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</table>
| Corporate Headquarters | DWYER INSTRUMENTS, INC.  
102 Indiana Highway 212,  
P.O. Box 373  
Michigan City, IN 46360, U.S.A. | 219/879-8000 | 219/872-9057 |
| United Kingdom   | DWYER INSTRUMENTS LTD  
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## OTHER CONTACTS

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<td><a href="mailto:lit@dwyer-inst.com">lit@dwyer-inst.com</a></td>
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Dwyer Instruments, Inc. produces a broad range of competitively priced precision instruments for measuring, transmitting and controlling pressure, temperature, level and flow.

Many of these instruments are widely known by their individual brand names, such as Magnehelic® and Spirahelic® pressure gages, Photohelic® switch/gages, Rate-Master®, Mini-Master® and Visi-Float® flowmeters, Slack Tube® and Flex-Tube® manometers, and Dwyer® pressure switches.

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Founded in 1931, Dwyer Instruments, Inc. moved its manufacturing and headquarters from Chicago, Illinois, in 1955, to newly constructed, greatly-expanded facilities in Michigan City, Indiana. The company has since added three more Indiana facilities in Wakarusa, Kingsbury and Wolcott as well as manufacturing facilities in Anaheim, California; Fergus Falls, Minnesota; and Kansas City, Missouri.

In addition to making and selling quality precision instruments, Dwyer Instruments, Inc. is committed to a standard of customer service, including competitive prices and knowledgeable, courteous technical support, that generates and sustains long-term relationships.

At Dwyer it all starts with innovative products designed according to the needs of our customers. We strive to make products optimized for ease of use, dependability and manufacturability. Through our over 75 years of manufacturing excellence, Dwyer has found the means to manufacture products cost effectively to offer the best value to our customers. We supply the highest quality products and stand behind them. Dwyer products are trusted in applications all over the world in almost every industry.
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**New Products**

**NPB-43**

**Series MS2**

**Magnesense® II Differential Pressure Transmitter**

Monitors Pressure, Air Velocity & Air Flow, BACnet/Modbus® Communications

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**The Series MS2 Magnesense® II Differential Pressure Transmitter** combines the proven stable Hall Effect sensing technology of our original Series MS with additional features to reduce installation time and simplify ordering. In this second generation transmitter, we have added additional field selectable pressure ranges so that each model can have four selectable ranges along with additional bi-directional ranges. When using the pluggable integral display or the portable remote display tool, both Metric and English engineering units can be selected via on board dip switches. Dual current and voltage outputs allow users to simultaneously take either a current or voltage output to their building controller and have a local test circuit for verification of the output reading. The voltage output can be selected to be either 0 to 5 VDC or 0 to 10 VDC, while the current is always 4 to 20 mA. Both the current and voltage output can also be inverted. The MS2 can also be ordered with either a BACnet® or MODBUS® Communications protocol output that will allow the transmitters to be daisy-chained together.

Like the original Series MS, the second generation transmitter can be used as a linear pressure output or a linear velocity output with the square root extraction done in the transmitter. Additional parameters have been included to expand the square root capability to include flow measurements.

---

**OPTIONS**

Add -LCD to end of model numbers for units display

Example: MS2-W101-LCD ........................................ add $36.00

Add -B to end of model numbers for BACnet Communications

Example: MS2-W101-BC ........................................... add $75.00

Add -MC to end of model numbers for Modbus® Communications

Example: MS2-W101-MC ........................................... add $75.00

Add -NIST to end of model numbers for NIST Traceable Certificate

Example: MS2-W101-NIST ....................................... $135.00

Add -FC to end of model numbers for Factory Calibration Certificate

Example: MS2-W101-FC ........................................... $30.00

Change W to D for Duct Mount Static Probe

Example: MS2-D101 ............................................... add $20.00

Change W to N for DIN Rail Mounting

Example: MS2-N101 ............................................... add $5.00

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**SPECIFICATIONS**

**Service:** Air and non-combustible, compatible gases.

**Wetted Materials:** Consult factory

**Typical Accuracy:** ±1% FS for 0.25" (50 Pa), 0.5" (100 Pa), 2" (500 Pa), 5" (1250 Pa), 10" (2 kPa), 15" (3 kPa), 25" (5 kPa); ±2% FS for 0.1" (25 Pa), 1" (250 Pa), and all bi-directional ranges.

**Stability:** ±1% / year FSO.

**Temperature Limits:** 0 to 150°F (-18 to 66°C).

**Pressure Limits:** 1 psi max., operation; 10 psi burst.

**Power Requirements:** 10 to 35 VDC (2-wire), 17 to 36 VDC or isolated 21.6 to 33 VAC (3-wire).

**Output Signals:** 4 to 20 mA (2-wire), 0 to 5 VDC, 0 to 10 VDC (3-wire).

**Response Time:** Adjustable: 0.5 to 15 sec. time constant. Provides a 95% response time of 1.5 to 45 seconds.

**Zero & Span Adjustments:** Digital push buttons.

**Loop Resistance:** Current Output: 0 to 1250 O max; Voltage Output: Min. load resistance 1 kΩ.

**Current Consumption:** 40 mA max.

**Display (Optional):** 5 digit LCD.

**Electrical Connections:** 3-wire removable European style terminal block for 16 to 22 AWG.

**Electrical Entry:** 1/2" NPT, 1/2" NPT, 3/4" NPT.

**Weight:** 8.0 oz (230 g).

**Enclosure Rating:** IP66.

**Process Connection:** 3/16" ID tubing (5 mm ID); Max. OD 9 mm.

**Electrical Connections:** 22 AWG.

**Wall Mount Bracket**

**Duct Mount Bracket**

**DIN Mount Bracket**

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**ACCESSORIES**

**A-151:** Cable gland for 5 to 10 mm diameter cable .......................... $2.50

**A-435-A:** Remote Display Tool ......................................... 65.00

**A-480:** Plastic Static Pressure Tip ....................................... 0.80

**A-481:** Installer kit. Includes 2 plastic static pressure tips and 7 ft (2.1 m) of PVC tubing .............................. 4.25

**A-489:** 4" 303 SS Straight Static Pressure Tip with Flange .......................... 6.67

**A-302F-A:** 4" 303 SS Static Pressure Tip with mounting flange. For 3/4" ID rubber or plastic tubing ...................... 9.10

**SOD-P5, 100 to 240 VAC/VDC to 24 VDC Power Supply** ........................ $30.00

© Items are subject to Schedule B discounts.

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**Modbus®** is a registered trademark of Schneider Automation, Inc.
One Unit for all your Building Pressure Applications
The Industry Standard for Building Automation

• **Field Upgradable LCD.** No need to order two separate transmitters. Simply stock a transmitter and display and you can satisfy any customer’s requests. Simply remove cover and snap the LCD onto the board.

• **Large Integral LCD.** Second generation Magnesense® has a larger LCD that includes the engineering units. Display also has 5 digits allowing measurements up to 99,999 to be displayed directly.

• **Remote Display Tool** reduces instrument cost by eliminating need for each transmitter to have its own display. The buttons on the display tool also provide a means to zero and span the units without reaching into the transmitter.

• **Removeable Terminal Block** ease installation by allowing for the wiring to be done outside of the housing where the installer has more room.

• **Simultaneous Current/Voltage Output** reduces inventory by combining 0 to 10 V, 0 to 5 V and 4 to 20 mA models into one model. Both outputs are always present allowing field selection of which signal to use and the other signal can be used for local diagnostic without interrupting system.

• **Digital Push Button Zero and Span.** Reduces calibration time significantly over other transmitters that utilize potentiometers. Lowers maintenance time and costs.

• **Field Selectable Ranges** in metric or English. Lowers stock and inventory requirements. You’ll always have the right transmitter for every job.

• **Field Selectable Air Velocity and Flow Modes** for fan and blower applications. Unit provides square root output that accurately tracks fpm or m/s for velocity measurements. Now area can be programmed to directly display cfm or m³/hr for volumetric flow measurements. No need for a smart programmable indicator or PLC to convert pressure to air flow. Reduces components and installation time lowering overall costs.

CALL TO ORDER | 800/872-9141
The Series MFS2 Magnetic Inductive Flow Sensor is a compact, lower cost plastic alternative to the Series MFS. Unlike sensors with moving parts, the MFS2 can be used in applications dealing with contaminated media. This series provides a reliable measuring technique, an obstruction free pipe cross-section, as well as a quick response time, making this series ideal for interference free operation. Any change in temperature, density, viscosity, concentration or electrical conductivity of the liquid, does not affect the output signal of this Magnetic Inductive Flow Sensor. This, in addition to its long life cycle and PVDF process connection, makes this series perfect for accurate reversible gauging of volume flow of conductive liquids in closed piping.

**Principles of Operation**

The measuring pipe is in a magnetic field. If an electrically conductive medium with a certain flow passes through the pipe, it passes at a right-angle to the magnetic field, creating a voltage that is proportional to the average flow velocity and picked up by two electrodes within the MFS2. A frequency output signal is obtained that is proportional to the flow (analog output option available).

**FEATURES**

- No moving parts
- No mechanical wear
- Maintenance-free

**SPECIFICATIONS**

- **Service:** Compatible, non-coating, conductive liquids.
- **Range:** See model chart.
- **Wetted Materials:**
  - Grounding Rings and Electrodes: 316 SS;
  - Process Connections: PVDF;
  - O-rings: EPDM.
- **Accuracy:** ±1% of reading.
- **Repeatability:** 1%.
- **Temperature Limits:**
  - Process: 14 to 140°F (-10 to 60°C);
  - Ambient: 41 to 140°F (5 to 60°C).
- **Pressure Limits:**
  - 145 psi (10 bar) @ 68°F (20°C);
  - 116 psi (8 bar) @ 104°F (40°C);
  - 87 psi (6 bar) @ 140°F (60°C).
- **Response Time:** < 100 ms.
- **Power Requirements:** 24 VDC ±15%.
- **Power Consumption:** 0.6 W.
- **Output:** Frequency: Square-wave, NPN or PNP.
- **Flow Indication:** LED green, flow proportional blinking.
- **Enclosure Rating:** IP65.
- **Enclosure Material:** ABS plastic.
- **Process Connection:** See model chart.
- **Electrical Connection:** Plug connector M12x1.
- **Conductivity:** > 20 μS/cm min.
- **Weight:**
  - MFS2-1, -2, -3, -4, -5: 8 oz (226.8 g);
  - MFS2-6: 1 lb (0.45 kg).
- **Agency Approvals:** CE.

