



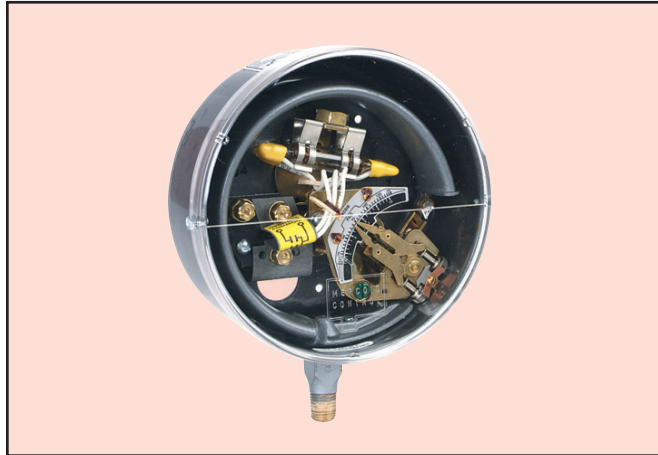
Series
D

Bourdon Tube Pressure Switches

Pressure Ranges to 8000 psi (551.6 bar)



Pressure



Customers tell us that this is the best pressure switch made. The Mercoïd D Series is one of the world's broadest lines of pressure switches. Whatever your application might be, it is most probable it can be fully satisfied with a D Series pressure switch. The D 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 operating point only. The deadband is fixed at a factory setting and cannot be altered in the field. For switches choose between the snap action switch, hermetically sealed snap action switch and hermetically sealed mercury switch.

FEATURES

- Visible calibrated dial
- On/off indication (except hermetically sealed snap switch models)
- Adjustable or fixed deadband
- SPDT snap-action, hermetically sealed snap action or hermetically sealed mercury switch
- External switch setpoint adjustments
- Minimum deadband is obtainable at any point in the range
- Pressure Ranges of full vacuum to 8000 psig.
- UL listed, CSA approved. Many models FM approved.
- General purpose, weatherproof or explosion-proof enclosures

SPECIFICATIONS

Wetted Materials: Brass, 403 SS, or 316 SS.

Temperature Limit: 180°F (82°C).

Pressure Limit: Maximum pressure of the operating range.

Enclosure Rating: General purpose, weatherproof or explosion-proof.

Repeatability: ±1% of full operating range, ±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" 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 15S and 16S. Explosion-proof: 1/2" male NPT and 1/4" female NPT.

Mounting Orientation: Vertical.

Set Point Adjustment: Thumbscrew.

Weight: General purpose: 4 lb (1.8 kg), weatherproof: 6 lb (2.7 kg), explosion-proof: 8 lb (3.5 kg).

Deadband: See model chart.

How to Order Mercoïd Series D Pressure Switches

Operating Requirements

D is the generic designation for the pressure switch series. The next letter following the D designates the function of the switch with regard to the type of deadband and operation. DA, for example, means a D series pressure switch that has an adjustable deadband with double adjustments and is fully automatic. See page 10 for more information.

Enclosures

A general purpose NEMA 1 enclosure is furnished as standard on all Series D pressure switches. Weatherproof and explosion-proof housings are optionally available and designated by adding a third character to the model number. DAW, for example, indicates a DA pressure switch with a weatherproof enclosure. See page 13 for more information.

Wetted Material

The D Series is available with Bourdon tubes constructed of brass, Type 403 stainless steel, and Type 316 stainless steel. Material is designated as part of the series type number with 3 corresponding to brass, 2 to 403 stainless steel, and 4 to 316 stainless steel. For example, DA-31, DA-7031, DS-7231, and DA-531 all have brass bourdon tubes. Shown in the left hand column of the sample model number charts on pages 11 and 12.

Switch Type and Action

Mercoïd Series D pressure switches are available with mercury or snap-action contacts. Snap-action switch models always start with the series type number of 7. For example, DA-7031 and DS-7231 are both snap switch models. Snap switches are available in SPDT and DPDT while the mercury switches are available in SPST, SPDT, DPDT, and DPST. The switch code designates the type of contact and follows the series type number in the overall model number. For example, DA-7031-153 is a SPDT snap switch while DA-31-153 is a SPDT mercury switch. Contact rating should also be considered when choosing the contact type. Shown across the top of the columns of the sample model number charts on pages 11 and 12.

Operating Range

The last part of the Series D model number is the operating range number. Operation of the switch is adjustable within the limits of the shown operating range. The upper limit of the adjustable operating range is also the maximum pressure for the switch and should not be exceeded. For example, DAW-33-3-2 has range number 2, which is 0 to 30" Hg vacuum. Shown in the second column of the sample model number charts on pages 11 and 12.

A complete model number chart is included on pages 16 and 17.

Type DA

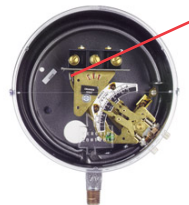
Adjustable Deadband, Fully Automatic, Double Adjustments



VISIBLE
CALIBRATED
DIAL

**Mercury
Switch**

DOUBLE
EXTERNAL
ADJUSTMENTS



SWITCH
INDICATOR

**Snap-
Action
Switch
Contact**

VISIBLE
CALIBRATED
DIAL

DOUBLE
EXTERNAL
ADJUSTMENTS

Equipped with two external adjustments, one for setting *high* pressure operating point, the other for setting *low* pressure operating point. Deadband, or the difference between high and low setpoints, is adjustable over full scale. Mercoid's most popular operating mode, available on most Series D pressure and temperature controls.

