

# MC-F

## Submersible pumps **DOUBLE-CHANNEL** with flanged ports

-  Sewage water
-  Domestic use
-  Civil use
-  Industrial use

- ※ An innovative project by Pedrollo's Research and Development department, has resulted in the new **MC-F**, a complete range of extremely robust and reliable electric pumps.
- ※ Thanks to the enhanced oversizing of the oil-bath electric motor, shaft and bearings, the new **MC-F** electric pumps guarantee an unprecedented service life, with high hydraulic performance, low operating costs and easy maintenance. The oil-bath motor also allows continuous operation of the electric pump, even if partially uncovered.
- ※ They are recommended in all installations for pumping waste water with suspended solid bodies up to 65 mm diameter.
- ※ The **MC-F** series is equipped with a double-channel impeller, ideal for the discharge of large volumes of waste water.



### PERFORMANCE RANGE

- Flow rate up to **1600 l/min** (96 m<sup>3</sup>/h)
- Head up to **25 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of solids:
  - up to **Ø 50 mm** for MC /50-F
  - up to **Ø 65 mm** for MC /65-F
- Minimum immersion depth for continuous service:
  - **320 mm** for MC /50-F
  - **360 mm** for MC /65-F

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- External float switch and control box for single-phase versions

### INSTALLATION AND USE

**MC-F** series pumps, made from heavy gauge robust cast iron, resistant to abrasion and long-lasting, are fitted with a **DOUBLE-CHANNEL** impeller and are capable of pumping liquids containing short fibred suspended solids. They are ideal for pumping **sewage, waste water, water mixed with mud, groundwater and surface water** in locations such as blocks of flats, public buildings, factories, multi-storey and underground car parks, washing areas, etc.

### PATENTS - TRADE MARKS - MODELS

- Patent n° IT0001428923

### OPTIONS AVAILABLE ON REQUEST

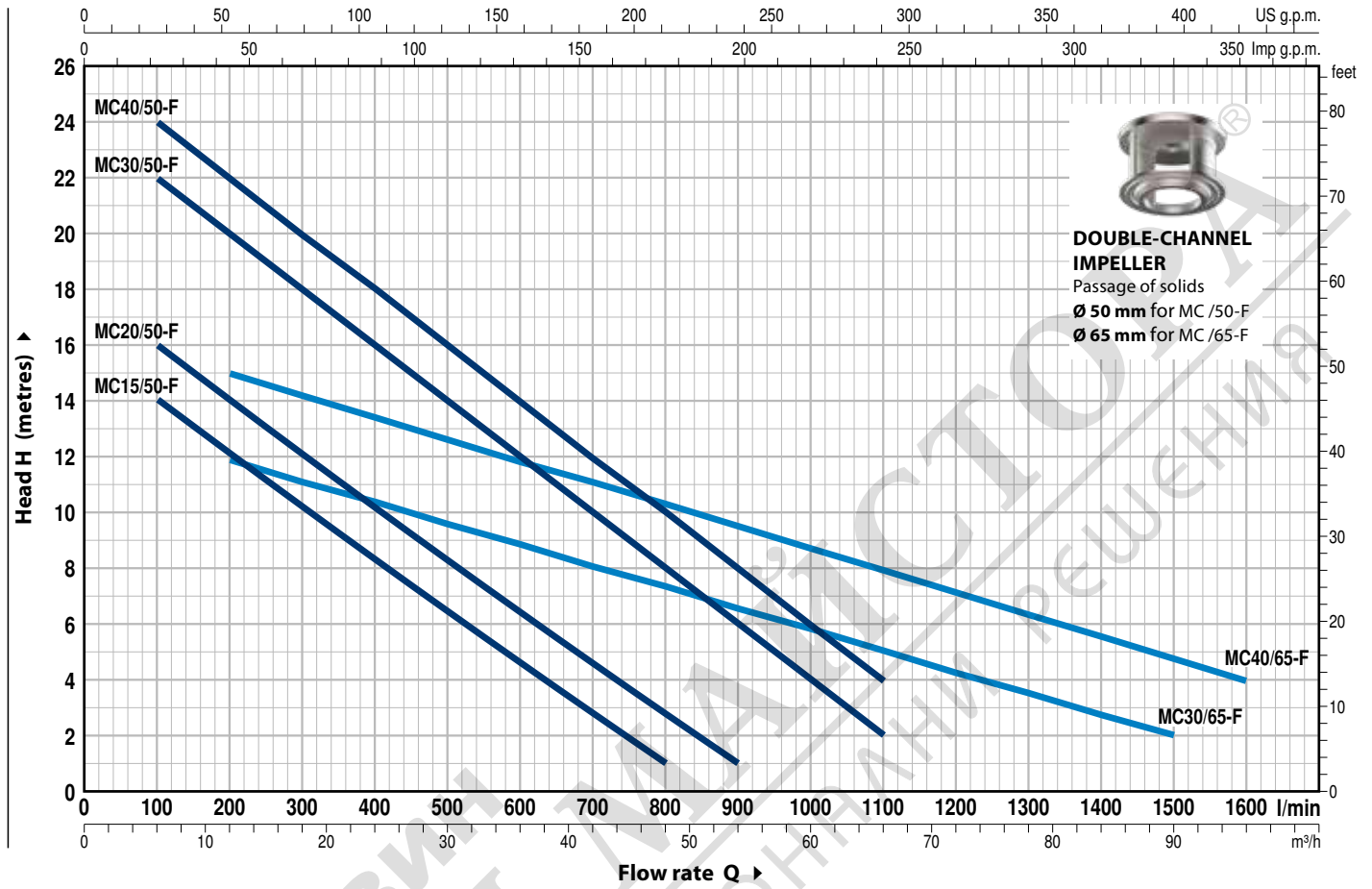
- **QES** control box for three-phase pumps
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

