

# Differential Pressure Valve

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Model 4143

## Overview

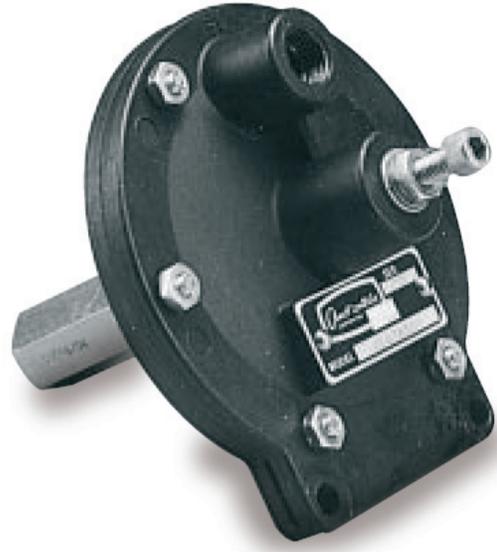
AMOT Model 4143 valve is used for sensing loss of coolant due to hose breakage, poor water flow due to excessive cavitation or worn pump impeller blades. Upon a dangerous condition, the pressure differential will decrease, causing the valve to vent the lubricating oil pressure supply line to the AMOT 2800 Master Safety Control, causing it to trip and shutdown the engine.

## Typical applications

- Protection of engines and other industrial equipment in case of water circulation slow down or failure.

## Key features and benefits

- Senses:
  - coolant loss
  - excessive aeration
  - worn pump impeller blades
  - loss of pump priming pressure
  - water pump failure
- Gulfproof, anodized aluminum construction



**Type 4143**  
**Differential Pressure Valve**

# Differential Pressure Valve - Model 4143

## Operation

When the valve is used for sensing loss of pump priming pressure, run a line from the pressure outlet of the pump to Valve Port P2, and allow Port P1 to be vented to atmosphere. It senses

the pressure difference between each side of the water pump. This valve is "Gulfproofed" (corrosion protection for seacoast atmospheres).

## Specification

<b>Housing material</b>	Aluminum	
<b>Diaphragm material</b>	Buna N/Nitrile	
<b>Maximum pressure on diaphragm</b>	4.1 bar	(60 psi)
<b>Adjustable differential pressure range</b>	0.0345 to 0.25 bar differential at 0.69 bar	0.5 to 3.6 psi @ 10 psi nominal
<b>Reset differential</b>	0.014 ± 0.0069 bar	0.6 ± 0.1 psi
<b>Maximum pressure at valve 'In' port</b>	6.2 bar	(90 psi)
<b>Net weight</b>	0.57 kg	(1.25 lbs)

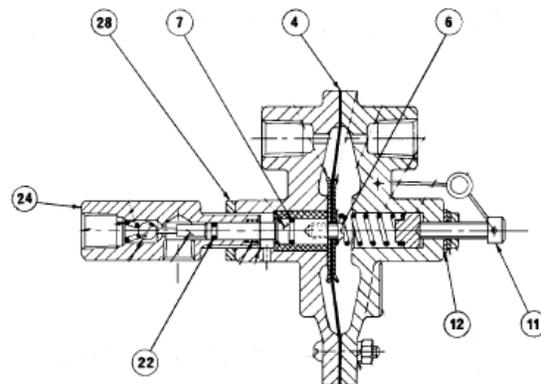
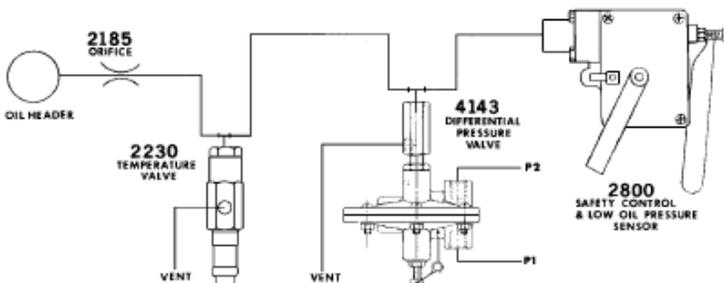
## Installation factors

AMOT Designs and tests all products to ensure that high quality standards are met. Carefully follow AMOT's installation and maintenance instructions; failure to do so could result in damage to equipment being protected.

The installation should be made according to the piping diagram. Two mounting holes are provided on the valve as shown on the dimensional drawing. To adjust the valve, remove the Seal Wire going through the adjusting screw and turn it clockwise until the engine shuts down, with the engine running at low idle speed. Then turn the screw counterclockwise about one-half turn. Start the engine and run it several times. When it is determined that the setting is right, install the Seal Wire and squeeze the seal with pliers to lock the seal. One turn of the adjusting screw changes the setting approximately 0.069 bar (1 psi).

