DAB
WATER • TECHNOLOGY

FX

SUBMERSIBLE PUMPS

TECHNICAL DATA

Flow rate minimum and maximum: 78,9 m^3/h
Head up to: 20,9 m
Immersion dept (maximum): 20 m
Type of pumped liquid: Waste water, sewage water
Free passage: 50 mm
Supported liquid temperature (maximum and minimum): + 50°C (+ 60°C for a short time)
Flanged and threated: from 2", DN50, DN65
Impeller type: Channel
Start time (maximum) per hour: 20/h
Class of protection: IP 68
Motor insulation class: F
Single phase power input: 1x 220-240V 50Hz
Three phase power input: 3x 400V 50Hz / 3x 230V 50Hz on request
Maximum dry run time: 10 min
Power cable (m) and plug: 10 m
Possible type of installation: mobile when on the ground, fixed with coupling
Certification: EN 12050 \ ATEX
Special versions on request: different cable lengths, different voltages and frequencies

Feka FXC is a submersible pump for the drainage of sewage in commercial building service. The pump is certified according to the wastewater standard EN 12050-2. Pump suitable for fixed installations with a coupling device or mobile if placed directly on the bottom of the tank. Suitable for waste water without long fibers, rainwater and ground water. The pump is suitable for draining rooms subject to flooding, when high flow rates are required. The pump is designed for quick maintenance thanks to a constructive solution that provides easy access to the main components. Automatic versions with power up to 1,5 kW. ATEX version available for use in potentially explosive environments. (ATEX certifications: II2G Ex db k IIB T4 or IEC EX: Ex db IIB T4 Gb).

CONSTRUCTION FEATURES OF THE PUMP

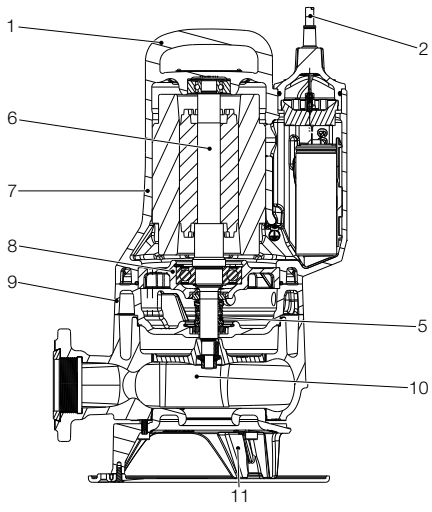
Channel impeller with anti-lock system, 50 mm free passage. Pump body and impeller in cast iron. Motor shaft in AISI 304 stainless steel. Double mechanical seal in SiC-SiC/SiC-C in oil chamber not in contact with the pumped liquid. Delivery port both flanged and threaded.

CONSTRUCTION FEATURES OF THE MOTOR

Available with single-phase asynchronous motor (MA / MNA versions) and three-phase motor (TNA versions). Rotor mounted on lubricated bearings. Continuous operation in S1 with the motor completely immersed. Dry running for a maximum time of 10 minutes. Over-temperature sensors in the motor windings with intervention threshold at +130°C. Quick-bonded resin-bonded cable gland, 07RN8-F power cable. Single-phase versions with integrated capacitor, available with float for automatic operation (MA version) with power up to 1,5 kW. In the three-phase motors the over-temperature sensor connection is responsibility of the user.

