SERIES DA/DS | MERCOID® BY DWYER
BOURDON TUBE PRESSURE SWITCH



Customers tell us that the Series DA/DS Bourdon Tube Pressure Switch is the best pressure switch made. The Mercoid DA/DS Series is one of the world's broadest lines of pressure switches. The DA/DS Series has extremely high sensitivity and great repeatability. The DA Models are equipped with two external adjustments, one for setting high pressure operating point, the other for setting low pressure operating point. Deadband, the difference between high and low setpoints, is adjustable over the full-scale. The DS Models are equipped with a single external adjustment for setting full-scale. The DS Models are equipped with a single external adjustment for setting
operating point only. For mercury-free switches, choose between the snap action switch or hermetically sealed snap action switch. Hermetically sealed mercury switch also available.

## FEATURES/BENEFITS

- Visible calibrated dial provides an easy and fast check without having to open device causing dangerous conditions to operators
- On/off indication (except hermetically sealed snap switch models) gives operator clear indication of state of switched equipment that could be located in another location
- Adjustable or fixed deadband supports control applications by reducing equipment wear-out by unnecessary recycling
- External switch set point adjustment reduces set-up time
- Pressure ranges of full vacuum to 8000 psig gives application designers the ability to specify standard equipment, simplifying install and training, and reducing servicing costs
- UL listed, CSA approved, many models FM approved to support rigorous process applications and regulations
- General purpose, weatherproof or explosion-proof enclosures for a variety of indoor or outdoor environments meeting the needs of multiple applications and uses


## APPLICATIONS

## - Compressors

- Mechanical HVAC or process equipment
- Pump control


## SPECIFICATIONS

Wetted Materials: Brass, 403 SS, or 316 SS.
Temperature Limit: $180^{\circ} \mathrm{F}\left(82^{\circ} \mathrm{C}\right)$.
Pressure Limit: Maximum pressure of the operating range.
Enclosure Rating: General purpose, weatherproof or explosion-proof.
Repeatability: $\pm 1 \%$ of full operating range, $\pm 1.5 \%$ on DS- 7300 models.
Switch Type: SPST mercury switch, SPDT mercury switch, SPDT snap switch, or SPDT hermetically sealed snap switch. Other circuit types available.
Electrical Rating: See model charts.
Electrical Connections: Screw terminal.
Conduit Connection: General purpose: $1 / 2^{\prime \prime}$ hole for conduit hub; Weatherproof: 1/2"' conduit hub; Explosion-proof: 3/4" female NPT.
Process Connection: General purpose and weatherproof: 1/4" male NPT, 1/2" male NPT on ranges 15 S and 16 S ; Explosion-proof: $1 / 2^{\prime \prime}$ male NPT and $1 / 4^{\prime \prime}$ female NPT.

## Mounting Orientation: Vertical.

Set Point Adjustment: Thumbscrew.
Weight: General purpose: $4 \mathrm{lb}(1.8 \mathrm{~kg})$; Weatherproof: $6 \mathrm{lb}(2.7 \mathrm{~kg})$; Explosionproof: $8 \mathrm{lb}(3.5 \mathrm{~kg})$.
Deadband: See model chart
Agency Approvals: CSA, FM, UL (mercury switch units are not CE approved) (Consult factory for FM approved models).

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$\underset{\text { APPROVED }}{\text { FM }}$
BOURDON TUBE PRESSURE SWITCH
Piessurie Ranges to 08000 pai (551. bar)

