency Approvals: See table.

MODEL CHART

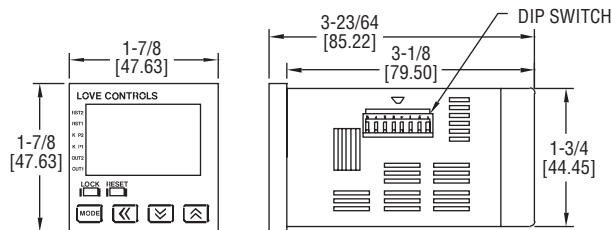
Model	Description
MTL5041	Galvanic barrier
MTL5045	Galvanic barrier

ACCESSORY

Model	Description
A-360	Aluminum DIN rail 1 m

DIGITAL TIMER/TACHOMETER/COUNTER

3 Controls in 1 Device, DIP Switch Configuration



The **SERIES LCT216** Digital Timer/Tachometer/Counter combines a versatile timer, counter, and tachometer all in one device. The bright, easy-to-read display shows the desired set point and the current process value as well as the operating mode that the control is functioning in. For quick set up, many of the programming parameters can be set with external dip switches located on the side of the unit.

FEATURES/BENEFITS

- Fourteen pre-programmed timer functions
- One stage, two stage, batch, total, and dual counting modes

APPLICATIONS

- Industrial ovens
- Batch counting in conveyor systems
- Silk screening equipment

MODEL CHART	
Model	Output Type
LCT216-100	Transistor
LCT216-110	Relay

SPECIFICATIONS

Operating Temperature Range: 32 to 122°F (0 to 50°C).

Humidity Conditions: 35 to 85% RH (non-condensing).

Control Output Ratings: (Out 1) Relay: SPST 5 A at 250 VAC; Transistor: NPN open collector 100 mA / 30 VDC residual voltage = 1.5 VDC max; (Out 2) Relay: SPST 5 A at 250 VAC, Transistor: NPN open collector 100 mA / 30 VDC residual voltage = 1.5 VDC max.

Weight: 4 oz (114 g).

Reset Time: 0.001 seconds minimum.

Inputs: Dry contact, PNP, or NPN.

Timing Functions: 14 pre-programmed timing functions.

Supply Voltage: 100 to 240 VAC 50 / 60 Hz.

Power Consumption: Less than 10 VA.

Internal Power Supply: 12 VDC ±10%, 100 mA.

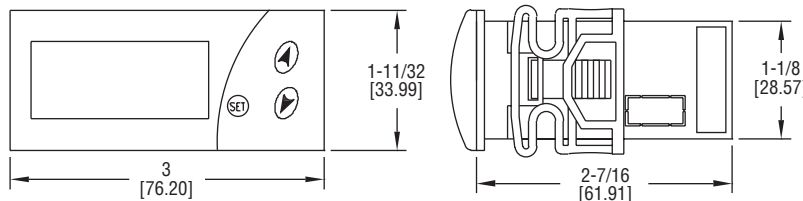
Display: Two-line 6 digit negative transmissive LCD display.

Agency Approvals: CE, cULus.

SERIES LCT316

COUNT DOWN DIGITAL TIMER

Quick Installation, Digital Input, Audible Alarm



The **SERIES LCT316** Count Down Digital Timer provides accurate countdown timing for a variety of applications. The timer can be triggered remotely using the digital input terminals or locally via the set button. Time intervals can be set up to 999 minutes or seconds and an internal buzzer will sound when the time interval has expired.

FEATURES/BENEFITS

- 1 second to 999 minute field set time interval
- Audible alarm for status indication

APPLICATIONS

- Commercial cooking equipment
- Commercial dish washers and refrigeration equipment

MODEL CHART	
Model	Supply Power
LCT316-100	115 VAC
LCT316-200	230 VAC
LCT316-300	12 VAC/DC
LCT316-400	24 VAC/DC

SPECIFICATIONS

Operating Temperature Range: 32 to 158°F (0 to 70°C).

Control Output Ratings: Relay, SPST NO, 16 A at 250 VAC resistive.

Weight: 5.6 oz (158.8 g).

Status Light: LED shows time and operation.

Inputs: Digital input for start and reset.

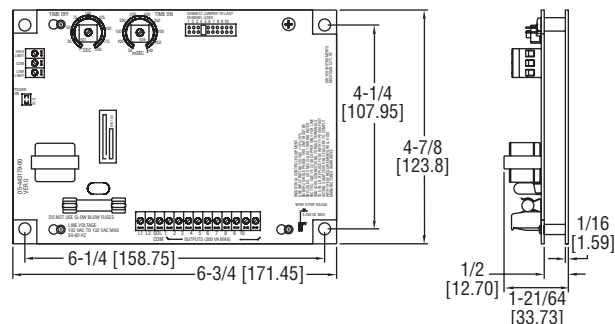
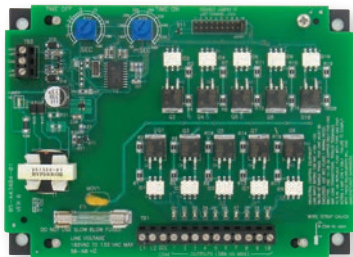
Supply Voltage: 115 VAC, 230 VAC, 12 VAC/DC, 24 VAC/DC depending on model.

Power Consumption: 4 VA.

Agency Approvals: CE, cULus.

LOW COST TIMER CONTROLLER

Compact, Easy to Use, 4, 6 or 10 Channels



The **SERIES DCT500A** Low Cost Timer Controller is designed to provide continuous or on-demand cleaning for receivers and pulse jet systems. It is available in either 4, 6, or 10 channels, and each unit is the same size, minimizing enclosure space and reducing overall system installation cost. For added safety, the control circuitry including the control inputs are isolated from the line voltage.

FEATURES/BENEFITS

- Simple and easy to use design
- Optional weatherproof enclosure available

APPLICATIONS

- Dust collection
- Pneumatic conveying
- Cement batch plants

MODEL CHART

Model	Description	No. of Channels
DCT504A	Timer controller	4
DCT506A	Timer controller	6
DCT510A	Timer controller	10

SPECIFICATIONS*

Output Channels: 4, 6, & 10

Power Requirements: 102 to 132 VAC
50 or 60 Hz.

Power Consumption: 2.5 W.

Solenoid Supply: 3 A max per channel.

Fuse: Type 3 AG, 3 A @ 250 VAC.

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

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

On Time: 50 ms to 500 ms.

On Time Accuracy: ±10 ms.

On Time Stability: ±1 ms.

Off Time: 1 second to 180 seconds.

Off Time Accuracy: ±5% of setting.

Weight: 9 oz (255 g).

Agency Approvals: CE, cULus.

*Additional specifications on IOM.

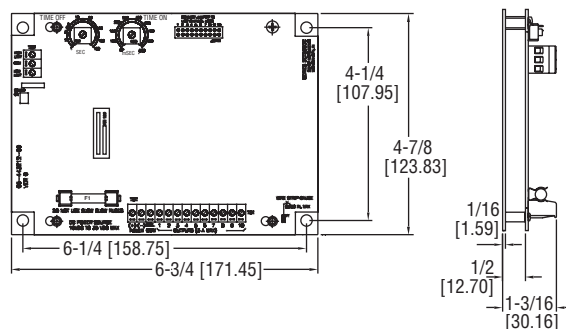
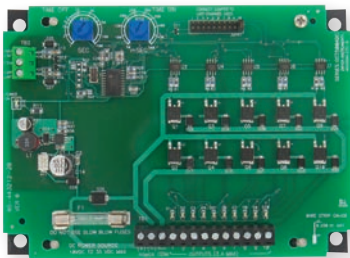
OPTIONS

To order add suffix:	Description
-L	Mounting bracket for field retrofits: 8-1/4" x 6-1/4" (209.55 mm x 158.75 mm)
-WP	Weatherproof housing: standard models Weatherproof housing: with option -L mounting bracket

SERIES DCT500ADC

LOW COST TIMER CONTROLLER

For Low Voltage Applications



The **SERIES DCT500ADC** Low Cost Timer Controller is designed to provide continuous or on-demand cleaning for 10-35 volt powered receivers and pulse jet systems. It is available in either 4, 6, or 10 channels, and each unit is the same size, minimizing enclosure space and reducing overall system installation cost. For added safety, the control circuitry including the control inputs are isolated from the line voltage.

FEATURES/BENEFITS

- Ideal for low voltage applications
- Simple and easy to use design
- Optional weatherproof enclosure available

APPLICATIONS

- Dust collection
- Pneumatic conveying
- Cement batch plants

MODEL CHART

Model	Description	No. of Channels
DCT504ADC	Timer controller	4
DCT506ADC	Timer controller	6
DCT510ADC	Timer controller	10

SPECIFICATIONS*

Output Channels: 4, 6, & 10 channels.

Power Requirements: 10 to 35 VDC.

Power Consumption: 0.6 W.

Solenoid Supply: 3 A max per channel.

Fuse: Type 3 AG, 3 A @ 250 VAC.

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

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

On Time: 50 ms to 500 ms.

On Time Accuracy: ±10 ms.

On Time Stability: < ±1 ms.

Off Time: 1 s to 180 s.

Off Time Accuracy: ±5% of setting.

Weight: 9 oz (255 g).

Agency Approvals: CE.

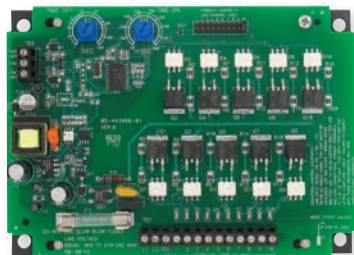
*Additional specifications on IOM.

OPTIONS

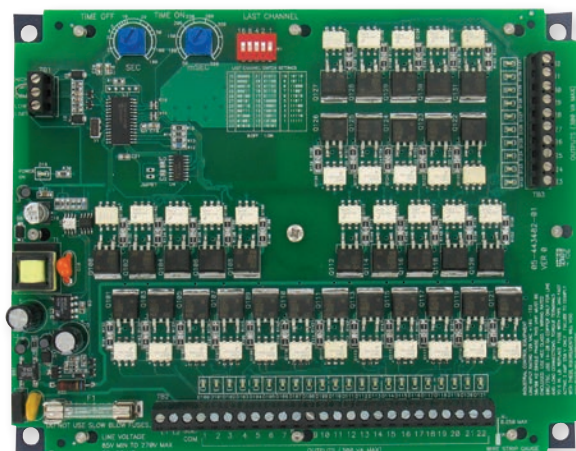
To order add suffix:	Description
-L	Mounting bracket for field retrofits: 8-1/4" x 6-1/4" (209.55 mm x 158.75 mm)
-WP	Weatherproof housing: standard models Weatherproof housing: with option -L mounting bracket

TIMER CONTROLLER

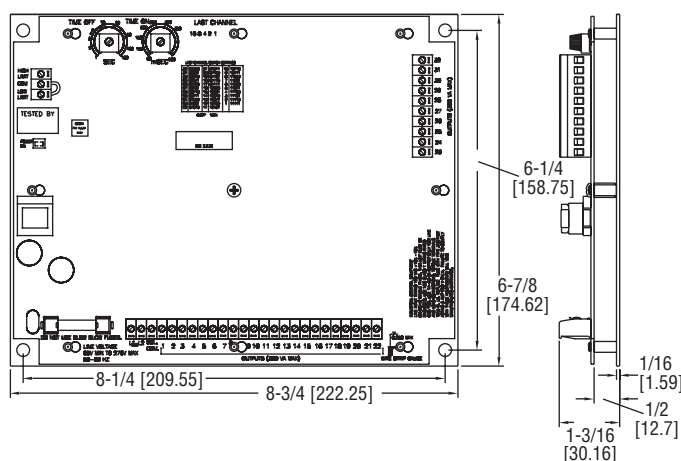
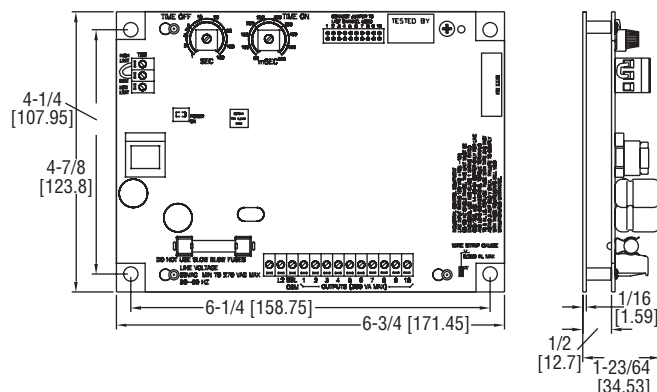
With Universal Power For Both 120 and 220 VAC



4 thru 10 channel board



22 and 32 channel board



The **SERIES DCT600** Timer Controller is a timing system for pulse-jet type dust collectors or pneumatic conveying systems in either continuous or on-demand cleaning applications. It provides either 4, 6, 10, 22, or 32 channels, and if fewer channels are required than is available on the board, a shorting plug or dip switch allows selection of the last used channel. The new enhanced board circuitry of the DCT600 synchronizes the on-time pulse to the power line to achieve a pulse stability of ± 1 msec.

FEATURES/BENEFITS

- Better synchronized on-time pulse to the power line for better pulse stability
- Adjustable potentiometers to select time-on and time-off settings
- Simple and easy to use design

APPLICATIONS

- Dust collection
- Pneumatic conveying

SPECIFICATIONS*

Output Channels: 4, 6, 10, 22 and 32 channels available.
Power Requirements: 85 to 270 VAC.
Power Consumption: 1.2 W.
Solenoid Supply: 300 VA.
Fuse: Type 3 AG, 3 A @ 250 VAC.
Temperature Limits: -40 to 140°F (-40 to 60°C).
Storage Temperature Limits: -40 to 176°F (-40 to 80°C).
On Time: 50 ms to 500 ms.
On Time Accuracy: $\pm 5\%$ of setting.
On Time Stability: ± 1 ms.
Off Time: 1 s to 180 s.
Off Time Accuracy: 5% of setting.
Weight: 9 oz (255 g).
Agency Approvals: CE, cULus.

*Additional specifications on IOM.

OPTIONS

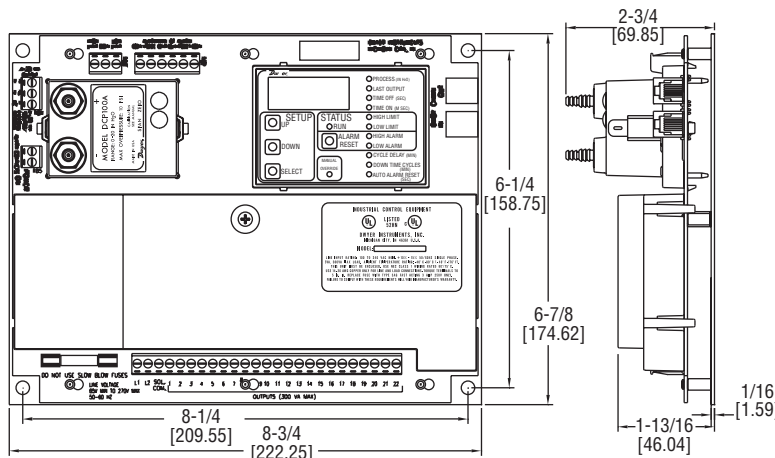
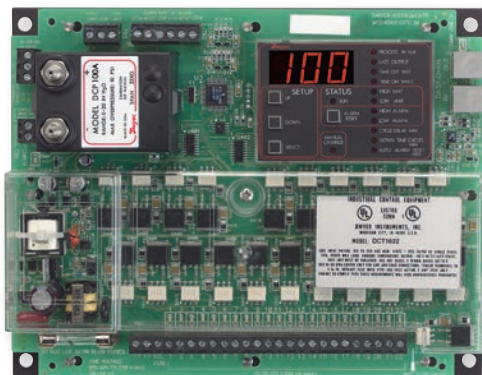
To order add suffix:	Description
-L	Mounting bracket for field retrofits: 8-1/4" x 6-1/4" (209.55 mm x 158.75 mm)
-WP	Weatherproof housing: 4 thru 10 channel only Weatherproof housing: 22 & 32 channels

Note: L mounting bracket available with 4, 6, or 10 channel models only.