MATERIALS

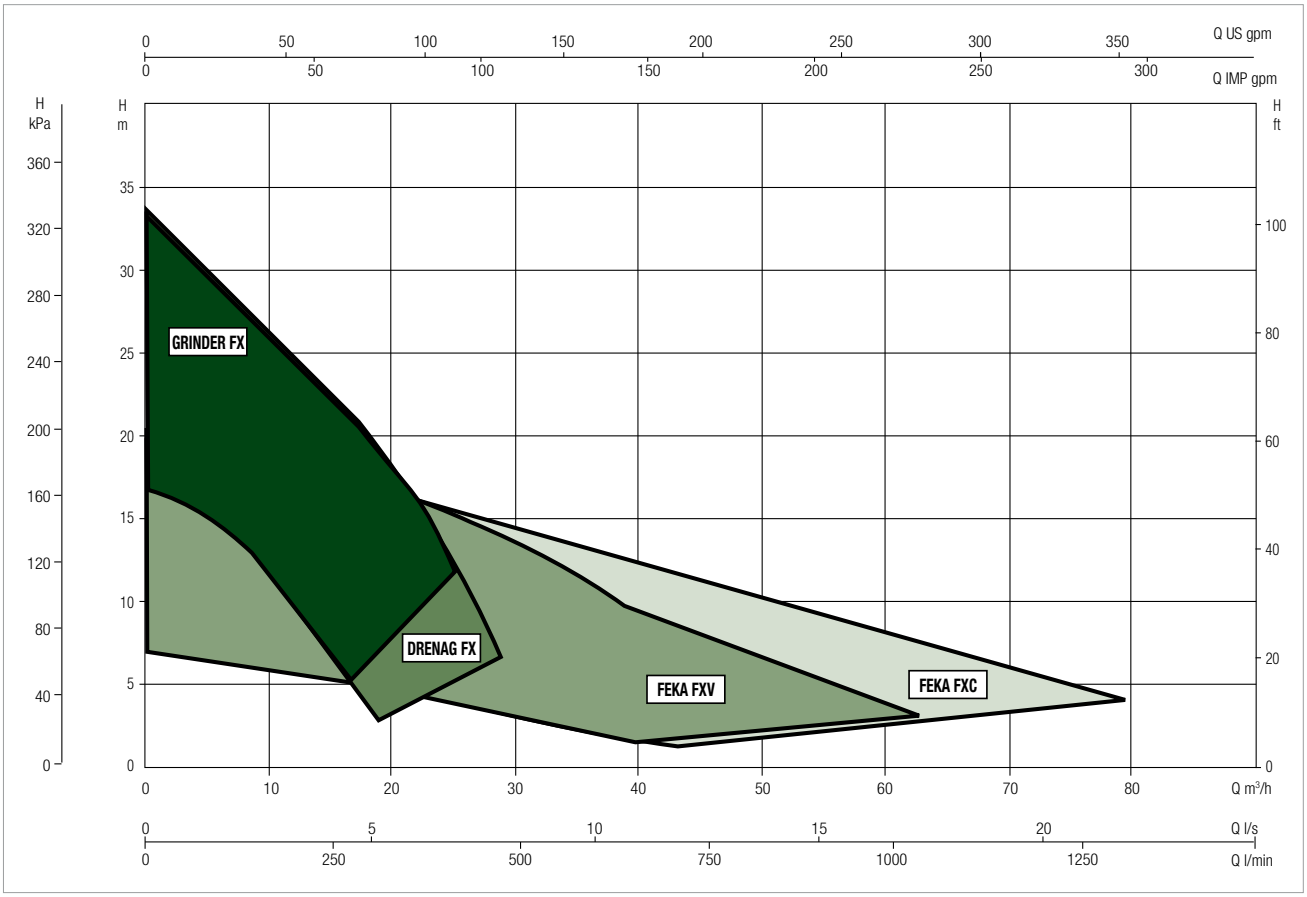
N°	PARTS	MATERIALS
1	HANDLE	CAST IRON EN GJL 200
2	ELECTRIC CABLE	07RN8-F
3	SCREWS	STAINLESS STEEL AISI 304
4	OR	NBR
5	MECHANICAL SEAL PUMP SIDE	SiC-SiC/SiC-C
	MECHANICAL SEAL MOTOR SIDE	SiC/CARBON
6	MOTOR SHAFT	STAINLESS STEEL AISI 304 (P2>1.5kW) AISI 431 (P2<1.2kW)
7	PUMP BODY / MOTOR	CAST IRON GJL 200
8	BEARING INNER FLANGE	ALLUMINIUM ALLOY EN AC 46100
9	FLANGE	CAST IRON GJL 200
10	IMPELLER	CAST IRON GJL 250
11	BASE	CAST IRON EN GJL 200
13	COATING	CATAPHORESIS and ACRILIC TWO-COMPONENT 50µm



PERFORMANCE RANGE

The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO9906.

