

E-BOX 2D M / T - E-BOX 2D M 40 µF

GENERAL DATA

Applications

Control panel for the protection and automatic operation, with float or level sensor control, of two single-phase or three-phase (direct starting) electrically driven pumps installed as a pair. Thanks to the facility for pump current control (1-12 A) the E- Box control panel is compatible with a large number of different pump models. E-box can control one or more pumps.

CONTROL PANEL	ELECTROPUMP
E-BOX 2D M / T	FEKA 600 M-NA, FEKA VS-VX M-NA, DRENAG M-NA (excluded 1400 M), FEKA 600 M, FEKA VS VX T, FEKA 600 T, DRENAG T, FEKA 1800 T, GRINDER 1800 T - FEKA 2500 - 2700 - 3000 - 3700 (direct starting)
E-BOX 2D M 40 µF (with capacitors)	DRENAG 1400 M, FEKA 1400 M

Features

Supplied in a self-extinguishing thermoplastic enclosure, complete with wall mounting brackets. The control panel protects the electropumps from overloads and short-circuit conditions, with manual reset, and overtemperature conditions with automatic reset.

Front panel components:

- main disconnect switch with padlockable doorlock
- AUT - 0 - MAN operating mode selection buttons
- alarms RESET button
- run, trip and alarm indicator lights

Components inside the control panel enclosure:

- control circuit board, fuses, contactors
- terminals for single phase (L-N) or three-phase (L1-L2-L3) power feeding input
- terminals for connection of single-phase (L-N) or three-phase (U-V-W) electropumps
- terminals for connection to pressure switches, sensors, KK thermal protection, alarm signalling N.O. contacts
- mini dipswitches for operating mode selection float or level sensor, tank filling or emptying. Operation with one or two pumpsets.

E-Box functions

The E-Box control panel protects the electropumps and starts them in sequence in relation to the filling or emptying of the tanks, with water level detection system by means of level sensors or 2 - 3 float switches (standard or bulb type). At each operating cycle the pumps starting sequence is inverted. E-box can also control just one pump by setting the dipswitches appropriately.

Operation with two floats

The two floats system must be used in cases in which the dimensions of the water collection tank allow sufficient travel of the floats. Float B enables operation of the first pump, float C starts also the second pump. The two pumps are stopped when the contract of float B opens.

Operation with three floats

The three floats system, which is to be preferred because of the precision of pumps starting and stopping, is recommended in cases wherein the tank diameter is limited such as to obstruct regular travel of the floats. Float B enables operation of the first pump, float C starts also the second pump. The two pumps are stopped when the contract of the third float A opens.

Operation with level sensor

Level sensor systems are recommended in cases wherein it is not possible to use the float (narrow tank/pump, wastewater, etc.)

Pump start and stop functions are selected by means of two trimmers:

- SP: tank max level (in metres)
- DP: tank min/max level (in percentage with respect to Sp).

Emptying function:

the first pump starts after level SP (e.g. 2 m) is surpassed; if the tank level does not fall, after 5 seconds also the second pump is started to assist the first one.

The two pumps are stopped on the basis of the SP - DP value (e.g. with DP= 50%, pumps stop at 2 metres - 50% = 1 metre).

Filling function:

the first pump starts when level DP falls

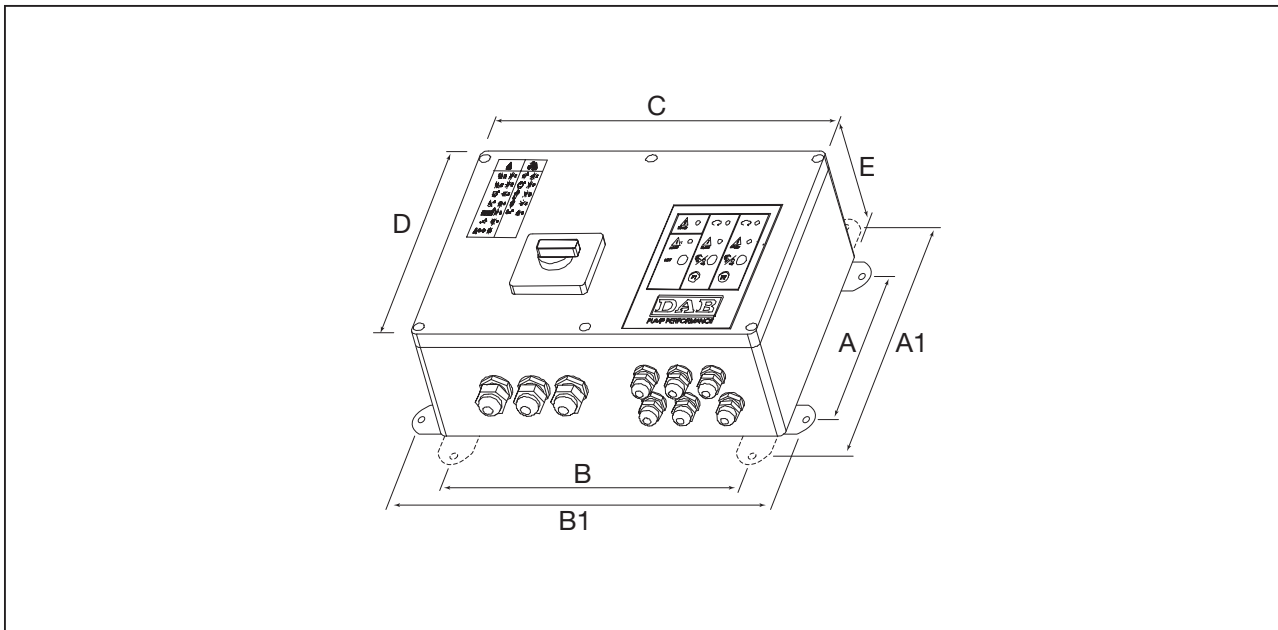
(e.g. SP= 2 metres, DP= 50% pump starts at 2 m - 50% = 1 metre),

if the tank level does not increase, after 5 seconds also the second pump is started to assist the first one.

The two pumps are stopped on the basis of the SP value (e.g. 2 metres).

TECHNICAL DATA

Nominal power supply voltage	1x230 V - 3x230 V - 3x400 V (selectable)
Frequency	50 - 60 Hz
Maximum operating power	5.5 kW + 5.5 kW
Maximum operating current	12 A + 12 A
Start capacitor (E-BOX 2DM 40 µF only)	40 microfarads
Operating environmental temperature limits	-10° C + 40° C
Storage temperature limits	-25° C + 55° C
Relative air humidity	90% at 20° C
Max. altitude	100 m above sea level
Protection rating	IP 55
Control panel construction reference standard	EN 60335-1



MODEL	DIMENSIONS (mm)							WEIGHT (Kg)
	A	A1	B	B1	C	D	E	
E-BOX 2D M / T	212	265	282	337	320	260	120	
E-BOX 2D M 40 µF	212	265	282	337	320	260	120	