**ACCESSORIES**

- MFS-C3, 4-Pin Cable Socket M12x1 Connect, 9.8 ft (3 m) . . . . $54.00
- MFS-C5, 4-Pin Cable Socket M12x1 Connect, 16.4 ft (5 m) . . . . $63.00
- MFS-C10, 4-Pin Cable Socket M12x1 Connect, 32.8 ft (10 m) . . . . $99.50

① Items are subject to Schedule B discounts.
Model UFM Compact Ultrasonic Flowmeter is a low cost clamp-on, ultrasonic flowmeter. The Model UFM implements the transit-time difference to measure flow rates in pipes non-invasively. It is a compact and lightweight design, featuring an easily installed, all in one clamp-on unit. This unit can measure velocity and flow in pipes with outside diameters ranging from 0.98 to 4.62˝ (24.89 to 117.35 mm). The screen offers easy to read text with a convenient backlight for visual comfort. This model comes with a volume pulse and 4 to 20 mA flow rate output.

**PRINCIPLES OF OPERATION**

Two sensors located in the guiderail are placed on the exterior of the pipe, and each transmits an ultrasonic pulse through the pipe and fluid to the other. The velocity of the liquid flowing through the pipes causes the pulse to accelerate or decelerate. The difference in the transit times of the two pulses is used to calculate the flow rate. The use of transit time allows the flowmeter to be unaffected by pressure or temperature changes.

**APPLICATIONS**

- Flow measurement for heat metering
- Chilled water metering and monitoring
- Potable water metering and monitoring
- Process water metering and monitoring

**Kit Includes:**

- Converter w/ adjustable guiderail
- Set of 1.81 to 2.75˝ (46 to 70 mm) clamps
- Set of 2 to 5˝ (51 to 127 mm) clamps
- Set of small pipe adaptor circle clamps
- Set of small pipe adaptor V clamps
- Ultrasonic coupling grease

**Model UFM-1, Compact Ultrasonic Flowmeter ........................ $1830.00**

* Items are subject to Schedule B discounts.

**SPECIFICATIONS**

- **Service:** Clean water with <3% by volume of particulate content.
- **Range:** 0.33 to 32.8 ft/s (0.1 to 10 m/s).
- **Display:** Backlit: 3.27˝ H x 0.74˝ W (83.1 mm x 18.8 mm), 2 line x 16 characters.
- **Accuracy:** ±3% of flow reading for > 0.98 ft/s (> 0.3 m/s).
- **Power Requirements:** 12 to 24 VDC or VAC.
- **Power Consumption:** 7 W max.
- **Temperature Limits:**
  - Process: 32 to 185°F (0 to 85°C);
  - Ambient: 32 to 122°F (0 to 50°C).
- **Outputs:**
  - Analog: 1 opto-isolated: 4 to 20 mA;
  - Error current: 3.5 mA;
  - Load resistance: 620 Ω max;
  - Pulse: 1 opto-isolated MOSFET relay, 500 mA max, 166 pps max, 200 Hz max.
- **Enclosure Rating:** IP54.
- **Enclosure Material:** Plastic polycarbonate.
- **Repeatability:** ±0.5% of measured value.
- **Electrical Connections:** 16.4˝ (5 m) cable.
- **Response Time:** < 1 s.
- **Weight:** 2.9 lb (1.315 kg).
- **Agency Approvals:** CE.

**ADDITIONAL SPECIFICATIONS**

- **Applicable Pipe Material:** Steel, copper, or plastic.
- **Pipe Outside Diameter:** 0.98 to 4.62˝ (24.89 to 117.35 mm).
- **Applicable Pipe Lining:** None.
- **Pipe Wall Thickness:** 0.02 to 0.39˝ (0.5 to 10 mm).
The Series WD3 Water Leak Detector protects equipment from water damage by detecting the presence of water in drip pans in air handler units, under raised floors in data centers, or on floors around sump pumps and drains. Water is detected once it reaches a level that bridges the two conductive strips on the bottom of the housing. Depending on the model ordered, audible and visual alerts provide local indication of the alarm condition and an internal switch will give remote indication or control to prevent further build up of water.

For applications where power is not available, the Model WD3-BP-D1-A is battery powered. Otherwise, either AC or DC supply voltages can be used to power the water detector. The sensing height can be adjusted to as low as 1/32” using the included adjustable mounting bracket. The mounting bracket can attach to any flat surface by either using the attached adhesive strips or mounting screws.

**SPECIFICATIONS**

- **Service:** Water or conductive fluids.
- **Minimum Sensing Gap:** 1/32”.
- **Switch Type:** Battery Powered Models: SPST NO SSR; External Powered Models: DPDT relay.
- **Electrical Ratings:**
  - Battery Powered Model: Pilot duty rating 250 mA @ 24 VDC;
  - External Powered Models: 1A @ 24 VAC/DC.
- **Audible Alarm:** At least 85 dB @ 1 foot distance (depends on model).
- **Visual Alarm:** Red LED for water level; Yellow LED for low battery (battery powered models only); Green LED for power condition (external powered models only).
- **Temperature Limits:** 32 to 122°F (0 to 50°C).
- **Power Requirements:**
  - Battery Powered Model: 3V CR2450 lithium metal battery, installed functional, user replaceable;
  - External Powered Models: 11 to 27 VAC/DC.
- **Power Consumption:**
  - Battery Powered Model: 0.9 mA steady state / 3.0 mA during alarm condition;
  - External Powered Models: 30 mA steady state / 85 mA during alarm condition.
- **Battery Life:** 5 years steady state / 48 hours during alarm condition.
- **Electrical Connections:** 4’’ (1.5 m), 22 AWG, PVC, UL plenum rated cable.
- **Enclosure Material:** ABS and polycarbonate with flammability classification UL 94 V-0.
- **Enclosure Rating:** Audible Alarm Models: Water-tight up to 3/4 of the body height;
- **Weight:** 4.85 oz (137.5 g).
- **Agency Approvals:** CE, RoHS.

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**Model**

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<td>34.00</td>
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<tr>
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<td>DPDT Relay</td>
<td>11 to 27 VAC/DC</td>
<td>Yes</td>
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</tr>
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**ACCESSORY**

A-WD3-BRK, Replacement Mounting Bracket ........................................... $3.50③

③ Items are net priced and are not subject to any discount.
The Model ULSL Ultrasonic Level Sensor provides non-contact, continuous ultrasonic level measurement of fluids for short range applications. Ultrasonic technology paired with automatic temperature compensation provides accurate and reliable measurements in almost all conditions. The Model ULSL has failsafe logic that is easily configured to custom applications via free software removing the need for target calibration. Using the free software, the Model ULSL can be programmed to transmit an output signal as well as set the four relays for control applications. This rugged design comes with a NEMA 6P submersible enclosure rating to ensure a long lasting unit.

**FEATURES**
- Selectable deadband
- Fail-safe logic for control applications
- Four programmable relays
- Narrow beam width and short dead band
- Automatic temperature compensation

**APPLICATIONS**
- Dirty, corrosive, or sticky fluids
- Bulk containers
- Sump and process tanks

**SPECIFICATIONS**
- **Service:** Compatible fluids.
- **Wetted Materials:** Sensor: PVDF; O-ring: FKM.
- **Ranges:** 18’ (5.5 m).
- **Accuracy:** ±0.2% of range.
- **Resolution:** 0.079” (2 mm).
- **Blind Zone:** 8” (20 cm).
- **Beam Width:** 3” (7.62 cm).
- **Temperature Limits:**
  - Process: 20 to 140°F (-7 to 60°C);
  - Ambient: -31 to 140°F (-35 to 60°C).
- **Temperature Compensation:** Automatic.
- **Pressure Limits:** 30 psi (2 bar).
- **Power Requirement:** 12 to 28 VDC.
- **Output Signal:** 4 to 20 mA, 2-wire.
  - Invert: 4 to 20 mA or 20 to 4 mA;
  - Fail-safe: 4 mA, 20 mA, 21 mA, 22 mA, or hold last.
- **Loop Resistance:** 400 Ω max.
- **Electrical Connections:** 4´ (1.2 m) 9 conductor shielded cable.
- **Contact Type:** 4 SPST relays.
- **Contact Rating:** 1 A max @ 28 VDC max.
- **Deadband:** Selectable (no hysteresis, 1/4˝, 1/2˝, 1”, 1/2 cm, 1 cm, 2 cm, 5 cm or not available).
- **Process Connection:** 2˝ NPT, 2˝ BSPP (optional).
- **Enclosure Rating:** NEMA 6P (IP68).
- **Memory:** Non-volatile.
- **Failsafe:** Contact: Power loss: Hold last contact;
  Power on: Open, close, or last contact.
- **Programming:** Free PC software download (USB adapter required).
- **Weight:** 3 lb (1.36 kg).
- **Agency Approvals:** CE, RoHS.

**ACCESSORIES**
- ULS-ACC-USB, USB Adapter for Calibration, PVC $27.30
- ULS-ACC-131, 3” x 2” NPT Reducer Bushing Fitting (Sch. 40), PVC $27.10
- ULS-ACC-132, 3” x 2” NPT Reducer Bushing Fitting (Sch. 80), PVC $68.05
- ULS-ACC-142, 4” x 2” NPT Reducer Bushing Fitting (Sch. 80), PVC $68.67
- ULS-ACC-231, 3” Socket x 2” NPT Reducer Bushing Fitting (Sch. 40), PVC $78.18
- ULS-ACC-232, 3” Socket x 2” NPT Reducer Bushing Fitting (Sch. 80), PVC $78.62
- ULS-ACC-241, 4” Socket x 2” NPT Reducer Bushing Fitting (Sch. 40), PVC $88.05
- ULS-ACC-242, 4” Socket x 2” NPT Reducer Bushing Fitting (Sch. 80), PVC $88.62
- ULS-ACC-520, 2˝ NPT Polypropylene Side Mount Bracket $45.00

*USB adapter necessary for calibration. One adapter can program multiple units.

**Price**
- 18 ft (5.5 m) $550.00

**CALL TO ORDER | 800/872-9141**
The Model ULSM Ultrasonic Level Sensor provides non-contact, continuous ultrasonic level measurement of fluids for medium range applications. Ultrasonic technology paired with automatic temperature compensation provides accurate and reliable measurements in almost all conditions. The Model ULSM has failsafe logic that is easily configured to custom applications via free software removing the need for target calibration. Using the free software, the Model ULSM can be programmed to transmit an output signal as well as set the four relays for control applications. This rugged design comes with a NEMA 6P submersible enclosure rating to ensure a long lasting unit.