GRAPHIC SELECTION TABLE

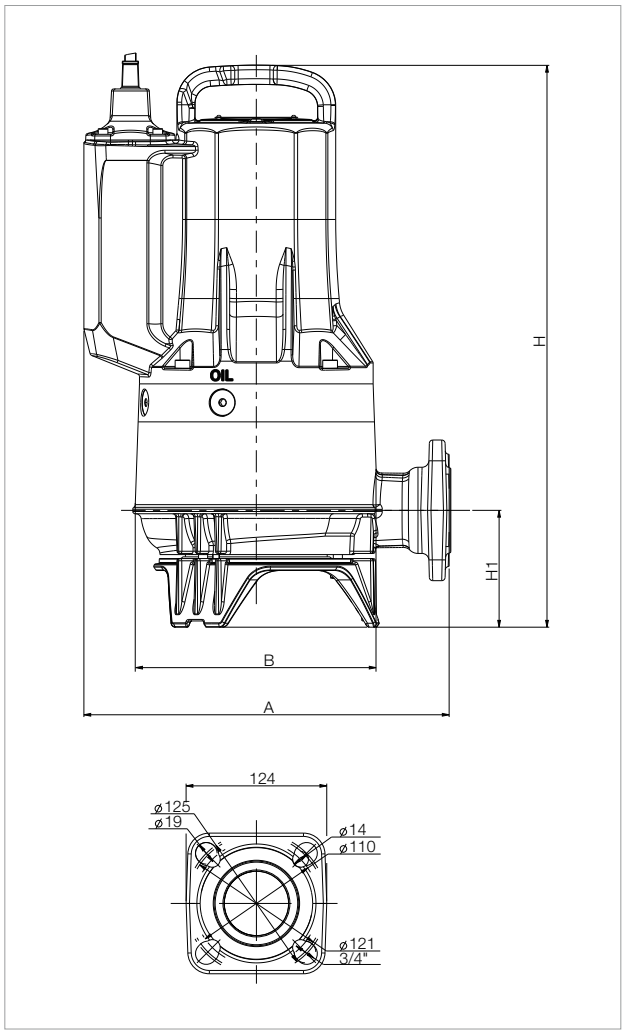


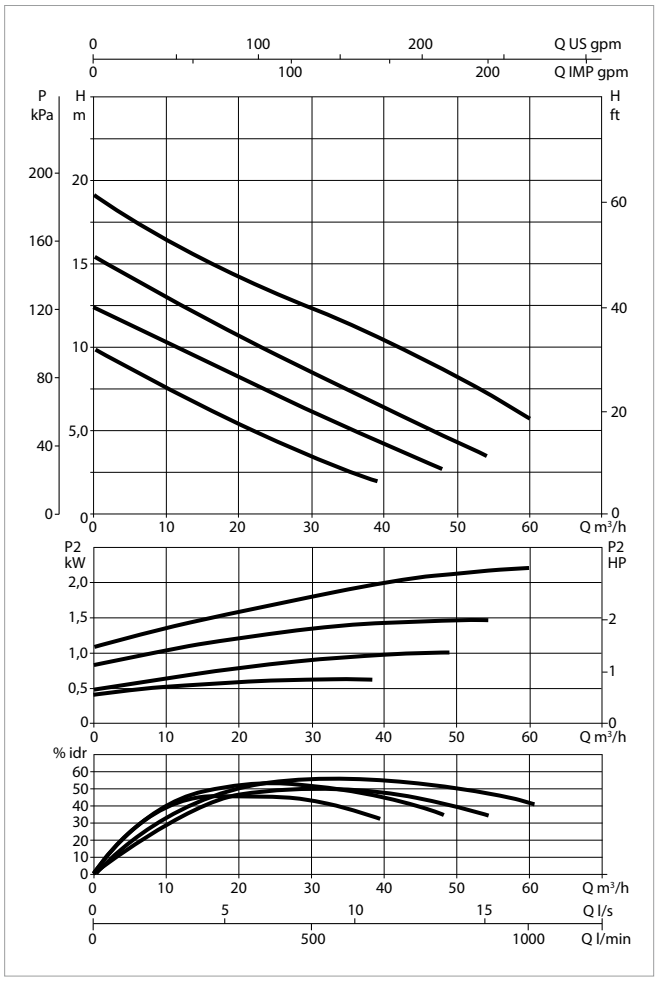
SELECTION TABLE FEKA FXC 20 - 25

MODEL	Q=m³/h	0	7	14	22	29	36	43	50	58	65
	Q=l/min	0	120	240	360	480	600	720	840	960	1080
FEKA FXC 20.07	H (m)	9,8	8,3	6,7	5,1	3,6	2,4				
FEKA FXC 20.11		12,4	10,8	9,3	7,8	6,4	5,0	3,6			
FEKA FXC 20.15		15,3	13,5	11,8	10,2	8,7	7,1	5,7	4,2		
FEKA FXC 20.22		19,1	17,2	15,5	14,0	12,6	11,2	9,8	8,1	6,2	
FEKA FXC 25.07		9,4	7,8	6,2	4,6	3,3	2,2	1,4			
FEKA FXC 25.11		11,9	10,3	8,8	7,4	6,0	4,8	3,5	2,4		
FEKA FXC 25.15		15,1	13,5	11,8	10,3	8,8	7,3	5,8	4,5	3,1	
FEKA FXC 25.22		18,9	16,9	15,2	13,8	12,4	11,1	9,8	8,4	6,9	5,1

FEKA FXC 20 - SUBMERSIBLE PUMPS

Pumped liquid temperature range: da 0° a +50°C. For higher temperatures contact our sales network.





