

Smart Valve™

Patents Pending

4/5/06

Overview

Forespar® Smart Valve™ systems give the boat owner/operator greater piece of mind by knowing, at a glance, which sea-valves are open or closed. The Marelon® valves are U.L. Approved and meet all current ABYC and ISO specifications for below waterline use on any vessel.

The Smart Valve™ System consists of Marelon® Integrated Plumbing Systems valves factory equipped with a Smart Valve™ sensor and a 4, 8 or 12 valve panel display. The boat builder determines which valves need to be on this system and installs them as normal. Two small wires (22 AWG tinned copper) are led to each valve to be monitored and led to the display panel. A 12v power supply is also led to the panel.

The Smart Valve™ panel can be mounted anywhere on the vessel; ideally, along with other critical gauges or instruments so as to be readily accessible and visible. A push of a button activates the display panels LED lights. Green is “Open” and red is “Closed”. No light means the valve is partially open.

Ordering

The Marelon® valves to be used with each Smart Valve™ system, must be ordered at the same time as the panels (4, 8 or 12 valve panel). Existing valves cannot be retro-fitted to Smart Valve™ technology. Smart Valves™ are for new valve installations only.

Any Forespar®, Marelon® Integrated Valve system (“93” series #'s 931132 thru 937658) valves can be ordered and assembled to work with the Smart Valve™ panels. Simply add an “S” after the part number.

- 1) Determine which valves in the boat need to be “Smart” and identify the valve’s function (i.e. “Engine Intake” or “Aft Head Outlet”).
- 2) Choose the panel size needed for all the valves you require (4, 8 or 12 valve display).
- 3) Order the appropriate size Smart Valve™ panel **and** valves to be used on the same order by identifying the valve part numbers you wish and adding an “S” after each number (i.e. 931134**S**) and Forespar® will build the valves with the appropriate sensors installed.
- 4) Fill out the Smart Valve™ order form showing the name and function of each valve in the system and Forespar® will engrave the panel with the valve identification names you supply (maximum 16 characters each-including spaces).

Part Numbers

#930150 4 valve panel display
#930151 8 valve panel display
#930152 12 valve panel display

Valves are ordered separately under their individual part numbers to be used with above panel(s) on the Smart Valve™ order form.

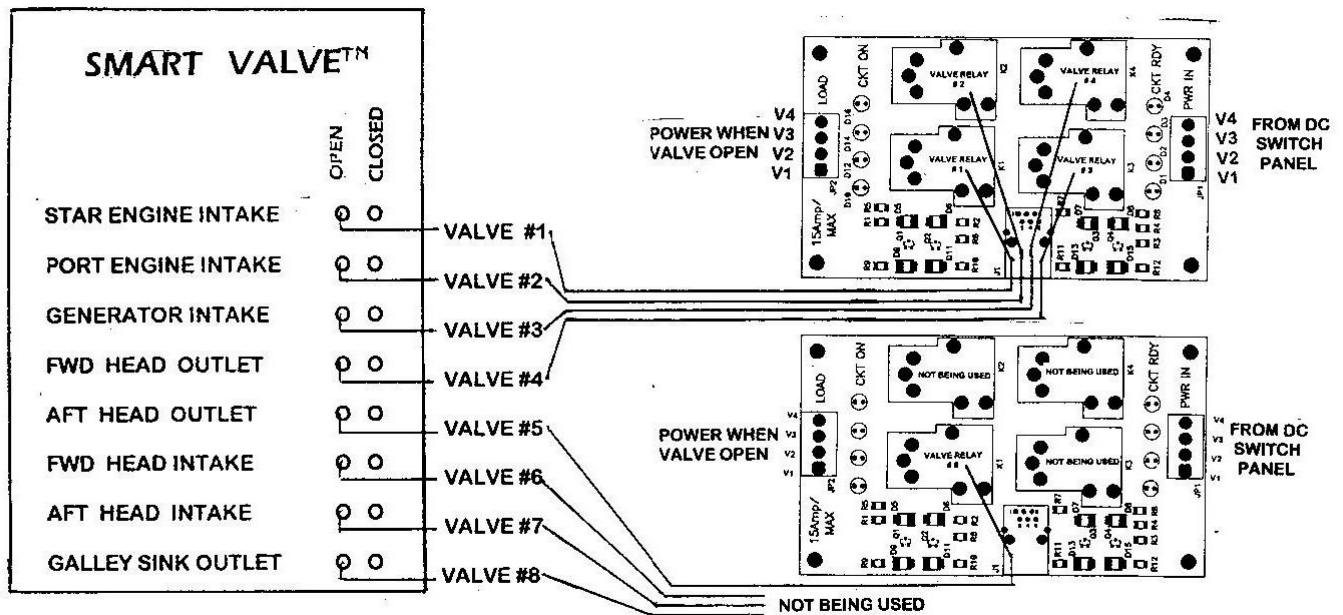
OPTIONAL ELECTRONIC SWITCH PANEL

PUMP "ENABLE / DISABLE" FEATURE (Part number 930153)

As an option, Forespar[®] has designed a circuit board that utilizes the Smart Valve[™] logic to be able to stop the electrical current from going to a given pump or other electrical device such as a macerator pump or engine starting motor. This means you can have your holding tank outlet seacock only allow the macerator to operate if the Smart Valve[™] is open. Or, if the engine cooling intake valve is "Smart", you will not be able to start the engine before opening the intake valve. If the valve is closed, even if the panel switch is turned on, the macerator or the engine starting motor will not operate until the appropriate intake or outlet valve is open. This will help eliminate costly mistakes by the boat owner/operator in holding tank discharge systems and engine over-heat problems.

This optional panel mounts behind your existing electrical panel and does not have a "display" of its own. All information as to the valves status is provided by the Smart Valve[™] panel mounted in a visible location either alongside the electrical panel or at the dash/helm station. A two foot power jack (cord) comes with each switch panel and simply plugs into a corresponding jack on the back of the Smart Valve[™] display panel board.

This switch panel comes in sets of four switches per board. If you need 5 devices "disabled", you would have one 8 valve display board and order two of the optional switch panels and only use one of the switches on one of the panels (example drawing below). As the Smart Valve[™] panels come in 4, 8 and 12 valve displays, if you wanted 12 valves to have the enable/disable feature, you would have three optional switch panels and 3 power jacks (cords) running from the 12 valve display panel.



Note that valves number 6 thru 8 are not wired to the electronic switches on the lower panel so they are not "Enabled" or Disabled" by the Smart Valve[™] system.

By using Smart Valve[™] systems and the optional disable feature, the OEM can now virtually eliminate many of the costly claims for overheated engines, burned out macerator pumps and many other common operator error prone devices/systems on modern boats.