MODEL CHART		
Model	Description	No. of Channels
DCT604	Timer controller	4
DCT606	Timer controller	6
DCT610	Timer controller	10
DCT622	Timer controller	22
DCT632	Timer controller	32

DUST COLLECTOR TIMER CONTROLLER

Modular Design, User Friendly, Up to 22 Channels



The **SERIES DCT1000** Dust Controller Timer Controller simplifies on-demand cleaning requirements by eliminating the need for external devices such as pressure switches, relays, and timers. The modular design allows for use as a continuous cleaning control or on-demand cleaning control using the optional plug-in pressure module. The DCT1000 is the same size for 6, 10, and 22 channels, allowing one board size to be the standard on one enclosure.

FEATURES/BENEFITS

- Universal power requirements for both domestic and overseas use
- Standard mounting holes to other dust collector controllers for use in existing installations
- Able to automatically detect any channel expander connected

APPLICATIONS

- Dust collection
- Pneumatic conveying

MODEL CHART			
Model	Description	No. of Channels	D.P. Range
DCT1022	Master controller	22	-
DCT1010	Master controller	10	-
DCT1006	Master controller	6	-
DCT1122	Channel expander	22	-
DCT1110	Channel expander	10	-
DCP200A	Pressure module	-	20 in w.c.
DCP100A	Pressure module	-	10 in w.c.

OPTIONS	
To order add suffix:	Description
-WP	Weatherproof housing only
-WPP	Weatherproof housing with pressure ports
-WPPS	Weatherproof housing with pressure ports, three position rotary switch installed
-EXPL	Explosion-proof housing

Note: Multiple boards stacked in enclosure.

ACCESSORIES	
Model	Description
DPMA-402	Process indicator

Note: DCA channel expander cable available in 1 ft, 2 ft, and 4 ft lengths.

SPECIFICATIONS

DCT1000 TIMER CONTROLLER

Output Channels: 6, 10, & 22 channels. Expandable to 255 channels using DCT1122 & DCT1110 channel expander boards.

Power Requirements: 85 to 270 VAC, 50 or 60 Hz.

Power Consumption: 5 W.

Solenoid Supply: 3 A max per channel.

Fuse: 3 A @ 250 VAC. Low voltage control circuitry is isolated from the line voltage for system safety.

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

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

On Time: 10 ms to 600 ms, 10 ms steps.

On Time Accuracy: ±10 ms.

Off Time: 1 s to 255 s, 1 s steps.

Off Time Accuracy: ±1% of the value or ±50 ms, whichever is greater.

Weight: 1 lb 3.0 oz (538.6 g).

Agency Approvals: cULus.

DCP PRESSURE MODULE

Pressure Ranges: 10 in w.c. or 20 in w.c.

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

Pressure Limit: 10 psi (68.95 kPa). Pressure Limit (differential): 10 psi (68.95 kPa).

Accuracy: ±1.5% FS @ 73°F (22.8°C).

Output Signal: 4 to 20 mA.

Alarm Contacts: 1.5 A inductive load, 3 A resistive load @ 30 VAC or 40 VDC.

Process Connections: Two barbed connections for use with 1/8" (3.18 mm) or 3/16" (4.76 mm) ID tubing.

Weight: 5.5 oz (155.9 g).



DCT in optional NEMA 4/4X weatherproof enclosure



DCT in optional Explosion-proof enclosure



DCAC02 cable connection for connecting multiple boards.

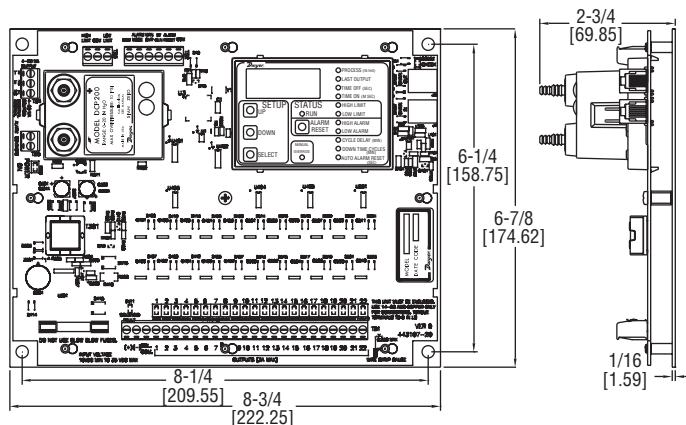
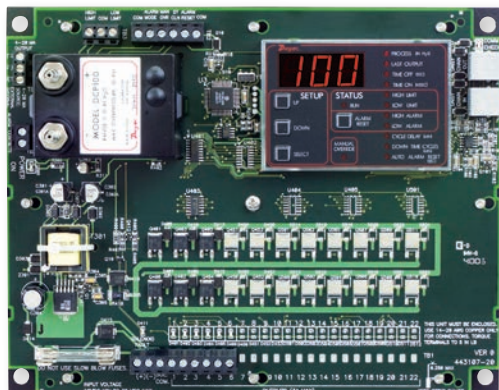


Master board stacked with channel expander



DUST COLLECTOR TIMER CONTROLLER

For Low Voltage Applications



The **SERIES DCT1000DC** Dust Collector Timer Controller simplifies on-demand cleaning requirements in low voltage applications by eliminating the need for external devices such as pressure switches, relays, and timers. The modular design allows for use as a continuous cleaning control or on-demand cleaning control using the optional plug-in pressure module. The DCT1000 is the same size for 6, 10, and 22 channels, allowing one board size to be the standard on one enclosure.

FEATURES/BENEFITS

- 10 to 30 VDC power requirement for low voltage applications
- Standard mounting holes to other dust collector controllers for use in existing installations
- Able to automatically detect any channel expander connected

APPLICATIONS

- Dust collection
- Pneumatic conveying

MODEL CHART			
Model	Description	No. of Channels	D.P. Range
DCT1022DC	Master controller	22	-
DCT1010DC	Master controller	10	-
DCT1006DC	Master controller	6	-
DCP200A	Pressure module	-	20 in w.c.
DCP100A	Pressure module	-	10 in w.c.

OPTIONS	
To order add suffix:	Description
-WP	Weatherproof housing only
-WPP	Weatherproof housing with pressure ports
-WPPS	Weatherproof housing with pressure ports, three position rotary switch installed
-EXPL	Explosion-proof housing

ACCESSORIES	
Model	Description
DPMA-402	Process indicator

SPECIFICATIONS

DCT1000DC TIMER CONTROLLER

Output Channels: 6, 10, & 22 channels.
Power Requirements: 10 to 30 VDC.
Solenoid Supply: 3 A maximum per channel.
Fuse: 3 A @ 250 VAC.
Temperature Limits: -40 to 140°F (-40 to 60°C).
Storage Temperature Limits: -40 to 176°F (-40 to 80°C).
On Time: 10 ms to 600 ms, 10 ms steps.
On Time Accuracy: ±10 ms.
Off Time: 1 s to 255 s, 1 s steps.
Off Time Accuracy: ±1% of the value or ±50 ms, whichever is greater.
Weight: 1 lb 3.0 oz (538.6 g).

DCP PRESSURE MODULE

Pressure Ranges: 10 in w.c. or 20 in w.c.
Temperature Limits: -40 to 140°F (-40 to 60°C).
Pressure Limit: 10 psi (68.95 kPa).
Pressure Limit (differential): 10 psi (68.95 kPa).
Accuracy: ±1.5% FS @ 73°F (22.8°C).
Output Signal: 4 to 20 mA.
Alarm Contacts: 1.5 A inductive load, 3 A resistive load @ 30 VAC or 40 VDC.
Process Connections: Two barbed connections for use with 1/8" (3.18 mm) or 3/16" (4.76 mm) ID tubing.
Weight: 5.5 oz (155.9 g).
Agency Approvals: CE.



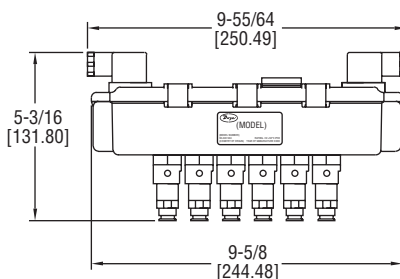
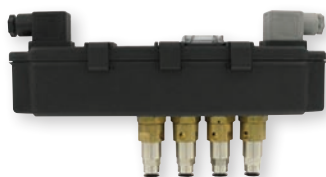
DCT in optional NEMA 4/4X weatherproof enclosure



DCT in optional Explosion-proof Enclosure

SOLENOID VALVE ENCLOSURE WITH TIMER

Compact Size, NEMA 4X Enclosure



The **SERIES SVT** Solenoid Valve Enclosure with Timer is a compact, reliable, and economic package that combines a timer board and solenoid valve enclosure into one package. Each model is available with 2, 4, or 6 valves, but expansion modules can easily be daisy chained for a maximum of 60 outputs.

FEATURES/BENEFITS

- Compact, all-in-one package eliminates the need for separate wiring and enclosures
- Universal power requirements for both domestic and overseas use
- Field selectable cleaning functions and on/off settings to personalize for any need

APPLICATIONS

- Dust collection
- Pneumatic conveying
- Industrial vacuums

SPECIFICATIONS

Service: Compatible gases, filtered and oil free.
Wetted Materials: Pilot body: Brass; Spring: 302 SS; O-ring: NBR.
Temperature Limits: 14 to 140°F (-10 to 60°C).
Pressure Limit: 145 psi (10 bar).
Power Requirements: 90 to 240 VAC, 50 or 60 Hz or 24 VAC/VDC ±10%.
Power Consumption: 25 VA.
Fuse: 0.5 A delayed.
Electrical Connection: 2 DIN A 43652 connectors.
Enclosure Rating: NEMA 4X (IP66).
Enclosure Material: Polyamide with carbon fiber, polycarbonate, TPE rubber.
Process Connection: 1/4" OD push to connect.
Mounting Orientation: Any position.
On-Time: 150 ms to 700 ms.
Off-Time: 4 s to 210 s.
Agency Approvals: CE.

MODEL CHART

Model	Description	Number of Solenoids	Supply Voltage	Model	Description	Number of Solenoids	Supply Voltage
SVT-2	Solenoid valve enclosure with timer	2	90 to 240 VAC	SVT-4-DC	Solenoid valve enclosure with timer	4	24 VDC/VAC
SVT-3	Solenoid valve enclosure with timer	3	90 to 240 VAC	SVT-6-DC	Solenoid valve enclosure with timer	6	24 VDC/VAC
SVT-4	Solenoid valve enclosure with timer	4	90 to 240 VAC	SVTE-3	Expansion module	3	Any
SVT-6	Solenoid valve enclosure with timer	6	90 to 240 VAC	SVTE-4	Expansion module	4	Any
SVT-2-DC	Solenoid valve enclosure with timer	2	24 VDC/VAC	SVTE-6	Expansion module	6	Any
SVT-3-DC	Solenoid valve enclosure with timer	3	24 VDC/VAC				

Note: SVTE modules are powered from the main enclosure and can be used with either the 90 to 240 VAC or the 24 VDC/VAC SVT models.

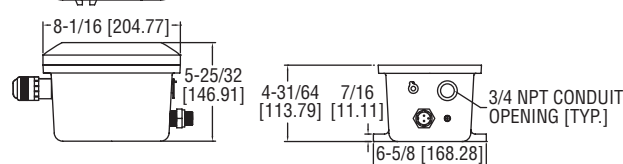
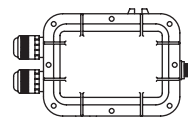
SERIES TR-7 | W.E. ANDERSON BY DWYER

SAFE-T-GROUND

Explosion-Proof, Intrinsically Safe, Ground Continuity Control



TR-7L



The **SERIES TR-7** Safe-T-Ground provides continuous monitoring of a truck's ground connection throughout loading operations. The TR-7 instantly stops loading operations if a tank truck loses its ground. To safeguard loading operations, the Safe-T-Ground circuit can be wired into your pump control, and to an audible alarm or signal light.

FEATURES/BENEFITS

- Explosion-proof housing
- Audible alarm and LED status indicators

APPLICATIONS

- Chemical
- Oil and gas

MODEL CHART

Example	TR-7	-B	L	TR-7-BL
Construction	TR-7			Explosion-proof and intrinsically safe
Power Supply Option		- U		120 VAC (standard) 220/240 VAC
Cable Connection		- B		Stud (standard) Battery (alligator) clamp
Cable Length			- X	36" coiled, extends to 16' (standard) 72" coiled, extends to 32'
Options			L	Red and green indicating lights

SPECIFICATIONS

Housing: 356-T6 cast aluminum alloy (copper-free), explosion-proof – Class I, Group D.
Size: 6-5/8" W x 10-3/8" H x 5-5/8" D.
Power Requirements: 105 to 125 VAC, 60 Hz. 7.75 watts - with light, 1.75 watts - without lights. Optional 220 to 240 VAC, 50/60 Hz.
Electrical Rating, Relay: DPDT, 10 A, 125 VAC, 60 Hz contact rating.
Wiring: Terminal strip.
Conduit Connection: 3/4" NPT.
Installation: 7/16" mounting lugs, integrally cast.

Contactor: (Grounding clamp) molded polyethylene with beryllium copper contact clips. 16-2 type SO coiled cable; retracts to 3', extends to 16'.
Grounding Studs: 2 supplied. Order a pair for each truck.
Shipping Weight: 20 lb with contactor and cord.
Agency Approvals: UL.
Options: Integral pilot lights; 30' coiled cable; Temporary contactor assemblies, clamp connectors, and other supply voltages.

MODEL CHART

Model	Description
TR-7	Safe-T-Ground
TR-7-L	Safe-T-Ground with integral pilot lights

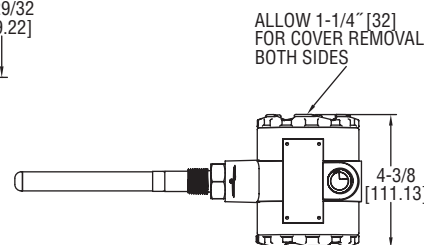
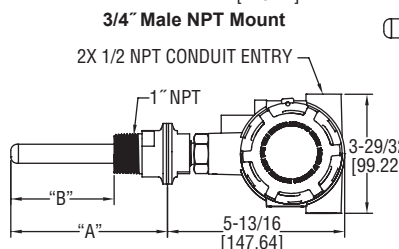
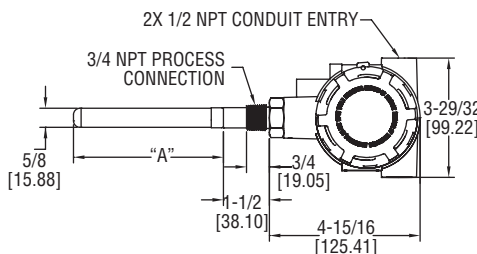
PARTICULATE TRANSMITTER

Digital Damping, Non-Stick Probe, For Broken Bag Detection



3/4" MALE NPT MOUNT		
Probe Length	A	in [mm]
3"	3	[76.20]
5"	5	[127.00]
10"	10	[254.00]
15"	15	[381.00]
20"	20	[508.00]
30"	30	[762.00]
36"	36	[914.40]

1.5" TRI-CLAMP MOUNT		
Probe Length	A	B
	in [mm]	in [mm]
3"	3-1/2 [88.90]	1-25/32 [45.24]
5"	5-1/2 [139.70]	3-25/32 [96.04]
10"	10-1/2 [266.70]	8-25/32 [223.04]
15"	15-1/2 [393.70]	13-25/32 [350.04]
20"	20-1/2 [520.70]	18-25/32 [477.04]
30"	30-1/2 [744.70]	28-25/32 [731.04]
36"	36-1/2 [927.10]	34-25/32 [883.44]



The **SERIES PMT2** Particulate Transmitter is designed to measure particulate emission levels from dust collector discharge. Using DC coupled electrostatic induction sensing technology, the transmitter monitors a pA current that is generated as particulate passes near the probe; a 4 to 20 mA signal will vary based on the particulate level. The PMT2 offers 6 sensitivity ranges allowing the user to choose the range that will best fit the application. The range and test selector switch can also be set to output a 4 mA or 20 mA signal to assist with set up or trouble shooting. Averaging time setting can be used to dampen the signal if desired.