Type DS

Fixed Deadband, Fully Automatic, Single Adjustment



VISIBLE
CALIBRATED
DIAL

**Mercury
Switch**

SINGLE
EXTERNAL
ADJUSTMENT



SWITCH
INDICATOR

**Snap-
Action
Switch
Contact**

VISIBLE
CALIBRATED
DIAL

SINGLE
EXTERNAL
ADJUSTMENT

Equipped with single adjustment for setting operating point only. A single pointer on scale sets pressure point at which switch action occurs. Fixed deadband is factory set and cannot be altered in the field. Available on series D-200, D-7200 and D-9200 only.

Type DR

Semi-Automatic, Manual Reset, Single Adjustment



VISIBLE
CALIBRATED
DIAL

**Manual
Reset**

RESET

SINGLE
ADJUSTMENT

Equipped with a single adjustment for setting operating point to operate the circuit automatically upon a pressure increase or decrease. Pushbutton reset must be operated manually to restore the circuit to original position after automatic operation. Suffix "L," i.e. DR-31-153L denotes control will operate automatically on *increase*; suffix "U" denotes control will operate automatically on *decrease*.

Type DL

Semi-Automatic, Manual Lock Reset, Single Adjustment



VISIBLE
CALIBRATED
DIAL

**Manual
Lock
Reset**

RESET

SINGLE
EXTERNAL
ADJUSTMENT

Equipped with a single adjustment for setting operating point. Control will operate at setpoint only upon a *decrease* in pressure. Manual lock feature permits circuit to be reset and locked in position. Lock remains in effect until pressure rises above control setting. Lock then releases and circuit is held in reset position until further automatic operation upon pressure decrease.

Type D-400, DA-7400

Two-Stage, Fully Automatic, 2 Set Pts.



Provides two stage control by actuating one circuit upon a rise or fall in pressure and a second circuit on a further rise or fall. Each setpoint has a fixed deadband.

STOCKED MODELS in bold

Pressure

D Series Pressure Switch with Mercury Switch and General Purpose Enclosure								
Bourdon Tube Material	Adjustable Operating Range (psig)	Minimum Deadband (psig)	SPDT 4A @ 120 V 2A @ 240 V AC/DC	SPST Open on Increase 10A @ 120 V 5A @ 240 V AC/DC	SPST Close on Increase 10A @ 120 V 5A @ 240 V AC/DC	Minimum Deadband (psig)	SPST 5A @ 120 VAC 2A @ 240 VAC 2.5A @ 120 VDC 1A @ 240 VDC (Open on Increase)	SPST 5A @ 120 VAC 2A @ 240 VAC 2.5A @ 120 VDC 1A @ 240 VDC (Close on Increase)
Brass	0-30" Hg Vac	2" Hg	DA-31-153-2	DA-31-2-2	DA-31-3-2	1" Hg	DA-531-2-2	DA-531-3-2
	10" Hg Vac - 12	1	DA-31-153-3	DA-31-2-3	DA-31-3-3	0.5	DA-531-2-3	DA-531-3-3
	25" Hg Vac - 50	3.5	DA-31-153-27	DA-31-2-27	DA-31-3-27	2	DA-531-2-27	DA-531-3-27
	1/8 - 15	1	DA-31-153-1	DA-31-2-1	DA-31-3-1	0.5	DA-531-2-1	DA-531-3-1
	1/8 - 20	1	DA-31-153-3A	DA-31-2-3A	DA-31-3-3A	0.5	DA-531-2-3A	DA-531-3-3A
	1 - 35	1.75	DA-31-153-4	DA-31-2-4	DA-31-3-4	0.75	DA-531-2-4	DA-531-3-4
	2 - 60	3	DA-31-153-5	DA-31-2-5	DA-31-3-5	1	DA-531-2-5	DA-531-3-5
	5 - 100	3.75	DA-31-153-6	DA-31-2-6	DA-31-3-6	2	DA-531-2-6	DA-531-3-6
	5 - 150	6	DA-31-153-7	DA-31-2-7	DA-31-3-7	3	DA-531-2-7	DA-531-3-7
10 - 200	8	DA-31-153-8	DA-31-2-8	DA-31-3-8	3.5	DA-531-2-8	DA-531-3-8	
10 - 300	12	DA-31-153-9	DA-31-2-9	DA-31-3-9	6	DA-531-2-9	DA-531-3-9	
403 Stainless Steel	30" Hg Vac - 60	6	DA-21-153-25S	DA-21-2-25S	DA-21-3-25S	3	DA-521-2-25S	DA-521-3-25S
	30" Hg Vac - 75	8	DA-21-153-26S	DA-21-2-26S	DA-21-3-26S	4	DA-521-2-26S	DA-521-3-26S
	2 - 60	4	DA-21-153-5S	DA-21-2-5S	DA-21-3-5S	2.5	DA-521-2-5S	DA-521-3-5S
	5 - 100	6	DA-21-153-6S	DA-21-2-6S	DA-21-3-6S	3	DA-521-2-6S	DA-521-3-6S
	10 - 200	8	DA-21-153-8S	DA-21-2-8S	DA-21-3-8S	4	DA-521-2-8S	DA-521-3-8S
	10 - 300	14	DA-21-153-9S	DA-21-2-9S	DA-21-3-9S	7	DA-521-2-9S	DA-521-3-9S
	40 - 350	14	DA-21-153-9AS	DA-21-2-9AS	DA-21-3-9AS	7	DA-521-2-9AS	DA-521-3-9AS
	25 - 600	25	DA-21-153-10S	DA-21-2-10S	DA-21-3-10S	15	DA-521-2-10S	DA-521-3-10S
	50 - 1000	60	DA-21-153-11S	DA-21-2-11S	DA-21-3-11S	40	DA-521-2-11S	DA-521-3-11S
100 - 1500	90	DA-21-153-12S	DA-21-2-12S	DA-21-3-12S	50	DA-521-2-12S	DA-521-3-12S	
300 - 2500	150	DA-21-153-13S	DA-21-2-13S	DA-21-3-13S	100	DA-521-2-13S	DA-521-3-13S	
500 - 5000	450	DA-21-153-15S	DA-21-2-15S	DA-21-3-15S	200	DA-521-2-15S	DA-521-3-15S	
800 - 8000	750	DA-21-153-16S	DA-21-2-16S	DA-21-3-16S	400	DA-521-2-16S	DA-521-3-16S	
316 Stainless Steel	30" Hg Vac - 75	7	DA-41-153-26E	DA-41-2-26E	DA-41-3-26E	3.5	DA-541-2-26E	DA-541-3-26E
	5 - 75	3	DA-41-153-23E	DA-41-2-23E	DA-41-3-23E	2	DA-541-2-23E	DA-541-3-23E
	10 - 100	7	DA-41-153-6E	DA-41-2-6E	DA-41-3-6E	3.5	DA-541-2-6E	DA-541-3-6E
	10 - 150	6	DA-41-153-24E	DA-41-2-24E	DA-41-3-24E	3	DA-541-2-24E	DA-541-3-24E
	10 - 300	18	DA-41-153-9E	DA-41-2-9E	DA-41-3-9E	5	DA-541-2-9E	DA-541-3-9E
	30 - 400	30	DA-41-153-21E	DA-41-2-21E	DA-41-3-21E	15	DA-541-2-21E	DA-541-3-21E
	75 - 800	75	DA-41-153-22E	DA-41-2-22E	DA-41-3-22E	35	DA-541-2-22E	DA-541-3-22E
	100 - 1000	100	DA-41-153-11E	DA-41-2-11E	DA-41-3-11E	45	DA-541-2-11E	DA-541-3-11E
	200 - 2500	210	DA-41-153-13E	DA-41-2-13E	DA-41-3-13E	110	DA-541-2-13E	DA-541-3-13E