MODEL CHART - D SERIES PRESSURE SWITCH WITH SNAP ACTION SWITCH AND GENERAL PURPOSE ENCLOSURE

| Bourdon Tube Material | Adjustable Operating Range (psig) | Adjustable Deadband SPDT: 10 A @ 120/240 VAC |  | Fixed Deadband SPDT: 15 A @ 120/240 AC |  | Hermetically Sealed, Fixed Deadband SPDT: 5 A @ 120/240 VAC, 5 A res. @ 30 VDC |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Minimum Deadband (psig) | Model | Fixed | Model | Fixed | Model |
| Brass | 0 to 30 " Hg VAC | 13.5 " Hg | DA-7031-153-2 | 3" Hg | DS-7231-153-2 | 5" Hg | DS-7331-153-2 |
| Brass | $10 " \mathrm{Hg}$ VAC to 12 |  | DA-7031-153-3 | 1.5 | DS-7231-153-3 |  | DS-7331-153-3 |
| Brass | 25 " Hg VAC to 50 | 12 | DA-7031-153-27 | 2.5 | DS-7231-153-27 | 3.75 | DS-7331-153-27 |
| Brass | $1 / 8$ to 15 | 6 | DA-7031-153-1 | 1.5 | DS-7231-153-1 |  | DS-7331-153-1 |
| Brass | $1 / 8$ to 20 | 6 | DA-7031-153-3A | 1.5 | DS-7231-153-3A | 3 | DS-7331-153-3A |
| Brass | 1 to 35 | 7.5 | DA-7031-153-4 | 1.5 | DS-7231-153-4 | 3 | DS-7331-153-4 |
| Brass | 2 to 60 |  | DA-7031-153-5 |  | DS-7231-153-5 |  | DS-7331-153-5 |
| Brass | 5 to 100 | 13.5 | DA-7031-153-6 | 2.5 | DS-7231-153-6 | 3.75 | DS-7331-153-6 |
| Brass | 5 to 150 | 24 | DA-7031-153-7 | 3 | DS-7231-153-7 | 5.25 | DS-7331-153-7 |
| Brass | 10 to 200 | 24 | DA-7031-153-8 | 4 | DS-7231-153-8 | 6.75 | DS-7331-153-8 |
| Brass | 10 to 300 | 37.5 | DA-7031-153-9 | 5 | DS-7231-153-9 |  | DS-7331-153-9 |
| 403 stainless steel | $30^{\prime \prime} \mathrm{Hg}$ VAC to 60 | 18 | DA-7021-153-25S | 3.5 | DS-7221-153-25S | 5.25 | DS-7321-153-25S |
| 403 stainless steel | $30^{\prime \prime} \mathrm{Hg}$ VAC to 75 | 22.5 | DA-7021-153-26S |  | DS-7221-153-26S | 5.25 | DS-7321-153-26S |
| 403 stainless steel | 2 to 60 | 13.5 | DA-7021-153-5S | 3 | DS-7221-153-5S | 4.5 | DS-7321-153-5S |
| 403 stainless steel | 5 to 100 | 19.5 | DA-7021-153-6S | 3.5 | DS-7221-153-6S | 5.25 | DS-7321-153-6S |
| 403 stainless steel | 10 to 200 | 22.5 | DA-7021-153-8S | 4 | DS-7221-153-8S | 7.125 | DS-7321-153-8S |
| 403 stainless steel | 10 to 300 | 28.5 | DA-7021-153-9S | 6 | DS-7221-153-9S | 10.5 | DS-7321-153-9S |
| 403 stainless steel | 40 to 350 | 30 | DA-7021-153-9AS | 6 | DS-7221-153-9AS | 10.5 | DS-7321-153-9AS |
| 403 stainless steel | 25 to 600 | 67.5 | DA-7021-153-10S | 10 | DS-7221-153-10S | 18 | DS-7321-153-10S |
| 403 stainless steel | 50 to 1000 | 142.5 | DA-7021-153-11S | 20 | DS-7221-153-11S | 33 | DS-7321-153-11S |
| 403 stainless steel | 100 to 1500 | 195 | DA-7021-153-12S | 30 | DS-7221-153-12S | 52.5 | DS-7321-153-12S |
| 403 stainless steel | 300 to 2500 | 390 | DA-7021-153-13S | 60 | DS-7221-153-13S | 90 | DS-7321-153-13S |
| 403 stainless steel | 500 to 5000 | 1350 | DA-7021-153-15S | 200 | DS-7221-153-15S | 300 | DS-7321-153-15S |
| 403 stainless steel | 800 to 8000 | 2250 | DA-7021-153-16S | 500 | DS-7221-153-16S | 5.25 | DS-7341-153-26E |
| 316 stainless steel | $30 " \mathrm{Hg}$ VAC to 75 | 15 | DA-7041-153-26E | 3.5 | DS-7241-153-26E |  | DS-7341-153-23E |
| 316 stainless steel | 5 to 75 | 12 | DA-7041-153-23E | 4 | DS-7241-153-23E | 5.25 | DS-7341-153-6E |
| 316 stainless steel | 10 to 100 | 15 | DA-7041-153-6E | 3.5 | DS-7241-153-6E | 6.75 | DS-7341-153-24E |
| 316 stainless steel | 10 to 150 | 16.5 | DA-7041-153-24E | 4 | DS-7241-153-24E | 12 | DS-7341-153-9E |
| 316 stainless steel | 10 to 300 | 42 | DA-7041-153-9E | 8 | DS-7241-153-9E | 18 | DS-7341-153-21E |
| 316 stainless steel | 30 to 400 | 78 | DA-7041-153-21E | 10 | DS-7241-153-21E | 37.5 | DS-7341-153-22E |
| 316 stainless steel | 75 to 800 | 180 | DA-7041-153-22E | 25 | DS-7241-153-22E | 52.5 | DS-7341-153-11E |
| 316 stainless steel | 100 to 1000 | 285 | DA-7041-153-11E | 35 | DS-7241-153-11E | 112.5 | DS-7341-153-13E |
| 316 stainless steel | 200 to 2500 | 600 | DA-7041-153-13E | 75 | DS-7241-153-13E |  |  |