The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO9906.

MODEL	ELECTRICAL DATA							
	POWER INPUT 50 Hz	P1 MAX kW	P2 NOMINAL		In A	Is A	CAPACITOR	RATED SPEED rpm/min
			Kw	HP				
FEKA FXC 20.07 MA	1x230V	0,9	0,7	0,9	4,1	15	20	2870
FEKA FXC 20.07 MNA*	1x230V	0,9	0,7	0,9	4,1	15	-	2870
FEKA FXC 20.07 TNA*	3x400V	0,9	0,7	0,9	1,8	22	-	2870
FEKA FXC 20.11 MA	1x230V	1,4	1	1,3	6,3	29	25	2870
FEKA FXC 20.11 MNA*	1x230V	1,4	1	1,3	6,3	29	-	2870
FEKA FXC 20.11 TNA*	3x400V	1,3	1	1,3	2,6	19	-	2870
FEKA FXC 20.15 MA	1x230V	2	1,5	2,0	9,1	36	40	2870
FEKA FXC 20.15 MNA*	1x230V	2	1,5	2,0	9,1	36	-	2870
FEKA FXC 20.15 TNA*	3x400V	1,8	1,5	2,0	3,5	25	-	2870
FEKA FXC 20.22 TNA*	3x400V	2,8	2,2	2,9	4,9	35	-	2870

