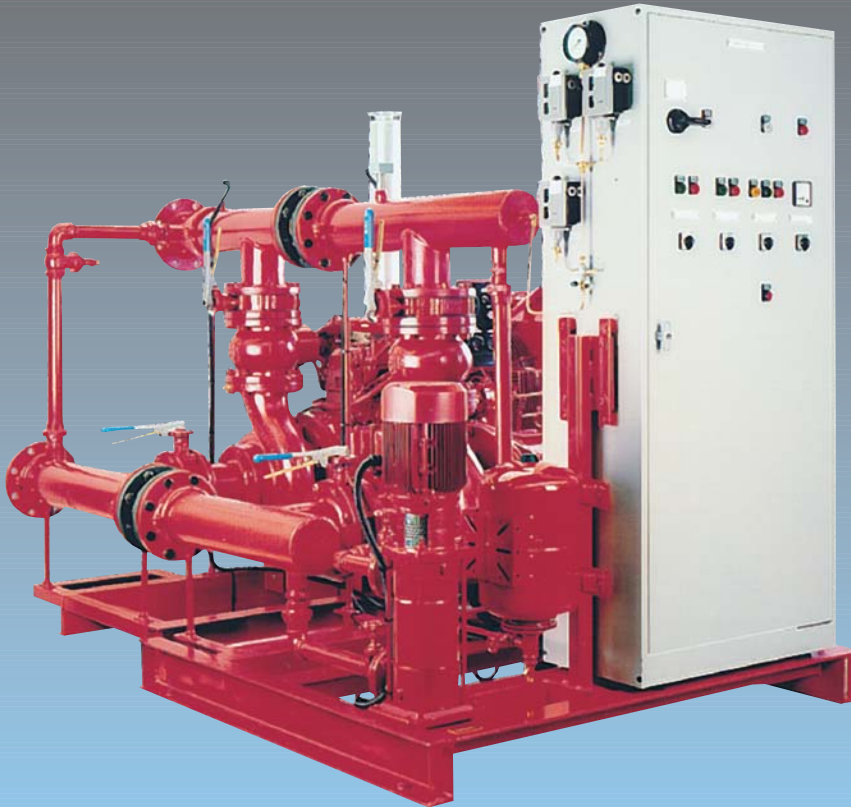


# ARMSTRONG

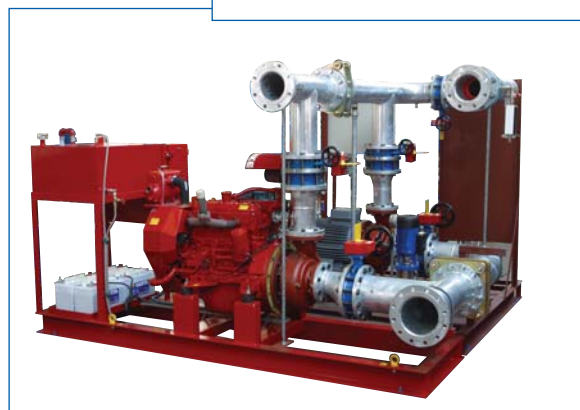


## Pumping Systems

FILE NO:	11-3
DATE:	August 2010
SUPERSEDES:	11-3
DATE:	July 2007

# Wet Riser Pumping Stations

When fire breaks out, the greatest saving to life and property depends upon fast effective action. For buildings over 60 metres in height this primary fire-fighting requires, in addition to first-aid hose reels, a wet riser pumping system to give the necessary lift needed to reach the higher floors.



## ► Fast Action

Armstrong Wet Riser Pumping Systems are designed to meet customers' specific requirements and to provide the reliability needed in emergency situations.

The Wet Riser Sets incorporate the best pumps for the job, dependable controls and all the necessary pipework and valves on a common baseplate – quality engineering for complete peace of mind.

## ► Packaged Set Features

1. Compact fully automatic pumping system, complete with pipework, valves, flow switch and electrical controls mounted on a common baseplate.
2. Diesel electric sets are supplied on two base plates.
3. Back pull-out design of 4280 Starbloc pumps for fast and easy maintenance.
4. Membrane vessel for positive energy source to system when pumps are at rest.
5. Pressure switches and gauges mounted on side of control panel for easy access and display.
6. Latest control panel design gives the required protection to electrical control equipment. All pre-wired and tested in our Works to ensure correct on-site operation.
7. Valves and test points comply with Fire and Water Authority requirements.
8. Minimal work required to install and commission, i.e. suction and discharge connections and mains 3 phase electrical supply with Neutral and Earth.