**FEATURES**
- Selectable deadband
- Fail-safe logic for control applications
- Four programmable relays
- Narrow beam width and short dead band
- Automatic temperature compensation

**APPLICATIONS**
- Dirty, corrosive, or sticky fluids
- Bulk containers
- Sump and process tanks

**SPECIFICATIONS**
- Service: Compatible fluids.
- Wetted Materials: Sensor: PVDF; O-ring: FKM.
- Ranges: 9.8´ (3 m).
- Accuracy: ±0.2% of range.
- Resolution: 0.039˝ (1 mm).
- Blind Zone: 4˝ (10 cm).
- Beam Width: 2˝ (5 cm).
- Temperature Limits:
  - Process: 20 to 140°F (-7 to 60°C);
  - Ambient: -31 to 140°F (-35 to 60°C).
- Temperature Compensation: Automatic.
- Pressure Limits: 30 psi (2 bar).
- Power Requirement: 12 to 28 VDC.
- Output Signal:
  - 4 to 20 mA, 2-wire;
  - Invert: 4 to 20 mA or 20 to 4 mA;
  - Fail-safe: 4 mA, 20 mA, 21 mA, 22 mA, or hold last.
- Loop Resistance: 400 Ω max.
- Electrical Connections: 4´ (1.2 m) 9 conductor shielded cable.
- Contact Type: 4 SPST relays.
- Contact Rating: 1 A max @ 28 VDC max.
- Deadband: Selectable (no hysteresis, 1/4˝, 1⁄2˝, 1˝, 1/2 cm, 1 cm, 2 cm, 5 cm or not available).
- Process Connection: 1˝ NPT, 1˝ BSPP (optional).
- Enclosure Material: Polycarbonate; Gland: TPE.
- Mounting Orientation: Vertical.
- Memory: Non-volatile.
- Failsafe:
  - Contact: Power loss: Hold last contact;
  - Power on: Open, close, or last contact.
- Programming: Free PC software download (USB adapter required).
- Weight: 1.5 lb (0.68 kg).
- Agency Approvals: CE, RoHS.

**ACCESSORIES**
- ULS-ACC-USB, USB Adapter for Calibration
- 18.00
- ULS-ACC-121, 1” x 1” NPT Reducer Bushing Fitting (Sch. 40), PVC
- 4.00
- ULS-ACC-122, 1” x 1” NPT Reducer Bushing Fitting (Sch. 80), PVC
- 10.25
- ULS-ACC-221, 2” Socket x 1” NPT Reducer Bushing Fitting (Sch. 40), PVC
- 10.25
- ULS-ACC-222, 2” Socket x 1” NPT Reducer Bushing Fitting (Sch. 80), PVC
- 38.50
- ULS-ACC-S10, 1” NPT Polypropylene Side Mount Bracket
- 45.00

For more information or to order, visit www.dwyer-inst.com or contact DWYER INSTRUMENTS, INC. at 815-854-6830.
The Model ULSS Ultrasonic Level Sensor provides non-contact, continuous ultrasonic level measurement of fluids for short range applications. Ultrasonic technology paired with automatic temperature compensation provides accurate and reliable measurements in almost all conditions. The Model ULSS has failsafe logic that is easily configured to custom applications via free software removing the need for target calibration. Using the free software, the Model ULSS can be programmed to transmit an output signal as well as set the four relays for control applications. This rugged design comes with a NEMA 6P submersible enclosure rating to ensure a long lasting unit.

**FEATURES**
- Selectable deadband
- Fail-safe logic for control applications
- Four programmable relays
- Narrow beam width and short dead band
- Automatic temperature compensation

**APPLICATIONS**
- Dirty, corrosive, or sticky fluids
- Bulk containers
- Sump and process tanks
- Small tanks

**SPECIFICATIONS**
- **Service:** Compatible fluids.
- **Wetted Materials:** Sensor: PVDF; O-ring: FKM.
- **Ranges:** 4.1´ (1.25 m).
- **Accuracy:** 0.125˝ (3 mm).
- **Resolution:** 0.019˝ (0.5 mm).
- **Blind Zone:** 2˝ (5 cm).
- **Beam Width:** 2˝ (5 cm).
- **Temperature Limits:**
  - Process: 20 to 140°F (-7 to 60°C);
  - Ambient: -31 to 140°F (-35 to 60°C).
- **Temperature Compensation:** Automatic.
- **Pressure Limit:** 30 psi (2 bar).
- **Power Requirement:** 12 to 28 VDC.
- **Output Signal:** 4 to 20 mA, 2-wire;
  - Invert: 4 to 20 mA or 20 to 4 mA;
  - Fail-safe: 4 mA, 20 mA, 21 mA, 22 mA, or hold last.
- **Loop Resistance:** 400 Ω max.
- **Electrical Connections:** 4´ (1.2 m) 9 conductor shielded cable.
- **Contact Type:** 4 SPST relays.
- **Contact Rating:** 1 A max @ 28 VDC max.
- **Deadband:** Selectable (no hysteresis, 1/4˝, 1/2˝, 1˝, 1/2 cm, 1 cm, 2 cm, 5 cm or not available).
- **Process Connection:** 1˝ NPT, 1˝ BSPP (optional).
- **Enclosure Rating:** NEMA 6P (IP68).
- **Enclosure Material:** Polycarbonate; Gland: TPE.
- **Mounting Orientation:** Vertical.
- **Memory:** Non-volatile.
- **Failsafe:**
  - Contact: Power loss: Holds Last contact;
  - Power on: Open, close, or last contact.
- **Programming:** Free PC software download (USB adapter required).
- **Weight:** 1 lb (0.45 kg).
- **Agency Approvals:** CE, RoHS.

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**Accessories**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>ULS-ACC-USB</td>
<td>USB Adapter for Calibration</td>
<td>$53.50</td>
</tr>
<tr>
<td>ULS-ACC-121</td>
<td>1˝ x 1˝ NPT Reducer Bushing Fitting (Sch. 40), PVC</td>
<td>$18.00</td>
</tr>
<tr>
<td>ULS-ACC-122</td>
<td>2˝ Socket x 1˝ NPT Reducer Bushing Fitting (Sch. 80), PVC</td>
<td>$45.00</td>
</tr>
<tr>
<td>ULS-ACC-221</td>
<td>1˝ x 1˝ NPT Reducer Bushing Fitting (Sch. 40), PVC</td>
<td>$10.25</td>
</tr>
<tr>
<td>ULS-ACC-222</td>
<td>1˝ x 1˝ NPT Reducer Bushing Fitting (Sch. 80), PVC</td>
<td>$38.50</td>
</tr>
<tr>
<td>ULS-ACC-510</td>
<td>1˝ NPT Polypropylene Side Mount Bracket</td>
<td>$45.00</td>
</tr>
</tbody>
</table>

*Items are subject to Schedule B discounts.*
New Products

The Series BGM Digital Bar Graph Meter is extremely durable and can replace a wide range of analog meters. The 4-digit display will significantly reduce the potential for human error in reading by eliminating errors commonly produced by the viewing angle when reading analog meters. This series has a keypad that allows for easy access of features without complex menu structures. With the combined ability to create a wide range of custom faceplates and the optional NEMA 4X bezel, the Series BGM can be used in a variety of applications. The LED bar graph adds a visual indicator of the measured value so that it can be visually analyzed, preventing accidents or system failures from happening.

### 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).

*Note: Contact factory for additional options.

† NEMA 4X option requires A-BGM-RPM for programming.

### ACCESSORY

A-BGM-RPM, Remote Programmer Module .................. $53.50

Items are subject to Schedule B discounts.
The Model DPMF Flush Mount LCD Digital Panel Meter offers high performance and low cost in a compact package. This meter is designed with a 3-1/2 digit, high contrast LCD display. The unit is powered by a 4 to 20 mA DC control loop input. Standard features include adjustable span and zero, and field-selectable decimal point position. The flat pack of the panel meter allows for the instrument to be mounted to any flat surface.

---

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 1A directly into the unit.

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### Model DPMF, Flush Mount LCD Digital Panel Meter

- **3-1/2 Digit LCD, Surface Mount**
- **Input:** 4 to 20 mA DC.
- **Input Impedance:** 300 Ω nominal.
- **Accuracy:** ±(0.1% FS + 2 count).
- **Power Supply:** Powered by control loop.
- **Span and Zero:** Adjustable (±1999 counts).
- **Display:** 3-1/2 digits, 7 segments, 0.5˝ (12 mm) H.
- **Decimal Points:** 3-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:** Surface mount.
- **Connection:** Screw terminals.
- **Conversion Rate:** 3 per second.
- **Warm-Up:** 10 minutes typical.
- **Weight:** 1.2 oz (34.5 g).
- **Agency Approvals:** RoHS.

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### Series MCS Miniature Current Switch

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

- **Model**
  - **MCS-111050**
  - **MCS-111001**

- **Case**
  - **Solid Core**
  - **No Core**

- **Set Point**
  - **Adjustable**
  - **0.50**
  - **0.01**

- **LED**
  - **Red/Green**

- **Price**
  - **$18.00**

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**SPECIFICATIONS**

- **Amperage Range:**
  - **MCS-111050:** 0.5 to 50A continuous;
  - **MCS-111001:** 0.01 to 1A 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 94V-0 flammability rated ABS, insulation class 600 V.
- **Weight:** 0.5 oz (14.5 g).
- **Agency Approvals:** CE, RoHS, UL.
The Series WTDL Temperature/Humidity Data Logger is perfect for applications which require real-time monitoring or areas that are not as accessible to periodically retrieve the data. The data loggers can transmit up to 500 feet indoors and up to 2000 feet outdoors. The distance can be increased by using additional receivers. Wireless data is transmitted on a 2.4 GHz frequency allowing it to be used anywhere in the world. A network of data loggers can be separated into a smaller subnet. These subnets can all be controlled by a single PC. The Series WTDL data loggers also feature a user programmable alarm. This alarm can be configured to show an on-screen alarm, send a text message (standard SMS rates apply) or an email if an alarm condition is met.

**SPECIFICATIONS**

**Temperature Range:**
- WTDL-10/WTDL-20: -4 to 176°F (-20 to 80°C);
- WTDL-30: -328 to 500°F (-200°C to 260°C) for probe.

**Humidity Range:**
- WTDL-20: 0 to 95% RH.

**Temperature Accuracy:**
- WTDL-10/WTDL-20: 0.9°F (0.5°C) from 32 to 122°F (0 to 50°C);
- WTDL-30: 0.18°F (0.1°C) from -4 to 176°F (-20 to 80°C), 0.9°F (0.5°C) outside of specified range.

**Humidity Accuracy:**
- WTDL-20: ±3.0% RH, ±2% typical at 77°F (25°C).

**Temperature Resolution:**
- WTDL-10/WTDL-20: 0.018°F (0.01°C).

**Humidity Resolution:**
- WTDL-20 only: 0.1% RH.

**RF Carrier Frequency:**
- 2.45 GHz.

**Band:**
- ISM band 2.405-2.48 GHz.

**Maximum Power Output:**
- +0 dBm typical.

**Wireless Transmission Range:**
- 2000’ (610 m) outdoors, line of sight;
- 500’ (152 m) indoors.

**Receiver Sensitivity:**
- -95 dBm typical.

**Memory Size:**
- WTDL-10/WTDL-30: 30,000 Readings;
- WTDL-20: 15,000 readings per channel, software configurable memory wrap.

