

Service News



At this time, we would like to explain the leakage protecting valve.

Leakage Protecting Valve

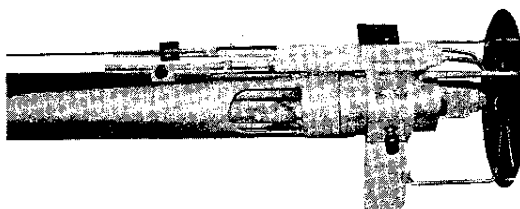
To start with, some burners employed in our boilers use leakage protection valves, while others do not. Check which type has been used in the Final Drawing of your boiler.

< Leakage Protecting Valve >

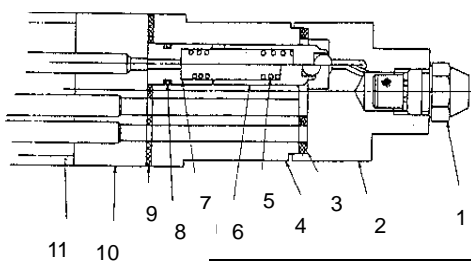
After a burner stops combustion, leakage protecting valves prevent after-dripping from the nozzle tip and constantly circulate fuel oil overheated by the heater to the proximity of the nozzle tip during circulation. This causes oil with proper viscosity to be atomized when it is ignited, therefore, leakage protecting valves have an advantage that they are quite easy to ignite.

< Structure of Leakage Protecting Valve >

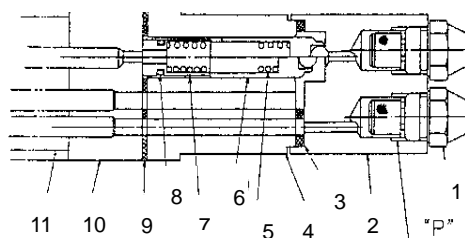
1-tip type



< 1-tip type >



< 2-tip type >

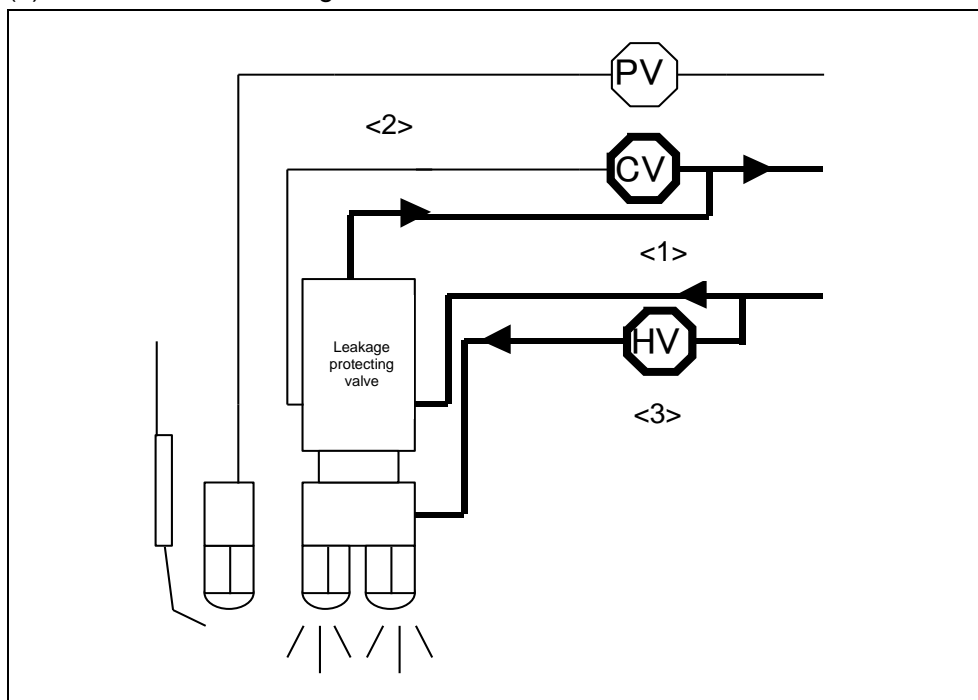


1	Nozzle tip	7	Valve body stopper
2	Nozzle port	8	O-ring
3	Nozzle packing	9	Distributor packing
4	Body	10	Distributor
5	Spring	11	Nozzle pipe
6	Valve body		

* 1-tip type valve has completely the same internal structure of leakage protecting valve as the 2-tip type valve.