FEATURES/BENEFITS

- Simple 2-wire installation for PLC and control panels
- Non-stick PTFE coated probe to prevent false readings from moist and conductive dusts, condensate, and dust buildup
- Remote zero calibration helps to decrease maintenance time

APPLICATIONS

- Emissions monitoring
- Broken bag detection in dust collectors
- Filter leak or wear detection
- Bin vent monitoring

SPECIFICATIONS

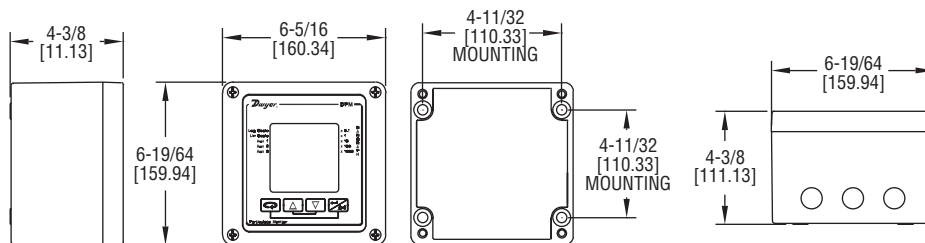
Service: Air and compatible gases, any type of particulate conductive or non-conductive.
Wetted Materials: 316L SS, silicone, and PTFE.
Enclosure: Powder coated aluminum.
Accuracy: ±5% of reading.
Particulate Size: 0.3 microns and higher.
Detection Range: 5 to 5000 pA (6 selectable range options).
Temperature Limits: Ambient: -40 to 145°F (-40 to 63°C); Process: -40 to 248°F (-40 to 120°C).
Pressure Limit: 30 psi (2 bar).
Output Signal: 4 to 20 mA.
Power Requirements: 12 to 28 VDC.
Electrical Connection: Two 1/2" female NPT conduit openings.
Terminal Block: Removable (16 to 20 AWG wire).
Process Connection: See model chart.
Probe Lengths: See model chart.
Enclosure Rating: Type 4 (IP66).
Mounting Orientation: Any.
Averaging Time: 1 to 360 s (10 selectable options).
Weight: Varies with length of probe and type of mount.
Agency Approvals: CE, cULus; ATEX pending, IECEx pending. UL Listed Intrinsically Safe for Class I, Groups C and D; Class II, Groups E, F and G; Class III; Class I Zone 0 AEx ia IIB T4 Ga; Class I Zone 0 Ex ia IIB T4 Ga.

MODEL CHART				
Example	PMT2	-05	-A	-U2
Series	PMT2			
Probe Length		03		
		05		
		10		
		15		
		20		
		30		
		36		
Process Connection			A	
			B	
Enclosure Rating				U2
Options				ST

ACCESSORIES	
Model	Description
A-PMT2-M20	1/2" NPT to M20 conduit adaptor
A-PMT2-FLG	2" flange with 3/4" NPT female connection, 316 SS

PARTICULATE MONITOR & CONTROL

Real-Time Leak Gage, Adjustable Alarm Points



The **SERIES DPM** Particulate Monitor and Series PMS Particulate Sensor combine to provide a basic baghouse and cartridge filter leak detector designed for general maintenance planning and process protection. Leakage is gauged in real-time, on-the-spot, without prior baseline data and without signal tuning and displayed on the digital readout in a bar graph and an absolute digital readout. An alarm point can be set by simply moving an indicator up and down the gauge with the key pad.

FEATURES/BENEFITS

- Rugged cast aluminum housing with lockable membrane keypad
- Programmable alarm points
- Large LCD to display readouts digitally

APPLICATIONS

- Baghouses
- Bin vents
- Cartridge filters

SPECIFICATIONS

Inputs: From PMS sensor.

Output Ratings: Alarm relays: 2 form A (SPST) rated 5 A @ 240 V res. (must provide an 8 A (max) fuse in series with relay load); Analog: 4 to 20 mA (option RC).

Power Requirements: 115 VAC 50/60 Hz, 230 VAC 50/60 Hz, or 24 VDC.

Power Consumption: 6 W max.

Accuracy: Standard: $\pm 5\%$ of range, Optional: $\pm 1\%$ of range.

Display: LCD.

Display Resolution: Standard: 5 pA; Optional: 0.5 pA.

Memory Backup: For set point storage only.

Temperature Limits: -13 to 160°F (-25 to 70°C).

Weight: 4.5 lb (2.0 kg).

Enclosure: Cast aluminum, weatherproof, NEMA 4X (IP66).

Loop Power Supply (Isolated): 17 VDC loop supply provided by DPM control unit for PMS sensor.

Agency Approvals: CE & CSA.*

*DPM models listed intrinsically safe are to be used with corresponding intrinsically safe PMS models making an intrinsically safe control loop. The PMS model can then be installed in a hazardous location according to approval ratings listed. The DPM itself is not intrinsically safe and must be installed outside the hazardous location.

MODEL CHART

Model	System Rating	Range	Input Power
DPM-A111	Weatherproof/NEMA 4X (IP66)	5.0 pA - 5000 pA	115 VAC 50/60 Hz
DPM-A112	Weatherproof/NEMA 4X (IP66)	5.0 pA - 5000 pA	230 VAC 50/60 Hz
DPM-A113	Weatherproof/NEMA 4X (IP66)	5.0 pA - 5000 pA	24 VDC
DPM-A121	Weatherproof/NEMA 4X (IP66)	0.5 pA - 5000 pA	115 VAC 50/60 Hz
DPM-A122	Weatherproof/NEMA 4X (IP66)	0.5 pA - 5000 pA	230 VAC 50/60 Hz
DPM-A123	Weatherproof/NEMA 4X (IP66)	0.5 pA - 5000 pA	24 VDC
DPM-AHZ111	Intrinsically safe*	5.0 pA - 5000 pA	115 VAC 50/60 Hz
DPM-AHZ112	Intrinsically safe*	5.0 pA - 5000 pA	230 VAC 50/60 Hz
DPM-AHZ113	Intrinsically safe*	5.0 pA - 5000 pA	24 VDC
DPM-AHZ121	Intrinsically safe*	0.5 pA - 5000 pA	115 VAC 50/60 Hz
DPM-AHZ122	Intrinsically safe*	0.5 pA - 5000 pA	230 VAC 50/60 Hz
DPM-AHZ123	Intrinsically safe*	0.5 pA - 5000 pA	24 VDC

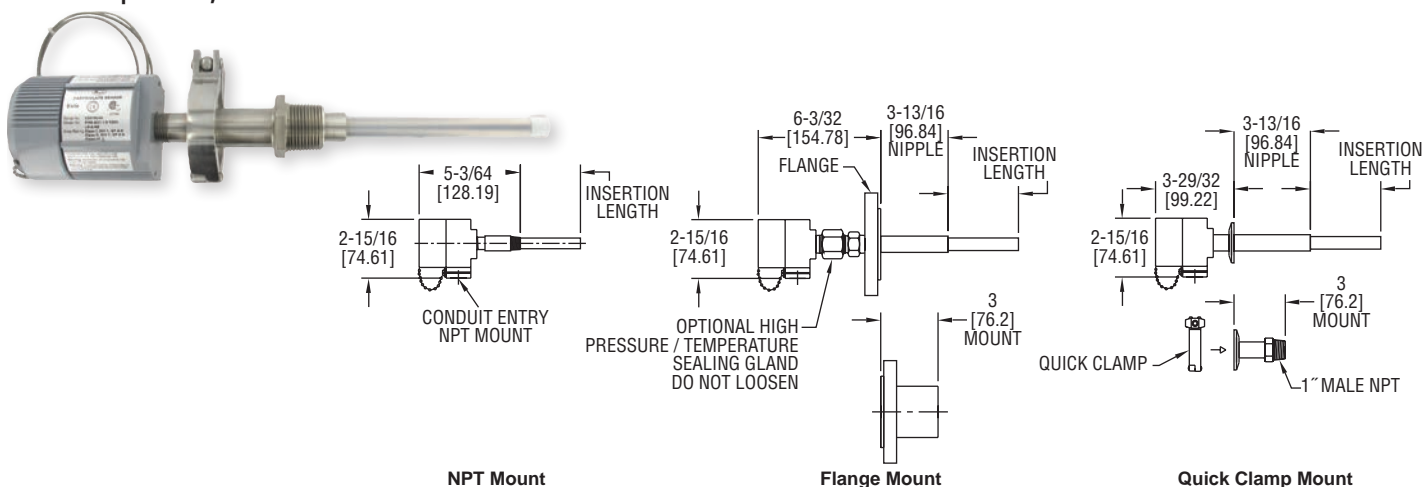
*DPM models listed intrinsically safe are to be used with corresponding intrinsically safe PMS models making an intrinsically safe control loop. The PMS model can then be installed in a hazardous location according to approval ratings listed. The DPM itself is not intrinsically safe and must be installed outside the hazardous location.

OPTION

To order add suffix:	Description
-RC	Analog output (4-20 mA)

PARTICULATE SENSOR

Reliable Operation, Minimal Maintenance



The **SERIES PMS** Particulate Sensor employs a field-proven combination of passive-induction and protected-probe technologies. As particles flow near and around the probe, the signal is processed into an absolute output that can be sent to a Series DPM Particulate Monitor. Protective layers over the probe work in combination with induction-sensing to ensure reliable operation with all types of particulate including moist powders and highly conductive dusts.

FEATURES/BENEFITS

- Durable housing that is free of electronics
- Minimal maintenance needed

APPLICATIONS

- Baghouses
- Bin vents
- Cartridge filters

SPECIFICATIONS

Service: Air and compatible gases, any type particulate.
Wetted Materials: T1 and T2: 316SS and PFA; T3 and T4: 316SS and ceramic.
Temperature Limits: Ambient: Maximum -40 to 392°F (-40 to 200°C) (max must be calculated for each application); Process: See model chart.
Pressure Limits: Standard: Full vacuum to 10 psi (0.69 bar); Optional: 100 psi (6.89 bar).
Output Signal: pA.
Electrical Connection: Low noise coaxial.
Process Connection: See model chart.
Enclosure: Standard: Painted cast aluminum, weatherproof, NEMA 4X (IP66); Optional: Intrinsically safe, CSA (must use with proper DPM model).
Weight: Varies depending on length of probe and type of mount.
Agency Approvals: CE, CSA.

MODEL CHART							
Example	PMS	-A1	1	T1	P1	-L1.5	PMS-A11T1P1-L1.5
Series	PMS						Particulate sensor
Enclosure Rating		A1 AHZ1					Weatherproof, NEMA 4X (IP66) Intrinsically safe, CSA & CEA approvals, class I, II, and III; division I & II, all groups, NEMA 4X (requires quick clamp connection or flange mount)
Process Connection			1 2 3 4				1/2" NPT 1" NPT with 1.5" quick clamp connection 2" 150# ANSI flange 2" 150# ANSI flange with process mating flange and installation kit
Maximum Process Temperature				T1 T2 T3 T4			250°F (121°C) 450°F (232°C) 800°F (426°C) - requires flange mount 1200°F (649°C) - requires flange mount
Maximum Process Pressure					P1 P2		10 psi 100 psi - requires flange mount
Insertion Length*						L1.5 L03 L05 L10 L15 L20 L30 L36 L48 L60 L72	1.5" probe 3" probe 5" probe 10" probe 15" probe 20" probe 30" probe 36" probe 48" probe 60" probe 72" probe

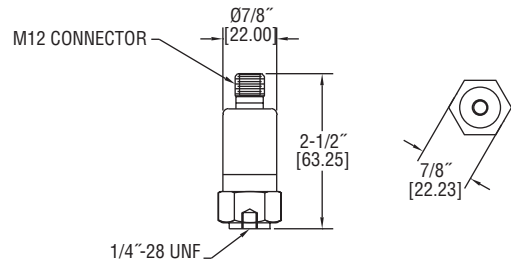
*Recommended at least 1/2 duct diameter

MODEL CHART			
Model	Description	Model	Description
CAB-10	10 foot sensor cable	CAB-30	30 foot sensor cable
CAB-20	20 foot sensor cable	CAB-40	40 foot sensor cable

Note: Consult factory for custom cable lengths up to 300 feet.

Dwyer**MODEL VBT-1****VIBRATION TRANSMITTER**

Continuous 4 to 20 mA Output Signal



The **MODEL VBT-1** Vibration Transmitter continuously detects the vibration in a system and monitors for unusual operating conditions and potential failure. The vibration is converted into an analog signal at the current output. The 2-wire loop power operation, combined with standard M12 micro cable connector and interchangeable mounting studs, make for a fast and reliable installation.

FEATURES/BENEFITS

- Easy set-up and operating concept
- Stainless steel housing
- No software required

APPLICATIONS

Vibration monitoring for:

- Motors
- Pumps
- Fans
- Engines
- Compressors
- Gear boxes

SPECIFICATIONS

Housing Material: 316 SS.
Temperature Limit: -22 to 221°F (-30 to 105°C).
Accuracy: < ±3%.
Connections: M12 connector.
Enclosure Rating: NEMA 6 (IP68).
Electrical Rating: 9.6 to 32 VDC.

Mounting Orientation: Any position.
Nonlinearity: < ±0.25% of span.
Frequency Range: 10 to 1000 Hz.
Output Signal: 4 to 20 mA.
Repeatability: < 0.5%.
Weight: 0.28 lb (0.125 kg).
Agency Approvals: CE.

MODEL CHART

Model	Description
VBT-1	Vibration transmitter

ACCESSORIES

Model	Description
A-283	4 Wire Connector

SERIES CSE-3R**GALVANNEALED STEEL ENCLOSURE**

Wall Mounted, NEMA 3R, UL Approved



Enclosure



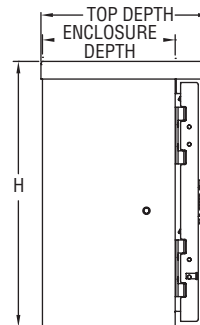
Sub-Panel



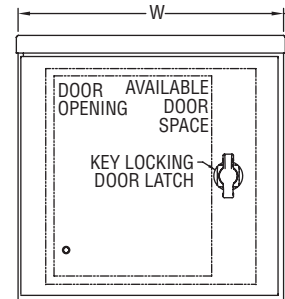
Mounting Strap



Drip Shield



Left Side View



Front View

The **SERIES CSE-3R** Carbon Steel Enclosures are spot-welded, wall mounted enclosures designed to house electrical controls, instruments, and components in an outdoor environment. The enclosure features concealed hinges that allow 180° of rotation, a quarter turn latch that can be opened/closed with a screwdriver, and ground studs on the door and body. Mounting holes on the back of the enclosure allow for versatile mounting and standoffs provide easy installation of optional sub-panels. A rain cap and an oil resistant door gasket will protect instruments from rain, sleet, and snow. Each unit includes a 3/8-16 grounding kit and has the option of including a sub-panel, mounting strap, and/or a drip shield. This series is the perfect accessory for a variety of instrumentation in need of outdoor protection.