D Series Pressure Switch with Snap Action Switch and General Purpose Enclosure							
Bourdon Tubular Material	Adjustable Operating Range (psig)	Adjustable Deadband SPDT: 15A @ 120/240 VAC		Fixed Deadband SPDT: 15A @ 120/240 AC		Hermetically Sealed, Fixed Deadband SPDT: 5A @ 120/240 VAC, 5A res. @ 30 VDC	
		Minimum Deadband (psig)	Model Number	Fixed Deadband (psig)	Model Number	Fixed Deadband (psig)	Model Number
Brass	0-30" Hg Vac	9" Hg	DA-7031-153-2	3" Hg	DS-7231-153-2	5" Hg	DS-7331-153-2
	10" Hg Vac - 12	4	DA-7031-153-3	1.5	DS-7231-153-3	3	DS-7331-153-3
	25" Hg Vac - 50	8	DA-7031-153-27	2.5	DS-7231-153-27	3.75	DS-7331-153-27
	1/8 - 15	4	DA-7031-153-1	1.5	DS-7231-153-1	3	DS-7331-153-1
	1/8 - 20	4	DA-7031-153-3A	1.5	DS-7231-153-3A	3	DS-7331-153-3A
	1 - 35	5	DA-7031-153-4	1.5	DS-7231-153-4	3	DS-7331-153-4
	2 - 60	6	DA-7031-153-5	2	DS-7231-153-5	3	DS-7331-153-5
	5 - 100	9	DA-7031-153-6	2.5	DS-7231-153-6	3.75	DS-7331-153-6
	5 - 150	16	DA-7031-153-7	3	DS-7231-153-7	5.25	DS-7331-153-7
10 - 200	16	DA-7031-153-8	4	DS-7231-153-8	6.75	DS-7331-153-8	
10 - 300	25	DA-7031-153-9	5	DS-7231-153-9	9	DS-7331-153-9	
403 Stainless Steel	30" Hg Vac - 60	12	DA-7021-153-25S	3.5	DS-7221-153-25S	5.25	DS-7321-153-25S
	30" Hg Vac - 75	15	DA-7021-153-26S	3.5	DS-7221-153-26S	5.25	DS-7321-153-26S
	2 - 60	9	DA-7021-153-5S	3	DS-7221-153-5S	4.5	DS-7321-153-5S
	5 - 100	13	DA-7021-153-6S	3.5	DS-7221-153-6S	5.25	DS-7321-153-6S
	10 - 200	15	DA-7021-153-8S	4	DS-7221-153-8S	7.125	DS-7321-153-8S
	10 - 300	19	DA-7021-153-9S	6	DS-7221-153-9S	10.5	DS-7321-153-9S
	40 - 350	20	DA-7021-153-9AS	6	DS-7221-153-9AS	10.5	DS-7321-153-9AS
	25 - 600	45	DA-7021-153-10S	10	DS-7221-153-10S	18	DS-7321-153-10S
	50 - 1000	95	DA-7021-153-11S	20	DS-7221-153-11S	33	DS-7321-153-11S
100 - 1500	130	DA-7021-153-12S	30	DS-7221-153-12S	52.5	DS-7321-153-12S	
300 - 2500	260	DA-7021-153-13S	60	DS-7221-153-13S	90	DS-7321-153-13S	
500 - 5000	900	DA-7021-153-15S	200	DS-7221-153-15S	300	DS-7321-153-15S	
800 - 8000	1500	DA-7021-153-16S	500	DS-7221-153-16S			
316 Stainless Steel	30" Hg Vac - 75	10	DA-7041-153-26E	3.5	DS-7241-153-26E	5.25	DS-7341-153-26E
	5 - 75	8	DA-7041-153-23E	4	DS-7241-153-23E	6	DS-7341-153-23E
	10 - 100	10	DA-7041-153-6E	3.5	DS-7241-153-6E	5.25	DS-7341-153-6E
	10 - 150	11	DA-7041-153-24E	4	DS-7241-153-24E	6.75	DS-7341-153-24E
	10 - 300	28	DA-7041-153-9E	8	DS-7241-153-9E	12	DS-7341-153-9E
	30 - 400	52	DA-7041-153-21E	10	DS-7241-153-21E	18	DS-7341-153-21E
	75 - 800	120	DA-7041-153-22E	25	DS-7241-153-22E	37.5	DS-7341-153-22E
	100 - 1000	190	DA-7041-153-11E	35	DS-7241-153-11E	52.5	DS-7341-153-11E
	200 - 2500	400	DA-7041-153-13E	75	DS-7241-153-13E	112.5	DS-7341-153-13E