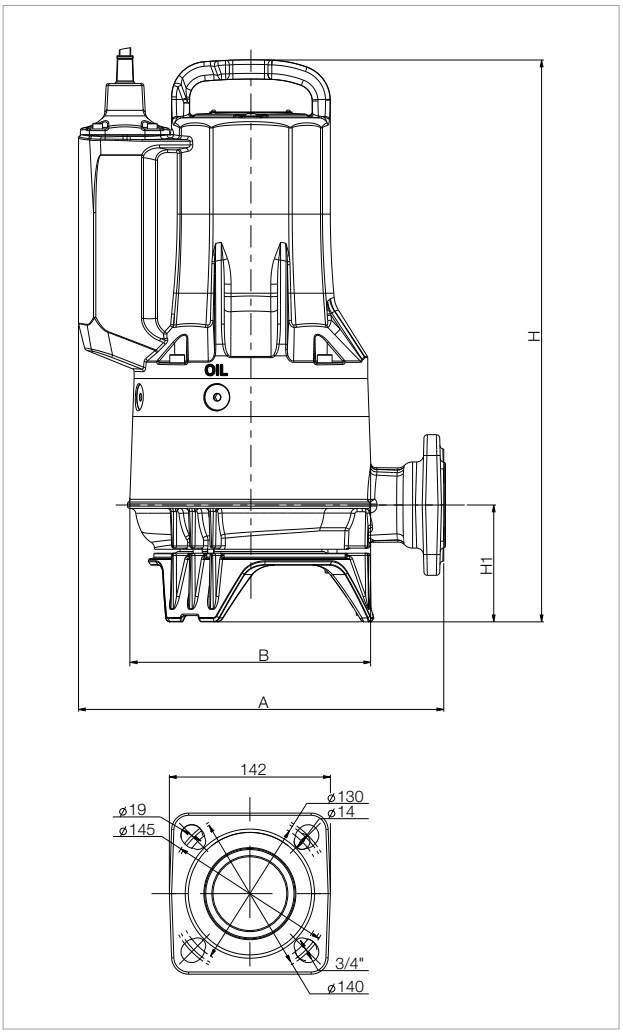
*Available in Ex version

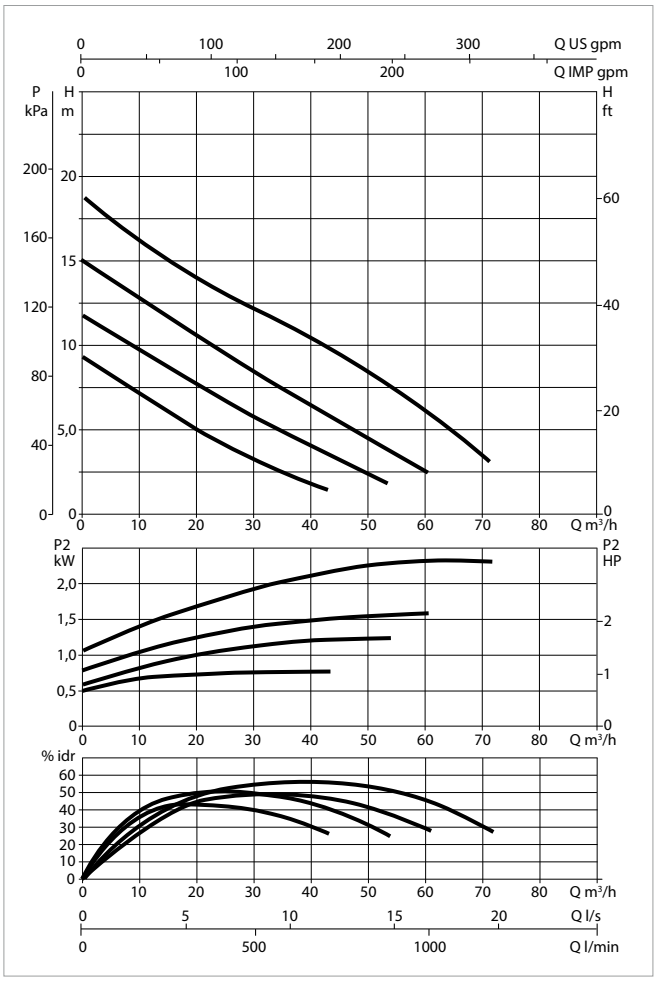
MODEL	FREE PASSAGE	A	B	H		H1	DELIVERY				PACKING DIMENSIONS			WEIGHT Kg
					Ex		GAS	DN1	HOLES	D	L/A	L/B	H	
FEKA FXC 20.07*	50	322	210	468	468	103	Rp 2"	50 PN10/6	4	125-110	660	370	400	37
FEKA FXC 20.11*	50	322	210	468	487	103	Rp 2"	50 PN10/6	4	125-110	660	370	400	37
FEKA FXC 20.15*	50	322	218	468	496	103	Rp 2"	50 PN10/6	4	125-110	660	370	400	42
FEKA FXC 20.22 *	50	322	218	496	512	103	Rp 2"	50 PN10/6	4	125-110	660	370	400	43