SPECIFICATIONS

Materials: Galvannealed steel enclosure; All other components: Carbon steel.
Rating: NEMA 3R (IP32).
Dimensions: See chart for enclosure dimensions; Sub-panel height = enclosure height - 3" (76 mm); Sub-panel width = enclosure width - 3" (76 mm); Mounting strap width = enclosure width - 4" (102 mm); Drip shield width = enclosure width.
Thickness: 0.048" (1.22 mm) for drip shields; 0.060" (1.52 mm) for enclosures < 24" wide; 0.075" (1.91 mm) for enclosures ≥ 24" wide; 0.125" (3.18 mm) for sub-panels; 0.078" (1.98 mm) for mounting straps.
Weight: See chart.
Agency Approvals: CSA, cULus. (Meets the technical requirements of EU Directive 2011/65/EU (RoHS II)).

MODEL CHART

Enclosure* Model	Height in (cm)	Width in (cm)	Depth in (cm)	Weight lb (kg)	Sub Panel* Model	Weight lb (kg)	Mounting Strap* Model	Weight lb (kg)	Drip Shield* Model	Weight lb (kg)
CSE-3R-121206	12 (30)	12 (30)	6 (15)	15 (7)	A-SSE-P-1212	3 (1.4)	A-CSE-3M-12	2 (0.9)	A-CSE-D-12	2 (0.9)
CSE-3R-161206	16 (41)	12 (30)	6 (15)	16 (7)	A-SSE-P-1612	4 (1.8)	A-CSE-3M-16	2 (0.9)	A-CSE-D-16	2 (0.9)
CSE-3R-201606	20 (51)	16 (41)	6 (15)	25 (11)	A-SSE-P-2016	8 (3.6)	A-CSE-3M-20	3 (1.4)	A-CSE-D-20	3 (1.4)
CSE-3R-242006	24 (61)	20 (51)	6 (15)	32 (15)	A-SSE-P-2420	14 (6.4)	A-CSE-3M-24	4 (1.8)	A-CSE-D-24	4 (1.8)
CSE-3R-302408	30 (76)	24 (61)	8 (20)	60 (27)	A-SSE-P-3024	22 (10)			A-CSE-D-30	4 (1.8)
CSE-3R-362408	36 (91)	24 (61)	8 (20)	62 (28)	A-SSE-P-3624	27 (12.2)				
CSE-3R-363008	36 (91)	30 (76)	8 (20)	70 (32)	A-SSE-P-3630	34 (15.4)				

*For additional sizes contact factory.

ACCESSORIES

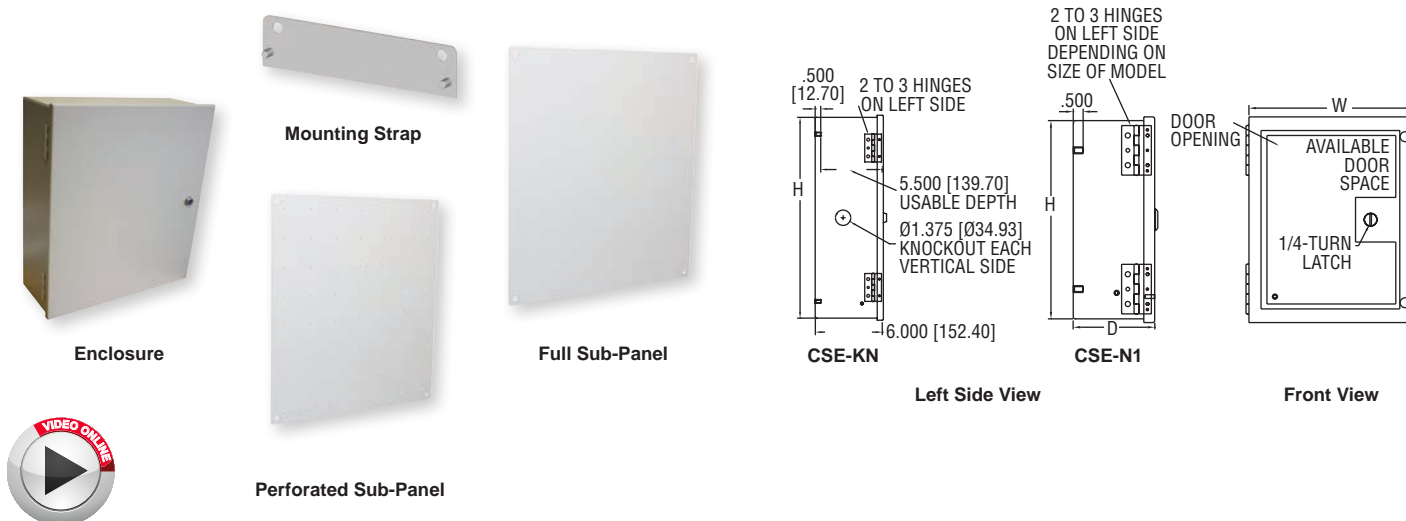
Model	Description
A-CSE-L	Keylocking wing knob door latch, Includes 1 lock and 2 keys
A-CSE-K	Replacement keys, includes 2 keys



A-CSE-L

CARBON STEEL ENCLOSURE

Wall Mounted, General Purpose Enclosure, UL Approved



The **SERIES CSE-N1 & CSE-KN** Carbon Steel Enclosures are spot-welded, wall mounted enclosures designed to house electrical controls, instruments, and components in general purpose areas. The door features butt hinges that allow 180° of rotation, a quarter turn latch, and a ground stud. Mounting holes on the back of the enclosure allow for versatile mounting on CSE-N1 models. CSE-KN models include the sub-panel and knock outs to allow cords to pass easily to the limit. Optional solid or perforated sub-panel and mounting straps are offered for easy instrument mounting. This series is the perfect accessory for a variety of instrumentation in need of general protection and security.

SPECIFICATIONS

Materials: Carbon steel.

Rating: NEMA 1.

Dimensions: See chart.

Thickness: 0.060" (1.52 mm) for enclosures <24" wide; 0.075" (1.91 mm) for enclosures ≥ 24" wide; 0.060" (1.52 mm) for perforated sub-panels; 0.075" (1.91 mm) for solid sub-panels; 0.078" (1.98 mm) for mounting straps.

Weight: See chart.

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

MODEL CHART

Enclosure* Model	Height in (cm)	Width in (cm)	Depth in (cm)	Weight lb (kg)	Sub-Panel* Model**	Height in (cm)	Width in (cm)	Weight lb (kg)	Sub-Panel* Model**	Height in (cm)	Width in (cm)	Weight lb (kg)
CSE-N1-100804	10 (25)	8 (20)	4 (10)	7 (3.2)	A-CSE-1S-1008	8 (20)	6 (15)	2 (0.9)	A-CSE-1S-2016	18 (46)	14 (36)	6 (2.7)
CSE-N1-101004	10 (25)	10 (25)	4 (10)	8.5 (3.9)	A-CSE-1P-1008	8 (20)	6 (15)	1 (0.5)	A-CSE-1P-2016	18 (46)	14 (36)	3 (1.4)
CSE-N1-121004	12 (30)	10 (25)	4 (10)	5 (2.3)	A-CSE-1S-1010	8 (20)	8 (20)	1 (0.5)	A-CSE-1S-2020	18 (46)	18 (46)	7 (3.2)
CSE-N1-121204	12 (30)	12 (30)	4 (10)	10 (4.5)	A-CSE-1P-1010	8 (20)	8 (20)	1 (0.5)	A-CSE-1P-2020	18 (46)	18 (46)	4 (1.8)
CSE-N1-141204	14 (36)	12 (30)	4 (10)	10 (4.5)	A-CSE-1S-1210	10 (25)	8 (20)	3 (1.4)	A-CSE-1S-2416	22 (56)	14 (36)	7 (3.2)
CSE-N1-161206	16 (41)	12 (30)	6 (15)	11 (5)	A-CSE-1P-1210	10 (25)	8 (20)	1 (0.5)	A-CSE-1P-2416	22 (56)	14 (36)	5 (2.3)
CSE-N1-161606	16 (41)	16 (41)	6 (15)	16 (7.3)	A-CSE-1S-1212	10 (25)	10 (25)	4 (1.8)	A-CSE-1S-2420	22 (56)	18 (46)	9 (4.1)
CSE-N1-201606	20 (51)	16 (41)	6 (15)	21 (9.5)	A-CSE-1P-1212	10 (25)	10 (25)	2 (0.9)	A-CSE-1P-2420	22 (56)	18 (46)	7 (3.2)
CSE-N1-202006	20 (51)	20 (51)	6 (15)	25 (11.3)	A-CSE-1S-1412	12 (30)	10 (25)	3 (1.4)	A-CSE-1S-2424	22 (56)	22 (56)	11 (5)
CSE-N1-241606	24 (61)	16 (41)	6 (15)	27 (12.2)	A-CSE-1P-1412	12 (30)	10 (25)	2 (0.9)	A-CSE-1P-2424	22 (56)	22 (56)	8 (3.6)
CSE-N1-242006	24 (61)	20 (51)	6 (15)	31.5 (14.3)	A-CSE-1S-1612	14 (36)	10 (25)	3 (1.4)	A-CSE-1S-3024	28 (71)	22 (56)	13 (6)
CSE-N1-242406	24 (61)	24 (61)	6 (15)	41 (18.6)	A-CSE-1P-1612	14 (36)	10 (25)	2 (0.9)	A-CSE-1P-3024	28 (71)	22 (56)	11 (5)
CSE-N1-302406	30 (76)	24 (61)	6 (15)	54 (24.5)	A-CSE-1S-1616	14 (36)	14 (36)	4 (1.8)	A-CSE-1S-3030	28 (71)	28 (71)	17 (8)
CSE-N1-303008	30 (76)	30 (76)	8 (20)	60 (27.2)	A-CSE-1P-1616	14 (36)	14 (36)	2 (0.9)	A-CSE-1P-3030	28 (71)	28 (71)	14 (6)

*For additional sizes contact factory. **1S denotes a solid steel panel; 1P denotes a perforated steel panel.

MODEL CHART

Mounting Strap* Model	Width in (cm)	Weight lb (kg)
A-CSE-1M-08	7.1 (18)	1 (0.5)
A-CSE-1M-10	9.1 (23)	1 (0.5)
A-CSE-1M-12	11.1 (28)	1 (0.5)
A-CSE-1M-16	15.1 (38)	2 (0.9)
A-CSE-1M-20	19.1 (49)	2 (0.9)
A-CSE-1M-24	23.1 (59)	3 (1.4)

*For additional sizes contact factory.

MODEL CHART

Enclosure Model	Height in (cm)	Width in (cm)	Depth in (cm)	Weight lb (kg)	Mounting Strap Model	Width in (cm)	Weight lb (kg)
CSE-KN-181606	18 (46)	16 (41)	6 (15)	22 (10)	A-CSE-1M-16	15.1 (38)	2 (0.9)
CSE-KN-242006	24 (61)	20 (51)	6 (15)	35 (16)	A-CSE-1M-20	19.1 (49)	2 (0.9)
CSE-KN-362406	36 (91)	24 (61)	6 (15)	58 (26)	A-CSE-1M-24	23.1 (59)	3 (1.4)

ACCESSORIES

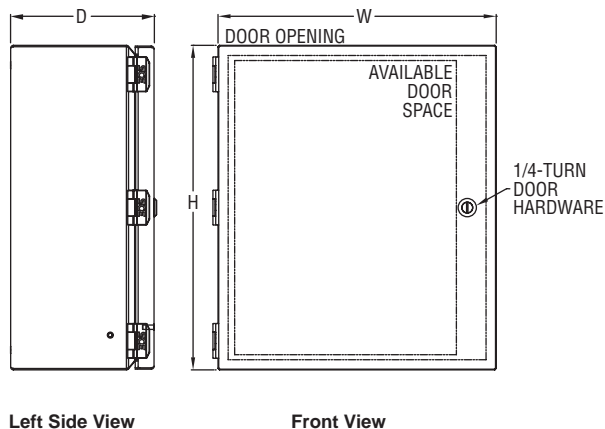
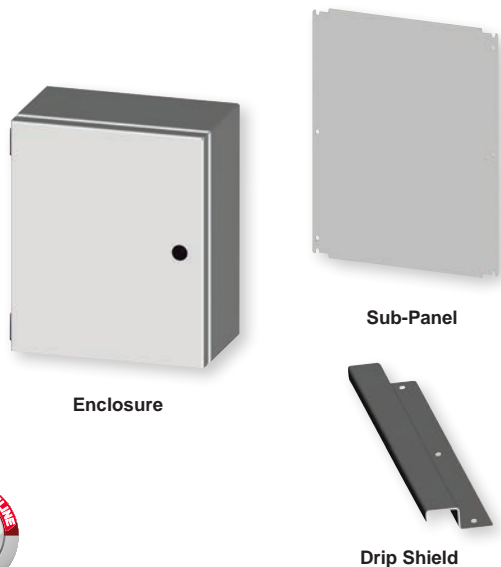
Model	Description
A-CSE-L	Keylocking wing knob door latch, includes 1 lock and 2 keys
A-CSE-K	Replacement keys, includes 2 keys



A-CSE-L

STAINLESS STEEL ENCLOSURE

Wall Mounted, NEMA 4X, UL Approved



The **SERIES SSE** Stainless Steel Enclosures are wall mounted enclosures designed to house electrical controls, instruments, and components in locations that are wet, oily, or may be regularly hosed down. The enclosure features seamless welds, butt hinges that allow 180° of rotation, a quarter turn latch that can be opened/closed with a screwdriver, ground studs on the door and body, and standoffs for mounting additional sub-panels. Mounting holes and mounting feet allow for versatile mounting. The oil-resistant gasket, sealing washers, and hole plugs ensure that the components are protected at all times. Optional sub-panels and drip shields can be purchased separately. Mounting feet are included with the SSE-J but must be purchased separately for the SSE-E enclosures. This series is the perfect accessory for a variety of instrumentation in need of full protection.

SPECIFICATIONS

Materials: Enclosure: 304 SS; Mounting feet: 316 SS†; Hinges: Plastic; All other components: Carbon steel.

Rating: NEMA 4X (IP66).

Dimensions: See chart.

Thickness: 0.048" (1.22 mm) for A-SSE-D-XX; 0.063" (1.60 mm) for SSE-J-XXXXXX; 0.075" (1.91 mm) for SSE-E-XXXXXX and A-SSE-PJ-XXXX; 0.088" (2.24 mm) for A-SSE-P-XXXX; 0.13" (3.30 mm) for A-SSE-F.

Weight: See chart.

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

†Included with SSE-J models only.

