OIL SAFETY VALVE

OSV

OSV - 11 - Ed. 4 - November 2026

Oil Safety Valves (OSV®s) valves can be used for the following applications which require slightly different installations:

- Preventing tank siphoning and oil leaks in the event of line breaks,
- Preventing excessive pressure at the inlet of the burner fuel unit, for use with a supply pump (booster pump)

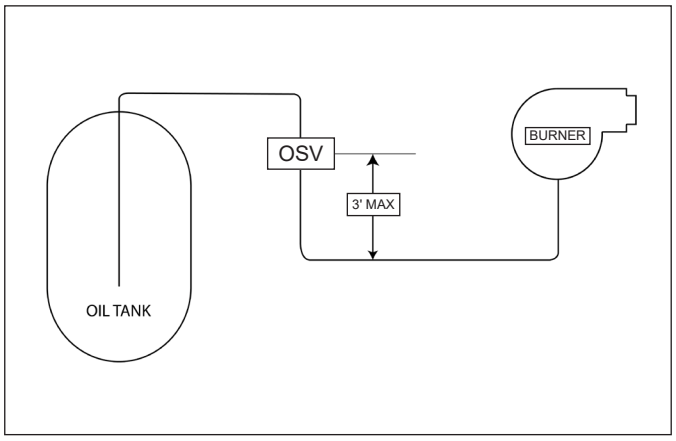
Many state and local codes require a device that will automatically shut off the oil supply before it enters a building should the line between the device and the burner be broken. NFPA standards require that the pressure at the burner fuel pumps must not exceed 3 PSI. The Webster OSV satisfies both requirements when properly installed. Check local codes for any special requirements.

COMPATIBILITY

The bio OSV valve is U/L listed for biofuel and is compatible with a wide range of other fuels such as B20-B100, #1-#2 fuel oil, kerosene, diesel and waste oil.

OPERATING PRINCIPLE

Prevent oil spills



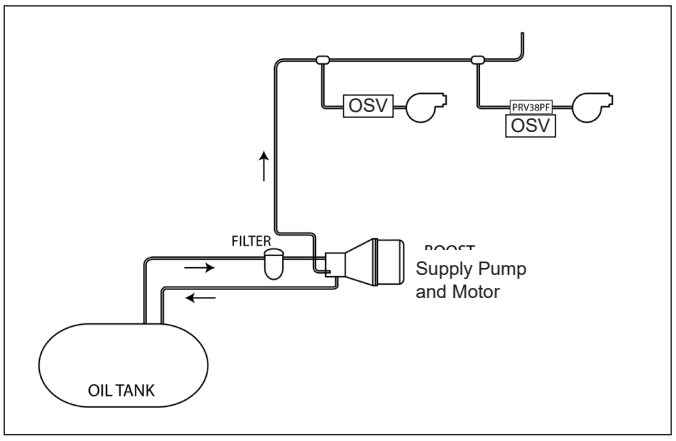
Webster OSV valves help prevent oil spills by stopping oil flow in the event of line breaks caused by corroded lines or leaky fittings. It is mounted in the supply line as close as possible to the tank. The OSV requires a vacuum on its outlet side to open the valve and allow oil flow.

When the burner is shut down, there is no vacuum from the fuel unit and the OSV valve is closed – oil flow is stopped.

When the burner starts up, vacuum from the fuel unit opens the OSV, allowing oil to flow.

If a corroded broken line or a loose fitting causes a leak to develop between the OSV and burner, air enters the line. Fuel unit vacuum is reduced and the OSV will not open, preventing tank siphoning and a major spill.

Prevent excessive pressure with a supply pump



The Webster OSV provides important protection in oil burner supply systems with pressurized supply lines. By isolating burner fuel units from supply line pressure sources (a supply pump or overhead tank, for example), the OSV relieves pressure stain on fuel unit inlets and seals.

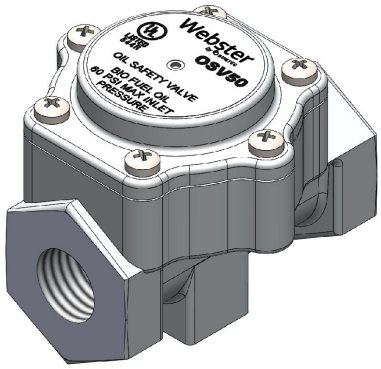
For this application, the OSV is installed close to the burner assembly. A sustained vacuum at the outlet side of the OSV, generated by fuel unit operation, causes the valve to open.

The OSV operates as a pressure reducer, with supply line pressure on the valve inlet side and fuel pump vacuum on the valve outlet side.

In systems with burners connected for one-pipe operation, GPH flow through the valve is the same as the burner nozzle firing rate. In two-pipe operation, GPH flow through the valve is the same as the fuel unit suction capacity. Refer to fuel unit manufacturer's specification for inlet suction capacity. Operation of OSVs in parallel is not recommended.

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TECHNICAL CHARACTERISTICS



Port size :

- OSV 38 : 3/8 NPTF
- OSV 50 : 1/2 NPTF

Temperature range : -40 to 140° F

Inlet pressure : 60 PSI max

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Recommended Maximum flow rates and pressure :

Vacuum (inches Hg) to operate valve is shown for various flow and pressure conditions. *

	Inlet pressure					
Flow thru valve	5 PSI	15 PSI	30 PSI	40 PSI	50 PSI	60 PSI
1 gph	2.5	2.7	3.5	4.5	5.0	5.5
15 gph	2.7	3.0	4.0	5.0	5.5	6.0
32 gph	3.7	4.0	4.7	5.2	6.0	7.0
45 gph	4.0	4.5	5.0	6.0	7.0	
55 gph	4.5	5.0	5.7	DO NOT OPERATE IN THIS REGION		
60 gph	5.0	5.2	6.0			
70 gph	5.5	6.0				

* Values given are averages of test results and may vary slightly

INSTALLATION

The OSV can be mounted in any position.

In environments where dirt or moisture is particularly a problem, the preferred position is with the cover down. This allows any moisture from the diaphragm area to drain out the manual access hole.

For priming purposes, use OSV priming tool (994013). Insert tool to the beathing hole, and depress the diaphragm plate.

DIMENSIONS *(in inch)*