*Available in Ex version

FEKA FXC 25 - SUBMERSIBLE PUMPS

Pumped liquid temperature range: da 0° a +50°C. For higher temperatures contact our sales network.





The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO9906.

MODEL	ELECTRICAL DATA							
	POWER INPUT 50 Hz	P1 MAX kW	P2 NOMINAL		In A	Is A	CAPACITOR	RATED SPEED rpm/min
			Kw	HP				
FEKA FXC 25.07 MA	1x230V	0,9	0,6	0,8	4,1	15	20	2870
FEKA FXC 25.07 MNA*	1x230V	0,9	0,6	0,8	4,1	15	-	2870
FEKA FXC 25.07 TNA*	3x400V	0,9	0,6	0,8	1,8	22	-	2870
FEKA FXC 25.11 MA	1x230V	1,4	1,1	1,5	6,4	29	25	2870
FEKA FXC 25.11 MNA*	1x230V	1,4	1,1	1,5	6,4	29	-	2870
FEKA FXC 25.11 TNA*	3x400V	1,4	1,1	1,5	2,6	19	-	2870
FEKA FXC 25.15 MA	1x230V	2	1,6	2,1	9,3	36	40	2870
FEKA FXC 25.15 MNA*	1x230V	2	1,6	2,1	9,3	36	-	2870
FEKA FXC 25.15 TNA*	3x400V	1,9	1,6	2,1	3,6	25	-	2870
FEKA FXC 25.22 TNA*	3x400V	2,9	2,3	3,1	5	35	-	2870

*Available in Ex version

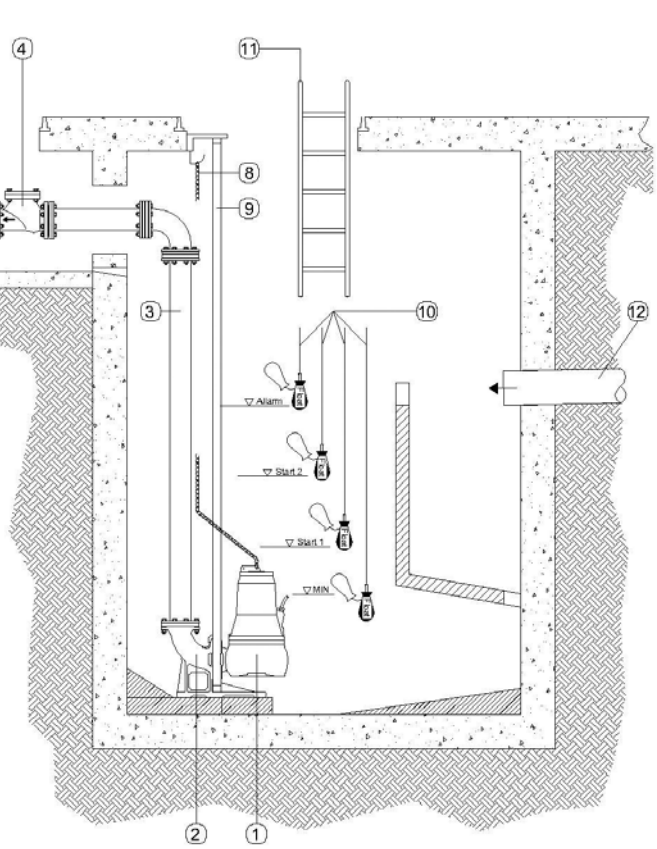
MODEL	FREE PASSAGE	A	B	H		H1	DELIVERY				PACKING DIMENSIONS			WEIGHT Kg
					Ex		GAS	DN1	HOLES	D	L/A	L/B	H	
FEKA FXC 25.07 MA	50	322	210	478	-	103	-	65 PN10/6	4	145-130	660	370	400	37
FEKA FXC 25.07 MNA - TNA*	50	322	210	468	468	103	-	65 PN10/6	4	145-130	660	370	400	37
FEKA FXC 25.11*	50	322	210	468	486	103	-	65 PN10/6	4	145-130	660	370	400	38
FEKA FXC 25.15*	50	322	218	478	496	103	-	65 PN10/6	4	145-130	660	370	400	43
FEKA FXC 25.22 *	50	322	218	496	512	103	-	65 PN10/6	4	145-130	660	370	400	44

