

PACKAGED HOSEREEL PUMP SETS MKII

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Section

4



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These sets have been designed and sized for the maximum demand required by any local authority and generally conform to B.S. 5306 Part 1, 1976. For use outside the U.K. requirements may vary and each application must be considered on its own merits.

Each set consists of two pumps, one duty and one 100% standby on a bedplate complete with suction and delivery manifolds, valves and control panel on a frame attached to the bedplate. A sheet steel enclosure can be provided as an optional extra.

The site requirement is simply for the bedplate to be fastened to the foundations, suction and delivery pipes to be connected, the electrical supply to be made up and the break tank float switch to be wired in along with the external alarm bell or remote alarm panel as appropriate.

USING THE SET

The Fire Prevention Authorities usually require the provision of hose reels sited at such locations as to enable the entire occupied area of the building to be

covered, and it is desirable that any given location can be approached from two positions.

The following figures are based on the Fire Service requirements, and although they can vary from locality to locality they can be regarded as a reasonable guide.

Where hose reels incorporating 25mm bore hoses are provided, these must be fitted with 6mm bore nozzles and the minimum nozzle pressure should be 0.76 bar at the nozzle. Hose reels having 20mm bore hose are fitted with 5mm bore nozzles and in this case the minimum pressure at the nozzle should be 2.4 bar. Modern hose reels require a flow rate of 1.36m³/h and most authorities only ask that three reels work at any one time, excess capacity being a safeguard. Calculated head on a system would be based on a flow rate of 4m³/h. London Fire Brigade insist that pumps should be capable of passing 8m³/h. The maximum horizontal reach under such circumstances is 13.7M with a 5mm nozzle and 9.7M with a 6mm nozzle. In estimating pump duty, one should calculate the flow rate at the total head, taking into account the static, the friction

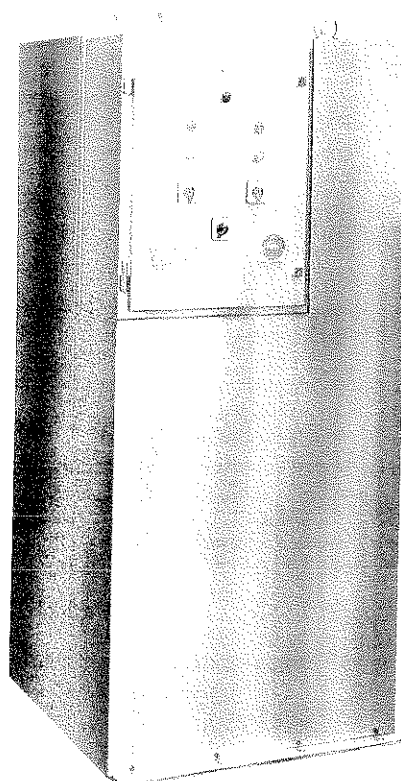
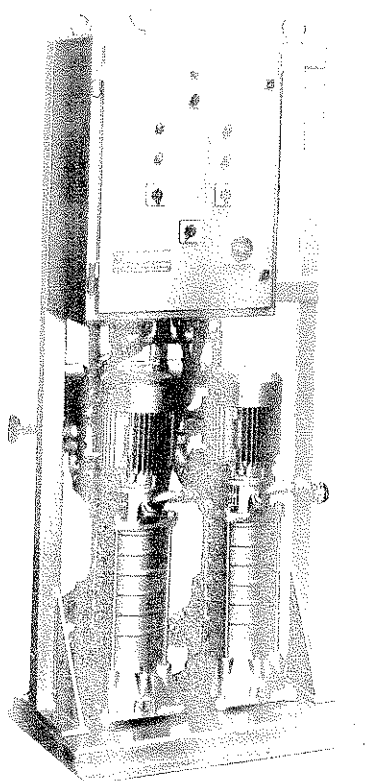
losses through the total rising main and the friction losses through the hose reels. Irrespective of the number of hose reels in operation if the pump set is sized to cater for the highest hose reel it will be capable of dealing with all. At a flow rate of 1.36m³/h. through 30M of hose the pressure loss due to friction is as follows:—