STOCKED MODELS in bold

D Series Pressure Switch with Mercury Switch and Weatherproof Enclosure								
Bourdon Tube Material	Adjustable Operating Range (psig)	Adjustable Deadband						
		Minimum Deadband (psig)	SPDT 4A @ 120 V 2A @ 240 V AC/DC	SPST Open on Increase 10A @ 120 V 5A @ 240 V AC/DC	SPST Close on Increase 10A @ 120 V 5A @ 240 V AC/DC	Minimum Deadband (psig)	SPST Open on Increase 5A @ 120 VAC 2A @ 240 VAC 2.5A @ 120 VDC 1A @ 240 VDC	SPST Close on Increase 5A @ 120 VAC 2A @ 240 VAC 2.5A @ 120 VDC 1A @ 240 VDC
Brass	0-30" Hg Vac	2" Hg	DAW-33-153-2	DAW-33-2-2	DAW-33-3-2	1" Hg	DAW-533-2-2	DAW-533-3-2
	10" Hg Vac - 12	1	DAW-33-153-3	DAW-33-2-3	DAW-33-3-3	0.5	DAW-533-2-3	DAW-533-3-3
	25" Hg Vac - 50	3.5	DAW-33-153-27	DAW-33-2-27	DAW-33-3-27	2	DAW-533-2-27	DAW-533-3-27
	1/8 - 15	1	DAW-33-153-1	DAW-33-2-1	DAW-33-3-1	0.5	DAW-533-2-1	DAW-533-3-1
	1/8 - 20	1	DAW-33-153-3A	DAW-33-2-3A	DAW-33-3-3A	0.5	DAW-533-2-3A	DAW-533-3-3A
	1 - 35	1.75	DAW-33-153-4	DAW-33-2-4	DAW-33-3-4	0.75	DAW-533-2-4	DAW-533-3-4
	2 - 60	3	DAW-33-153-5	DAW-33-2-5	DAW-33-3-5	1	DAW-533-2-5	DAW-533-3-5
	5 - 100	3.75	DAW-33-153-6	DAW-33-2-6	DAW-33-3-6	2	DAW-533-2-6	DAW-533-3-6
	5 - 150	6	DAW-33-153-7	DAW-33-2-7	DAW-33-3-7	3	DAW-533-2-7	DAW-533-3-7
	10 - 200	8	DAW-33-153-8	DAW-33-2-8	DAW-33-3-8	3.5	DAW-533-2-8	DAW-533-3-8
10 - 300	12	DAW-33-153-9	DAW-33-2-9	DAW-33-3-9	6	DAW-533-2-9	DAW-533-3-9	
403 Stainless Steel	30" Hg Vac - 60	6	DAW-23-153-25S	DAW-23-2-25S	DAW-23-3-25S	3	DAW-523-2-25S	DAW-523-3-25S
	30" Hg Vac - 75	8	DAW-23-153-26S	DAW-23-2-26S	DAW-23-3-26S	4	DAW-523-2-26S	DAW-523-3-26S
	2 - 60	4	DAW-23-153-5S	DAW-23-2-5S	DAW-23-3-5S	2.5	DAW-523-2-5S	DAW-523-3-5S
	5 - 100	6	DAW-23-153-6S	DAW-23-2-6S	DAW-23-3-6S	3	DAW-523-2-6S	DAW-523-3-6S
	10 - 200	8	DAW-23-153-8S	DAW-23-2-8S	DAW-23-3-8S	4	DAW-523-2-8S	DAW-523-3-8S
	10 - 300	14	DAW-23-153-9S	DAW-23-2-9S	DAW-23-3-9S	7	DAW-523-2-9S	DAW-523-3-9S
	40 - 350	14	DAW-23-153-9AS	DAW-23-2-9AS	DAW-23-3-9AS	7	DAW-523-2-9AS	DAW-523-3-9AS
	25 - 600	25	DAW-23-153-10S	DAW-23-2-10S	DAW-23-3-10S	15	DAW-523-2-10S	DAW-523-3-10S
	50 - 1000	60	DAW-23-153-11S	DAW-23-2-11S	DAW-23-3-11S	40	DAW-523-2-11S	DAW-523-3-11S
	100 - 1500	90	DAW-23-153-12S	DAW-23-2-12S	DAW-23-3-12S	50	DAW-523-2-12S	DAW-523-3-12S
300 - 2500	150	DAW-23-153-13S	DAW-23-2-13S	DAW-23-3-13S	100	DAW-523-2-13S	DAW-523-3-13S	
500 - 5000	450	DAW-23-153-15S	DAW-23-2-15S	DAW-23-3-15S	200	DAW-523-2-15S	DAW-523-3-15S	
800 - 8000	750	DAW-23-153-16S	DAW-23-2-16S	DAW-23-3-16S	400	DAW-523-2-16S	DAW-523-3-16S	
316 Stainless Steel	30" Hg Vac - 75	7	DAW-43-153-26E	DAW-43-2-26E	DAW-43-3-26E	3.5	DAW-543-2-26E	DAW-543-3-26E
	5 - 75	3	DAW-43-153-23E	DAW-43-2-23E	DAW-43-3-23E	2	DAW-543-2-23E	DAW-543-3-23E
	10 - 100	7	DAW-43-153-6E	DAW-43-2-6E	DAW-43-3-6E	3.5	DAW-543-2-6E	DAW-543-3-6E
	10 - 150	6	DAW-43-153-24E	DAW-43-2-24E	DAW-43-3-24E	3	DAW-543-2-24E	DAW-543-3-24E
	10 - 300	18	DAW-43-153-9E	DAW-43-2-9E	DAW-43-3-9E	5	DAW-543-2-9E	DAW-543-3-9E
	30 - 400	30	DAW-43-153-21E	DAW-43-2-21E	DAW-43-3-21E	15	DAW-543-2-21E	DAW-543-3-21E
	75 - 800	75	DAW-43-153-22E	DAW-43-2-22E	DAW-43-3-22E	35	DAW-543-2-22E	DAW-543-3-22E
	100 - 1000	100	DAW-43-153-11E	DAW-43-2-11E	DAW-43-3-11E	45	DAW-543-2-11E	DAW-543-3-11E
	200 - 2500	210	DAW-43-153-13E	DAW-43-2-13E	DAW-43-3-13E	110	DAW-543-2-13E	DAW-543-3-13E

