

# Hydraulic Remote Control Monitor

## Model RCM1

- Reliable, safe operation at up to 300 metres
- Totally independent Water turbine driven or electric prime mover options
- Bronze & stainless steel construction – ideally suited for marine applications



The Angus Hydraulic Remote Control Monitor system represents a major step forward in fire fighting. Comprising a monitor and control panel with built in power pack, the system is engineered to give reliable and safe remote operation at up to 300 metres away from the risk.

When fitted with the water turbine power pack a small quantity of fire main water drives the hydraulic control system. The monitor is therefore totally independent and requires no other power source.

Alternatively, an electric prime mover is available, which is fitted with an hydraulic hand pump as standard to ensure that monitor control can be maintained in the event of electrical power failure.

The monitor can be fitted with the LTN nozzle for water or non-aspirated foam or the FMC cannons, with or without blabbermouth, if low expansion foam is required - see data sheet 608.

### The Monitor

The monitor is a single waterway design which minimises flow restrictions, giving a highly efficient hydraulic performance. The design also ensures that all jet reaction forces pass through the centre line of rotation and elevation swivel joints, so that there is no resultant force due to the main water flow, which may move the monitor once positioned.

The Angus designed hydraulic displacement actuators convert the linear motion provided by pressurised hydraulic fluid, to the rotary motion required for the monitor movement.

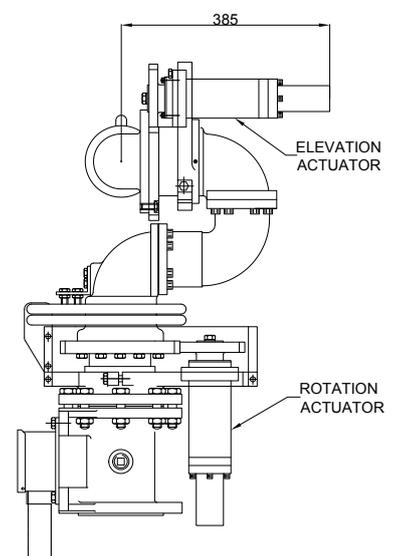
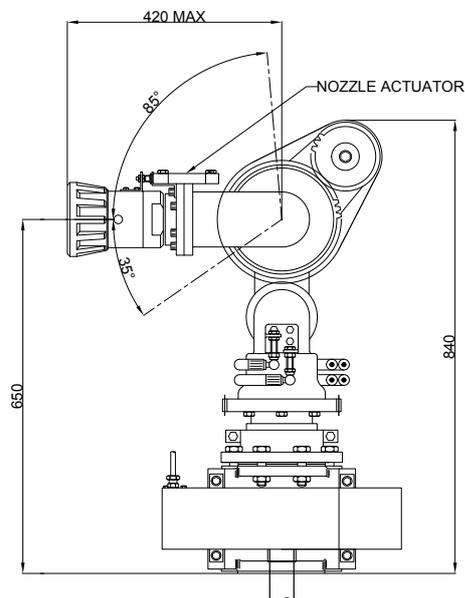
This is transmitted to the monitor body by a pair of permanently meshed gears. The monitor, actuators and gears are constructed in bronze with the guards and fastenings in stainless steel to make the unit ideally suited to marine environments. Each actuator has two hydraulic lines which are connected, via isolating valves at the base of the monitor, to the control panel. These isolating valves allow the monitor to be locked in position for routine maintenance.

### The Control Panel

The control panel is a steel fabrication including power pack and provides the pressurised hydraulic fluid via fixed hydraulic lines to the actuators on the monitor.



The unit delivers a single supply of fluid to the control panel which can then direct this supply to any of the actuators on the monitor, or monitors, to give directional control of the fire-fighting medium.



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The power pack includes the hydraulic oil reservoir, combined fluid level and temperature gauge, hydraulic oil gear pump, multi flow filter, relief valve and pipework to supply fluid under pressure to the control unit. The drive to the hydraulic oil gear pump is provided by either a water driven impulse turbine or an electric motor.

When fitted with the water turbine, the supply is protected by a full flow filter with on/off control via a ball valve.

The supply line also contains a constant flow valve to ensure constant delivery under varying operating conditions.

Alternatively, the power pack can be supplied with an electric motor as the power source for the gear pump.

All electrically driven power packs are fitted, as standard, with a manual hydraulic pump to ensure system integrity during electrical power failure.

Flow control valves included in the unit direct hydraulic fluid to the actuators on the monitor. Each mode of monitor movement - elevation, rotation and nozzle - has its own, spring centre, spool valve connected via 'out' and 'return' hydraulic lines to the corresponding actuator at the monitor.

Each control valve incorporates a 'trim valve' which allows the speed of movement to be adjusted.

Control panels are available to operate either one or two monitors and each can be used with either water or electric

motor power packs. Panels are fitted with a pressure gauge for hydraulic fluid together with the prime mover controls for the power pack.

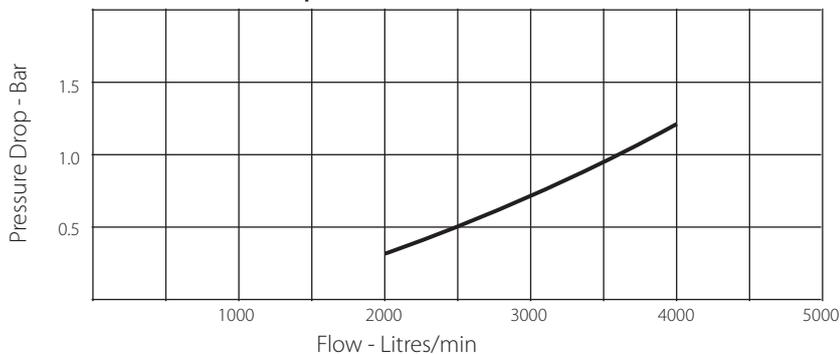
For the water turbine unit, this control is a 1/4-turn ball valve operated by a lever from the top of the panel. For the electric motor unit there are 'stop' and 'start' push buttons, together with a 'motor running' indicator light.

The control panel can be situated at up to 300 metres from the monitors when used in conjunction with the specified hydraulic fluid and tubing. Suitable alternatives are available -if shorter runs are required - consult Angus Fire for full details.

### Specification

Maximum Working Pressure	16 bar g
Test Pressure	24 bar g
Nominal Maximum Throughput	4,500 l/min
Movement Capability - Rotation	360° stop to stop
Movement Capability - Elevation	85° above to 35° below horizontal
Materials - Monitor	Gunmetal to BS 1400 LG4
Materials - Actuators	Phosphor Bronze to BS 1400 PB1C and Stainless Steel 316 S1B
Materials - Water Inlet	Aluminium Bronze to BS 1400 AB2
Materials - Flexible Pipe	Stainless Steel Braided Tubes to SAE 100 RIA & BS 3832
Connections - Nozzle Attachment	2½" BSP Male
Connections - Water Inlet	4" class 150 R.F. or F.F to ANSI B16.5
Connections - Hydraulic	¼" BSP Female into isolating valves

**Flow vs Pressure Drop**



### INTERNATIONAL SALES

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