

Differential Sensing Pressure Valve

Model 4064

Overview

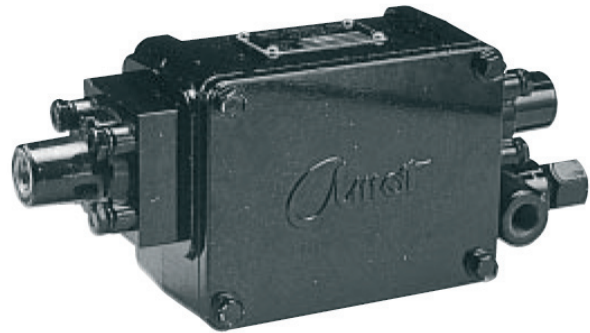
AMOT Model 4064 is used for sensing limits of increasing or decreasing differentials. Some applications include gas compressor installation to shut down the engine in the case of overloading, as well as sensing excessive pressure drop through a filter, indicating filter clogging.

Typical applications

- Compressor suction
- Discharge pressure sensing
- Detection of:
 - Rod overload
 - Clogs across filters
 - Separators
 - Scrubbers
 - Membranes
- Detecting pump cavitation
- Fluid leakage

Key features and benefits

- Settings from 0.55 - 241 bar (8 - 3500 psi)
- Gulfproof, anodized aluminum construction
- Accepts hydraulic or pneumatic signals



Type 4064
Differential Sensing Pressure Valve



Differential Sensing Pressure Valve - Model 4064

Operation

At the set differential, safety control system pressure coming into port A will vent out of port B. A typical application would be on a gas compressor installation. The gas discharge line would be connected to port P1, and the suction pressure line would be connected to port P2. If the pressure at P1 exceeded that of port P2 by the set amount, (indicating compressor connecting rod overloading), port A would vent and shut down the engine.

Model 4064 is supplied by AMOT with the differential pressure setting compatible for a specific working pressure level. If this working pressure level changes, the unit must be

readjusted if the same differential pressure setting is required. For example, Model 4064B52E might be supplied so that with a pressure of 34.5 bar (500 psi) on port P2 the unit would trip when the pressure at port P1 reached 51.71 bar (750 psi) (17.21 bar, 250 psi differential). If the pressure level at port P2 increases to 41.36 bar (600 psi), the unit will no longer trip at the same 17.21 bar (250 psi) differential, which would be at 58.6 bar (850 psi). If this tripping point of 58.6 bar (850 psi) is required, then the unit must be readjusted. In the Pressure Range Table, the columns under Differential Pressure To Reset show the sensitivity of the various models. Figures shown do not vary proportionally with the setting of the trip points, but more with the pressure level.

Specification

Body material	Gulfproofed anodized cast aluminum	
Internal parts	Steel and aluminum	
Valve seat and seals	Viton	
Diaphragm material	Viton or Buna N	
Piston material	Stainless steel	
Maximum valve pressure port A	5.5 bar	(80 psi)
Net weight	2.5 kg	(5.5 lb)
Shipping weight (appx.)	3.0 kg	(6.5 lb)