**Sampling Method:**
- Stop on memory full or continuous recording.

**Sampling Rate:**
- 2 sec to 24 hrs.

**Temperature Limits:**
- -4 to 176°F (-20 to 80°C).

**Humidity Limits:**
- 0 to 95% RH.

**Computer Requirements:**

**Computer Interface:**
- WTDL-RX.

**Power Requirements:**
- 3.6 V TL-5104 lithium metal battery, installed functional, user replaceable.

**Battery Life:**
- 2 years (approx.).

**Housing Material:**
- ABS plastic.

**Weight:**
- 0.25 lb (113.4 g).

**FCC Approval:**
- FCC ID# OA3MRF24J40MA.

**Agency Approvals:**
- CE.

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**ACCESSORIES**

Model WTDL-RX, Wireless transceiver, USB cable, software CD, software manual, A/C adapter .................................................. $225.00Ø

TLH-5903, Replacement Battery .................................................. $22.00Ø

Ø Items are net priced and are not subject to any discount.
The Series DW-WIFI Wireless Wi-Fi Data Logger measures and records up to 1,000,000 temperature and/or humidity readings and shares the data with any PC or server on the same Wi-Fi network. Software settings allow the user to set the high and low alarms, the sampling rate, and the temperature scale. If the Wi-Fi connection is lost, the sensor will continue to store any records until it can regain communication with the network. Stored data can be viewed at any time after the communications have been restored. Each data logger includes a wall bracket that allows the data logger to be mounted to any wall or flat surface. Configuration and logging software available for download on our website.

**SPECIFICATIONS**

- **Memory Size:** 1,000,000 readings; 500,000 each for DW-WIFI-TH.
- **Sampling Mode:** Continuous recording.
- **Sampling Rate:** Selectable from 10 s to 12 hrs.
- **Temperature Limits:** -4 to 140°F (-20 to 60°C).
- **Power Requirements:** 4.5 to 5.5 VDC; 3.7 V rechargeable lithium ion battery, installed functional, factory replaceable (cable for charging included).
- **Battery Life:** 1 year (approx).
- **Alarms:** Programmable high/low.
- **Interface:** Wi-Fi connection.
- **Probe Length:** DW-WIFI-TP: 11.8˝ (30 cm); DW-WIFI-TC: 59˝ (150 cm).
- **Weight:** 7.2 oz (204 g).
- **Agency Approvals:** CE, RoHS.

<table>
<thead>
<tr>
<th>Model</th>
<th>Input</th>
<th>Range</th>
<th>Accuracy</th>
<th>Resolution</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>DW-WIFI-T</td>
<td>Internal Temperature</td>
<td>-4 to 140°F (-20 to 60°C)</td>
<td>±0.5°F from -10 to 50°C</td>
<td>0.1°F, 1.0%</td>
<td>$150.00</td>
</tr>
<tr>
<td>DW-WIFI-TH</td>
<td>Internal Temperature/Humidity</td>
<td>-4 to 140°F (-20 to 60°C), 0 to 100% RH</td>
<td>±0.3°F from 0 to 60°C, ±2.0% RH from 10 to 90% RH</td>
<td>0.1°F, 1.0%</td>
<td>185.00</td>
</tr>
<tr>
<td>DW-WIFI-TP</td>
<td>Remote Temperature Probe</td>
<td>-40 to 267°F (-40 to 125°C)</td>
<td>±0.6°F from -10 to 70°C</td>
<td>0.1°F, 1.0%</td>
<td>150.00</td>
</tr>
<tr>
<td>DW-WIFI-TC</td>
<td>Remote Thermocouple</td>
<td>-454 to 2372°F (-270 to 1300°C)</td>
<td>±1.5°F</td>
<td>0.1°F, 1.0%</td>
<td>185.00</td>
</tr>
<tr>
<td>DW-WIFI-T-A</td>
<td>Internal Temperature</td>
<td>-4 to 140°F (-20 to 60°C)</td>
<td>±0.1°F from -10 to 60°C</td>
<td>0.01°F, 0.1%</td>
<td>250.00</td>
</tr>
<tr>
<td>DW-WIFI-TH-A</td>
<td>Internal Temperature/Humidity</td>
<td>-4 to 140°F (-20 to 60°C), 0 to 100% RH</td>
<td>±0.2°F from 0 to 60°C, ±1.8% RH from 10 to 90% RH</td>
<td>0.01°F, 0.1%</td>
<td>285.00</td>
</tr>
<tr>
<td>DW-WIFI-T-HA</td>
<td>Remote Temperature Probe</td>
<td>-40 to 267°F (-40 to 125°C)</td>
<td>±0.1°F from -10 to 70°C</td>
<td>0.01°F, 0.1%</td>
<td>250.00</td>
</tr>
<tr>
<td>DW-WIFI-TH-HA</td>
<td>Internal Temperature/Humidity</td>
<td>-4 to 140°F (-20 to 60°C), 0 to 100% RH</td>
<td>±0.1°F from -10 to 70°C</td>
<td>0.01°F, 0.1%</td>
<td>250.00</td>
</tr>
</tbody>
</table>

The compact Model UTG Ultrasonic Thickness Gage can measure the thickness of a variety of materials. The UTG has a wide range of applications including industrial, automotive, HVAC, and plumbing. The UTG reads in inches or millimeters and features an adjustable sound velocity to allow for an array of materials to be measured. The UTG is useful when using any pipe mount ultrasonic transmitter. The UTG allows the user to find the wall thickness of the pipe when programming an ultrasonic transmitter without cutting or removing a section of the pipe to measure it. The UTG is also great for monitoring corrosion in closed vessels such as boilers and chemical tanks.

**SPECIFICATIONS:**

- **Service:** Steel, cast iron, aluminum, red copper, brass, zinc, quartz glass, polyethylene, PVC, gray cast iron, nodular cast iron, other. Selectable option for special materials with known sound propagation rate.
- **Range:** 0.047 to 7.874˝ (1.2 to 200 mm).
- **Accuracy:** ±0.5%.
- **Resolution:** 0.001˝ / 0.1 mm.
- **Sound Velocity:** 1118 to 20132 mph (500 to 9000 m/s).
- **Temperature Limits:** 32 to 122°F (0 to 50°C).
- **Humidity Limit:** < 80%.
- **Display:** 4 digits, 0.394˝ (10 mm) LCD.
- **Power Requirement:** (4) 1.5 V AAA alkaline batteries, not included, user replaceable.
- **Weight:** 5.78 oz (164 g).
- **Agency Approvals:** CE.
The Series AQTI Air Quality Test Instruments combine the versatile Model UHH handheld base with various compatible probes and modules. This versatile combination provides a line of instruments capable of streamlining a technician’s everyday testing by combining all into one product. All compatible probes and modules can be field adapted at any moment and are instantly recognized by any UHH handheld base instrument. The plug and play combination provides a line of instruments capable of various compatible probes and modules. This versatile all into one product. All compatible probes and modules can be field adapted at any moment and are instantly recognized by any UHH handheld base instrument. The plug and play combination provides a line of instruments capable of various compatible probes and modules. This versatile.

### AQTI Series

<table>
<thead>
<tr>
<th>Model</th>
<th>Parameters</th>
<th>Range</th>
<th>Engineering Units Available</th>
<th>Connection</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQTI-AP1/VP1: UHH + Thermo-Anemometer Probe</td>
<td>Velocity/Humidity/Pressure</td>
<td>40 to 5000 FPM; 0 to 100% RH; 0 to 400 in w.c.</td>
<td>Velocity: fpm, mph, knots, m/s, m/h; Humidity: %RH; D.P./W.B.: F, C</td>
<td>Wired</td>
<td>510.00</td>
</tr>
<tr>
<td>AQTI-AP2/VP2: UHH + 100 mm Vane Thermo-Anemometer Probe</td>
<td>Velocity/Humidity/Pressure</td>
<td>40 to 5000 FPM; 0 to 100% RH; 0 to 400 in w.c.</td>
<td>Velocity: fpm, mph, knots, m/s, m/h; Humidity: %RH; D.P./W.B.: F, C</td>
<td>Wired</td>
<td>915.00</td>
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</tbody>
</table>

AQTI Series supplied with: UHH, sensing probe with coiled cable, soft carrying case (UHH-C1), hand strap (UHH-STRAP), dual USB charger with international power adapters (UHH-ICHGRG), charger cable (UHH-CBL).

### AQTI-P Series

<table>
<thead>
<tr>
<th>Model</th>
<th>Parameters</th>
<th>Range</th>
<th>Engineering Units Available</th>
<th>Connection</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQTI-P-AP1: UHH + Thermo-Anemometer Probe</td>
<td>Temperature</td>
<td>42 in wc; ± Pa</td>
<td>Temperature: F, C</td>
<td>Wired</td>
<td>510.00</td>
</tr>
<tr>
<td>AQTI-P-VP1: UHH + 100 mm Vane Thermo-Anemometer Probe</td>
<td>Temperature</td>
<td>42 in wc; ± Pa</td>
<td>Temperature: F, C</td>
<td>Wired</td>
<td>510.00</td>
</tr>
</tbody>
</table>

AQTI-P Series supplied with: UHH, wireless sensing probe, soft carrying case (UHH-C1), hand strap (UHH-STRAP), dual USB charger with international power adapters (UHH-ICHGRG), charger cable (UHH-CBL), 2 GB SD card (UHH-SD), heavy duty hard case with pre-cut foam inserts for additional sensors (UHH-C2), NIST Calibration Certificate.
**Thermo-Hygrometer Probe**

*Wireless, Measures Humidity, Temperature, Dew Point, & Wet Bulb Temperatures*

**Model RP2**

**SPECIFICATIONS**
- **Service:** Clean air.
- **Temperature Limits:**
  - Process: -40 to 176°F (-40 to 100°C);
  - Ambient: 5 to 125°F (-15 to 51°C).
- **Range:**
  - RH: 0 to 100% (non-condensing);
  - Temperature: -20 to 140°F (-29 to 60°C).
- **Accuracy:**
  - RH: ±2% @ 25°C (10 to 90% RH);
  - ±4% (0 to 10, 90 to 100% RH);
  - ±0.3 @ 25°C.
- **Response Time:** 1.5 s.
- **Probe Length:** 8˝ (203 mm) insertion.
- **Battery Charging Limits:** 32 to 113°F (0 to 45°C). (Wireless Only).
- **Power Requirements:** 3.7 V YT562447 Lithium ion battery, installed functional, user replaceable. (Note: Intended to be operated with power cables less than 3 m in length). (Wireless Only).
- **Maximum Wireless Distance:** 50´ (15 m). (Wireless Only).
- **Handle Enclosure:** Thermoplastic elastomer over polycarbonate.
- **Supplied With:** Wrist strap.
- **Weight:** 11.2 oz (317 g).
- **Agency Approvals:** CE (not while charging), RoHS, FCC compliant.

**Power Requirements:** 3.7 V YT562447 Lithium ion battery, installed functional, user replaceable. (Note: Intended to be operated with power cables less than 3 m in length). (Wireless Only).