MODEL CHART

Enclosure** Model*	Height in (cm)	Width in (cm)	Depth in (cm)	Weight lb (kg)	Sub-Panel Model	Height in (cm)	Width in (cm)	Weight lb (kg)	Drip Shield Model	Width in (cm)	Weight lb (kg)
SSE-J-100804	10 (25)	8 (20)	4 (10)	6 (2.7)	A-SSE-PJ-1008	9 (23)	7 (18)	4 (1.8)	A-SSE-D-12	12 (30)	3 (1.4)
SSE-J-121006	12 (30)	10 (25)	6 (15)	10 (4.5)	A-SSE-PJ-1210	11 (29)	9 (23)	2 (0.9)	A-SSE-D-16	16 (41)	4 (1.8)
SSE-J-121206	12 (30)	12 (30)	6 (15)	11 (5)	A-SSE-PJ-1212	11 (29)	11 (29)	3 (1.4)	A-SSE-D-20	20 (51)	4 (1.8)
SSE-J-141206	14 (36)	12 (30)	6 (15)	13 (5.9)	A-SSE-PJ-1412	13 (34)	11 (29)	3 (1.4)	A-SSE-D-24	24 (61)	5 (2.3)
SSE-J-161406	16 (41)	14 (36)	6 (15)	16 (7.3)	A-SSE-PJ-1614	15 (39)	13 (34)	3 (1.4)	A-SSE-D-30	30 (76)	4 (1.8)
SSE-E-161606	16 (41)	16 (41)	6 (15)	21 (10)	A-SSE-P-1616	13 (33)	13 (33)	6 (2.7)			
SSE-E-201606	20 (51)	16 (41)	6 (15)	28 (13)	A-SSE-P-2016	17 (43)	13 (33)	8 (3.6)			
SSE-E-202006	20 (51)	20 (51)	6 (15)	34 (15)	A-SSE-P-2020	17 (43)	17 (43)	10 (4.5)			
SSE-E-202408	20 (51)	24 (61)	8 (20)	43 (20)	A-SSE-P-2416	21 (53)	13 (33)	14 (6.4)			
SSE-E-241608	24 (61)	16 (41)	8 (20)	36 (16)	A-SSE-P-2420	21 (53)	17 (43)	11 (5)			
SSE-E-242006	24 (61)	20 (51)	6 (15)	40 (18)	A-SSE-P-2424	21 (53)	21 (53)	17 (7.7)			
SSE-E-242408	24 (61)	24 (61)	8 (20)	49 (22)	A-SSE-P-3016	27 (69)	13 (33)	14 (6.4)			
SSE-E-301606	30 (76)	16 (41)	6 (15)	41 (19)	A-SSE-P-3020	27 (69)	17 (43)	18 (8.2)			
SSE-E-302008	30 (76)	20 (51)	8 (20)	52 (24)	A-SSE-P-3024	27 (69)	21 (53)	22 (10)			
SSE-E-302408	30 (76)	24 (61)	8 (20)	53 (24)	A-SSE-P-3030	27 (69)	27 (69)	28 (13)			
SSE-E-303008	30 (76)	30 (76)	8 (20)	67 (30)							

*For additional sizes contact factory. **For 316 SS enclosures contact factory.

ACCESSORIES

Model	Description
A-CSE-L	Keylocking wing knob door latch, includes 1 lock and 2 keys
A-CSE-K	Replacement keys, includes 2 keys
A-SSE-F	Mounting feet, includes 4 feet†

†Included with SSE-J models only.



A-CSE-L



A-SSE-F

SELECTION GUIDE pages 406-409	TYPICAL APPLICATIONS page 410	TECHNICAL INFORMATION page 411	 Valves, Ball, Automated pages 412-427, 430-436	 Valves, Ball, Manual pages 428-429
 Valves, Butterfly, Manual page 437	 Valves, Butterfly, Automated pages 438-439	 Actuators pages 440-441	 Valves, Globe pages 442-446, 456	 Valves, Angle Seat page 447
 Valves, Solenoid pages 448-451	 Valves, Diaphragm Pulse pages 452-453	 Valves, Check page 454	 Valves, Needle page 455	 Manifolds pages 457-458
 Position Indicators/ Switches/Transmitters pages 459-464	 Current to Pressure Transducers pages 465-467	 Positioners pages 468-470	 Volume Booster page 471	 Regulators pages 472

FEATURED PRODUCTS

WIRELESSHART® POSITION INDICATOR SERIES MARK | pages 460-462



- 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

LUG OR WAFER STYLE BUTTERFLY VALVE SERIES WE20 | pages 438-439



- 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

2-WAY

Automated Ball Valves

**SERIES****WE01** - pages 412-413**Body Type**

2-way 2-piece

Body Material

316 SS

Line Sizes

1/2 to 3"

End Connections

Female NPT

**WE02** - pages 414-415

2-way 3-piece

316 SS

1/2 to 3"

Female NPT

**WE03** - pages 416-417

2-way 3-piece

316 SS

1/2 to 2"

Tri-clamp

**WE04** - pages 418-419

2-way 2-piece

316 SS

1/2 to 3"

Flange

3-WAY

Automated Ball Valves

**SERIES****WE31** - pages 430-431**Body Type**

3-way

Body Material

316 SS

Line Sizes

1/2 to 2"

End Connections

Female NPT

**WE33** - pages 432-433

3-way

316 SS

1/2 to 2"

Tri-clamp

**WE34** - pages 434-435

3-way

316 SS

1/2 to 3"

Flange

**3PBV** - page 436

3-way





PVC

1/2 to 2"




Female NPT or socket

2-WAY

Automated Ball Valves

				
SERIES	WE05 - pages 420-421	WE06 - pages 422-423	WE07 - pages 424-425	PBV - page 426
Body Type	2-way 3-piece	2-way 3-piece V-ball	2-way 2-piece V-ball	2-way
Body Material	316 SS	316 SS	316 SS	PVC or CPVC
Line Sizes	1/2 to 3"	1/2 to 3"	1/2 to 3"	1/2 to 4"
End Connections	Socket weld	Female NPT	Flange	Female NPT or socket

POSITIONERS

			
SERIES	165 & 265 - pages 468-469	185 & 285 - page 470	195 & 295 - page 470
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

Ball Valves

**DBV** - page 427**BV2** - page 427**DBVL** - page 428**SWBV** - page 428

SERIES	DBV - page 427	BV2 - page 427	DBVL - page 428	SWBV - page 428
Body Type	2-way	2-way	2-way	2-way
Body Material	Brass	CF8M	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

**QV** - page 459**Mark 1** - pages 460-462**Mark 3** - pages 460-462




SERIES	QV - page 459	Mark 1 - pages 460-462	Mark 3 - pages 460-462
Type	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

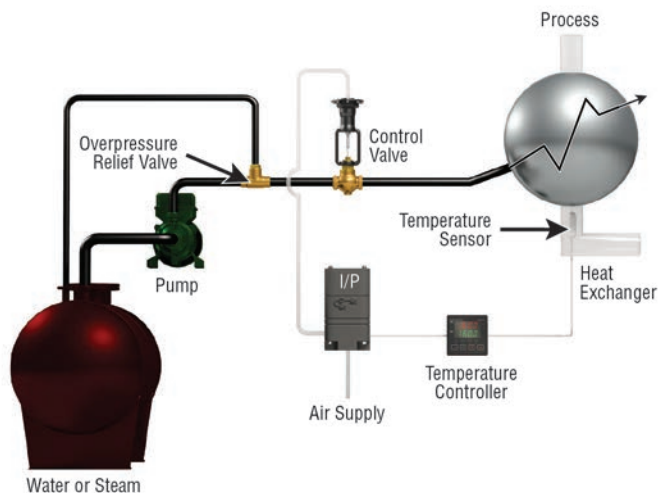
HAND LEVER

Ball Valves

			
SERIES	UBV - page 428	MV - page 429	SMV2 - page 429
Body Type	Uni-flange	2-way	2-way
Body Material	Brass	Chrome-plated brass	SS
Line Sizes	1/2 to 1"	1/8 to 1/2"	1/8 to 1/2"
End Connections	Female NPT	Female x female NPT or Male x female NPT	Female x female NPT or Male x female NPT

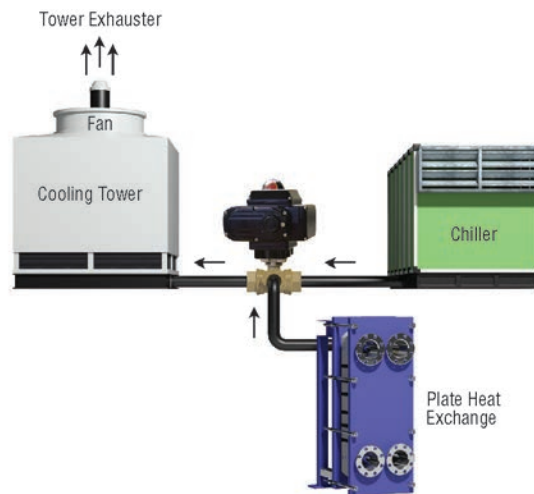
POSITION INDICATORS/ SWITCHES/ TRANSMITTERS

			
SERIES	Mark 4 - pages 460-462	VPS - page 463	DT - page 464
Type	Thru-shaft	Dual Inductive	Magnetic Point Sensor
Rotation Travel	0 to 340°	N/A	N/A
Enclosure Material	Aluminum or 316 SS	Polybutylene Terephthalate	SS
Enclosure Rating	NEMA 1, 2, 3, 3R, 3S, 4, 4X, 6, 7, 9, 12, & 13	N/A	Designed to NEMA 1, 3, 4, 4X, 6, 7, 9, 12 & 13



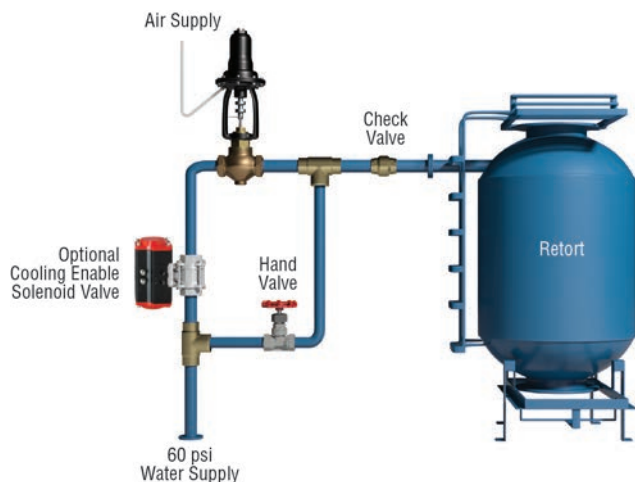
Process temperature control using pneumatic Hi-Flow™ control valves.

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



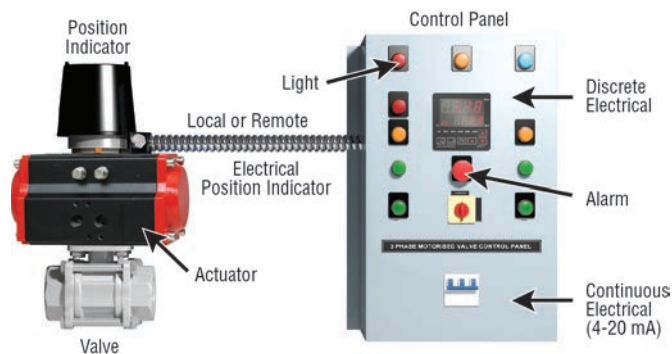
Water-side Economizer System includes WE31 3-way ball valve for accurate control of flow.

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



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

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



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

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

VALVE TECHNICAL INFORMATION

TERMINOLOGY

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

CONTROL VALVE SIZING



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

CONTROL VALVE ACTUATOR SIZING



CONTROL VALVE FLOW



NOMENCLATURE

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

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

SUB-CRITICAL FLOW

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

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

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

CRITICAL FLOW

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

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

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

2-PIECE NPT STAINLESS STEEL BALL VALVE

Full Port, Vented Ball, Electric or Pneumatic Actuators



WE01-EHD00



WE01-EDA02



WE01-EDA02-AA01



WE01-ETD01-A



WE01-ETI02-A



The **SERIES WE01** incorporates a full port 2-piece 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 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 to 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: 316SS; 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: 304SS; Handle Sleeve: PVC.

ACTUATORS

Pneumatic "DA" and "SR" Series

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

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

Maximum Supply Pressure: 120 psi (8.6 bar).

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

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

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

Accessory Mounting: NAMUR standard.

Electric "TD" and "MD" Series

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

Power Consumption: See instruction manual.

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

Duty Rating: 85%.

Enclosure Rating: NEMA 4X (IP67).

Housing Material: Powder coated aluminum.

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

Electrical Connection: 1/2" female NPT.

Modulating Input: 4 to 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 to 20 mA.

Standard Features: Position indicator and two limit switches.

2-PIECE NPT STAINLESS STEEL BALL VALVE

Full Port, Vented Ball, Electric or Pneumatic Actuators

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

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

MODEL CHART - ELECTRIC ACTUATOR				
Example	WE01	-GMD01	-A	WE01-GMD01-A
Series	WE01			316 SS 2-piece NPT
Size and Actuator		CTD01		1/2" NEMA 4X two-position
		DTD01		3/4" NEMA 4X two-position
		ETD01		1" NEMA 4X two-position
		FTD01		1-1/4" NEMA 4X two-position
		GTD02		1-1/2" NEMA 4X two-position
		HTD02		2" NEMA 4X two-position
		ITD03		2-1/2" NEMA 4X two-position
		JTD03		3" NEMA 4X two-position
		CMD01		1/2" NEMA 4X modulating
		DMD01		3/4" NEMA 4X modulating
		EMD01		1" NEMA 4X modulating
		FMD01		1-1/4" NEMA 4X modulating
		GMD01		1-1/2" NEMA 4X modulating
		HMD02		2" NEMA 4X modulating
		IMD03		2-1/2" NEMA 4X modulating
		JMD03		3" NEMA 4X modulating
		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 Voltage			A	110 VAC
			B	220 VAC
			C	24 VAC
			D	24 VDC

ACCESSORIES	
Model	Description
R2-2120	Air regulator
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster

3-PIECE NPT STAINLESS STEEL BALL VALVE

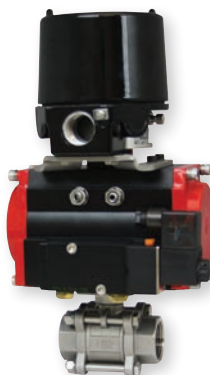
Full Port, Vented Ball, Electric or Pneumatic Actuators



WE02-DHD00



WE02-DDA01



WE02-DDA01-AA01



WE02-DTD01-A



WE02-CTI01-A



The **SERIES WE02** incorporates a full port 3-piece 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 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 to 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.

ACTUATORS

Pneumatic "DA" and "SR" Series

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

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

Maximum Supply Pressure: 120 psi (8.6 bar).

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

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

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

Accessory Mounting: NAMUR standard.

Electric "TD" and "MD" Series

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

Power Consumption: See instruction manual.

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

Duty Rating: 85%.

Enclosure Rating: NEMA 4X (IP67).

Housing Material: Powder coated aluminum.

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

Electrical Connection: 1/2" female NPT.

Modulating Input: 4 to 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 to 20 mA.

Standard Features: Position indicator and two limit switches.

3-PIECE NPT STAINLESS STEEL BALL VALVE

Full Port, Vented Ball, Electric or Pneumatic Actuators

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

MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR						
Example	WE02	-CSR02	-N	N	09	WE02-CSR02-NN09
Series	WE02					316 SS 3-piece NPT
Size and Actuator		CHD00				1/2" hand operated
		DHD00				3/4" hand operated
		EHD00				1" hand operated
		FHD00				1-1/4" hand operated
		GHD00				1-1/2" hand operated
		HHD00				2" hand operated
		IHD00				2-1/2" hand operated
		JHD00				3" hand operated
		CDA01				1/2" double acting
		DDA01				3/4" double acting
		EDA02				1" double acting
		FDA02				1-1/4" double acting
		GDA03				1-1/2" double acting
		HDA03				2" double acting
		IDA04				2-1/2" double acting
		JDA05				3" double acting
		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
			A			NEMA 4X NAMUR solenoid
Solenoid Voltage			N			No solenoid
			A			110 VAC
			B			220 VAC
			C			24 VAC
			D			24 VDC
			E			12 VDC
Positioner and Switches					00	None
					01	42AD0 exp limit switch
					02	45VD0 exp position transmitter
					03	42AD0-B ATEX limit switch
					04	42AD0-IE IECEx limit switch
					06	QV-210101 poly limit switch
					07	VPS and P1 prox switch
					08	265ER-D5 positioner
					09	285ER-D5 smart positioner
Options					NO	Fail open spring return actuator

MODEL CHART - ELECTRIC ACTUATOR				
Example	WE02	-ETD01	-B	WE02-ETD01-B
Series	WE02			316 SS 3-piece NPT
Size and Actuator		CTD01		1/2" NEMA 4X two-position
		DTD01		3/4" NEMA 4X two-position
		ETD01		1" NEMA 4X two-position
		FTD01		1-1/4" NEMA 4X two-position
		GTD02		1-1/2" NEMA 4X two-position
		HTD02		2" NEMA 4X two-position
		ITD03		2-1/2" NEMA 4X two-position
		JTD03		3" NEMA 4X two-position
		CMD01		1/2" NEMA 4X modulating
		DMD01		3/4" NEMA 4X modulating
		EMD01		1" NEMA 4X modulating
		FMD01		1-1/4" NEMA 4X modulating
		GMD01		1-1/2" NEMA 4X modulating
		HMD02		2" NEMA 4X modulating
		IMD03		2-1/2" NEMA 4X modulating
		JMD03		3" NEMA 4X modulating
		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 Voltage			A	110 VAC
			B	220 VAC
			C	24 VAC
			D	24 VDC

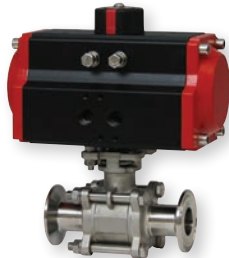
ACCESSORIES	
Model	Description
R2-2120	Air regulator
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster

3-PIECE TRI-CLAMP STAINLESS STEEL BALL VALVE

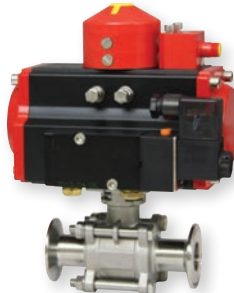
Cavity Filled, Full Port, Electric or Pneumatic Actuators



WE03-DHD00



WE03-DDA01



WE03-DDA01-AA07



WE03-DDA01-AA06



WE03-DTD01-A



The **SERIES WE03** incorporates 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 to 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.