# Primary Fire-Fighting in Tall Buildings

## ► Wet Riser Requirements

Wet Riser installations serving 2" landing valves should be provided in addition to first-aid hose reels in buildings taller than 60 metres.

The output of the pumps used in conjunction with these installations should be not less than 25 l/sec. and should be able to maintain a maximum of 5 bar pressure at the top landing valve.

A minimum running pressure of 4 bar and maximum of 5 bar is maintained at each landing valve when up to three valves are fully opened.

The landing valves used must be of the type incorporating a device to limit the outlet pressure to a maximum of 7 bar.

A suction tank of 45,000 litres is required to supply the pumps, with two alternative mains water connections to the ball valves of the tank.

Duplicate pumps are necessary with two separate sources of power supply. If both pumps are electric motor driven then two sources of supply are required. Standby generator or dual power supplies will be required in case of grid failure. If dual power supplies are utilised, a selector (provided by others) is necessary.

Alternatively, one pump may be electric motor driven and the other coupled to a diesel engine with the necessary controls to start the engine in the event of a mains power supply failure included.

## ► Operation

Operation of the set is effected by a fall in system pressure. The pressure vessel provides a positive energy source to the system and a small supply of water to prevent operation of the pumps in the event of small leakage within the system. A jockey pump is used to keep the system pressurised. Control is effected by a pressure switch and minimum run timer.

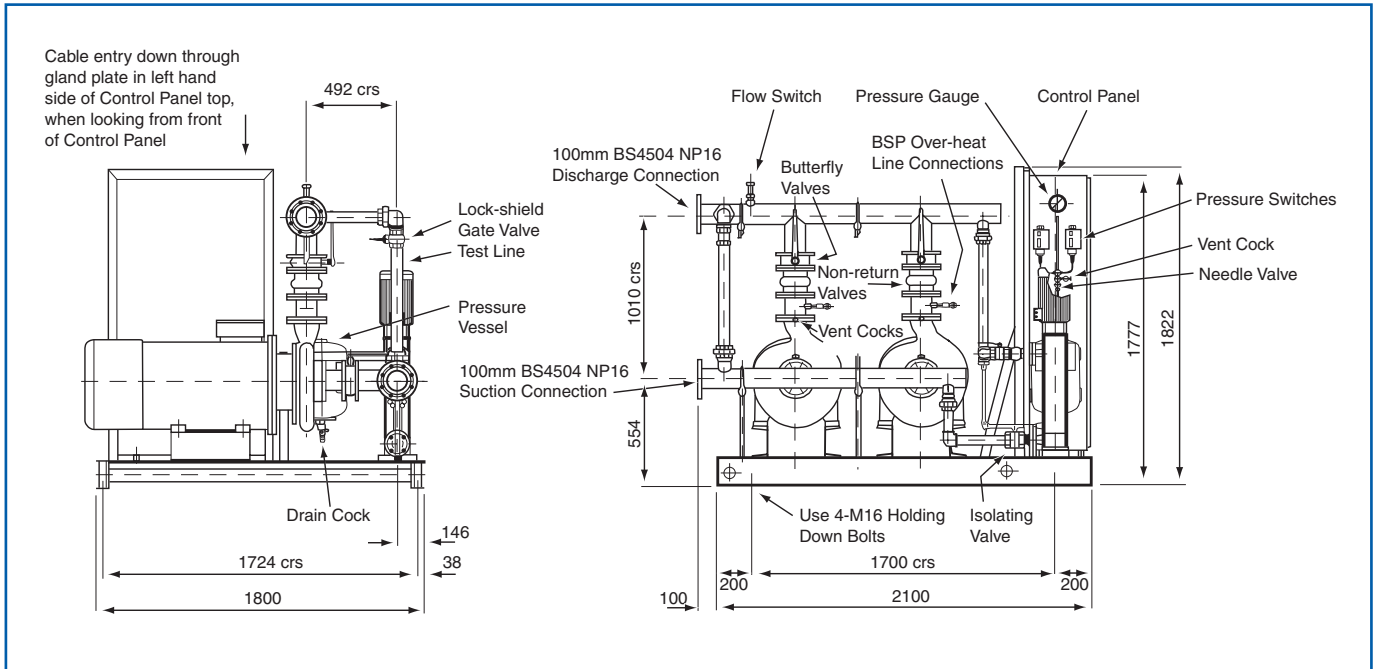
If the jockey pump fails to maintain pressure, the selected duty pump will be activated by its pressure switch. While a flow of more than 4.5 l/s is detected by the flow switch the duty pump will remain in operation. The control panel provides for automatic changeover to the standby pump in any event where the selected pump cannot maintain the required pressure.