**Maximum Wireless Distance:** 50´ (15 m). (Wireless Only).

**Handle Enclosure:** Thermoplastic elastomer over polycarbonate.

**Supplied With:** Wrist strap.

**Weight:** 11.2 oz (317 g).

**Agency Approvals:** CE (not while charging), RoHS, FCC compliant.

**Model VP2**

**SPECIFICATIONS**
- **Service:** Dry, clean air.
- **Temperature Limits:**
  - Process: -20 to 212°F (-29 to 100°C);
  - Ambient: 5 to 125°F (-15 to 51°C).
- **Range:**
  - Air Velocity: 0 to 6000 FPM (0 to 30 m/s);
  - Volumetric Air: 999,999 in selected flow units;
  - Temperature: -20 to 212°F (-29 to 100°C).
- **Accuracy:**
  - Air Velocity: ±3% FS within temperature range of 40 to 90°F (4 to 32°C);
  - Temperature: ±0.5°F (±0.28°C).
- **Response Time:** 1 s.
- **Probe Length:** 8˝ (203 mm) insertion.
- **Battery Charging Limits:** 32 to 113°F (0 to 45°C). (Wireless Only).
- **Power Requirements:** 3.7 V YT562447 Lithium ion battery, installed functional, user replaceable. (Note: Intended to be operated with power cables less than 3 m in length). (Wireless Only).
- **Maximum Wireless Distance:** 50´ (15 m). (Wireless Only).
- **Handle Enclosure:** Thermoplastic elastomer over polycarbonate.
- **Supplied With:** Wrist strap.
- **Weight:** 13.6 oz (385 g).
- **Agency Approvals:** CE (not while charging), RoHS, FCC compliant.

**Model AP2**

**SPECIFICATIONS**
- **Service:** Dry, clean air.
- **Temperature Limits:**
  - Process: -20 to 212°F (-29 to 100°C);
  - Ambient: 5 to 125°F (-15 to 51°C).
- **Range:**
  - Air Velocity: 0 to 6000 FPM (0 to 30 m/s);
  - Volumetric Air: 999,999 in selected flow units;
  - Temperature: -20 to 212°F (-29 to 100°C).
- **Accuracy:**
  - Air Velocity: ±3% FS within temperature range of 40 to 90°F (4 to 32°C);
  - Temperature: ±0.5°F (±0.28°C).
- **Response Time:** 1 s.
- **Probe Length:** 8˝ (203 mm) insertion.
- **Battery Charging Limits:** 32 to 113°F (0 to 45°C). (Wireless Only).
- **Power Requirements:** 3.7 V YT562447 Lithium ion battery, installed functional, user replaceable. (Note: Intended to be operated with power cables less than 3 m in length). (Wireless Only).
- **Maximum Wireless Distance:** 50´ (15 m). (Wireless Only).
- **Handle Enclosure:** Thermoplastic elastomer over polycarbonate.
- **Supplied With:** Wrist strap.
- **Weight:** 11.2 oz (317 g).
- **Agency Approvals:** CE (not while charging), RoHS, FCC compliant.

**Thermo-Anemometer Probe**

*Wireless, Measures Velocity, Flow, & Temperature*

**Model AP2**

**SPECIFICATIONS**
- **Service:** Dry, clean air.
- **Temperature Limits:**
  - Process: -20 to 212°F (-29 to 100°C);
  - Ambient: 5 to 125°F (-15 to 51°C).
- **Range:**
  - Air Velocity: 0 to 6000 FPM (0 to 30 m/s);
  - Volumetric Air: 999,999 in selected flow units;
  - Temperature: -20 to 212°F (-29 to 100°C).
- **Accuracy:**
  - Air Velocity: ±3% FS within temperature range of 40 to 90°F (4 to 32°C);
  - Temperature: ±0.5°F (±0.28°C).
- **Response Time:** 1 s.
- **Probe Length:** 8˝ (203 mm) insertion.
- **Battery Charging Limits:** 32 to 113°F (0 to 45°C). (Wireless Only).
- **Power Requirements:** 3.7 V YT562447 Lithium ion battery, installed functional, user replaceable. (Note: Intended to be operated with power cables less than 3 m in length). (Wireless Only).
- **Maximum Wireless Distance:** 50´ (15 m). (Wireless Only).
- **Handle Enclosure:** Thermoplastic elastomer over polycarbonate.
- **Supplied With:** Wrist strap.
- **Weight:** 11.2 oz (317 g).
- **Agency Approvals:** CE (not while charging), RoHS, FCC compliant.

**Model VP2**

**SPECIFICATIONS**
- **Service:** Dry, clean air.
- **Temperature Limits:**
  - Process: -20 to 212°F (-29 to 100°C);
  - Ambient: 5 to 125°F (-15 to 51°C).
- **Range:**
  - Air Velocity: 0 to 6000 FPM (0 to 30 m/s);
  - Volumetric Air: 999,999 in selected flow units;
  - Temperature: -20 to 212°F (-29 to 100°C).
- **Accuracy:**
  - Air Velocity: ±3% FS within temperature range of 40 to 90°F (4 to 32°C);
  - Temperature: ±0.5°F (±0.28°C).
- **Response Time:** 1 s.
- **Probe Length:** 8˝ (203 mm) insertion.
- **Battery Charging Limits:** 32 to 113°F (0 to 45°C). (Wireless Only).
- **Power Requirements:** 3.7 V YT562447 Lithium ion battery, installed functional, user replaceable. (Note: Intended to be operated with power cables less than 3 m in length). (Wireless Only).
- **Maximum Wireless Distance:** 50´ (15 m). (Wireless Only).
- **Handle Enclosure:** Thermoplastic elastomer over polycarbonate.
- **Supplied With:** Wrist strap.
- **Weight:** 13.6 oz (385 g).
- **Agency Approvals:** CE (not while charging), RoHS, FCC compliant.

**Call to Order**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>RP2</td>
<td>Wireless Thermo-Hygrometer Probe for the Model UHH</td>
<td>$285.00</td>
</tr>
<tr>
<td>AP2</td>
<td>Wireless Thermo-Anemometer Probe for the Model UHH</td>
<td>$350.00</td>
</tr>
<tr>
<td>VP2</td>
<td>Wireless 100 mm Vane Thermo-Anemometer Probe for the Model UHH</td>
<td>$375.00</td>
</tr>
</tbody>
</table>

**Model AP2, Wireless Thermo-Anemometer Probe for the Model UHH ... $350.00**

**Model VP2, Wireless 100 mm Vane Thermo-Anemometer Probe for the Model UHH ... $375.00**

**Model RP2, Wireless Thermo-Hygrometer Probe for the Model UHH ... $285.00**
Thermo-Hygrometer Probe
Wired, Measures Humidity, Temperature, Dew Point, & Wet Bulb Temperatures

SPECIFICATIONS
Service: Clean air.
Temperature Limits:
Process: -40 to 176°F (-40 to 100°C);
Ambient: 5 to 125°F (-15 to 51°C).
Range:
RH: 0 to 100% (non-condensing);
Temperature: -20 to 140°F (-29 to 60°C).
Accuracy:
RH: ±2% @ 25°C (10 to 90% RH); ±4% (0 to 10, 90 to 100% RH);
Temperature: ±0.54°F @ 77°F (±0.3 @ 25°C).
Response Time: 1.5 s.
Probe Length: 8˝ (203 mm) insertion.
Weight: 12.8 oz (362 g).
Agency Approvals: CE, RoHS.

Thermo-Anemometer Probe
Wired, Measures Velocity, Flow, & Temperature

SPECIFICATIONS
Service: Dry, clean air.
Temperature Limits:
Process: -20 to 212°F (-29 to 100°C);
Ambient: 5 to 125°F (-15 to 51°C).
Range:
Air Velocity: 0 to 6000 FPM (0 to 30 m/s);
Volumetric Air: 999,999 in selected flow units;
Temperature: -20 to 212°F (-29 to 100°C).
Accuracy:
Air Velocity: ±3% FS within temperature range of 40 to 90°F (4 to 32°C);
Temperature: ±0.5°F (±0.28°C).
Response Time: 1 s.
Probe Length: 8˝ (203 mm) insertion.
Weight: 12.8 oz (362 g).
Agency Approvals: CE, RoHS.

100 mm Vane Thermo-Anemometer Probe
Wired, Measures Velocity, Flow, Humidity, & Temperature

SPECIFICATIONS
Service: Dry, clean air.
Temperature Limits:
Process: -20 to 212°F (-29 to 100°C);
Ambient: 5 to 125°F (-15 to 51°C).
Range:
Air Velocity: 0 to 6000 FPM (0 to 30 m/s);
Volumetric Air: 999,999 in selected flow units;
Temperature: -20 to 212°F (-29 to 100°C).
Accuracy:
Air Velocity: ±3% FS within temperature range of 40 to 90°F (4 to 32°C);
Temperature: ±0.5°F (±0.28°C).
Response Time: 1 s.
Probe Length: 8˝ (203 mm) insertion.
Weight: 15.2 oz (431 g).
Agency Approvals: CE, RoHS.
Differential Pressure Modules
Wireless, Measures Differential Pressure, Velocity, & Flow

**SPECIFICATIONS**

- **Service:** Non-corrosive dry gases.
- **Wetted Materials:** Consult factory.
- **Accuracy:** ±0.5% FS span @ 25°C (includes non linearity, hysteresis, and non repeatability).
- **Pressure Limits:** See Table 1.
- **Engineering Units:**
  - Pressure: in w.c., ft w.c., in Hg, psi, ozSl, mm w.c., cm w.c., mBar, Pa, hPa, and kPa.
  - Velocity: fps, mph, kn, m/s, m/h, k/h, and fps.
  - Flow: cfm, gpm, gph, gpd, m3/s, m3/h, lps, lpm, and lph.
- **Temperature Limits:**
  - Compensated: 32 to 140°F (0 to 60°C);
  - Process/Ambient: 14 to 140°F (-10 to 60°C).
- **Thermal Effects:** ±0.01% FS/°F (±0.02% FS/°C).
- **Battery Charging Limits:** 32 to 113°F (0 to 45°C).
- **Power Requirements:**
  - 3.7 V YT562447 lithium ion battery, installed functionally, user replaceable.
- **Wireless Distance:** At least 50´ (15 m).
- **Connections:** Two barbed connections for use with 1/8˝ (3.18 mm) or 3/16˝ (4.76 mm) ID tubing.
- **Weight:** 2.5 oz (70.87 g).
- **Agency Approvals:** CE with CE approved charger, RoHS, FCC.