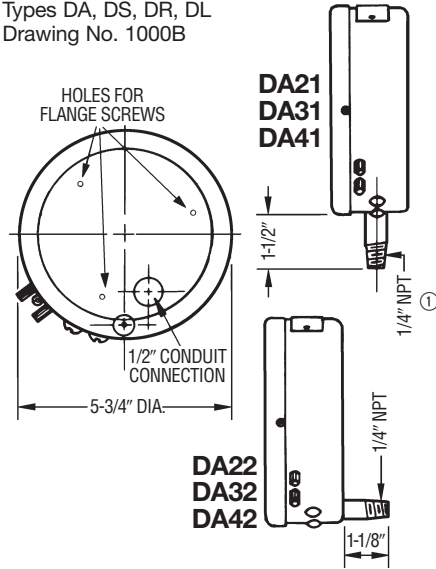
D Series Pressure Switch with Snap Action Switch and Weatherproof Enclosure

Bourdon Tube Material	Adjustable Operating Range (psig)	Adjustable Deadband SPDT: 15A @ 120/240 VAC		Fixed Deadband SPDT: 15A @ 120/240 VAC		Hermetically Sealed, Fixed Deadband SPDT: 5A @ 120/240 VAC, 5A res.@30 VDC	
		Minimum Deadband (psig)	Model Number	Fixed Deadband (psig)	Model Number	Fixed Deadband (psig)	Model Number
Brass	0-30" Hg Vac	9" Hg	DAW-7033-153-2	3" Hg	DSW-7233-153-2	5" Hg	DSW-7333-153-2
	10" Hg Vac - 12	4	DAW-7033-153-3	1.5	DSW-7233-153-3	3	DSW-7333-153-3
	25" Hg Vac - 50	8	DAW-7033-153-27	2.5	DSW-7233-153-27	3.75	DSW-7333-153-27
	1/8 - 15	4	DAW-7033-153-1	1.5	DSW-7233-153-1	3	DSW-7333-153-1
	1/8 - 20	4	DAW-7033-153-3A	1.5	DSW-7233-153-3A	3	DSW-7333-153-3A
	1 - 35	5	DAW-7033-153-4	1.5	DSW-7233-153-4	3	DSW-7333-153-4
	2 - 60	6	DAW-7033-153-5	2	DSW-7233-153-5	3	DSW-7333-153-5
	5 - 100	9	DAW-7033-153-6	2.5	DSW-7233-153-6	3.75	DSW-7333-153-6
	5 - 150	16	DAW-7033-153-7	3	DSW-7233-153-7	5.25	DSW-7333-153-7
	10 - 200	16	DAW-7033-153-8	4	DSW-7233-153-8	6.75	DSW-7333-153-8
10 - 300	25	DAW-7033-153-9	5	DSW-7233-153-9	9	DSW-7333-153-9	
403 Stainless Steel	30" Hg Vac - 60	12	DAW-7023-153-25S	3.5	DSW-7223-153-25S	5.25	DSW-7323-153-25S
	30" Hg Vac - 75	15	DAW-7023-153-26S	3.5	DSW-7223-153-26S	5.25	DSW-7323-153-26S
	2 - 60	9	DAW-7023-153-5S	3	DSW-7223-153-5S	4.5	DSW-7323-153-5S
	5 - 100	13	DAW-7023-153-6S	3.5	DSW-7223-153-6S	5.25	DSW-7323-153-6S
	10 - 200	15	DAW-7023-153-8S	4	DSW-7223-153-8S	7.125	DSW-7323-153-8S
	10 - 300	19	DAW-7023-153-9S	6	DSW-7223-153-9S	10.5	DSW-7323-153-9S
	40 - 350	20	DAW-7023-153-9AS	6	DSW-7223-153-9AS	10.5	DSW-7323-153-9AS