ACTUATORS

Pneumatic "DA" and "SR" Series

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

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

Maximum Supply Pressure: 120 psi (8.6 bar).

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

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

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

Accessory Mounting: NAMUR standard.

Electric "TD" and "MD" Series

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

Power Consumption: See instruction manual.

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

Duty Rating: 85%.

Enclosure Rating: NEMA 4X (IP67).

Housing Material: Powder coated aluminum.

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

Electrical Connection: 1/2" female NPT.

Modulating Input: 4 to 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 to 20 mA.

Standard Features: Position indicator and two limit switches.

3-PIECE TRI-CLAMP STAINLESS STEEL BALL VALVE

Cavity Filled, Full Port, Electric or Pneumatic Actuators

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

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

MODEL CHART - ELECTRIC ACTUATOR				
Example	WE03	-CMD01	-A	WE03-CMD01-A
Series	WE03			316 SS 3-piece tri-clamp
Size and Actuator		CTD01		1/2" NEMA 4X two-position
		DTD01		3/4" NEMA 4X two-position
		ETD01		1" NEMA 4X two-position
		GTD01		1-1/2" NEMA 4X two-position
		HTD02		2" NEMA 4X two-position
		CMD01		1/2" NEMA 4X modulating
		DMD01		3/4" NEMA 4X modulating
		EMD01		1" NEMA 4X modulating
		GMD01		1-1/2" NEMA 4X modulating
		HMD02		2" NEMA 4X modulating
		CTI01		1/2" exp two-position
		DTI01		3/4" exp two-position
		ETI02		1" exp two-position
		GTI02		1-1/2" exp two-position
		HTI02		2" exp two-position
		CMI01		1/2" exp electric modulating
		DMI01		3/4" exp electric modulating
		EMI02		1" exp electric modulating
		GMI02		1-1/2" exp electric modulating
Actuator Voltage			A	110 VAC
			B	220 VAC
			C	24 VAC
			D	24 VDC

ACCESSORIES	
Model	Description
R2-2120	Air regulator
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster

2-PIECE FLANGED STAINLESS STEEL BALL VALVE

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



WE04-DHD00



WE04-DDA02-AA03



WE04-DDA02-NN09



WE04-DTD01-A



WE04-CTI01-A



The **SERIES WE04** incorporates 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 to 20 mA input for valve positioning. Actuators feature thermal overload protection and permanently lubricated gear train.

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

FEATURES/BENEFITS

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

APPLICATIONS

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

SPECIFICATIONS

VALVE

Service: Compatible liquids and gases.

Body: 2-piece.

Line Sizes: 1/2 to 3" .

End Connections: 150# ANSI flange.

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

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

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

Other Materials: O-ring: Fluoroelastomer; Handle: 304 SS; Washer: 301 SS; Stem Nut, Locking Device, Gland Ring: 304 SS; Handle Sleeve: PVC.

ACTUATORS

Pneumatic "DA" and "SR" Series

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

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

Maximum Supply Pressure: 120 psi (8.6 bar).

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

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

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

Accessory Mounting: NAMUR standard.

Electric "TD" and "MD" Series

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

Power Consumption: See instruction manual.

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

Duty Rating: 85%.

Enclosure Rating: NEMA 4X (IP67).

Housing Material: Powder coated aluminum.

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

Electrical Connection: 1/2" female NPT.

Modulating Input: 4 to 20 mA.

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

Electric "TI" and "MI" Series

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

Power Consumption: See instruction manual.

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

Duty Rating: See instruction manual.

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

Housing Material: Powder coated aluminum.

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

Electrical Connection: 1/2" NPT female.

Modulating Input: 4 to 20 mA.

Standard Features: Position indicator and two limit switches.

2-PIECE FLANGED STAINLESS STEEL BALL VALVE

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

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

MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR						
Example	WE04	-GDA03	-A	B	05	WE04-GDA03-AB05
Series	WE04					316 SS 2-piece flanged
Size and Actuator		CHD00				1/2" hand operated
		DHD00				3/4" hand operated
		EHD00				1" hand operated
		GHD00				1-1/2" hand operated
		HHD00				2" hand operated
		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
			A			NEMA 4X NAMUR solenoid
Solenoid Voltage			N			No solenoid
			A			110 VAC
			B			220 VAC
			C			24 VAC
			D			24 VDC
			E			12 VDC
Positioner and Switches					00	None
					01	42AD0 exp limit switch
					02	45VD0 exp position transmitter
					03	42AD0-B ATEX limit switch
					04	42AD0-IE IECEx limit switch
					06	QV-210101 poly limit switch
					07	VPS and P1 prox switch
					08	265ER-D5 positioner
					09	285ER-D5 smart positioner
Options					NO	Fail open spring return actuator

MODEL CHART - ELECTRIC ACTUATOR				
Example	WE04	-ITD03	-B	WE04-ITD03-B
Series	WE04			316 SS 2-piece flanged
Size and Actuator		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
		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
		ETI02		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
Actuator Voltage		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
			A	110 VAC
			B	220 VAC
			C	24 VAC
			D	24 VDC

ACCESSORIES	
Model	Description
R2-2120	Air regulator
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster

3-PIECE SOCKET WELD STAINLESS STEEL BALL VALVE

Full Port, Vented Ball, Electric or Pneumatic Actuators



WE05-EHD00



WE05-FDA02



WE05-DDA01-AA01



WE05-JTD03-A



WE05-ITI05-B



The **SERIES WE05** offers 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 to 20 mA input for valve positioning. Actuators feature thermal overload protection and a permanently lubricated gear train.

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

FEATURES/BENEFITS

- Socket weld ends
- Capable of being configured to fit any application
- Limit switches can be mounted to manual valves for remote monitoring

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.

ACTUATORS

Pneumatic "DA" and "SR" Series

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

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

Maximum Supply Pressure: 120 psi (8.6 bar).

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

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

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

Accessory Mounting: NAMUR standard.

Electric "TD" and "MD" Series

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

Power Consumption: See instruction manual.

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

Duty Rating: 85%.

Enclosure Rating: NEMA 4X (IP67).

Housing Material: Powder coated aluminum.

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

Electrical Connection: 1/2" female NPT.

Modulating Input: 4 to 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 to 20 mA.

Standard Features: Position indicator and two limit switches.

3-PIECE SOCKET WELD STAINLESS STEEL BALL VALVE

Full Port, Vented Ball, Electric or Pneumatic Actuators

MODEL CHART

		Popular Hand Operated	Popular Double Acting	Popular Spring Return	Popular NEMA 4X Two Position Electric	Popular NEMA 4X Modulating Electric
Size	Cv (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	WE05	-CSR02	-N	N	09	WE05-CSR02-NN09
Series	WE05					316 SS 3-piece socket weld
Size and Actuator		CHD00				1/2" hand operated
		DHD00				3/4" hand operated
		EHD00				1" hand operated
		FHD00				1-1/4" hand operated
		GHD00				1-1/2" hand operated
		HHD00				2" hand operated
		IHD00				2-1/2" hand operated
		JHD00				3" hand operated
		CDA01				1/2" double acting
		DDA01				3/4" double acting
		EDA02				1" double acting
		FDA02				1-1/4" double acting
		GDA03				1-1/2" double acting
		HDA03				2" double acting
		IDA04				2-1/2" double acting
		JDA05				3" double acting
		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
			A			NEMA 4X NAMUR solenoid
Solenoid Voltage			N			No solenoid
			A			120 VAC
			B			220 VAC
			C			24 VAC
			D			24 VDC
			E			12 VDC
Positioner and Switches				00		None
				01		42AD0 exp limit switch
				02		45VD0 exp position transmitter
				03		42AD0-B ATEX limit switch
				04		42AD0-IE IECEx limit switch
				06		QV-210101 poly limit switch
				07		VPS and P1 prox switch
				08		265ER-D5 positioner
				09		285ER-D5 smart positioner
Options					NO	Fail open spring return actuator

ACCESSORIES

Model	Description
R2-2120	Air regulator
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster

MODEL CHART - ELECTRIC ACTUATOR

Example	WE05	-ETD01	-B	WE05-ETD01-B
Series	WE05			316 SS 3-piece socket weld
Size and Actuator		CTD01		1/2" NEMA 4X two-position
		DTD01		3/4" NEMA 4X two-position
		ETD01		1" NEMA 4X two-position
		FTD01		1-1/4" NEMA 4X two-position
		GTD02		1-1/2" NEMA 4X two-position
		HTD02		2" NEMA 4X two-position
		ITD03		2-1/2" NEMA 4X two-position
		JTD03		3" NEMA 4X two-position
		CMD01		1/2" NEMA 4X modulating
		DMD01		3/4" NEMA 4X modulating
		EMD01		1" NEMA 4X modulating
		FMD01		1-1/4" NEMA 4X modulating
		GMD01		1-1/2" NEMA 4X modulating
		HMD02		2" NEMA 4X modulating
		IMD03		2-1/2" NEMA 4X modulating
		JMD03		3" NEMA 4X modulating
		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 Voltage			A	110 VAC
			B	220 VAC
			C	24 VAC
			D	24 VDC

3-PIECE NPT STAINLESS STEEL V-BALL VALVE

V-Port, Vented Ball, Electric or Pneumatic Actuators



WE06-DHD00-T



WE06-DDA01-T



WE06-DDA01-T-AA01



WE06-DTD01-T-A



WE06-CTI01-T-A



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

Limit switches can be mounted directly to the valves allowing for remote position indication.

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

Two-position actuators use the supply voltage to drive the valve open or close, while the modulating actuator accepts a 4 to 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

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.

ACTUATORS

Pneumatic "DA" and "SR" Series

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

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

Maximum Supply Pressure: 120 psi (8.6 bar).

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

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

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

Accessory Mounting: NAMUR standard.

Electric "TD" and "MD" Series

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

Power Consumption: See instruction manual.

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

Duty Rating: 85%.

Enclosure Rating: NEMA 4X (IP67).

Housing Material: Powder coated aluminum.

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

Electrical Connection: 1/2" female NPT.

Modulating Input: 4 to 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 to 20 mA.

Standard Features: Position indicator and two limit switches.

3-PIECE NPT STAINLESS STEEL V-BALL VALVE

V-Port, Vented Ball, Electric or Pneumatic Actuators

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

MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR						
Example	WE06	-CSR02	-T	-N	N	09
Series	WE06					
Size and Actuator		CHD00				1/2" hand operated
		DHD00				3/4" hand operated
		EHD00				1" hand operated
		FHD00				1-1/4" hand operated
		GHD00				1-1/2" hand operated
		HHD00				2" hand operated
		IHD00				2-1/2" hand operated
		JHD00				3" hand operated
		CDA01				1/2" double acting
		DDA01				3/4" double acting
		EDA02				1" double acting
		FDA02				1-1/4" double acting
		GDA03				1-1/2" double acting
		HDA03				2" double acting
		IDA04				2-1/2" double acting
		JDA05				3" double acting
		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
V-Ball Angle			T			60° v-ball
			N			90° v-ball
Solenoid				N		No solenoid
				A		NEMA 4X NAMUR solenoid
Solenoid Voltage				N		No solenoid
				A		120 VAC
				B		220 VAC
				C		24 VAC
				D		24 VDC
				E		12 VDC
Positioner and Switches					00	None
					01	42AD0 exp limit switch
					02	45VD0 exp position transmitter
					03	42AD0-B ATEX limit switch
					04	42AD0-IE IECEx limit switch
					06	QV-210101 poly limit switch
					07	VPS and P1 prox switch
					08	265ER-D5 positioner
					09	285ER-D5 smart positioner
Options					NO	Fail open spring return actuator

MODEL CHART - ELECTRIC ACTUATOR				
Example	WE06	-ETD01	-T	-B
Series	WE06			
Size and Actuator		CTD01		1/2" NEMA 4X two-position
		DTD01		3/4" NEMA 4X two-position
		ETD01		1" NEMA 4X two-position
		FTD01		1-1/4" NEMA 4X two-position
		GTD02		1-1/2" NEMA 4X two-position
		HTD02		2" NEMA 4X two-position
		ITD03		2-1/2" NEMA 4X two-position
		JTD03		3" NEMA 4X two-position
		CMD01		1/2" NEMA 4X modulating
		DMD01		3/4" NEMA 4X modulating
		EMD01		1" NEMA 4X modulating
		FMD01		1-1/4" NEMA 4X modulating
		GMD01		1-1/2" NEMA 4X modulating
		HMD02		2" NEMA 4X modulating
		IMD03		2-1/2" NEMA 4X modulating
		JMD03		3" NEMA 4X modulating
		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 Angle			T	60° v-ball
			N	90° v-ball
Actuator Voltage			A	110 VAC
			B	220 VAC
			C	24 VAC
			D	24 VDC

ACCESSORIES	
Model	Description
R2-2120	Air regulator
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster

2-PIECE FLANGED STAINLESS STEEL V-BALL VALVE

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



WE07-DHD00-T



WE07-DDA01-T-NN09



WE07-CTI01-T-A



WE07-DDA01-T-AA03



WE07-DTD01-T-A



The **SERIES WE07** incorporates 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 to 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

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.

ACTUATORS

Pneumatic "DA" and "SR" Series

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

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

Maximum Supply Pressure: 120 psi (8.6 bar).

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

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

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

Accessory Mounting: NAMUR standard.

Electric "TD" and "MD" Series

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

Power Consumption: See instruction manual.

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

Duty Rating: 85%.

Enclosure Rating: NEMA 4X (IP67).

Housing Material: Powder coated aluminum.

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

Electrical Connection: 1/2" female NPT.

Modulating Input: 4 to 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 to 20 mA.

Standard Features: Position indicator and two limit switches.