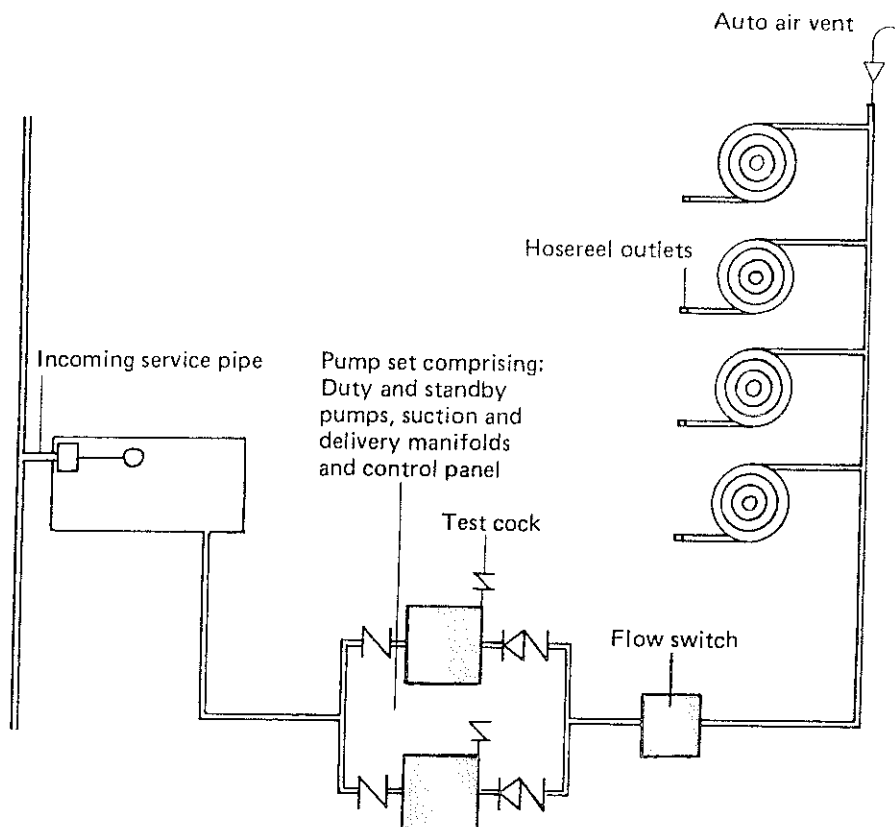
20mm bore -- 0.5 bar
25mm bore -- 0.1 bar
Pressure loss in metres per 30M of riser is:—

m ³ /h	3.0	4.5	6.0	7.5	9.0
1½" N.B.	0.45	1.0	1.8	2.8	4.0
2" N.B.	0.17	0.38	0.67	1.0	1.5

In pumped installations break tanks are normally provided and these should have an approximate capacity of 2M³ which is sufficient to maintain three hose reels each discharging 1.36m³/h. for 30 minutes.

The riser would generally be 2" bore but under certain conditions with a relatively small number of outlets 1½" is acceptable.





All components in colour are included in the set

OPERATION OF THE SET

With the system fully pressurised and the controls set to automatic, the opening of any hose reel will cause a drop in pressure which will start the duty pump via the No. 1 pressure switch. The duty pump will run for a minimum of 4 minutes via the time relay. If at the end of that time period the hose reel is still open the duty pump will continue to run via the flow switch. When the hose reel is finally shut down the system is repressurised, the pump stops the flow and pressure switches ready for the next emergency.

SPECIFICATION

Bedplate

Fabricated mild steel with support for control panel.

Manifolds

Standard manifolds are galvanised malleable iron with straight unions at inlet and outlet. Alternative construction using gun metal can be supplied.

Valves

Each pump will have isolating valves on the suction and delivery and non-return valves on the delivery.

Water board stamped valves will be fitted when specifically ordered.

Controls

A pressure switch, flow switch and timer relay are provided along with connections for remote alarms. Prevention of dry running is controlled by either a break tank floatswitch or a suction manifold low

pressure switch to suit application.

A remote alarm panel with bell, lamp and muting buttons is also available.