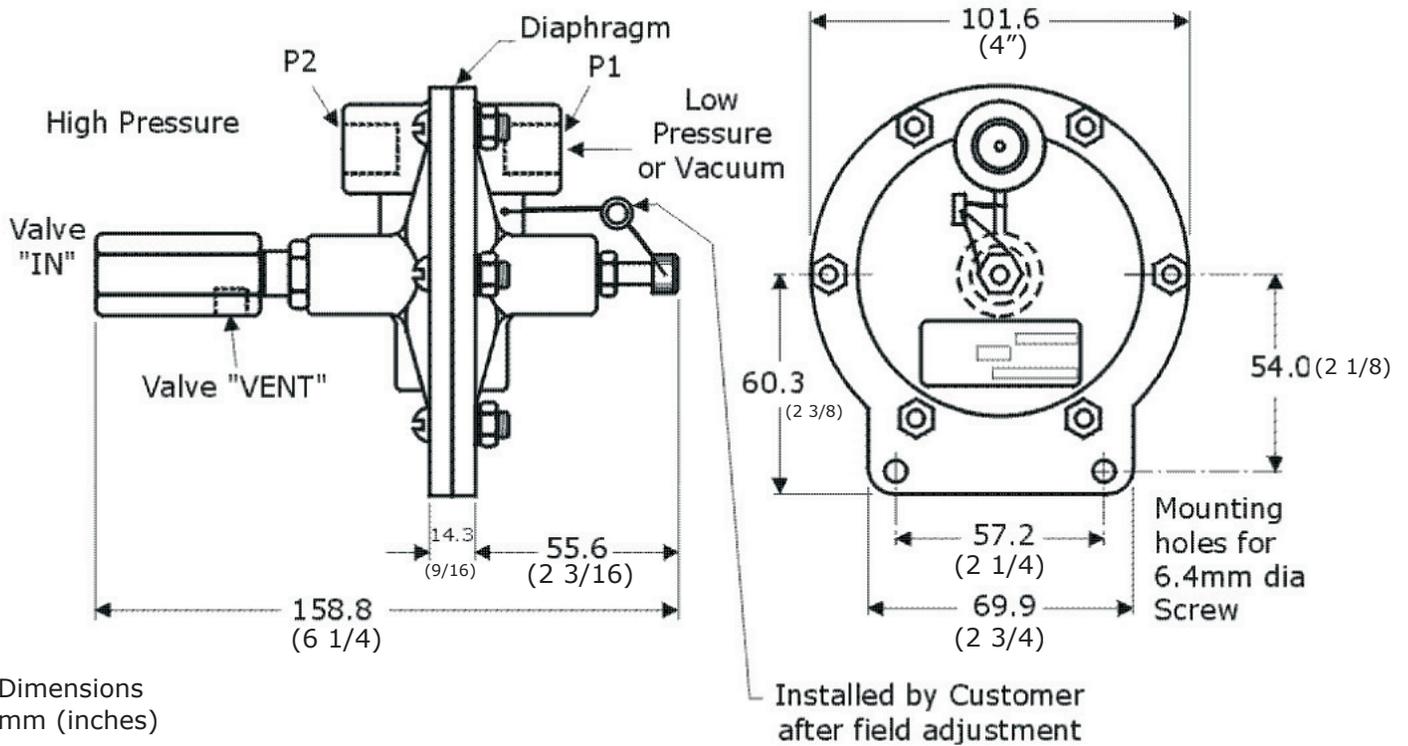
4143 Valve Port stamped P2 is piped to water pump discharge. Port stamped P1 is piped to water pump suction. The 4143 Valve should be mounted at the highest practical point in the water system, preferably above the water line to prevent contaminates from entering the valve.

**CAUTION:** Do not turn or move valve body, (ref. no. 24), as this setting. If valve body must be removed, readjust as follows. Turn adjusting screw (11) in half way. With air pressure at the valve body IN port, screw the valve body in until it just starts to vent. Screw in 1 full turn and tighten lock nut (28). Functionally test to assure that the valve vents with no pressure at P2 and seals when there is pressure at P2.



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## Dimensions



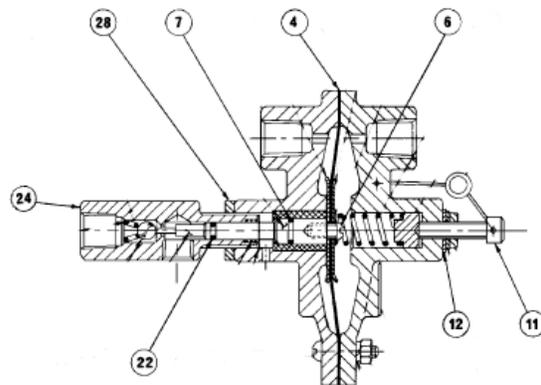
Dimensions  
mm (inches)

## How to order

Specify Model No. 4143A001. Adjustments are made at installation.

## Service kits

Ref no.	Qty	Description	Part No.
4	1	Diaphragm	7784
6	1	Screw	851L001
7	1	O-Ring	1625
12	1	Seal	714L003
22	1	O-Ring	251



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