



METCRAFT

PRODUCT DATASHEET

DUTY STANDBY PUMP SET

CONTROL PANEL



Office Address:
Metcraft Group LTD
Unit 4, Cliffe Court
Medway City Business Estate
Rochester, Kent
ME2 4GU

Factory Address:
Metcraft Group LTD
4 Old Mill Lane
Aylsford
Kent
ME20 7DT

www.metcraft.co.uk
contact@metcraft.co.uk
+44 (0) 1903 714 226



METCRAFT

Contents

0.0	Overview
1.0	Installation
2.0	Electrical diagrams
3.0	Alarms
4.0	Inputs
5.0	Connections
6.0	Specification



METCRAFT

The PE Twin Pump Controller is a microprocessor-controlled, duty/standby/assist control panel for use with twin pump sets transferring from a bulk to a day tank, incorporating tank level controls, bund/seal leakage detection, BMS and fire system interface, using an innovative modular construction.

The main features include :

- 1) A compact, self-contained microprocessor panel with plug-in connections.
- 2) Automatic pump changeover with alternate starting sequence.
- 3) Auto/off/manual facility for each pump.
- 4) Bulk tank level controls with low/low pump protection, giving local LED and sounder indication and a remote alarm signal.
- 5) Day tank level controls with high and low level alarms, giving local LED and sounder indication and a remote alarm signal.
- 6) Building Management Interface (BMS) including fire cut off.
- 7) Standard voltage 240/1/50 (415/3/50 or 110/1/50 available).
- 8) Mounted in an epoxy-coated steel enclosure 400mm x 500mm x 150mm.

Optional extras include extra volt-free contacts for external equipment, internal RCDs interlocked with pump changeover and an alarm in the event of a pump failure. For critical systems, a remote dialler can be fitted which can send a text message to a mobile phone anywhere in world !



METCRAFT

1.0 Installation

1.1 Electrical

The electrical installation MUST be undertaken by a competent person and should comply with the relevant IEE regulations.

Make sure that the mains voltage ($\pm 10\%$) and frequency correspond with the rating plate which is fixed on the inside left side of the control cabinet.

Check that the thermal over-loads are set at the correct current for the pumps.

Wiring Before making any other connections, make sure the control panel earth (green/yellow) is connected, then connect the neutral and phase connections to the isolator switch.

Direction of rotation Check direction of rotation. If not correct, see motor manufacturer's details as to which links in the terminal box need to be moved. With three phase motors, invert any 2 of the 3 motor supply cables.

Float switches may be fitted to the supply (bulk tank) and or the filling (day tank). Follow the connection diagram in section 5.0. If dry-run protection is not required, links must be fitted to the bulk tank terminals



METCRAFT

1.2 Pumps

Make sure that:

- 1) The pipework has been flushed clear of debris before fitting the pumps.**
- 2) The pipework does not put any strain on the pumps. If necessary fit flexible connections.**

The pumps must be installed in a level horizontal position with the base plate fixed to a solid surface. The suction diameter of the piping should be no less than the pump inlet diameter which should have a slight upward slope to avoid air getting trapped. The pipework should be checked for leaks before operating the pump

Always fill the pumps with liquid before starting - dry running will damage the mechanical seal and impeller. If the pumps are for water, guard against frost damage.