	25 - 600	45	DAW-7023-153-10S	10	DSW-7223-153-10S	18	DSW-7323-153-10S
	50 - 1000	95	DAW-7023-153-11S	20	DSW-7223-153-11S	33	DSW-7323-153-11S
	100 - 1500	130	DAW-7023-153-12S	30	DSW-7223-153-12S	52.5	DSW-7323-153-12S
300 - 2500	260	DAW-7023-153-13S	60	DSW-7223-153-13S	90	DSW-7323-153-13S	
500 - 5000	900	DAW-7023-153-15S	200	DSW-7223-153-15S	300	DSW-7323-153-15S	
800 - 8000	1500	DAW-7023-153-16S	500	DSW-7223-153-16S			
316 Stainless Steel	30" Hg Vac - 75	10	DAW-7043-153-26E	3.5	DSW-7243-153-26E	5.25	DSW-7343-153-26E
	5 - 75	8	DAW-7043-153-23E	4	DSW-7243-153-23E	6	DSW-7343-153-23E
	10 - 100	10	DAW-7043-153-6E	3.5	DSW-7243-153-6E	5.25	DSW-7343-153-6E
	10 - 150	11	DAW-7043-153-24E	4	DSW-7243-153-24E	6.75	DSW-7343-153-24E
	10 - 300	28	DAW-7043-153-9E	8	DSW-7243-153-9E	12	DSW-7343-153-9E
	30 - 400	52	DAW-7043-153-21E	10	DSW-7243-153-21E	18	DSW-7343-153-21E
	75 - 800	120	DAW-7043-153-22E	25	DSW-7243-153-22E	37.5	DSW-7343-153-22E
	100 - 1000	190	DAW-7043-153-11E	35	DSW-7243-153-11E	52.5	DSW-7343-153-11E
	200 - 2500	400	DAW-7043-153-13E	75	DSW-7243-153-13E	112.5	DSW-7343-153-13E

Bourdon Tube Pressure Switches — Control Dimensions & Enclosures

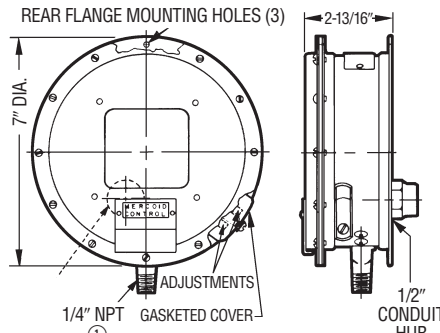
General Purpose

Types DA, DS, DR, DL
Drawing No. 1000B



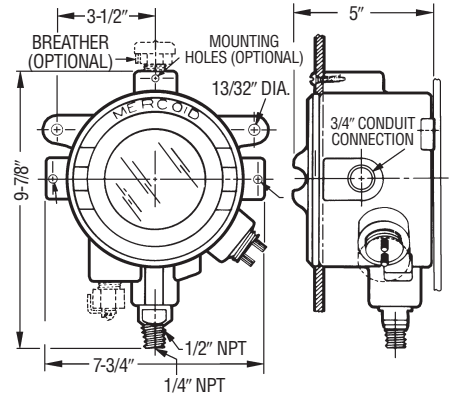
Weatherproof

Types DAW, DSW, DRW
Drawing No. 1062



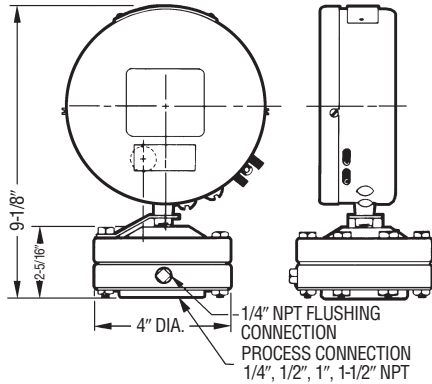
Explosion-Proof

Types DAH, DRH, DSH
Drawing No. 1350



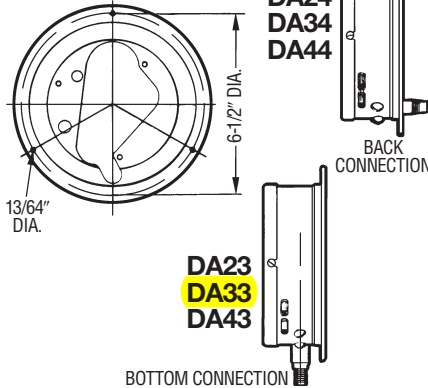
Diaphragm Seal

Types MSAG
Drawing No. 2305



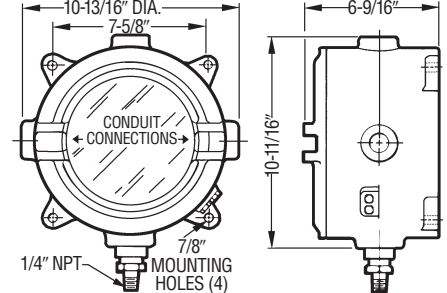
Flange for Surface Mounting

Drawing No. 1000F
PN 17-20(2)