< Mechanism of Leakage Protecting Valve Operation >

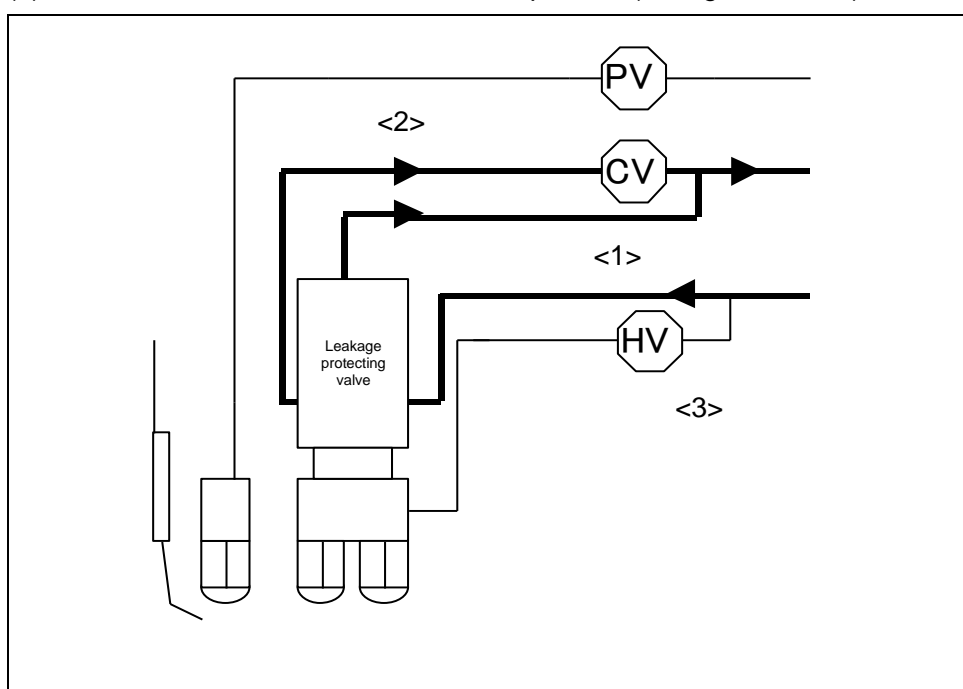
(1) Flow of fuel oil drawing combustion of main burner



PV: Pilot burner solenoid valve CV: Circulation solenoid valve HV: High-combustion solenoid valve

A circulation solenoid valve (CV) connected to the outlet side of leakage protecting valve is activated, and the solenoid valve (CV) closes. Then, the pressure <2> in the leakage protecting valve rises, however, the pressure in the leak line <1> connected to the secondary side of the solenoid valve does not rise due to pump suction. The valve disc pushes up the spring by differential pressure of approximately 8 kgf/cm² (0.78 MPa) generated at this time, and the oil is atomized from the atomizing port.

(2) Flow of fuel oil while combustion is suspended (during circulation)



When combustion stops, the solenoid valve (CV) opens and atomization stops and the oil circulates. This burner is, as already mentioned, provided with a back pressure line, therefore, oil pressure is applied to the back of the valve disc during circulation, whereby the valve will not unintentionally open even during a cold start (high viscosity).

*The above burner is an example. Some models have a pilot burner line instead of the high combustion line of <3>.

< Maintenance and inspection of leakage protection valves >

Each part of our leakage protection valves has been precision-machined. Please request us to check your leakage protection valves for leakage, disassembly and assembly.



Scan the QR code or click on the following URL for information about our service network.

<https://www.miuraz.co.jp/en/marine/service/network.html>



If you have any questions, please contact nearest MIURA's office.
We hope to receive your continuous support in the future.