2-PIECE FLANGED STAINLESS STEEL V-BALL VALVE

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

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

MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR									
Example	WE07	-CSR02	-T	-N	N	09	WE07-CSR02-T-NN09		
Series	WE07						316 SS 2-piece 150# ANSI flange		
Size and Actuator		CHD00					1/2" hand operated		
		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 Angle			T	N			60° v-ball		
							90° v-ball		
Solenoid				N	A		No solenoid		
							NEMA 4X NAMUR solenoid		
Solenoid Voltage				N			No solenoid		
				A			120 VAC		
				B			220 VAC		
				C			24 VAC		
				D			24 VDC		
Positioner and Switches						00	None		
						01	42AD0 exp limit switch		
						02	45VD0 exp position transmitter		
						03	42AD0-B ATEX limit switch		
						04	42AD0-IE IECEx limit switch		
						06	QV-210101 poly limit switch		
						07	VPS and P1 prox switch		
						08	265ER-D5 positioner		
						09	285ER-D5 smart positioner		
Options						NO	Fail open spring return actuator		

MODEL CHART - ELECTRIC ACTUATOR						
Example	WE07	-ETD01	-T	-B	WE07-ETD01-T-B	
Series	WE07				316 SS 2-piece 150# ANSI flange	
Size and Actuator		CTD01			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	
		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	
		ETI02			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	
V-Ball Angle			T	N	60° v-ball	
					90° v-ball	
Actuator Voltage			A		110 VAC	
			B		220 VAC	
			C		24 VAC	
			D		24 VDC	

ACCESSORIES	
Model	Description
R2-2120	Air regulator
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster

PLASTIC AUTOMATED BALL VALVE

Electric and Pneumatic Actuators



PVC Body

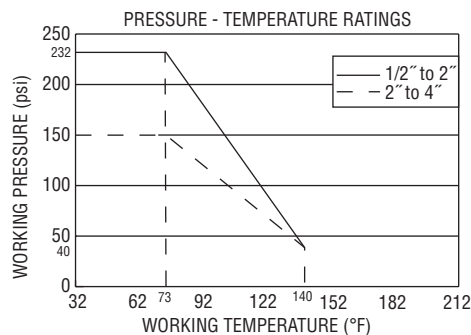


CPVC Body

The **SERIES PBV** is 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.

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 to 20 mA input for infinite valve positioning. Actuator features include thermal overload protection to withstand stall conditions, visual position indication and a permanently lubricated gear train.

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



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 60°C).

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

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.

Standard Features: Manual override and visual position indicator except modulating units.

Pneumatic "DA" and "SR" Series

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

Normal Supply Pressure: 80 psi (5.5 bar).

Maximum Supply Pressure: 120 psig (8 bar).

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

Air Consumption: (per stroke) DA1: 2.32 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 caps.

Temperature Limit: -4 to 180°F (-20 to 82°C).

Accessory Mounting: NAMUR standard.

Standard Features: Visual position indicator.

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" to 4": 0.75 A. Modulating: 1/2" to 2": 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.

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).

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 actuator supply voltages, contact factory for model number change

MODEL CHART - PVC

		Double Acting Pneumatic	Spring Return Pneumatic	Two Position Electric	Modulating Electric
Size	CV	Model	Model	Model	Model
1/2"	25	PBVPDA102	PBVPSR202	PBVPU1102	PBVPV1202
3/4"	51	PBVPDA103	PBVPSR203	PBVPU1103	PBVPV1203
1"	97	PBVPDA104	PBVPSR204	PBVPU1104	PBVPV1204
1-1/4"	204	PBVPDA105	PBVPSR205	PBVPU1105	PBVPV1205
1-1/2"	285	PBVPDA206	PBVPSR306	PBVPU1106	PBVPV1206
2"	540	PBVPDA207	PBVPSR307	PBVPU1207	PBVPV1207
2-1/2"	712	PBVPDA308	PBVPSR608	PBVPU1308	PBVPV1308
3"	1294	PBVPDA309	PBVPSR609	PBVPU1509	PBVPV1509
4"	2629	PBVPDA410	PBVPSR710	PBVPU1510	PBVPV1510

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

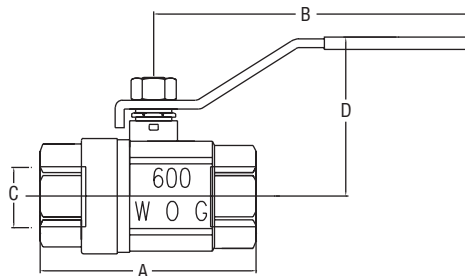
MODEL CHART - CPVC

		Double Acting Pneumatic	Spring Return Pneumatic	Two Position Electric	Modulating Electric
Size	CV	Model	Model	Model	Model
1/2"	25	PBVCDA102	PBVCSR202	PBVPU1102	PBVCV1202
3/4"	51	PBVCDA103	PBVCSR203	PBVPU1103	PBVCV1203
1"	97	PBVCDA104	PBVCSR204	PBVPU1104	PBVCV1204
1-1/4"	204	PBVCDA105	PBVCSR205	PBVPU1105	PBVCV1205
1-1/2"	285	PBVCDA206	PBVCSR306	PBVPU1106	PBVCV1206
2"	540	PBVCDA207	PBVCSR307	PBVPU1207	PBVCV1207
2-1/2"	712	PBVCDA308	PBVCSR608	PBVPU1308	PBVCV1308
3"	1294	PBVCDA309	PBVCSR609	PBVPU1509	PBVCV1509
4"	2629	PBVCDA410	PBVCSR710	PBVPU1510	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.

BRASS BALL VALVE

Full Port, Economical, 600 psi (41 bar)



NPT Size	A in [mm]	B in [mm]	C in [mm]	D 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.

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"

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).

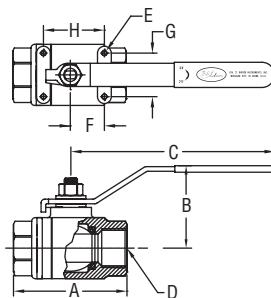
Wetted Materials: Body and Body Cap: Brass; Ball: Chrome plated brass; Stem: Brass; Seat and Packing: PTFE.

Other Materials: Body Gland and Stem Nut: Brass; Handle Cover: Rubber; Handle: Steel.

SERIES BV2 | W.E. ANDERSON BY DWYER

TWO-PIECE STAINLESS STEEL BALL VALVE

Full Port, 1000 psig (69 bar)



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

SPECIFICATIONS

End Connections: Female NPT.

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

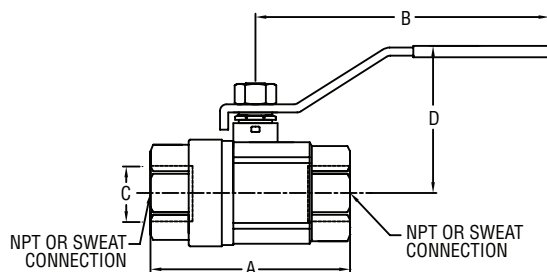
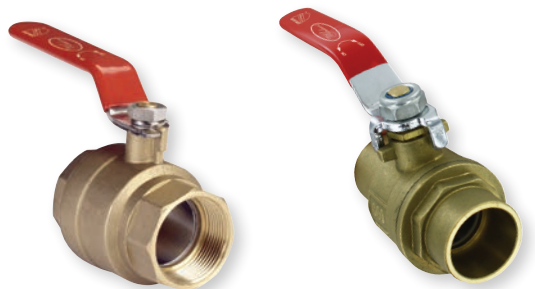
Wetted Materials: Body, ball, end cap: CF8M SS; Stem: 316 SS; Seat, thrust washer: RTFE; End gasket, stem packing: PTFE.

Temperature Limits: -20 to 450°F (-29 to 232°C).

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 VALVE

IAPMO Certified to Meet NSF/ANSI 372-2010, Economical, Easy to Install



The **SERIES DBVL & SWBV** Low Lead 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.

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]	4-17/32 [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.

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": Stainless Steel; SWBV: Stainless Steel.

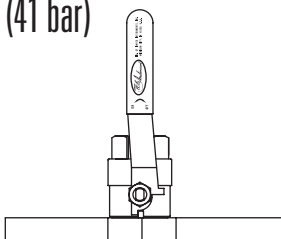
Other Materials: Body Gland and Stem Nut: Brass; Handle and Handle Nut: Steel; Handle Cover: Rubber.

Agency Approvals: Meets the technical requirements of EU Directive 2011/65/EU (RoHS II); IAPMO Certified to meet NSF/ANSI 372-2010.

SERIES UBV | W.E. ANDERSON BY DWYER

UNI-FLANGED BALL VALVE

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



NPT Size	A in [mm]	B in [mm]	C in [mm]
1/2"	1-63/43 [50.29]	2-7/8 [72.90]	35/64 [13.97]
3/4"	2-3/16 [55.37]	2-7/8 [72.90]	49/64 [19.30]
1"	2-31/64 [62.99]	2-7/8 [72.90]	61/64 [24.38]
1-1/4"	2-27/32 [72.14]	4 [101.60]	1-3/16 [29.97]
1-1/2"	3-15/64 [82.04]	4-5/32 [105.41]	1-31/64 [37.85]
2"	3-9/16 [90.42]	4-5/32 [105.41]	1-37/32 [46.99]

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 PTFE 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 its uni-body construction. Available in a wide variety of sizes for versatile application.

MODEL CHART

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

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.

MINI BRASS BALL VALVE

Economical, Compact Design



Lever Handle



Screwdriver Slot



Tee Handle



Wedge Handle

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

SPECIFICATIONS

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

End Connections: NPT, see model chart.

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

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

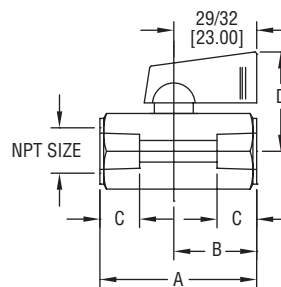
Wetted Materials: Valve Body: Chrome-plated brass; Valve Ball: Chrome-plated brass; O-ring Stem Seal: Fluoroelastomer; Ball Seats: PTFE.

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

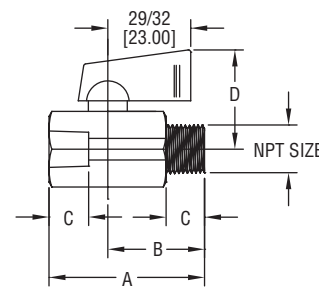
SERIES SMV2 | W.E. ANDERSON BY DWYER

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

FEATURES/BENEFITS

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

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

SPECIFICATIONS

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

End Connections: NPT, see model chart.

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

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

Wetted Materials: Valve Body: Cast 316 SS (CF8M); Valve Ball, Insert and Stem: 316 SS; Ball Seat: PTFE.

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

3-WAY NPT STAINLESS STEEL BALL VALVE

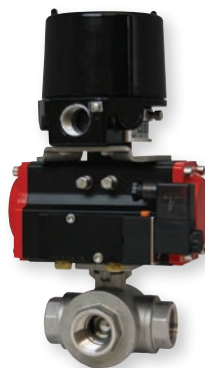
Full Port, Vented Ball, Electric or Pneumatic Actuators



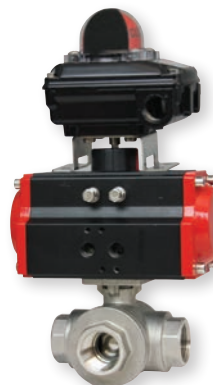
WE31-DHD00-T1



WE31-DDA02-L1



WE31-DDA02-T1-AA01



WE31-DDA02-T3-NN05



WE31-DTD01-T3-A



The **SERIES WE31** incorporates a full port 3-way 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 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 to 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.

ACTUATORS

Pneumatic "DA" and "SR" Series

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

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

Maximum Supply Pressure: 120 psi (8.6 bar).

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

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

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

Accessory Mounting: NAMUR standard.

Electric "TD" and "MD" Series

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

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

Duty Rating: 85%.

Enclosure Rating: NEMA 4X (IP67).

Housing Material: Powder coated aluminum.

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

Electrical Connection: 1/2" female NPT.

Modulating Input: 4 to 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 to 20 mA.

Standard Features: Position indicator and two limit switches.

3-WAY NPT STAINLESS STEEL BALL VALVE

Full Port, Vented Ball, Electric or Pneumatic Actuators

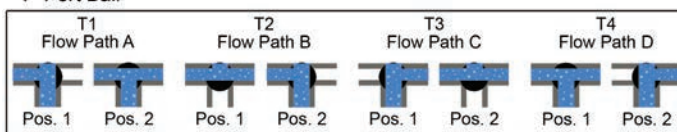
MODEL CHART						
Size	Cv (gal/min)	Popular Hand Operated Model	Popular Double Acting Pneumatic Model	Popular Spring Return Pneumatic Model	Popular NEMA 4X Two Position Electric (110 VAC) Model	Popular NEMA 4X Modulating Electric (110 VAC) Model
1/2"	11	WE31-CHD00-T1	WE31-CDA02-T2	WE31-CSR02-T2	WE31-CTD01-T2-A	WE31-CMD01-T2-A
3/4"	14	WE31-DHD00-T1	WE31-DDA02-T2	WE31-DSR02-T2	WE31-DTD01-T2-A	WE31-DMD01-T2-A
1"	18	WE31-EHD00-T1	WE31-EDA03-T2	WE31-ESR04-T2	WE31-ETD02-T2-A	WE31-EMD02-T2-A
1-1/4"	43	WE31-FHD00-T1	WE31-FDA03-T2	WE31-FSR05-T2	WE31-FTD02-T2-A	WE31-FMD02-T2-A
1-1/2"	84	WE31-GHD00-T1	WE31-GDA04-T2	WE31-GSR06-T2	WE31-GTD03-T2-A	WE31-GMD03-T2-A
2"	90	WE31-HHD00-T1	WE31-HDA04-T2	WE31-HSR07-T2	WE31-HTD03-T2-A	WE31-HMD03-T2-A

MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR						
Example	WE31	-CSR02	-T1	-A	A	00
Series	WE31					316 SS 3-way NPT
Size and Range		CHD00 DHD00 EHD00 FHD00 GHD00 HHD00 CDA02 DDA02 EDA03 FDA03 GDA04 HDA04 CSR02 DSR02 ESR04 FSR05 GSR06 HSR07				1/2" hand operated 3/4" hand operated 1" hand operated 1-1/4" hand operated 1-1/2" hand operated 2" hand operated 1/2" double acting 3/4" double acting 1" double acting 1-1/4" double acting 1-1/2" double acting 2" double acting 1/2" spring return 3/4" spring return 1" spring return 1-1/4" spring return 1-1/2" spring return 2" spring return
Valve Position			T1 T2 T3 T4 L1			Flow path A Flow path B Flow path C Flow path D Flow path E
Solenoid				N A		No solenoid NEMA 4X NAMUR solenoid
Solenoid Voltage				N A B C D E		No solenoid 110 VAC 220 VAC 24 VAC 24 VDC 12 VDC
Positioner and Switches						00 None 01 42AD0 exp limit switch 02 45VD0 exp position transmitter 03 42AD0-B ATEX limit switch 04 42AD0-IE IECEX limit switch 06 QV-210101 poly limit switch 07 VPS and P1 prox switch 08 265ER-D5 positioner 09 285ER-D5 smart positioner

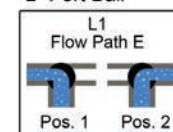
MODEL CHART - ELECTRIC ACTUATOR				
Example	WE31	-DMI02	-T2	-A
Series	WE31			
Size and Range		CTD01 DTD01 ETD02 FTD02 GTD03 HTD03 CMD01 DMD01 EMD02 FMD02 GMD03 HMD03 CTI01 DTI02 ETI02 FTI04 GTI05 HTI06 CMI01 DMI02 EMI02 FMI04 GMI05 HMI06		316 SS 3-way NPT 1/2" NEMA 4X two-position 3/4" NEMA 4X two-position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

ACCESSORIES	
Model	Description
R2-2120	Air regulator
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster

"T" Port Ball



"L" Port Ball

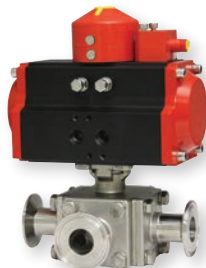


3-WAY TRI-CLAMP STAINLESS STEEL BALL VALVE

Cavity Filled, Electric and Pneumatic Actuators



WE33-DHD00-T2



WE33-ESR03-T1-NN07



WE33-DDA01-L1-AA06



WE33-DTD01-T3-A



WE33-DTI01-T2-A



The **SERIES WE33** incorporates 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 to 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.