### GUARANTEE

- ▶ For the following versions, to validate the guarantee, the built-in thermal overload guarantee, the built-in thermal overload control box:
  - three-phase
    - **MC 15-20-30-40/50-F**
    - **MC 30-40/65-F**

**CHARACTERISTIC CURVES AND PERFORMANCE DATA**

**50 Hz n= 2900 min<sup>-1</sup>**



MODEL		POWER (P2)		Q	H metres															
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	6	12	18	24	30	36	42	48	54	60	66	72	90	96
				l/min	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1500	1600	
MCm 15/50-F	MC 15/50-F	1.1	1.5	H metres	16	14	12.5	10.5	8.5	6.5	4.5	3	1							
MCm 20/50-F	MC 20/50-F	1.5	2		18	16	14	12.5	10.5	8.5	6.5	5	3	1						
MCm 30/50-F	MC 30/50-F	2.2	3		24	22	20	18	16	14	12	10	8	6	4	2				
-	MC 40/50-F	3	4		25	24	22	20	18	16	14	12	10	8	6	4				
MCm 30/65-F	MC 30/65-F	2.2	3		13	-	12	11	10.5	9.7	9	8	7.5	6.5	6	5	4.5	2		
-	MC 40/65-F	3	4		17	-	15	14	13.5	12.5	12	11	10.5	9.5	8.5	8	7	4.8	4	

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with flanged and threaded ports in compliance with ISO 228/1
2	<b>IMPELLER</b>	Precision cast stainless steel AISI 304 DOUBLE-CHANNEL type
3	<b>MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment
4	<b>MOTOR CASING PLATE</b>	Cast iron with an Epoxy Electro Coating treatment
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431
6	<b>TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER</b>	

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-22	Ø 22 mm	Motor side	Ceramic	Graphite	NBR
STA-20	Ø 20 mm	Pump side	Silicon carbide	Silicon carbide	NBR

7	<b>BEARINGS</b>	6305 CM D 6 / 6204 ZZ - C3
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### 8 ELECTRIC MOTOR

**MCm 15-20-30-F:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding

**MC-F:** three-phase 400 V - 50 Hz. with thermal overload protector incorporated into the winding to be connected to the control box (supplied on demand)