Control panel

These are pressed mild steel construction, damp and dust proof to IP55. Fitted with Test/Off/Auto switches and run/trip lamps for each pump, selector switch, low water and panel energised lamps, lockable door, door interlocked isolator. HRC fuses for motors and control circuit, motor starters and overloads along with terminals and labels. Panels are made suitable for 35°C ambient for temperate zones and 50°C ambient for tropical and sub-tropical zones.

Electrical Wiring

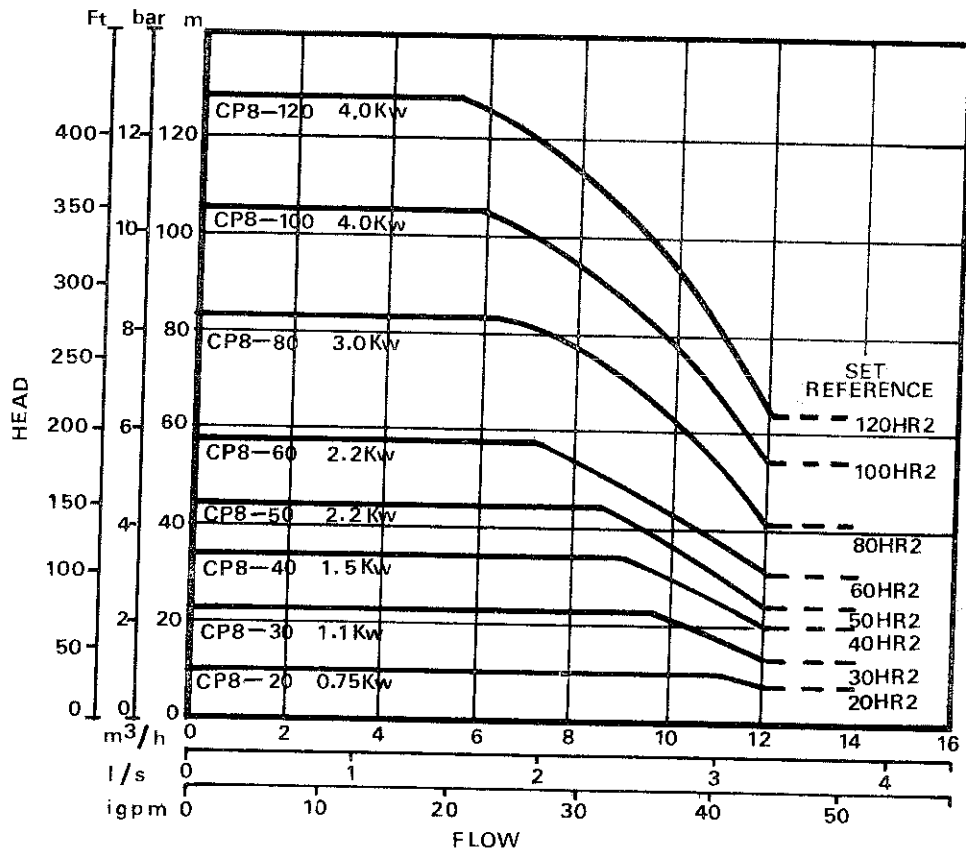
Wiring to IEE wiring regulations 15th edition 1981.

Notes:

Maximum working pressure on standard sets is 13.8 bar ie. maximum generated head plus suction pressure is 13.8 bar.