Explosion-Proof

Types DAE, DRE, DSE
Drawing No. 98D



- (1) 1/2" NPT Connection for ranges 15S, 16S
- (2) Use PN 17-31 for ranges 15S, 16S



General Purpose NEMA 1 Enclosure

For indoor use and other general purpose applications under normal atmospheric conditions. Provides protection against dust and light splashing. Heavy gauge plain steel case. Flanged case available. Transparent cover for visible on-off operation. Locking device prevents tampering. Pressure connection, 1/4" NPT. Electrical connection back of case for 1/2" conduit or BX. Shipping wt. 4 lbs. See above for dimensions. *Furnished as standard unless otherwise specified.*



Watertight, Dust-tight/ Type W NEMA 3S, 4, & 4X Enclosure

For outdoor or indoor applications. Complies with hose test and requirements for watertight, dust-tight, drip-tight weatherproof, weather-resistant, splash-proof, sleet-proof, and moisture-resistant. Flanged, heavy gauge steel case with transparent cover for visible on-off operation. External adjustments protected by cover. Bottom pressure connection. 1/4" NPT. Electrical connection back of case for 1/2" conduit, removable 1/2" hub. Shipping wt. 6 lbs. See above for dimensions. *Optional, add "W" to prefix, i.e. DAW, DRW, DSW, when ordering.*



Explosion-Proof Type H

Hazardous Area Enclosure suitable for Class I, Groups C & D, Class II, Groups E, F & G; NEMA 7 & 9 applications. Control mechanism is an integral part of enclosure and cannot be replaced in the field. For surface, panel or pipe mounting. Aluminum case with glass window in cover for visible on-off operation. Bottom pressure connection, 1/2" male NPT x 1/4" female NPT. External adjustments. Available with breather and drain. Shipping wt. 8 lbs. (3.6 kg.). See above for dimensions. Optional housing, to order add "H" to prefix. Example: DAH, DRH, or DSH. Not available on D80 Series.

NOTE: Standard general purpose NEMA 1 and NEMA 4 enclosures are suitable for Class I, Division 2 applications with addition of conduit hub (mercury switch models only).

Series
D

Options and Accessories

Mounting Flange For Surface Mounting (Field Installation)

For DA, DAF, DS, DSF, DR, DRF and DL controls only. May be ordered separately for field installation.

Part No. 17-26
(except on 15S, 16S)

Part No. 17-31
(for range 15S, 16S only)

Mounting Bracket



For use with standard NEMA 1 enclosure general purpose controls only: Series DA, DAF, DS, DSF, DR, DRF, DL. Note: *not* adaptable for Range 15S and 16S.

Part No. 33-25

Conduit Hub

For 1/2" rigid conduit. Mercury switch type controls with standard general purpose NEMA-1 or optional weather-resistant NEMA-3 or NEMA-4 enclosures are suitable for Class 1, Div. 2 applications when ordered with this hub. Available for DA Series.

Part No. 42-413

Remote Connections



Part No. 49-62HP – 6 ft. copper remote connection, 2500 psig max.

Part No. 49-210 – 12 ft. 316 s.s. connection with 303 s.s. fittings, 3000 psig max.

Breathers & Drains



STANDARD BREATHER

STANDARD DRAIN

For Class I, Groups C, D and Class II, Groups E, F, G (water only). Mercoïd S.S. drains are flame-tight, but not watertight which permits water to escape continuously.

Mercoïd S.S. breathers include a water shedding cap and provide effective case ventilation.

For Series DAH, DAHF, DRH, DRHF, DSH, DSHF.

Part No. 42-274 – Standard drain.

Part No. 42-276 – Standard breather.

For Series DAE, DRE.

Part No. 42-275 – Drain with 1/4" connection.

***Part No. 42-276** – Standard breather with 1/2" connection.

***Part No. 42-279** – Reducer (3/4" to 1/2") for breather.

***Breather and reducer must be ordered together.**

Pigtail Siphon



Recommended for steam applications 35 psig or higher. For Series D-30, D-530, D-230, D-7030, D-7230 pressure controls. Please specify.

Part No. 42-58 2000 psig max.

Miscellaneous

Oxygen & Acetylene Service

Spec. 23444

Fungus Proof

Spec. 23720

FM Approval –

DAF, DRF, DSF

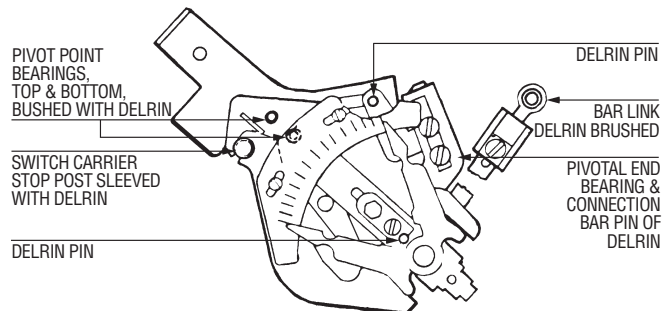
Factory Mutual Approved Series D Pressure Switches



Cover Over
External
Adjustments

DELTRIN® Bushed Movement "B"

*Registered Trademark of E.I. DuPont de Nemours & Co.



Provides longer service life for Series D pressure and temperature controls. Vibration and pulsation are the prime causes of control wear. Almost all types of vibration will have some effect on the life and continued accuracy of controls.