The set is provided with an integral test line and is fitted with the test valves that are required by the Fire Authorities. When two electrically-driven pumps are supplied, only one supply to the control panel on the set is provided for. Automatic changeover of the electric supplies must be dealt with elsewhere.

Where a diesel-engine driven pump forms part of the set, an additional pressure switch and flow switch provide automatic control in conjunction with the DC supply from the engine batteries.

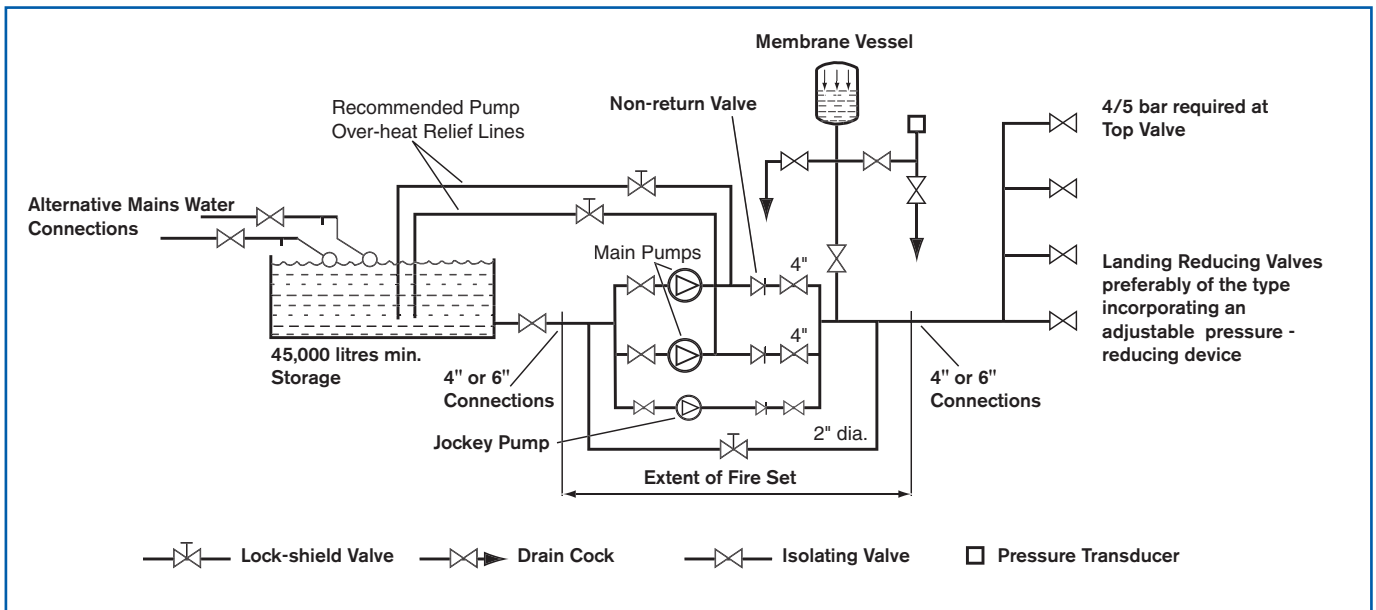
## ► Wet Riser Pumping Set - Typical Dimensions

General Arrangement of 2 pump 100-350 4280 Starbloc (75kW) Fire Service Set with SV8/9R jockey pump.



## ► Wet Riser Scheme

Fire service set with 2 main pumps and jockey



Our policy is one of continuous improvement and we reserve the right to alter our dimensions and specifications without notice

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