<table>
<thead>
<tr>
<th>Model</th>
<th>Range</th>
<th>Maximum Pressure</th>
<th>Price</th>
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</thead>
<tbody>
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<td>WDPM-005</td>
<td>±5 in w.c.</td>
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<td>WDPM-010</td>
<td>±10 in w.c.</td>
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<td>200.00</td>
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<tr>
<td>WDPM-020</td>
<td>±20 in w.c.</td>
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<td>200.00</td>
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<td>WDPM-030</td>
<td>±30 in w.c.</td>
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<td>WDPM-100</td>
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<td>WDPM-400</td>
<td>±400 in w.c.</td>
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**Universal Handheld Accessories**

- **UHH-STRAP**, UHH hand strap ............................................. $9.99
- **UHH-ICHRG**, UHH dual USB charger with international adapters (1.0 A) (Not CE approved) ............................................. 21.00
- **UHH-CBL**, USB cable .......................................................... 5.00
- **UHH-C1**, Soft carrying case ................................................ 39.00
- **UHH-SD**, 2 GB SD card ........................................................ 7.99
- **KF-CC-304**, Dual USB CHARGER with North American adapter (1.5 A) .......................................................... 13.00
- **UHH-C2**, Heavy duty hard case with pre-cut foam inserts for additional sensors .......................................................... 220.00

① Items are subject to Schedule B discounts.
② Items are net priced and are not subject to any discount.
The Model DDM-01 Laser Distance Meter offers quick measurement of distances up to 229.7 feet (70 meters) with the click of a button. It is also able to easily make area and space calculations and volume measurements from what it records. Another feature of the Model DDM-01 is that it is able to use the Pythagorean Theorem to indirectly calculate the height of an object. The meter can read out in feet, inches, or meters and includes a backlight for use in dark areas.

**APPLICATIONS**
- HVAC
- Construction/Architecture
- Factory planning

**SPECIFICATIONS**
- **Range:** 0.16 to 229.7 feet (0.05 to 70 m).
- **Accuracy:** ±0.005 feet (±1.5 mm).
- **Display:** Three line LCD (top two with 4 digits/bottom with 5 digits).
- **Resolution:** 0.001 feet (0.001 m).
- **Response Time:** 0.5 s.
- **Laser Type:** 650 nm, class 2, <1 mW.
- **Beam Size:** 25 mm at 30 m.
- **Temperature Limits:** Operating: 23 to 104°F (-5 to 40°C); Storage: -4 to 140°F (-20 to 60°C).
- **Power Requirements:** (2) AA carbon zinc batteries, not installed, user replaceable.
- **Weight:** 21.6 oz (612.35 g).
- **Agency Approvals:** CE, RoHS.

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Model TAC-L Portable Digital Tachometer measures rotational speed either by contacting a rotatable head to the shaft of the object, or using photo sensor to detect the reflections from the laser. The laser target can record from a distance of up to 20 inches and gives a more accurate measurement than LED targeting. Model TAC-L includes a large LCD with a backlight for use in dark areas. This tachometer is made of a strong, lightweight ABS plastic housing, which is designed to comfortably fit in the hand of the user. Supplied with this model are 3 contact rotational heads, a contact surface wheel, and a protective carrying case.

**APPLICATIONS**
- HVAC fans motors
- Powder & bulk conveyor belts
- Wood cutting saw blades

**SPECIFICATIONS:**
- **Accuracy:** ±(0.05% + 1 digit).
- **Display:** Backlit LCD; 5 digits, 7 segments, 0.7˝ (1.8 cm) H.
- **Range:** Non-contact (RPM): 2.5 to 99,999 RPM; Contact (RPM): 0.5 to 19,999 RPM; Surface Speed (m/min): 0.05 to 1999.9 m/min.
- **Resolution:** Non-contact (RPM): 0.1 RPM (2.5 to 999.9 RPM), 1 RPM (1000 to 99,999 RPM); Contact (RPM): 0.1 RPM (0.5 to 999.9 RPM), 1 RPM (1000 to 19,999 RPM); Surface Speed (m/min): 0.01 m/min (0.05 to 99.99 m/min), 0.1 m/min (100.0 to 1999.9 m/min).
- **Non-contact Measuring Distance Range:** 2 to 20” (5 to 50 cm).
- **Sampling Time:** 0.8 s.
- **Temperature Limits:** 32 to 122°F (0 to 50°C).
- **Power Requirements:** (4) 1.5 V AA alkaline batteries, included, user replaceable.
- **Weight:** 1.37 lb (.620 kg).
- **Agency Approvals:** CE, RoHS.
The Series TE-I Immersion Style Temperature Sensors accurately measure water temperature in side chilled and hot water loops in HVAC systems. Sensors can be ordered either with a general purpose or weatherproof enclosure and have an integral 1/2˝ NPT threaded connection so that the housing mounts flush against the thermowell. All models come standard with a terminal block that ensure a better electrical connection to the sensor. Both housing configurations include a chain that prevents the lid from being lost during installation. Electrical knockouts on the housing can adapt to either a cable gland or conduit. Thermowells are required to protect the electrical connection from the process water and to allow replacement of the sensors without draining the system.

**SPECIFICATIONS**

**Accuracy:**
- Thermistor Temperature Sensor: ±0.22°C @ 25°C (±0.4°F @ 77°F);
- RTD Temperature Sensor DIN Class A: ±0.15°C @ 0°C (±0.28°F @ 32°F).

**Temperature Limits:**
- Operating: -40 to 302°F (-40 to 150°C).

**Sensor Curves:**
- See resistance-temperature curves

**Housing Material:**
- Meets UL 94 V-O polycarbonate plastic.

**Thermowell Material:**
- 304 SS.

**Weight:**
- 5.3 oz (150.3 g).

### Price

**Model TE-ITG-A2544-00 Immersion Probe, 10K Type 3 Thermistor, 4˝ probe length, 1/4˝ probe diameter, 4˝ flying leads, with 1/2˝ NPT connection.**

<table>
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<tr>
<th>Example</th>
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<th>ITG</th>
<th>A</th>
<th>25</th>
<th>4</th>
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<th>Price</th>
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<td>ITG</td>
<td>ITW</td>
<td>Duct and Immersion Building Automation Temperature Sensor</td>
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### Thermowell Models

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<th>Material</th>
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<td>304 SS</td>
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<td>TE-TNS-N063N-00</td>
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<td>TE-TNS-N123N-00</td>
<td>304 SS</td>
<td>12”</td>
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<td>TE-TNS-N183N-00</td>
<td>304 SS</td>
<td>18”</td>
<td>24.50</td>
</tr>
</tbody>
</table>
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.

FEATURES
- 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: 2-piece.
Line Sizes: 1/2 to 3”.
Pressure Limits: 20” Hg to 1000 psi (-0.7 to 69 bar).
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 DA5: 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 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 manual.
Cycle Time (per 90°):
- TI01 and MI01: 2.5 s;
- TI02 and MI02: 5 s;
- TI03 and MI03: 10 s;
- TI04 and MI04: 15 s;
- TI05 and MI06: 30 s.
Duty Rating:
- Two-Position: TI01-TI06: 25%;
- Modulating: MI01-MI06: 75%.
Enclosure Rating: NEMA 7.
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.
### Popular Models

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### New Products

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<td>02</td>
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<td>03</td>
<td>42DB0 ATX Limit Switch</td>
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| Options | NO | Fail Open Spring Return Actuator |

### ACCESSORIES

- R2-2120, Air Regulator $30.00
- AFR2-2, Instrument Air Filter Regulator $60.00
- VB-01, Volume Booster $165.00

* Items are subject to Schedule B discounts.
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.

**FEATURES**
- 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:** Female NPT.
- **Pressure Limits:** 20” Hg to 1000 psi (-0.7 to 69 bar).
- **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 DA5: 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 140°F (-40 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 “TD” and “MD” Series**
- **Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC (MD models not available in 24 VDC).
- **Power Consumption:** See manual.
- **Cycle Time (per 90°):**
  - TD01: 4 s;
  - MD01: 10 s;
  - TD02 and MD02: 20 s;
  - TD03 and MD03: 30 s.
- **Duty Rating:** 85%.
- **Enclosure Rating:** NEMA 1.
- **Housing Material:** Powder coated aluminum.
- **Temperature Limits:** -22 to 176°F (-30 to 80°C).
- **Electrical Connection:** 1/2” female NPT.
- **Modulating Input:** 4 to 20 mA.
- **Standard Features:** Position indicator and two limit switches.

**Electric “TI” and “MI” Series**
- **Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC.
- **Power Consumption:** See manual.
- **Cycle Time (per 90°):**
  - TI01 and MI01: 2.5 s;
  - TI02 and MI02: 5 s;
  - TI03 and MI03: 10 s;
  - TI04 and MI04: 15 s;
  - TI05 and MI05: 20 s.
- **Duty Rating:** Two-Position: TI01-TI05: 25%; Modulating: MI01-MI05: 75%.
- **Enclosure Rating:** NEMA 7.
- **Housing Material:** Powder coated aluminum.
- **Temperature Limits:** -40 to 140°F (-40 to 60°C).
- **Electrical Connection:** 1/2” female NPT.
- **Modulating Input:** 4 to 20 mA.
- **Standard Features:** Position indicator and two limit switches.
Items are subject to Schedule B discounts.

### WE02 Hand Operated and Pneumatic Actuator Model Chart

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### WE02 Electric Actuator Model Chart

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### ACCESSORIES
- R2-2120, Air Regulator ................................................. $30.00
- AFR2-2, Instrument Air Filter Regulator .......................... 60.00(6)
- VB-01, Volume Booster .................................................. 165.00(6)

Items are subject to Schedule B discounts.
### New Products

#### 3-Piece Tri-Clamp Stainless Steel Ball Valve

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. 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.

#### SPECIFICATIONS

**VALVE**
- **Service:** Compatible liquids and gases.
- **Body:** 3-piece.
- **Line Sizes:** 1/2 to 2”.
- **End Connections:** Tri-clamp ends.
- **Pressure Limits:** 30” Hg to 1000 psi (-0.7 to 69 bar).
- **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 140°F (-40 to 60°C).
  - **Electrical Connection:** 1/2˝ female NPT.
  - **Modulating Input:** 4 to 20 mA.
- **Electric “TD” and “MD” Series**
  - **Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC (MD models not available in 24 VDC).
  - **Power Consumption:** See manual.
  - **Cycle Time (per 90°):**
    - TD01: 4 s;
    - MD01: 10 s;
    - TD02 and MD02: 20 s.
  - **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 manual.
  - **Cycle Time (per 90°):**
    - TI01 and MI01: 2.5 s;
    - TI02 and MI02: 5 s.
  - **Duty Rating:**
    - Two-Position: TI01-TI02: 25%;
    - Modulating: MI01-MI02: 75%.
  - **Enclosure Rating:** NEMA 7.
  - **Housing Material:** Powder coated aluminum.
  - **Temperature Limits:** -40 to 140°F (-40 to 60°C).
  - **Electrical Connection:** 1/2” female NPT.
  - **Modulating Input:** 4 to 20 mA.
  - **Standard Features:** Position indicator and two limit switches.
## WE03 Hand Operated and Pneumatic Actuator Model Chart

<table>
<thead>
<tr>
<th>Example</th>
<th>WE03</th>
<th>EDA02</th>
<th>A</th>
<th>06</th>
<th>WE02-EDA02-AA06</th>
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**Solenoid**

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**Positioner and Switches**

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<td>42AD0 Exp Limit Switch</td>
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<td>45VD0 Exp Position Transmitter</td>
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<td>42AD0-IE IECEX Limit Switch</td>
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<td>VPS and P1 Prox Switch</td>
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<td>09</td>
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**ACCESSORIES**

<table>
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<tr>
<th>Item</th>
<th>Price</th>
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<tbody>
<tr>
<td>R2-2120, Air Regulator</td>
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<tr>
<td>AFR2-2, Instrument Air Filter Regulator</td>
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<td>VB-01, Volume Booster</td>
<td>$165.00</td>
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Items are subject to Schedule B discounts.