MODEL CHART - D SERIES PRESSURE SWITCH WITH MERCURY SWITCH AND GENERAL PURPOSE ENCLOSURE

| Bourdon Tube Material | Adjustable Operating Range (psig) | Adjustable Deadband |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Minimum Deadband (psig) | SPDT <br> 4 A @ 120 V, <br> 2 A @ 240 V <br> AC/DC | SPST <br> Open on Increase <br> 10 A @ 120 V, <br> 5 A @ 240 V <br> AC/DC | SPST <br> Close on Increase 10 <br> A @ 120 V <br> 5 A @ 240 V <br> AC/DC |
| Brass | $30^{\prime \prime}$ to 0 Hg VAC | 2" Hg | DA-31-153-2 | DA-31-2-2 | DA-31-3-2 |
| Brass | 10" Hg VAC to 12 |  | DA-31-153-3 | DA-31-2-3 | DA-31-3-3 |
| Brass | 25 " Hg VAC to 50 | 3.5 | DA-31-153-27 | DA-31-2-27 | DA-31-3-27 |
| Brass | 1/8 to 15 | 1 | DA-31-153-1 | DA-31-2-1 | DA-31-3-1 |
| Brass | $1 / 8$ to 20 |  | DA-31-153-3A | DA-31-2-3A | DA-31-3-3A |
| Brass | 1 to 35 | 1.75 | DA-31-153-4 | DA-31-2-4 | DA-31-3-4 |
| Brass | 2 to 60 | 3 | DA-31-153-5 | DA-31-2-5 | DA-31-3-5 |
| Brass | 5 to 100 | 3.75 | DA-31-153-6 | DA-31-2-6 | DA-31-3-6 |
| Brass | 5 to 150 | 6 | DA-31-153-7 | DA-31-2-7 | DA-31-3-7 |
| Brass | 10 to 200 | 8 | DA-31-153-8 | DA-31-2-8 | DA-31-3-8 |
| Brass | 10 to 300 | 12 | DA-31-153-9 | DA-31-2-9 | DA-31-3-9 |
| 403 stainless steel | $30 " \mathrm{Hg}$ VAC to 60 | 6 | DA-21-153-25S | DA-21-2-25S | DA-21-3-25S |
| 403 stainless steel | 30 " Hg VAC to 75 | 8 | DA-21-153-26S | DA-21-2-26S | DA-21-3-26S |
| 403 stainless steel | 2 to 60 | 4 | DA-21-153-5S | DA-21-2-5S | DA-21-3-5S |
| 403 stainless steel | 5 to 100 | 6 | DA-21-153-6S | DA-21-2-6S | DA-21-3-6S |
| 403 stainless steel | 10 to 200 | 8 | DA-21-153-8S | DA-21-2-8S | DA-21-3-8S |
| 403 stainless steel | 10 to 300 | 14 | DA-21-153-9S | DA-21-2-9S | DA-21-3-9S |
| 403 stainless steel | 40 to 350 | 14 | DA-21-153-9AS | DA-21-2-9AS | DA-21-3-9AS |
| 403 stainless steel | 25 to 600 | 25 | DA-21-153-10S | DA-21-2-10S | DA-21-3-10S |
| 403 stainless steel | 50 to 1000 | 60 | DA-21-153-11S | DA-21-2-11S | DA-21-3-11S |
| 403 stainless steel | 100 to 1500 | 90 | DA-21-153-12S | DA-21-2-12S | DA-21-3-12S |
| 403 stainless steel | 300 to 2500 | 150 | DA-21-153-13S | DA-21-2-13S | DA-21-3-13S |
| 403 stainless steel | 500 to 5000 | 450 | DA-21-153-15S | DA-21-2-15S | DA-21-3-15S |
| 403 stainless steel | 800 to 8000 | 750 | DA-21-153-16S | DA-21-2-16S | DA-21-3-16S |
| 316 stainless steel | $30^{\prime \prime} \mathrm{Hg}$ VAC to 75 | 7 | DA-41-153-26E | DA-41-2-26E | DA-41-3-26E |
| 316 stainless steel | 5 to 75 | 3 | DA-41-153-23E | DA-41-2-23E | DA-41-3-23E |
| 316 stainless steel | 10 to100 | 7 | DA-41-153-6E | DA-41-2-6E | DA-41-3-6E |
| 316 stainless steel | 10 to 150 | 6 | DA-41-153-24E | DA-41-2-24E | DA-41-3-24E |
| 316 stainless steel | 10 to 300 | 18 | DA-41-153-9E | DA-41-2-9E | DA-41-3-9E |
| 316 stainless steel | 30 to 400 | 30 | DA-41-153-21E | DA-41-2-21E | DA-41-3-21E |
| 316 stainless steel | 75 to 800 | 75 | DA-41-153-22E | DA-41-2-22E | DA-41-3-22E |
| 316 stainless steel | 100 to 1000 | 100 | DA-41-153-11E | DA-41-2-11E | DA-41-3-11E |
| 316 stainless steel | 200 to 2500 | 210 | DA-41-153-13E | DA-41-2-13E | DA-41-3-13E |