ACTUATORS

Pneumatic "DA" and "SR" Series

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

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

Maximum Supply Pressure: 120 psi (8.6 bar).

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

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

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

Accessory Mounting: NAMUR standard.

Electric "TD" and "MD" Series

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

Power Consumption: See instruction manual.

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

Duty Rating: 85%.

Enclosure Rating: NEMA 4X (IP67).

Housing Material: Powder coated aluminum.

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

Electrical Connection: 1/2" female NPT.

Modulating Input: 4 to 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 to 20 mA.

Standard Features: Position indicator and two limit switches.

3-WAY TRI-CLAMP STAINLESS STEEL BALL VALVE

Cavity Filled, Electric and Pneumatic Actuators

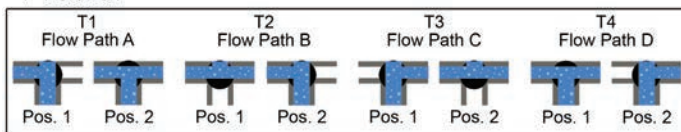
MODEL CHART						
Size	Cv (gal/min)	Popular Hand Operated Model	Popular Double Acting Pneumatic Model	Popular Spring Return Pneumatic Model	Popular NEMA 4X Two Position Electric (110 VAC) Model	Popular NEMA 4X Modulating Electric (110 VAC) Model
1/2"	14.39	WE33-CHD00-T2	WE33-CDA01-T2	WE33-CSR02-T2	WE33-CTD01-T2-A	WE33-CMD01-T2-A
3/4"	42.25	WE33-DHD00-T2	WE33-DDA01-T2	WE33-DSR02-T2	WE33-DTD01-T2-A	WE33-DMD01-T2-A
1"	86.17	WE33-EHD00-T2	WE33-EDA02-T2	WE33-ESR03-T2	WE33-ETD01-T2-A	WE33-EMD01-T2-A
1-1/2"	223.61	WE33-GHD00-T2	WE33-GDA02-T2	WE33-GSR03-T2	WE33-GTD02-T2-A	WE33-GMD02-T2-A
2"	437.98	WE33-HHD00-T2	WE33-HDA03-T2	WE33-HSR04-T2	WE33-HTD02-T2-A	WE33-HMD02-T2-A

MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR						
Example	WE33	-CSR02	-T4	-N	N	07
Series	WE33					316 SS 3-way tri-clamp
Size and Actuator		CHD00 DHD00 EHD00 GHD00 HHD00 CDA01 DDA01 EDA02 GDA02 HDA03 CSR02 DSR02 ESR03 GSR03 HSR04				1/2" hand operated 3/4" hand operated 1" hand operated 1-1/2" hand operated 2" hand operated 1/2" double acting 3/4" double acting 1" double acting 1-1/2" double acting 2" double acting 1/2" spring return 3/4" spring return 1" spring return 1-1/2" spring return 2" spring return
Valve Position			T1 T2 T3 T4 L1			Flow path A Flow path B Flow path C Flow path D Flow path E
Solenoid				N A		No solenoid NEMA 4X NAMUR solenoid
Solenoid Voltage				N A B C D E		No solenoid 110 VAC 220 VAC 24 VAC 24 VDC 12 VDC
Positioner and Switches					00 01 02 03 04 06 07 08 09	None 42AD0 exp limit switch 45VD0 exp position transmitter 42AD0-B ATEX limit switch 42AD0-IE IECEx limit switch QV-210101 poly limit switch VPS and P1 prox switch 265ER-D5 positioner 285ER-D5 smart positioner

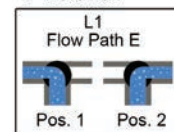
MODEL CHART - ELECTRIC ACTUATOR				
Example	WE33	-DMD01	-T2	-B
Series	WE33			
Size and Actuator		CTD01 DTD01 ETD01 GTD02 HTD02 CMD01 DMD01 EMD01 GMD02 HMD02 CTI01 DTI01 ETI02 GTI02 HTI03 CMI01 DMI01 EMI02 GMI02 HMI03		316 SS 3-way tri-clamp 1/2" NEMA 4X two-position 3/4" NEMA 4X two-position 1" NEMA 4X two-position 1-1/2" NEMA 4X two-position 2" NEMA 4X two-position 1/2" NEMA 4X modulating 3/4" NEMA 4X modulating 1" NEMA 4X modulating 1-1/2" NEMA 4X modulating 2" NEMA 4X modulating 1/2" exp two-position 3/4" exp two-position 1" exp two-position 1-1/2" exp two-position 2" 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
Valve Position			T1 T2 T3 T4 L1	Flow path A Flow path B Flow path C Flow path D Flow path E
Actuator Voltage				A 110 VAC B 220 VAC C 24 VAC D 24 VDC

ACCESSORIES	
Model	Description
R2-2120	Air regulator
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster

"T" Port Ball

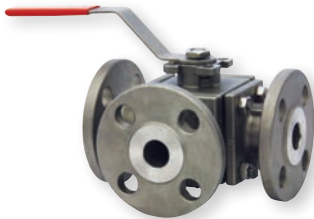


"L" Port Ball

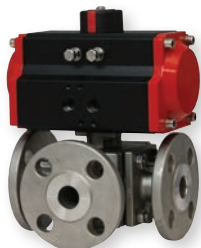


3-WAY FLANGED STAINLESS STEEL BALL VALVE

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



WE34-DHD00-L1



WE34-DDA03-T2



WE34-DDA03-T1-AA01



WE34-DDA03-T2-NN08



WE34-DTI03-T3-A



The **SERIES WE34** incorporates 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 to 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.

ACTUATORS

Pneumatic "DA" and "SR" Series

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

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

Maximum Supply Pressure: 120 psi (8.6 bar).

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

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

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

Accessory Mounting: NAMUR standard.

Electric "TD" and "MD" Series

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

Power Consumption: See instruction manual.

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

Duty Rating: 85%.

Enclosure Rating: NEMA 4X (IP67).

Housing Material: Powder coated aluminum.

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

Electrical Connection: 1/2" female NPT.

Modulating Input: 4 to 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 to 20 mA.

Standard Features: Position indicator and two limit switches.

3-WAY FLANGED STAINLESS STEEL BALL VALVE

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

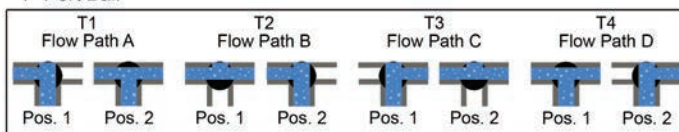
MODEL CHART						
Size	Cv (gal/min)	Popular Hand Operated Model	Popular Double Acting Pneumatic Model	Popular Spring Return Pneumatic Model	Popular NEMA 4X Two Position Electric (110 VAC) Model	Popular NEMA 4X Modulating Electric (110 VAC) Model
1/2"	26	WE34-CHD00-T2	WE34-CDA02-T2	WE34-CSR03-T2	WE34-CTD02-T2-A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

MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR						
Example	WE34	-JDA08	-T1	-A	B	00 WE34-JDA08-T1-AB00
Series	WE34					316 SS 3-way 150# ANSI flange
Size and Actuator		CHD00 DHD00 EHD00 GHD00 HHD00 IHD00 JHD00 CDA02 DDA02 EDA03 GDA05 HDA06 IDA07 JDA08 CSR03 DSR03 ESR05 GSR06 HSR07 ISR08 JSR09				1/2" hand operated 3/4" hand operated 1" hand operated 1-1/2" hand operated 2" hand operated 2-1/2" hand operated 3" hand operated 1/2" double acting 3/4" double acting 1" double acting 1-1/2" double acting 2" double acting 2-1/2" double acting 3" double acting 1/2" spring return 3/4" spring return 1" spring return 1-1/2" spring return 2" spring return 2-1/2" spring return 3" spring return
Valve Position			T1 T2 T3 T4 L1			Flow path A Flow path B Flow path C Flow path D Flow path E
Solenoid				N A		No solenoid NEMA 4X NAMUR solenoid
Solenoid Voltage				N A B C D E		No solenoid 110 VAC 220 VAC 24 VAC 24 VDC 12 VDC
Positioner and Switches					00 01 02 03 04 06 07 08 09	None 42AD0 exp limit switch 45VD0 exp position transmitter 42AD0-B ATEX limit switch 42AD0-IE IECEX limit switch QV-210101 poly limit switch VPS and P1 prox switch 265ER-D5 positioner 285ER-D5 smart positioner

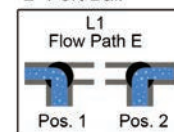
MODEL CHART - ELECTRIC ACTUATOR					
Example	WE34	-HMD03	-T3	-A	WE34-HMD03-T3-A
Series	WE34				316 SS 3-way 150# ANSI flange
Size and Actuator		CTD02 DTD02 ETD02 GTD03 HTD03 ITD04 JTD04 CMD01 DMD01 EMD02 GMD03 HMD03 IMD04 JMD04 CTI02 DTI02 ETI03 GTI05 HTI06 ITI06 JTI08 CMI02 DMI02 EMI03 GMI05 HMI06 IMI06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

ACCESSORIES	
Model	Description
R2-2120	Air regulator
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster

"T" Port Ball



"L" Port Ball



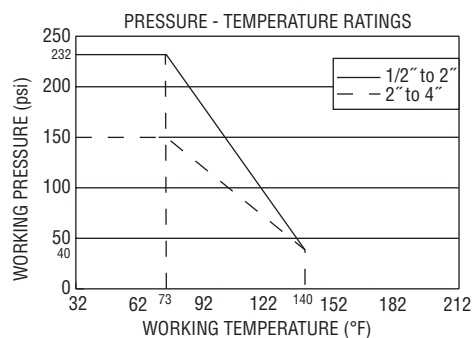
3-WAY PLASTIC AUTOMATED BALL VALVE

Electric and Pneumatic Actuators



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

Cv Values



The **SERIES 3PBV** is 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 to 20 mA input for infinite valve positioning. Actuator features include thermal overload protection to withstand stall conditions, visual position indication and a permanently lubricated gear train.

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

HOW TO ORDER:

1. Select **Model Number** to specify pipe size and actuator.
2. Choose a **Port Configuration** to determine valve flow path.

Example: 3PBVPSR204-L1

SPECIFICATIONS

Service: Compatible liquids or gases.

Body: 3-way.

Line Size: 1/2" to 2".

End Connections: Female NPT or socket (field-selectable).

Pressure Limit: 1/2" to 1": 232 psi (16.0 bar) @ 73°F (23°C); 1-1/4" to 2": 150 psi (10.3 bar) @ 73°F (23°C) WOG; Vacuum: 29" Hg. See chart for curve.

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

Temperature Limit: 32 to 140°F (0 to 60°C).

ACTUATORS

Electric

Power Requirements: 120 VAC, 50/60 Hz, single phase. Optional 220 VAC, 24 VAC, 12 VDC, and 24 VDC.

Power Consumption (Locked Rotor Current): Two position: 1/2" to 1-1/2": .55 A, 2": 0.75 A; Modulating: 0.75 A.

Cycle Time: (per 90°): Two position: 1/2" to 1-1/2": 2.5 s, 2": 5 s; Modulating: 5 s.

Duty Cycle: Two position: 1/2" to 1-1/2": 75%, 2": 25%; Modulating: 75%.

Enclosure Rating: NEMA 4. Optional NEMA 7 (Class 1, Div. II groups A, B, C, D).

Housing Material: Aluminum with thermal bonding polyester powder finish.

Temperature Limit: 0 to 150°F (-18 to 65°C).

Conduit Connection: 1/2" female NPT.

Modulating Input: 4 to 20 mA.

Standard Features: Manual override and visual position indicator except modulating units.

Pneumatic "DA" and "SR" Series

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

Normal Supply Pressure: 80 psi (5.5 bar).

Maximum Supply Pressure: 120 psig (8 bar).

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

Air Consumption (per stroke): DA1: 2.32 in³; DA2, SR2: 9.34 in³; SR3: 17.21 in³.

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.

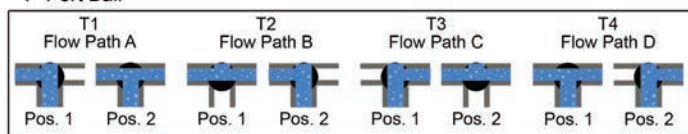
Standard Features: Visual position indicator.

MODEL CHART

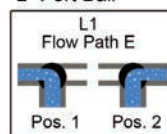
Size	Cv	Double Acting Pneumatic	Spring Return Pneumatic	Two Position Electric	Modulating Electric
		Model*	Model*	Model*	Model*
1/2"	See Chart Below	3PBVPDA102	3PBVPSR202	3PBVPU1102	3PBVPV1202
3/4"		3PBVPDA103	3PBVPSR203	3PBVPU1103	3PBVPV1203
1"		3PBVPDA104	3PBVPSR204	3PBVPU1104	3PBVPV1204
1-1/4"		3PBVPDA105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

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

"T" Port Ball



"L" Port Ball

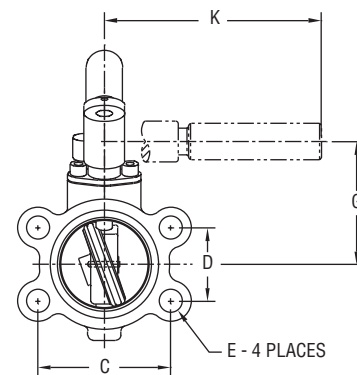
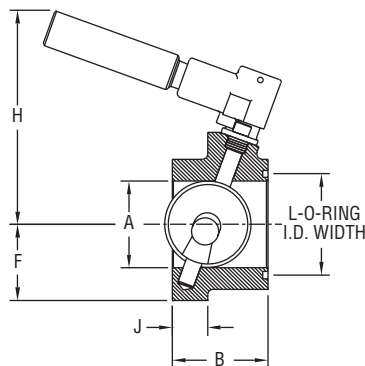


OPTIONS

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 actuator supply voltages, contact factory for model number change		

BUTTERFLY VALVE

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



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

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

FEATURES/BENEFITS

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

APPLICATIONS

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

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

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

SPECIFICATIONS

Service: Compatible liquids and gases.

Line Size: 2" to 5".

Body Style: 2-way, lug butterfly.

End Connections: O-ring flange face seal (S.A.E. J518).

Pressure Limit: Shut-off: 25 psi (1.72 bar) bubble tight; Body shell: 500 psi (34.5 bar).

Wetted Materials: Body and disc/vane: Cast iron; O-rings: Buna-N or fluoroelastomer; Stem: Steel.

Temperature Limits: Buna-N: 180°F (82°C); Fluoroelastomer: 300°F (149°C).

BUTTERFLY VALVE

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** is 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

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 and O-ring: EPDM or PTFE; Stem: 410 SS.

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

Bearings: Nylatron.

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

ACTUATORS

Pneumatic "DA" and "SR" Series

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

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

Maximum Supply Pressure: 120 psi (8.6 bar).

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

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

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

Accessory Mounting: NAMUR standard.

Electric "TD" and "MD" Series

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

Power Consumption: See instruction manual.

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

Duty Rating: 85%.

Enclosure Rating: NEMA 4X (IP67).

Housing Material: Powder coated aluminum.

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

Electrical Connection: 1/2" female NPT.

Modulating Input: 4 to 20 mA.

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

Electric "TH and MH Series

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

Power Consumption: See instruction manual.

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

Duty Rating: See instruction manual.

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

Housing Material: Powder Coated Aluminum

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

Electrical Connection: 1/2" female NPT.

Modulating Input: 4 to 20 mA.

Standard Features: Position indicator and two limit switches.