

# Installation, Operation and Maintenance Instructions for the Easymat Booster Set.

Please fulfil all listed requirements prior to and during installation and operation of all equipment to prevent invalidation of any warranty given.

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## General Installation

### Site Location

During off loading and positioning of the booster set care must be taken only to lift via the base frame and not the pipe work, pumps or vessel/s.

The unit location should be undercover, dry and freely ventilated. Protection from frost must be ensured.

Provision should be made for the disposal of system drained water.

Reasonable access to all parts of the set and adequate service work space must be provided. Provision for lifting equipment is recommended for units incorporating large pumps.

The floor base should be firm and level in all directions, and points are provided for floor fixing if desired. Isolation of the set if required should be ant vibration matting beneath the frame together with pipe work flexibles.

All system pipe work should be aligned and self supporting preventing any strain or distortion within the unit.

### Water Supply

The stored water should be clean and free from any foreign materials. There should be nothing suspended or dissolved to block or wear the pump internal components.

The water storage tank should provide all the pumps with a fully flooded suction (with the exception of self priming sets) at all times irrespective of water level within the tank.

All self priming sets should be fitted at the water source with a good quality foot valve complete with stainless steel strainer, all suction pipework runs should be sited to avoid any air pocket traps and be fitted with at least one positive/negative automatic air vent.

Pipe sizing should be to suit length of run and booster set net positive suction head requirements.

### Isolating Valves

If final isolating valves are not supplied with the unit we strongly recommend the fitting of these and unions to facilitate any service work necessary.

## Electrical

### Connections to unit

The supply should be brought to the set with suitable trunking or armoured flexible cable (depending on current rating of set), with trunking we recommend that the final metre is converted to flexible conduit to avoid any undue stress or fatigue to the unit.

All supply cables should be sized accordingly to accommodate any voltage drop due to long cable runs for all pumps running simultaneously.

Voltage at the unit should be to the stated supply voltage on the specification. A neutral supply is required for all panels.

It is recommended that an independent isolator is fitted adjacent to the unit.

Supply fuses should be rated for the size of the pump motor multiplied by the number of pumps within the booster set. (Please refer to specification for Kw and F.L.C. details).

The control panel when fitted has its own individual pump protection.

### **All equipment should be earthed.**

After priming of the unit, pump rotation must be checked and phases changed if necessary to prevent damage and lack of pump performance. Rotation should also be checked after any electrical maintenance work within the building.

All connections should be performed by a competent electrical conversant with the panel wiring diagram.



## Start Up

### Air Checks

Before suction isolation valves are opened all hydraulic accumulator/s air pressures should be checked (if fitted) and adjusted using a car tyre pressure gauge, foot pump or oil free compressor. Access is via the schrader valve under the cover cap. Please refer to the vessel label or booster set specification sheet for pressure required.

### Priming

After flooding the suction line all the pumps should be primed and vented. On vertical multistage pumps these should have individual vent plugs loosened to allow air purging and water flow to each priming point, this may have to be repeated if poor pump performance is experienced due to trapped air pockets.

On certain horizontal end suction pumps these too may have a vent plug, but if not fitted air should be allowed to evacuate via a suitable point of the discharge pipework, e.g. a drain cock, tap etc.

**NEVER RUN ANY PUMPS EVEN TO CHECK ROTATION BEFORE COMPLETE PRIMING IS ACHIEVED.**

Check the operation of the storage tank low level float switch where fitted. If a float switch is required then take out link between 8 & 9 in the fuse box and replace with your float into the same terminals.

All units are wet tested and set before despatch and should only need slight pressure switch adjustments if at all, owing to differing site suction conditions. For switch details please refer to information sheet.



## Maintenance

Booster sets require very little general maintenance, listed below are quarterly and yearly check schedules.

### Quarterly

The hydraulic accumulator should have its internal air charge checked and adjusted to the correct pressure.

It must be stressed that this is only to be performed after switching off the booster set, isolating the accumulator and draining all water present from the internal storage, to obtain a correct pressure reading.

The whole set should be observed for any leaks, particularly the pump shaft seals and the valve glands, if found please contact Calpeda or your Distributor who you purchased the Booster set through.

The pumps should be noted for any deviations to their smooth running and performance, again please contact our service department for any assistance required.

If the unit has not been operational for a long period all pumps should be vented as described in the start up information.

If not in use during the winter period and there is any chance of freezing, drain all pumps and pipe work and cover with a suitable frost protection covering. Ensure full venting before start up.

### Yearly

All quarterly checks are to be performed.

All pumps should have a full load current, and windings test to ascertain pump motor condition.

Non-return valves should have a visual and audible inspection for general wear and sealing.

All gauges are to be inspected for operation and replaced as required.

Electrical cables and conduit are to be checked for cuts or chaffing and to be replaced as necessary (After unit isolation).

It is recommended that all yearly checks are carried out by Calpeda or your Distributor and service contracts are available on request.