## WE03 Electric Actuator Model Chart

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<thead>
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**Actuator Voltage**

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<tr>
<td>C</td>
<td>24 VDC</td>
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<tr>
<td>D</td>
<td>12 VDC</td>
<td>+70.00</td>
<td></td>
</tr>
</tbody>
</table>

**Options**

| Options | NO | Fail Open Spring Return Actuator | |

CALL TO ORDER | 800/872-9141 | 29
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**
- 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:** 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).
- **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).

**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 to DA04: 1/8” 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 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 VAC.
- **Power Consumption:** See manual.
- **Cycle Time (per 90°):**
  - TI01 and MI01: 2.5 s;
  - TI02 and MI02: 5 s;
  - TI03 and MI03: 5 s;
  - TI04 and MI04: 10 s;
  - TI05 and MI05: 15 s.
- **Duty Rating:** Two-Position: TI01-TI05: 25%;
  - Modulating: MI01-MI05: 75%.
- **Enclosure Rating:** NEMA 7.
- **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.
**WE04 Hand Operated and Pneumatic Actuator Model Chart**

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**WE04 Electric Actuator Model Chart**

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**Accessories**

- R2-2120, Air Regulator .......................................................... +$30.00
- AFR2-2, Instrument Air Filter Regulator ...................................... +$60.00
- VB-01, Volume Booster ............................................................. +$165.00

(2) Items are subject to Schedule B discounts.
The Series WE31 incorporates a full port 3-way stainless steel 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**

- 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-way.
- **Line Sizes:** 1/4 to 2”.
- **End Connections:** Female NPT.
- **Pressure Limits:** 20” Hg to 1000 psi (-0.7 to 69 bar).
- **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).

**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 DA4: 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 79°C).

**Electric “TD” and “MD” Series**

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

**Electric “TI” and “MI” Series**

- **Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC.
- **Power Consumption:** See manual.
- **Cycle Time (per 90°):**
  - TI01 and MI01: 2.5 s;
  - TI02 and MI02: 5 s;
  - TI03 and MI03: 5 s;
  - TI04 and MI04: 10 s;
  - TI05 and MI05: 15 s.
- **Duty Rating:**
  - Two-Position: TI01-TI06: 25%;
  - Modulating: MI01-MI06: 75%.
- **Enclosure Rating:** NEMA 7.
- **Housing Material:** Powder coated aluminum.
- **Temperature Limits:** -40 to 140°F (-40 to 60°C).
- **Electrical Connection:** 1/2” female NPT.
- **Modulating Input:** 4 to 20 mA.
- **Standard Features:** Manual override, position indicator, and TD models come with two limit switches.
### Popular Models

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### WE31 Hand Operated and Pneumatic Actuator Model Chart

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### WE31 Electric Actuator Model Chart

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### ACCESSORIES
- R2-2120, Air Regulator .............................................. $30.00
- AFR2-2, Instrument Air Filter Regulator .......................... $60.00
- VB-01, Volume Booster .............................................. $165.00

Items are subject to Schedule B discounts.

### Flow Paths

![Flow Paths Diagram]
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.

### FEATURES
- 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

### SPECIFICATIONS
#### VALVE
- **Service:** Compatible liquids and gases.
- **Body:** 3-way.
- **Line Sizes:** ½ to 2”.
- **Pressure Limits:** 20˝ Hg to 1000 psi (-0.7 to 69 bar).
- **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 manual.
  - **Cycle Time (per 90°):**
    - TD01: 4 s;
    - TD02 and MD02: 20 s.
  - **Duty Rating:** 85%.
  - **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 manual.
  - **Cycle Time (per 90°):**
    - TI01 and MI01: 2.5 s;
    - TI02 and MI02: 5 s;
    - TI03 and MI03: 5 s.
  - **Duty Rating:** Two-Position: TI01-TI03: 25%; Modulating: MI01-MI03: 75%.
  - **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.
### Popular Models

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### ACCESSORIES

- **R2-2120, Air Regulator**: 30.00
- **AFR2-2, Instrument Air Filter Regulator**: 60.00
- **VB-01, Volume Booster**: 165.00

Items are subject to Schedule B discounts.

### WE33 Hand Operated and Pneumatic Actuator Model Chart

<table>
<thead>
<tr>
<th>Size</th>
<th>Cv (gal/min)</th>
<th>Hand Operated Model</th>
<th>Price</th>
</tr>
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<tbody>
<tr>
<td>1/2</td>
<td>14.39</td>
<td>WE33-CHD00-T2</td>
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<tr>
<td>3/4</td>
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<td>1</td>
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<tr>
<td>2</td>
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### WE33 Electric Actuator Model Chart

<table>
<thead>
<tr>
<th>Size</th>
<th>Actuator</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2</td>
<td>NEMA 4X Two Position</td>
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</tr>
<tr>
<td>3/4</td>
<td>NEMA 4X Two Position</td>
<td>1500.00</td>
</tr>
<tr>
<td>1</td>
<td>NEMA 4X Two Position</td>
<td>1300.00</td>
</tr>
</tbody>
</table>

### Flow Paths

**T** Port Ball

- **T1**: Flow Path A
- **T2**: Flow Path B
- **T3**: Flow Path C
- **T4**: Flow Path D

**L** Port Ball

- **L1**: Flow Path E
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.

### FEATURES
- 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-way.
- **Line Sizes:** 1/2 to 3”.
- **End Connections:** 150# ANSI flange.
- **Pressure Limits:** 20” Hg to 275 psi (-0.7 to 19 bar).
- **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 DA8: 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.
  - **Power Consumption:** See manual.
  - **Cycle Time (per 90°):**
    - TD01: 4 s;
    - MD01: 10 s;
    - TD02 and MD02: 20 s;
    - TD03 and MD03: 30 s;
    - TD04 and MD04: 30 s.
  - **Duty Rating:**
    - Two-Position: TI01-TI07: 25%;
    - TI08: 100%;
    - Modulating: MI01-MI07: 75%;
    - MI08: 100%.
  - **Modulating Input:** 4 to 20 mA.
  - **Standard Features:** Position indicator and two limit switches.
- **Power Consumption:** See manual.
- **Cycle Time (per 90°):**
  - TD01: 4 s;
  - MD01: 10 s;
  - TD02 and MD02: 20 s;
  - TD03 and MD03: 30 s;
  - TD04 and MD04: 30 s.
- **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 manual.
- **Cycle Time (per 90°):**
  - TI01 and MI01: 2.5 s;
  - TI02 and MI02: 5 s;
  - TI03 and MI03: 5 s;
  - TI04 and MI04: 10 s;
  - TI05 and MI05: 15 s;
  - TI08 and MI08: 12 s.
- **Duty Rating:**
  - Two-Position: TI01-TI07: 25%;
  - TI08: 100%.
  - Modulating: MI01-MI07: 75%;
  - MI08: 100%.
- **Enclosure Rating:** NEMA 7.
- **Housing Material:** Powder coated aluminum.
- **Temperature Limits:** -40 to 140°F (-40 to 60°C).
- **Electrical Connection:** 1/2” female NPT.
- **Modulating Input:** 4 to 20 mA.
- **Standard Features:** Position indicator and two limit switches.
Popular Models

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
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<td>$450.00</td>
<td>WE34-CSRO3-T2</td>
<td>$500.00</td>
<td>WE34-CTD02-T2-A</td>
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<td>WE34-CMD02-T2-A</td>
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<td>3/4˝</td>
<td>50</td>
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<td>$575.00</td>
<td>WE34-DDTO2-T2-A</td>
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<td>WE34-DMDO2-T2-A</td>
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<tr>
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<td>WE34-EHD00-T2</td>
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<td>WE34-EMDO2-T2-A</td>
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<td>$950.00</td>
<td>WE34-GSR06-T2</td>
<td>$1000.00</td>
<td>WE34-GTD02-T2-A</td>
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<td>WE34-HHD00-T2</td>
<td>$1200.00</td>
<td>WE34-HDA06-T2</td>
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<td>$2200.00</td>
<td>WE34-HMDO2-T2-A</td>
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<td>2-1/2˝</td>
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<td>WE34-IDA07-T2</td>
<td>$2200.00</td>
<td>WE34-ISR08-T2</td>
<td>$2300.00</td>
<td>WE34-ITD04-T2-A</td>
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<td>WE34-IMDO4-T2-A</td>
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<td>$2500.00</td>
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<td>WE34-JTD04-T2-A</td>
<td>$3500.00</td>
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WE34 Hand Operated and Pneumatic Actuator Model Chart

Example WE34-JDA08-T1 A B 00 WE34-JDA08-T1-A B00

<table>
<thead>
<tr>
<th>Series</th>
<th>WE34</th>
<th>Size and Actuators</th>
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<tbody>
<tr>
<td>316 SS 1505 3-Way</td>
<td>Price</td>
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<td>CHD00</td>
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<td>DHD00</td>
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<td>EHD00</td>
<td>1˝ Hand Operated</td>
<td>$450.00</td>
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<tr>
<td>GHDO0</td>
<td>1-1/2˝ Hand Operated</td>
<td>$850.00</td>
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<td>HHDO0</td>
<td>2˝ Hand Operated</td>
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<td>IHDO0</td>
<td>2-1/2˝ Hand Operated</td>
<td>$2000.00</td>
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<tr>
<td>JHDO0</td>
<td>3˝ Hand Operated</td>
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<td>CDA02</td>
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<td>DDA02</td>
<td>3/4˝ Double Acting</td>
<td>$525.00</td>
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<tr>
<td>EDA03</td>
<td>1˝ Double Acting</td>
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<td>GDA05</td>
<td>1-1/2˝ Double Acting</td>
<td>$950.00</td>
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<tr>
<td>HDA06</td>
<td>2˝ Double Acting</td>
<td>$1300.00</td>
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<tr>
<td>IDA07</td>
<td>2-1/2˝ Double Acting</td>
<td>$2000.00</td>
</tr>
<tr>
<td>JDA08</td>
<td>3˝ Double Acting</td>
<td>$2500.00</td>
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<tr>
<td>CSR03</td>
<td>1/2˝ Spring Return</td>
<td>$500.00</td>
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<tr>
<td>DSR03</td>
<td>3/4˝ Spring Return</td>
<td>$575.00</td>
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<tr>
<td>ESR03</td>
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<td>GSR06</td>
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<td>2-1/2˝ Spring Return</td>
<td>$1000.00</td>
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<tr>
<td>ISR08</td>
<td>3˝ Spring Return</td>
<td>$1200.00</td>
</tr>
<tr>
<td>JSR09</td>
<td>3-1/2˝ Spring Return</td>
<td>$1400.00</td>
</tr>
</tbody>
</table>