*Available in Ex version

ACCESSORIES

CONTROL PANELS

PUMPING STATION ACCESSORIES



EXAMPLE OF INSTALLATION OF TWO SUBMERSIBLE ELECTRIC PUMPS

LEGEND:

1 Submersible electric pump
2 Coupling foot
3 Delivery pipework
4 Ball check valve
5 Gate valve
6 Electric control panel
7 Manifold
8 Pump extraction chain
9 Guide pipe
10 Level switches
11 Well inspection ladder
12 Adduction pipework

FLOATS	DESCRIPTION	
	FLOAT	5 meters
		10 meters
		15 meters
		20 meters
	BULB FLOAT	10 meters
		20 meters
	ATEX 10MT FLOAT	
	300 g COUNTERWEIGHT FOR FLOAT	

ELECTRIC PROTECTION AND CONTROL PANELS

E.BOX

TECHNICAL DATA

Nominal power input voltage:
e.box plus 1x 230 V / 3 x 230 V - 3 x 400 V (automatic selection)
e.box basic 1x 230 V
Frequency: 50 - 60 Hz
Maximum power of use:
e.box plus 5,5 kW + 5,5 kW
e.box basic 2,2 kW + 2,2 kW
Maximum current of use: 12 A + 12 A
Starting capacitor: supplied as accessory KIT
Ambient temperature operation limits: -10° C + 40° C
Air relative humidity: 90% a 20° C
Max. altitude: 1000 s.l.m.
Protection class: IP 55
Display: 1.6" for e.box PLUS D and e.box BASIC D models
Standard of reference for the construction of the control panels EN 60335-1

APPLICATIONS

E.box is an electronic control panel that provides all the functions and protections required for the installation of a pumping set for draining, filling, and pressurisation purposes.

E.BOX PLUS is an electric control panel for automatic protection and operation of one or more submersible electric pumps or pressure booster pumps, both single and three phase, for domestic, civil, and industrial applications. Thanks to the current regulation possibility, the e.box control panel is compatible with all pump models with current between 1 and 12 A, with power up to 5,5 kW.

E.BOX BASIC is an electric control panel for automatic protection and operation of one or more single phase submersible electric pumps or pressure booster pumps for domestic applications. The e.box control panel is compatible with all single phase pump models with current between 1 and 12 A, with power up to 2,2 kW, as indicated in the product compatibility table.

CONTROL PANEL CONSTRUCTION

Supplied in an IP 55 protection class self-extinguishing thermoplastic material box, the control panel protects the electric pumps from abnormal conditions such as: overload and overtemperature (with automatic reset), short circuit (with fuses - Plus model only), pump current surges (amperometric protection), abnormal voltage, dry run, quick starts, pressure sensor fault, or inconsistency of the external protection commands.

FRONT PANEL COMPONENTS

- General disconnector with padlockable door lock.
- AUT-0-MAN operation selection pushbuttons.
- Alarm RESET pushbutton.
- Operation, stop, alarm notification lamps.
- Display, for PLUS D or BASIC D models.