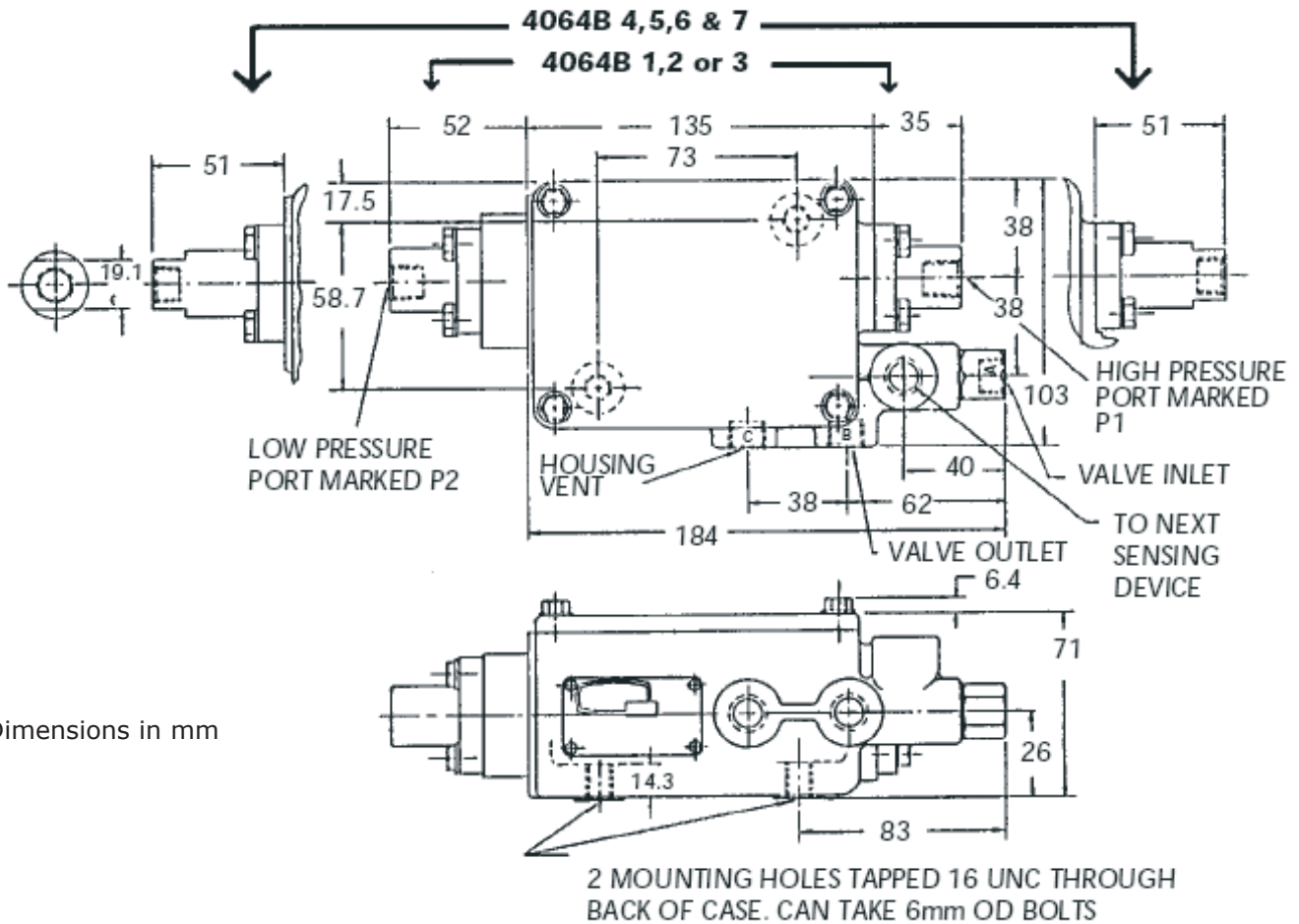
Installation factors

Two 3/8"-16 tapped holes in the back of Model 4064's case can be used to mount the valve. The unit can be mounted in any position, but is normally installed with the vent connection at the bottom. A quality thread sealant should be used when making piping connections, but must not be permitted to enter port passages. Minimum size

tubing recommended for safety control system piping is 1/4" O.D. If the unit is to sense liquid pressures with pulsations present, an orifice or other dampening device should be used in the line to ports P1 and P2 to protect diaphragm models (Range 1, 2, and 3).

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Dimensions



Dimensions in mm

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How to order

Use the table below to select the unique specification of your 4064 Differential Sensing Pressure Valve:

Since there are several variables in these units, we request that the customer supplies the exact operating characteristics. In order to see whether the desired differential is obtainable, proceed as follows (refer to the Model Code Table below):

1. Model No. Determination - From the Pressure Range Table, use the lowest "maximum working pressure" valve in the center column to meet the maximum pressure level encountered, then choose the Model No. from the "Adj. Differential Pressure Range" column desired.

2. Specify Settings - Under normal operating conditions, port P1 or port P2 will be fixed, and the other port will either increase or decrease in pressure until the unit trips.

Please specify:

- a. Port No. and Pressure of Fixed Port
 - b. Port No. and Pressure at which Variable Port trips and whether on increasing or decreasing pressure
3. Example of Ordering - With a pressure of 400 psi on one port, it is desired that the unit will trip when the other port increases to 550 psi (150 psi differential increasing).
- a. Model No. is 4064B42B. (Model 4064B52B could have been chosen but, Model 4064B42B has an adjustable range of 50-250 psi increasing and would be more sensitive than 4064B52B having an adjustable range of 100-650.)
 - b. Settings:
 - i. Pressure at fixed port P2 is 400 psi.
 - ii. Variable port P1 increases to 550 psi to trip the unit.

Example	4064B	2	2	D	Comments											
					Basic Model											
Basic Model	4064B				Differential Pressure Sensing Valve											
Pressure Range and Reset					Adjustable Differential Pressure Range				Pressure		Diff. Pressure to Reset					
					Decreasing		Max. Wkg. Increasing				Decreasing		Increasing			
					bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi
					1	0.6 - 2.4	8 - 35	0.6 - 2.4	8 - 35	24	350	0.2	3.5	0.2	3.5	
					2	1.7 - 8.6	25 - 125	1.7 - 8.6	25 - 125	24	350	0.2 - 0.6	3 - 8	0.2 - 0.6	3 - 8	
					3	6.2 - 20	90 - 285	6.2 - 20	90 - 285	24	350	0.7 - 1.0	10 - 15	0.7 - 1.0	10 - 15	
					4	1.4 - 15	20 - 215	3.4 - 17	50 - 250	69	1000	1 - 2.8	14 - 40	0.8 - 2.8	12 - 40	
5	3.4 - 40	50 - 580	6.9 - 45	100 - 650	69	1000	1.4 - 4.1	20 - 60	1.2 - 4.1	18 - 60						
6	10 - 69	150 - 1000	21 - 83	300 - 1200	276	4000	2.8 - 12	40 - 180	2.1 - 10	30 - 150						
7	21 - 228	300 - 3300	35 - 241	500 - 3500	276	4000	6.2 - 12	90 - 180	5.5 - 11	80 - 160						
Thread and Finish					Thread		Finish									
					2	NPT	Gulfproof									
					3	BSP (PL)	Standard									
					4	BSP (PL)	Gulfproof									
Diaphragm Material					Diaphragm		Range									
					A	Buna N	1, 2, 3									
					D	Viton	1, 2, 3									
					E	Viton	4, 5									
					F	Viton	6, 7									

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