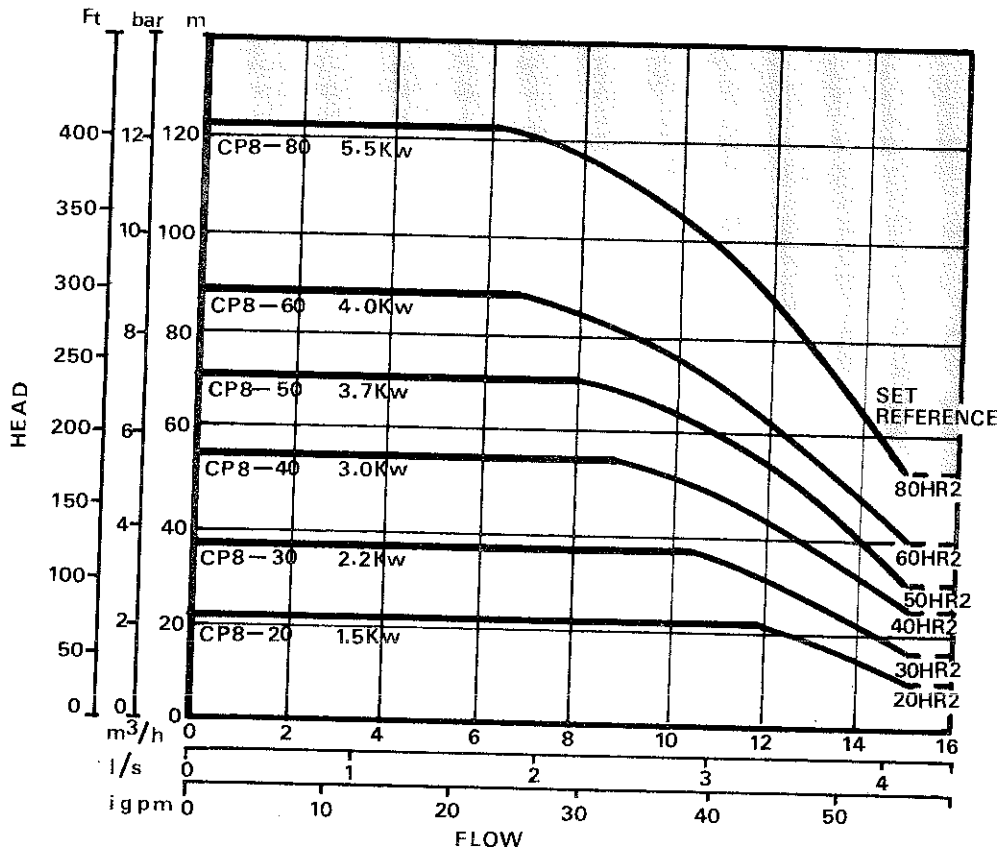
SELECTION CHART
MULTISTAGE PUMPS 2900 RPM
PERFORMANCE ON WATER SG = 1.0

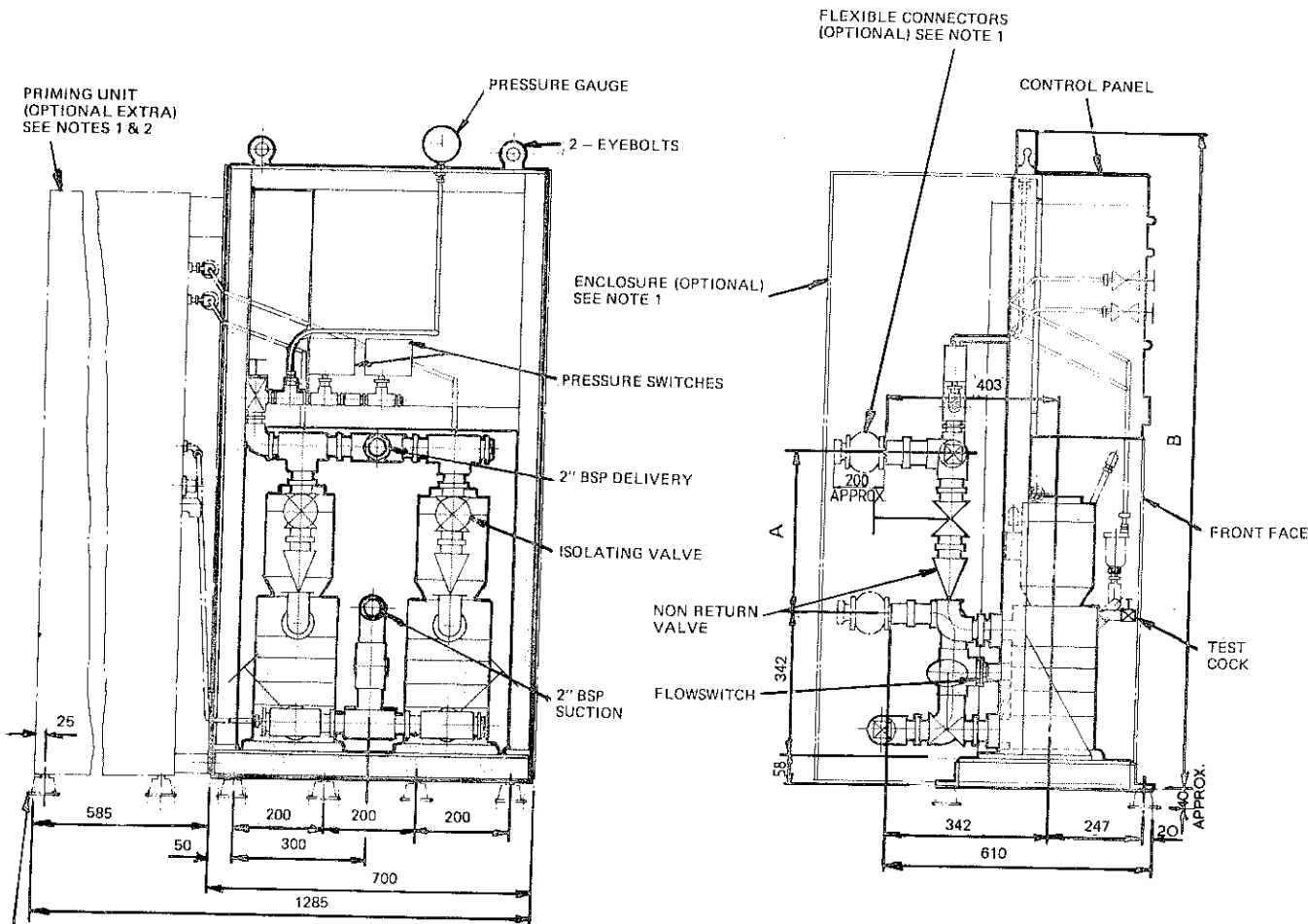
50Hz



SELECTION CHART
MULTISTAGE PUMPS 3500 RPM
PERFORMANCE ON WATER SG = 1.0

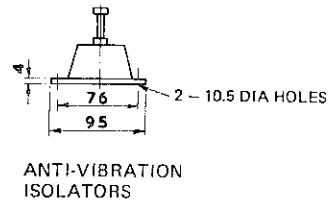
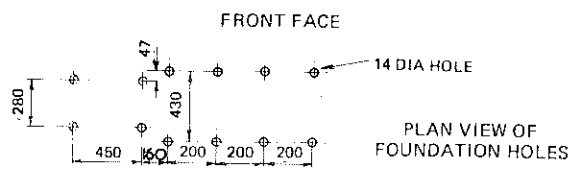
60Hz





ANTI-VIBRATION ISOLATORS (OPTIONAL)
8 FOR BEDPLATE
4 FOR PRIMING UNIT
SEE NOTE 1

- NOTE:
- 1 ANTI-VIBRATION ISOLATORS, PRIMING UNIT, ENCLOSURE AND FLEXIBLE CONNECTORS ARE ONLY SUPPLIED WHEN ORDERED
 - 2 PRIMING UNIT IS ONLY REQUIRED WHERE A SUCTION LIFT IS INVOLVED. WEIGHT OF PRIMING UNIT IS 100Kg.



MAXIMUM WORKING PRESSURE ON STANDARD SET 13.8 bar

SIZE OF PUMP	A	B	MOTOR DETAILS		WT Kg.
			50 Hz KW	60 Hz KW	
CP8-20	315	1445	0.75	1.5	250
CP8-30	360	1490	1.1	2.2	260
CP8-40	405	1545	1.5	3	280
CP8-50	450	1615	2.2	3.7	305
CP8-60	495	1660	2.2	4	315
CP8-80	585	1795	3	5.5	350
CP8-100	675	1910	4	-	420
CP8-120	765	2000	4	-	440

CERTIFIED DRAWINGS WILL BE SUPPLIED ON APPLICATION.
Specifications subject to change without notice.

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