To offset the wearing of metal surfaces found in bearings and pivot

points, the control mechanism is designed to incorporate Delrin bushed movements at each possible wear point. Also for environments where corrosion may be a factor.

Add Letter B After Type and Suffix Nos. Example: DS-221-2B, DA-31-3B, DAH-41-3B.



Series D-900

Bourdon Tube Pressure Switches — Over-Pressure Diaphragm Controls



OPERATING RANGES

Brass Bourdon Tube, with Mercury Switch

RANGE NO. Adjustable Operating Range (psig)		MIN. DEADBAND (psig)		FIXED DEADBAND
		DA-931	DA-9531	DS-9231
3	10" Hg. Vac. 12 PSIG*	1.5	0.75	3 oz.
1	1-14	1.5	0.75	3 oz.
4	1-35	3.5	1.5	7 oz.

*Operation not recommended for processes that do not go below 0 PSIG.

Steel Bourdon Tube, with Mercury Switch

RANGE NO. Adjustable Operating Range (psig)		MIN. DEADBAND (psig)		FIXED DEADBAND
		DA-921	DA-9521	DS-9221
5S	2-60	4	2	7 oz.
6S	5-100	6	3	12 oz.
8S	10-200	8	4	12 oz.
9S	20-300	14	7	1 psig
10S	50-600	50	25	2.5 psig
11S	75-1000	75	40	10 psig
12S	100-1500	100	50	12 psig
13S	300-2500	150	100	45 psig

NOTES: Above controls must have seal attached
DA-9 = Indicates slugged bourdon tube

FEATURES

Protects to 2,500 psig • Available to 5,000 psig • External adjustment • Adjustable or fixed deadband • Integral over-pressure seal • 316 Stainless Steel diaphragm • Operates in ambient temperatures -10 to +140°F. • Available with mercury or snap switch.

APPLICATION

For low pressure setpoints in a system where normal pressures may rise to 5,000 psig. An over-pressure seal protects the control beyond a predetermined pressure. When that pressure is exceeded, the diaphragm seats and no further motion is transmitted.



Series D

Bourdon Tube Pressure Switches — Pipe-Mounted Diaphragm Seals

Type MSAG/MSAH



SEAL WITH TYPE DA PRESSURE CONTROL



Type MSAG (PLAIN)



Type MSAH (CLEAN-OUT)

FEATURES

Maximum seal design pressure is 2500 psig for MSAG and MSAH, 100 psig XTBX. Seals can be filled after installation via Bleed Screw (7) in diagram at right. Thin, flexible diaphragm (2) is actuated by system pressure. Diaphragm transmits system pressure to seal's liquid fill (3) to operate the Bourdon tube of the protected control which attaches at (1). Chemical corrosion or other damage to seal from system's pressure medium can be prevented by proper selection of materials for the diaphragm, (2) bottom bowl (8) and other surfaces which the pressure medium will contact.

APPLICATION

Mercoid diaphragm seals prevent corrosive, viscous or other damaging pressure media (gas, liquid, etc.) from entering the pressure power element (Bourdon tube) in pressure or differential pressure controls. Plain seals cannot be field-disassembled for cleaning or other purposes.

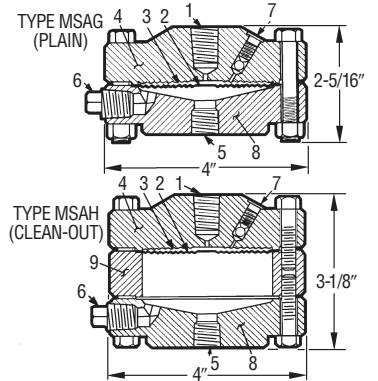
Mercoid clean-out type diaphragm seals *can* be field-disassembled for cleaning or other purposes. Top bowl (Key #4 in diagram at right) with both clean-out ring (9) and control attached can be removed while bottom bowl (8) is still connected to system. However, system must be shut down beforehand.

Seals cannot be used below 10" Hg vacuum.

To Order Seals — Plain or Clean-Out Types

When ordering, specify all of the following:

- Type and pressure range of control which seal is to protect.
- Diaphragm seal type desired.
- Diaphragm material — 316 stainless steel, Teflon®-coated 316 stainless steel, or Tantalum.
- Pressure medium-to-seal contact surfaces material-resistant finish or 316 stainless steel.
- Size of seal-to-system connection 1/4", 1/2", 1", or 1 1/2" NPT.
- Temperature range of pressure medium.
- Ambient temperatures.



- Pressure Control Connection
- Diaphragm: 316SS, Teflon®-Coated 316SS or Tantalum
- Liquid Fill
- Top Bowl, rust-resistant finish
- Seal-to-System Connection
- Flushing Connection (1/4" NPT) and Removable Plug
- Bleed Screw
- Bottom Bowl, rust-resistant finish steel or 316SS
- Clean-Out Ring

Mercoid diaphragm seals are not available for Range 15S & 16S Mercoid Pressure Controls

NOTE: Controls and gauges with diaphragm seals can be affected by ambient and system temperature changes, particularly at low pressures. For these conditions, Mercoid Controls can be furnished with ambient temperature compensation (available only when control is mounted on seal). Write for details.

Most seals can be furnished with a remote copper or S.S. tubing connection between seal and control. A mounting bracket (No. 33-25) may be used for remote mounted controls. Specify if remote connection is desired.

TYPE	MATERIAL
	EXPOSED SURFACES
MSAG	Steel or 316 SS
MSAH	Steel or 316 SS
XTBX	Teflon® and PVC