Valve Position

| T1 | Flow Path A |
| T2 | Flow Path B |
| T3 | Flow Path C |
| T4 | Flow Path D |
| T5 | Flow Path E |
| T6 | Flow Path F |
| T7 | Flow Path G |
| T8 | Flow Path H |
| T9 | Flow Path I |
| T10| Flow Path J |

Solenoïd - N: No Solenoid - A: NEMA 4X NAMUR Solenoid +50.00;

Solenoïd Voltage

| A | 110 VAC |
| B | 220 VAC |
| C | 24 VDC |
| D | 24 VDC |
| E | 12 VDC |

Positioner and Switches

| 00: None |
| 01: 42AD0 Exp Limit Switch +230.00 |
| 02: 45DV0 Exp Position Transmitter +525.00 |
| 03: 42AD0-B ATEX Limit Switch +323.00 |
| 04: 42AD0-IE IECEX Limit Switch +320.00 |
| 05: VPI-M01 NEMA 4X Limit Switch +95.00 |
| 06: OVS-21010 Poly Limit Switch +143.00 |
| 07: VPS and 1 Prox Switch +176.00 |
| 08: 25ER-D5 Positioner +620.00 |
| 09: 26ER-D5 Smart Positioner +1389.00 |

Call to Order | 800/872-9141

New Products

ACCESSORIES
R2-2120, Air Regulator $30.00
AFR2-2, Instrument Air Filter Regulator $60.00
VB-01, Volume Booster $165.00

* Items are subject to Schedule B discounts.

Flow Paths

**“T” Port Ball**

- T1 Flow Path A
- T2 Flow Path B
- T3 Flow Path C
- T4 Flow Path D

**“L” Port Ball**

- T1 Flow Path E
- T2 Flow Path F
- T3 Flow Path G
- T4 Flow Path H
- T5 Flow Path I
- T6 Flow Path J

Actuator Voltage

| A | 110 VAC |
| B | 220 VAC |
| C | 24 VDC |
| D | 24 VDC |

+70.00}
Pneumatic and Electric Actuators

Actuators for Valve and Damper Automation

The W.E. Anderson Series ACT Actuators are available in either pneumatic or electric models. The wide range of torques and voltages means there is an actuator for almost any application.

The standard ISO 5211 mounting configuration makes installation to any valve or damper quick and simple.

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

We offer double acting and spring return models in a variety of sizes to fit any application.

W.E. Anderson electric ACT models are available in two-position or modulating configurations and NEMA 4X or NEMA 7 rated enclosures. All electric actuators utilize a high grade powder coated aluminum enclosure with visual indicators.

The two-position models come standard with two auxiliary switches, and modulating models offer an output for position monitoring. Certain models are equipped with manual overrides allowing the operator to cycle the valve manually for installation or maintenance checks.

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

**SPECIFICATIONS**

**Pneumatic “DA” and “SR” Series**
- **Type:** DA series is double-acting and SR series is spring return (rack and pinion).
- **Normal Supply Pressure:**
  - DA: 40 to 115 psi (2.7 to 7.9 bar);
  - SR: 80 psi (5.5 bar).
- **Maximum Supply Pressure:** 120 psi (8.6 bar).
- **Air Connections:**
  - DA01: 1/8˝ female NPT;
  - DA02 to DA5: 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 manual.
- **Cycle Time (per 90°):**
  - TD01 and MD01: 4 s;
  - TD02 and MD02: 10 s;
  - TD03 and MD03: 20 s;
  - TD04 and MD04: 30 s;
  - TD05 and MD05: 40 s;
  - TD06 and MD06: 60 s.
- **Duty Rating:** 85%.
- **Enclosure Rating:** NEMA 7.
- **Housing Material:** Powder coated aluminum.
- **Temperature Limits:** -40 to 140°F (-40 to 60°C).
- **Electrical Connection:** 1/2˝ female NPT.
- **Modulating Input:** 4 to 20 mA.
- **Standard Features:** Position indicator and two limit switches.

**Electric “TI” and “MI” Series**
- **Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC.
- **Power Consumption:** See manual.
- **Cycle Time (per 90°):**
  - TI01 and MI01: 2.5 s;
  - TI02 and MI02: 5 s;
  - TI03 and MI03: 10 s;
  - TI04 and MI04: 15 s;
  - TI05 and MI05: 20 s;
  - TI06 and MI06: 30 s.
- **Duty Rating:**
  - Two-Position: TI01-TI06: 25%.
  - Modulating: MI01-MI06: 75%.
- **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:** Position indicator and two limit switches.
### Popular Pneumatic Models

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<thead>
<tr>
<th>Pneumatic Models</th>
<th>Description</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>ACT-DA01</td>
<td>Double Acting Pneumatic Actuator, 98 in-lb</td>
<td>$100.00</td>
</tr>
<tr>
<td>ACT-DA02</td>
<td>Double Acting Pneumatic Actuator, 207 in-lb</td>
<td>$125.00</td>
</tr>
<tr>
<td>ACT-DA03</td>
<td>Double Acting Pneumatic Actuator, 365 in-lb</td>
<td>$135.00</td>
</tr>
<tr>
<td>ACT-DA04</td>
<td>Double Acting Pneumatic Actuator, 603 in-lb</td>
<td>$150.00</td>
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<tr>
<td>ACT-DA05</td>
<td>Double Acting Pneumatic Actuator, 792 in-lb</td>
<td>$175.00</td>
</tr>
<tr>
<td>ACT-DA06</td>
<td>Double Acting Pneumatic Actuator, 1135 in-lb</td>
<td>$200.00</td>
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<tr>
<td>ACT-DA07</td>
<td>Double Acting Pneumatic Actuator, 1690 in-lb</td>
<td>$225.00</td>
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<td>ACT-DA08</td>
<td>Double Acting Pneumatic Actuator, 2993 in-lb</td>
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<tr>
<td>ACT-DA09</td>
<td>Double Acting Pneumatic Actuator, 4506 in-lb</td>
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<td>ACT-SR02</td>
<td>Spring Return Pneumatic Actuator, 95 in-lb</td>
<td>$130.00</td>
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<td>ACT-SR03</td>
<td>Spring Return Pneumatic Actuator, 176 in-lb</td>
<td>$140.00</td>
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<td>ACT-SR04</td>
<td>Spring Return Pneumatic Actuator, 274 in-lb</td>
<td>$160.00</td>
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<td>ACT-SR05</td>
<td>Spring Return Pneumatic Actuator, 381 in-lb</td>
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<td>Spring Return Pneumatic Actuator, 536 in-lb</td>
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<td>Spring Return Pneumatic Actuator, 815 in-lb</td>
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<td>Spring Return Pneumatic Actuator, 1411 in-lb</td>
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<td>ACT-SR09</td>
<td>Spring Return Pneumatic Actuator, 2460 in-lb</td>
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<td>Spring Return Pneumatic Actuator, 3733 in-lb</td>
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<td>ACT-SR11</td>
<td>Spring Return Pneumatic Actuator, 6166 in-lb</td>
<td>$1300.00</td>
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### Popular Electric Models

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<tr>
<td>ACT-TD02-110VAC</td>
<td>Electric Two-Position, 442 in-lb, 110 VAC</td>
<td>$450.00</td>
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<tr>
<td>ACT-TD03-110VAC</td>
<td>Electric Two-Position, 885 in-lb, 110 VAC</td>
<td>$700.00</td>
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<tr>
<td>ACT-TD04-110VAC</td>
<td>Electric Two-Position, 1770 in-lb, 110 VAC</td>
<td>$1000.00</td>
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<tr>
<td>ACT-TD05-110VAC</td>
<td>Electric Two-Position, 3540 in-lb, 110 VAC</td>
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<tr>
<td>ACT-MD01-110VAC</td>
<td>Electric Modulating, 265 in-lb, 110 VAC</td>
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<td>ACT-MD02-110VAC</td>
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<tr>
<td>ACT-MD03-110VAC</td>
<td>Electric Modulating, 885 in-lb, 110 VAC</td>
<td>$700.00</td>
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<tr>
<td>ACT-MD04-110VAC</td>
<td>Electric Modulating, 1770 in-lb, 110 VAC</td>
<td>$1000.00</td>
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</table>

### Spring Return Actuator Torque

| Model | Spring Quantity | 0° | 90° | 90° End | 0° | 90° | 90° End | 0° | 90° | 90° End | 0° | 90° | 90° End | 0° | 90° | 90° End | 0° | 90° | 90° End | 0° | 90° | 90° End | 0° | 90° | 90° End |
|-------|----------------|----|----|--------|----|----|--------|----|----|--------|----|----|--------|----|----|--------|----|----|--------|----|----|--------|----|----|--------|----|----|--------|----|----|--------|----|----|--------|----|----|--------|
| ACT-SR02 | 10            | 111 | 86 | 137 | 112 | 163 | 138 | 189 | 164 | 215 | 189 | 231 | 205 | 98 | 70 |
| ACT-SR03 | 10            | 199 | 143 | 245 | 189 | 291 | 235 | 336 | 280 | 382 | 326 | 499 | 353 | 178 | 120 |
| ACT-SR04 | 10            | 348 | 254 | 424 | 330 | 499 | 405 | 575 | 481 | 650 | 556 | 695 | 601 | 274 | 160 |
| ACT-SR05 | 10            | 430 | 312 | 529 | 411 | 628 | 510 | 727 | 609 | 826 | 708 | 885 | 767 | 381 | 263 |
| ACT-SR06 | 10            | 608 | 458 | 750 | 599 | 891 | 741 | 1033 | 883 | 1175 | 1025 | 1260 | 1110 | 536 | 366 |
| ACT-SR07 | 10            | 783 | 663 | 994 | 874 | 1206 | 1085 | 1417 | 1297 | 1629 | 1508 | 1755 | 1635 | 817 | 696 |
| ACT-SR08 | 10            | 1692 | 1208 | 2056 | 1583 | 2430 | 1907 | 2804 | 2331 | 3178 | 2705 | 3403 | 2930 | 1416 | 938 |
| ACT-SR09 | 10            | 3203 | 1483 | 2866 | 2046 | 3429 | 2609 | 3992 | 3173 | 4568 | 3736 | 4894 | 4074 | 2363 | 1575 |
| ACT-SR10 | 10            | 3479 | 2274 | 4337 | 3133 | 5195 | 3991 | 6053 | 4849 | 6911 | 5707 | 7426 | 6222 | 3549 | 2407 |

### Double Acting Actuator Torque

<table>
<thead>
<tr>
<th>Model</th>
<th>DA Double-Action Output Torque (lb-in)</th>
<th>Air Pressure</th>
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<tbody>
<tr>
<td>ACT-DA01</td>
<td>49</td>
<td>81</td>
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