

SECTION 4

Pump Packs

WAP2-1/1 2" Diesel Pump Set Kit

WAP4-1/1 4" Diesel Pump Set Kit

WAPF/2 Pump Fittings Kit

WAPO/1 Pump Oil Kit

Shipping Specifications

WAP2-1/1 1.33 x 1.33 x 0.75m - GW: 250kgs

WAP4/11.47 x 0.84 x 0.98m - GW: 490kgs

WAPF/20.40 x 0.20 x 0.16m - GW: 12kgs

WAPO/1 0.60 x 0.46 x 0.64m - GW: 62kgs

Pumping Packs

Pumping packs have been developed to provide a method of moving water from its source to storage tanks and from storage tanks to point of use.

There are basically three kits within the range that include pump sets, each with varying outputs. The correct kit may be selected depending upon the site conditions that are applicable.

Besides the pumping kits there are ancillary packs which may be ordered to aid the installation of the pump kits themselves. These include oil kits, tool kits and maintenance/spares kits.

Pumping Packs - Installation Instructions

Pumps should be located as close a possible to the water source and in any case suction lift should not exceed 7 metres. In selecting the pump location consideration should be given to flooding possibilities. Where the pump is located in an enclosed environment the engine exhaust pipe should be connected into to the open air.

Pump duty will vary considerably depending upon prolonged usage or the altitude at which the unit is situated, for example a loss of about 6.5% per 500 metres of altitude will be experienced where the pump site is located 150 metres above sea level.

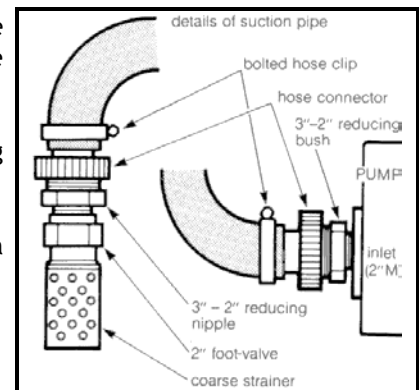
In addition ambient temperature will result in considerable output losses of around 3% per 10°C above 27°C ambient air temperature.

Pumping From Water Source to Storage:

Kits come complete with footvalves and strainers, hosepipe and the necessary couplers and fittings. It is important that all joints are completely air-tight on the suction side pump.

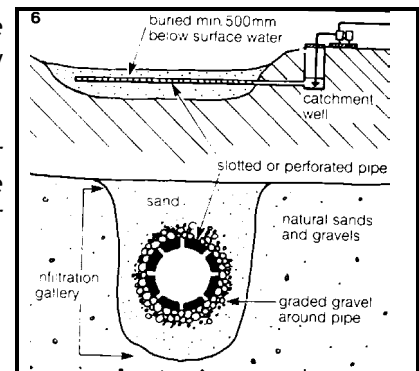
Delivery connections may be made using flexible hose or by connecting directly to rigid pipeline.

In all cases the pump should be fixed to the ground, either by casting a concrete base or alternatively by bolting it to heavy timbers.



Ground water sources should be exploited in preference to surface sources to avoid contamination. If no ground water is immediately available a well may be constructed in the bank of a stream, as shown.

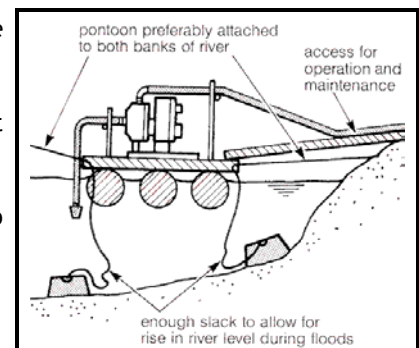
Flows may be improved by burying a perforated pipe to carry water from the bed of the river to the well chamber. In addition dams may be constructed downstream from the infiltration point to assist water availability.



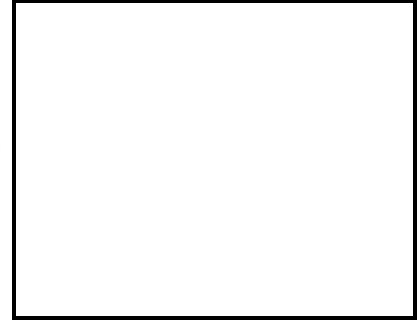
Occasionally it will be necessary to draw water directly from a surface source and inevitably this water will need treating.

Where water is drawn in this manner the suction point should be kept above the bed of the river so that silt will not cause blockages.

Pumps may be mounted on pontoons or rigid platforms in order to keep them above flood levels.



Pumping packs may be used in conjunction with the water distribution pack but it is important to provide a relief circulation loop so that when collection valves are closed and the pump remains in operation there is no danger of the pump over heating.



Operational Information:

Once the pump is operational the yield must be adjusted to suit both the demand and the supply available. This can be adjusted by changing the engine speed or by closing the delivery valve.

Wherever possible hoses and pipes should be buried to reduce damage and ideally the pump itself should be covered to prevent vandalism and dust damage although airflow is most important.

Regular maintenance and oil checks every day are essential.

Operational Problems:

The most likely problems are lack of prime, blockages and leaks.

Lack of prime may be due to air entering the suction hose because of loose connections or inadequate water source.

Blockages will be due to inadequate filtration and can be avoided by the use of a screen and regular cleaning.

Safety Precautions:

- Ensure engine is securely mounted
- Keep clear of all hot and moving parts
- Wash any part of the body that comes into contact with fuel oil