PANEL INTERNAL COMPONENTS

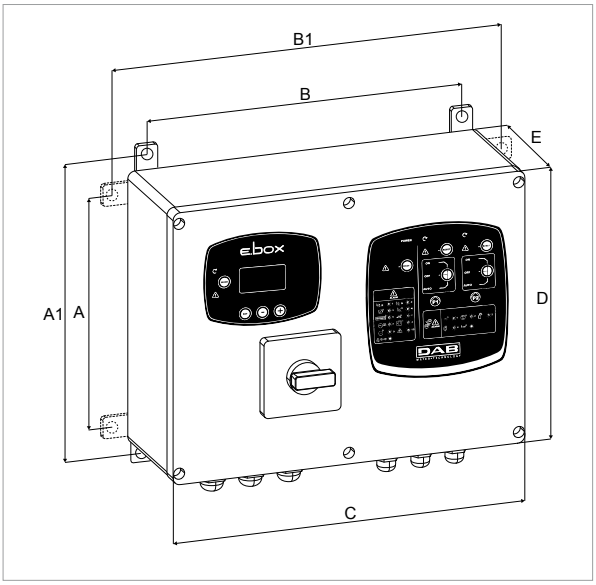
- Electronic control card with protection fuses and contactors.
- Power input connection terminals, single phase (L-N in the Basic version), or three phase (L1-L2-L3 in the Plus version).
- Electric pump connection terminals, single phase (L-N in the BASIC version), or three phase (L1-L2-L3 in the PLUS version).
- Terminals for the connection of pressure switches, sensors, KK thermal protection, alarm notification N.O. contacts. Operation selection dip switch: level floats or sensor, tank filling and emptying, operation with one or two pumps also for the version with display.

SOFTWARE

For the models with display, the software
- During the first installation, provides step by step guidance in the selection of the correct settings based on the actual application.
- Makes the status of the control panel and the pumps clearly and immediately visible.
- When compared to the previous model, makes it easier to change the level settings, as operation of the control panel dip switch is no longer required.

ELECTRIC PROTECTION AND CONTROL PANELS

E.BOX



MODEL	A	A1	B	B1	C	D	E	PACKING DIMENSIONS			WEIGHT Kg
								L/A	L/B	H	
E.BOX BASIC 230/50-60	212	265	282	337	320	260	120	250	430	310	4
E.BOX PLUS 230-400V/50-60	212	265	282	337	320	260	120	250	430	310	5
E.BOX BASIC D 230/50-60	212	265	282	337	320	260	120	250	430	310	4
E.BOX PLUS D 230-400V/50-60	212	265	282	337	320	260	120	250	430	310	5

MODEL	ELECTRICAL DATA					
	POWER INPUT 50 HZ	STARTING	P2 NOMINAL		MAX CURRENT A	DISPLAY
			kW x2	HP x2		
E.BOX BASIC 230/50-60	1X230 V~	direct	2,2	3	12+12	
E.BOX PLUS 230-400V/50-60	1X230 V~	direct	2,2	3	12+12	
	3X230 V~		3	4		
	3X400 V~		5,5	7,5		
E.BOX BASIC D 230/50-60	1X230 V~	direct	2,2	3	12+12	•
E.BOX PLUS D 230-400V/50-60	1X230 V~	direct	2,2	3	12+12	•
	3X230 V~		3	4		
	3X400 V~		5,5	7,5		

ACCESSORIES

	**FLOAT**	**5 meters cable**
		10 meters cable
		15 meters cable
		20 meters cable
	**BULB FLOAT**	**10 meters cable**
		20 meters cable
	**0-5 m - 20 m LEVEL TRANSDUCER E.BOX PANEL CABLE**	

	**FLASHING ORANGE 230 V**
	**KIT CAPACITOR 40UF**
	KIT CAPACITOR 30UF
	KIT CAPACITOR 20UF