Starting

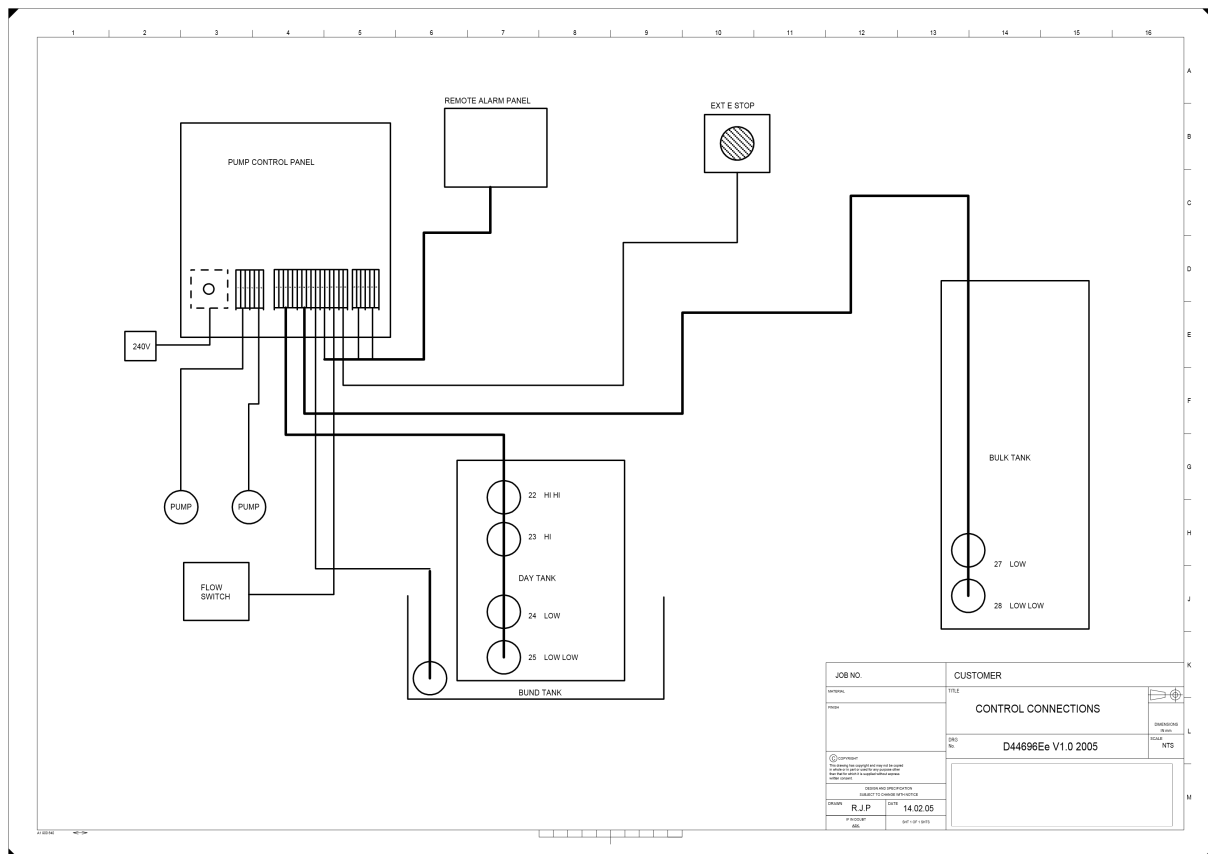
Make sure that the selector switches are set to off. Turn each selector switch to **Hand** and check for flow and direction of motor. If correct, select auto and check for leaks and operation of the day tank float switches.

Dry running operation of the pumps will damage the mechanical seal.



METCRAFT

2.0 Electrical diagram



Office Address:
Metcraft Group LTD
Unit 4, Cliffe Court
Medway City Business Estate
Rochester, Kent
ME2 4GU

Factory Address:
Metcraft Group LTD
4 Old Mill Lane
Aylsford
Kent
ME20 7DT

www.metcraft.co.uk
contact@metcraft.co.uk
+44 (0) 1903 714 226



METCRAFT

3.0 Alarms

Relay 3

Bulk low low

Day hi hi

Fire

Relay 4

Bulk low

Day low low

Pump 1 tripped

Pump 2 tripped

Bund leak / full

E stop active

Both pumps off will sound of will sound local panel alarm only (maintenance

Relay State	RL 3			RL 4		
	40	41	42	43	44	45
System off	N/O	C	N/C	N/O	C	N/C
System on (No alarms)	N/C	C	N/O	N/C	C	N/O



METCRAFT

4.0 Inputs

For Normal Operation

Day tank	21	Common day tank		*	
	22	Hi Hi	N/O	MOR	Pump stop
	23	Hi	N/C	MOF	Working level
	24	Low	N/C	MOF	Working level
	25	Low Low	N/C	MOF	
Bulk tank	26	Common bulk tank			
	27	Low	N/C	MOR	
	28	Low Low	N/C	MOR	Pump stop
Bund	29	Common bund			
	30	Bund	N/O	MOR	
Fire	31	Common fire cut-off			
	32	Fire	N/C		
Flow sensor	33	Common flow sensor			
	34	Flow sensor	N/C	MO FLOW	
Emergency Stop	35	E stop feed	N/C	Only connect to 35 and 36	
	36	E stop feed	N/C		
Notes	MOF	Make on fall		Float switch	
	MOR	Make on rise		Float switch	
	MO FLOW	Make on flow		Flow switch	

[illegible]



METCRAFT

6.0 Specification

Voltage	110/1/50	240/1/50	415/3+N/50
Maximum Pump size:	110 volt	1.5 kW	
	240 volt	2.5 kW	
	415 volt	11.0 kW	
Enclosure	Sheet steel polyester coated with a hinged lockable door. The door is fitted with a gasket to protect against damp and dust with a mechanically interlocked door switch. Cable entry is provided via a removable un-drilled gland plate fitted at the bottom of the enclosure.		
Size	500mm x 400mm x 150mm		
Duty pump	Automatic pump rotation when auto is selected on both pumps.		
Level control	low voltage (5v) using float switches.		
Pressure switch	Used on pressure booster sets (5v).		
Emergency stop	Contacts fitted for external N/C Emergency stop. Link if not used.		
Flow switch	Contacts for Flow switch (Link if not used).		
Bund leak	Contacts for float switch N/O		
Fire switch	N/C contacts from remote fire panel to shut system down if a fire is detected. (Link if not used).		