

Monitors

Ranger Hydraulic Remote Controlled Monitor Systems

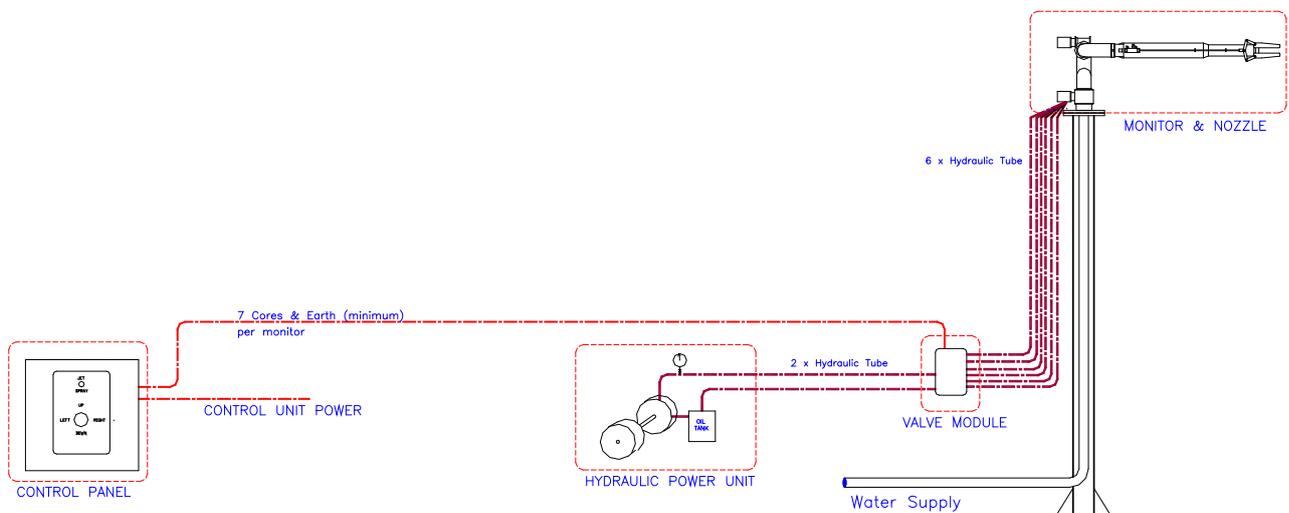
Description

The range of Ranger hydraulic remote controlled monitors is used in both mobile and fixed monitor systems. These monitors can be used with Orion Model 6000RH, 8000RH, 9000RH and 10000RH fog nozzles and Orion Foam Lord model FLD2-65RH, FLD2-80RH, FLD2-100RH and FLD2-150RH foam inducing fog nozzles and with FF-Series aspirated foam nozzles.

The complete monitor system comprises a minimum of five elements:-

- The nozzle selected for the application
- The Ranger monitor
- The hydraulic valve module
- The hydraulic power unit
- The control panel.

There are a number of options for each element of the hydraulic monitor system. These options are offered to provide customers with the maximum flexibility in building the monitor system that suits their needs.



Design Philosophy

The Orion Ranger monitor systems are specially designed to be modular. The modular concept provides flexibility in the selection and location of components for any monitor application.

The installation cost is a significant part of the total cost. The Orion modular concept provides a reduction in installation man hours and installation material, thus contributing substantial cost savings.

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Hydraulic monitor systems are frequently installed in areas with high corrosion potential. Orion is committed to supplying systems that reduce the cost of ownership. To minimise system maintenance hours and cost the Orion Ranger monitors are designed for long term marine service by the selection of materials that are corrosion resistant and by protection of those elements where we can not optimise material selection such as electric motors and control valves

Nozzle Selection

Selection should consider agent to be discharged, flow rate required, throw and discharge pattern required.

Orion has a wide range of nozzles for use with the monitors. The Orion nozzles available can discharge water only, unaspirated foam solution, aspirated foam. Nozzles can be self-inducting and may be fitted with remote controlled spray pattern adjustment. Special nozzles are available for dry powder systems

Monitor Selection

Monitor selection is based on materials of construction, operating system, power supply, monitor location and flow rate required against the pressure loss through the monitor.

The Ranger hydraulic powered monitors are available in sizes from 100mm to 250mm which suits the normal range of water flows required. The monitors are made from 316 stainless steel and aluminium bronze. Each monitor is fitted with automatic hydraulically operated vertical and horizontal controls. Hand wheels for manual operation are fitted as standard. They are outstanding in their flow characteristics and can deliver water, unaspirated foam or aspirated foam. Sealed swivels are added for dry powder. The limits of the horizontal and vertical movements can be set in the factory or on site to suit your requirement.

As the Orion Ranger monitors meet the best standards of construction and allow the required movement limits to be set in the factory or on site selecting the monitor is reduced to a simple exercise of comparing the flow rate from the nozzle against the friction pressure loss through the monitor. See the Friction Loss Curve on the data sheet for the specific model of interest.

Hydraulic Valve Module

Two types of hydraulic valve modules are available as well as custom designed options.

- Weatherproof valve module. This module contains three electric operated hydraulic control valves housed in a stainless steel enclosure with a minimum IP rating of IP56. The three hydraulic valves control the two axes of monitor movement and the nozzle spray pattern
- Explosion Proof valve module. This module has the same functionality as the weatherproof valve module but the enclosure is explosion proof as well as having a minimum IP rating of IP56. The explosion proof enclosure can be certified to a number of different codes.

Options include modules with valves to control other equipment such as water and foam concentrate valves.

The hydraulic valve module is separated from the pump unit to enable it to be located near the monitor. Since six (6) hydraulic tubes are required to connect the hydraulic

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valve module to the monitors and only two (2) from the pump to the hydraulic valve module it is more cost effective to locate the hydraulic valve module near the monitor in a location that is easy for maintenance. If the monitors are closely located it is possible to use one hydraulic pump unit to serve more than one monitor so providing a good cost saving

Hydraulic Power Units

Three types of hydraulic power unit are available:-

- Weatherproof: The electric motor used to power the monitor has a minimum IP rating of IP56 and the unit is housed in a weather resistant housing to protect vulnerable part of the equipment form direct exposure to the effects of weathering.
- Explosion proof: Similar to the weatherproof model but using explosion proof motor and electrical equipment. A number of electrical approvals are available.
- Both the above units require a 3 phase supply 380 to 480 Volts
- Water turbine driven: When reliable electric power is not available it is possible to use the system water to run a water turbine to operate the hydraulic pump.

In addition power units can be engineered with the capacity to power more than one monitor at a time. This is cost effective where monitors are located in close proximity.

Control Panels

Control panels are generally custom designed for the application. It is cost effective to incorporate all system functions in one integrated control panel. Panels can be made for multiple monitors, for indoor, outdoor and explosion proof applications and also using manual control valves.

Where long cable runs are used, with multiple monitors or when multiple control points are used our FireNet control system can be integrated with our hydraulic monitors to minimise installation costs and add functionality.

Control system power such as 24 or 110 V AC or 24 V DC is required.

Conclusion

Orion monitor systems have a well-earned reputation for superior performance, reliable long-term operation in harsh environments, flexibility and lower total cost of ownership when compared with other systems that are available. We achieve this through careful design that focuses on selecting quality materials, protecting vulnerabilities and making our systems as modular and flexible as possible. By making our systems modular and flexible we allow the individual systems to be optimised for each installation.

When our customers have a unique requirement we can customise the design of any modules to suit individual requirements.

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