- Insulation: class F
- Protection: IP X8

### 9 POWER CABLE

10 metres long "H07 RN-F" cable

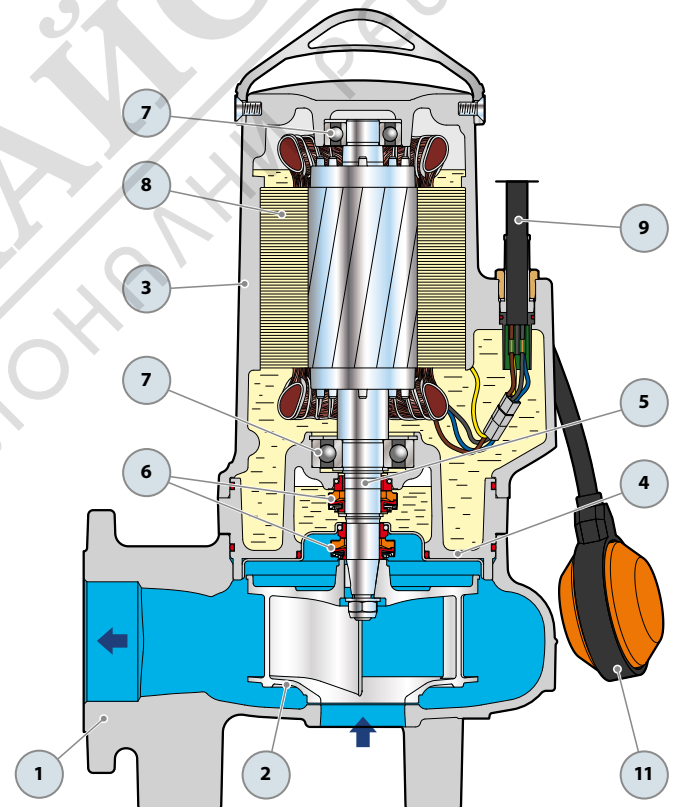
### 10 CONTROL BOX for MCm 15-20-30-F

(only for single-phase versions)

Complete with capacitor and manual reset motor protector

### 11 FLOAT SWITCH

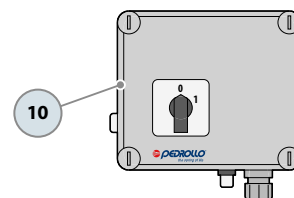
(only for single-phase versions)



### OPTIONAL – Supporting Base

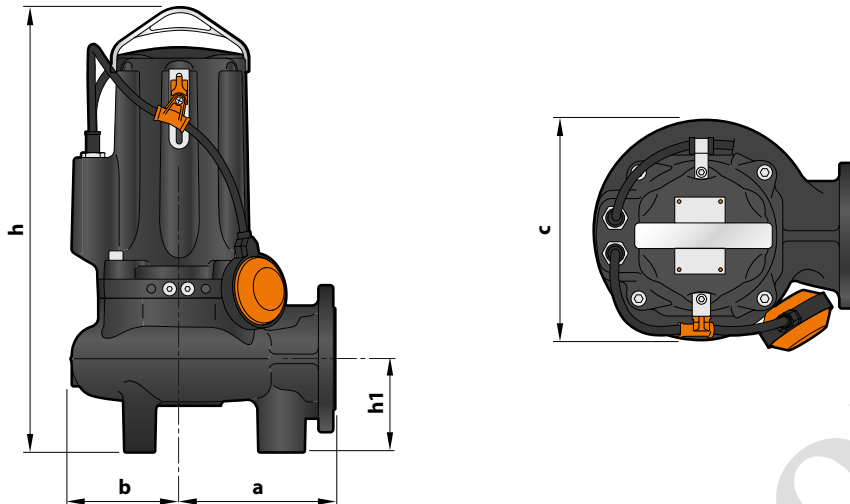


### Standard Equipment



Control Box  
(only for single-phase versions)

## DIMENSIONS AND WEIGHT



MODEL		Passage of solids mm	DIMENSIONS mm					kg	
Single-phase	Three-phase		a	b	c	h	h1	1~	3~
MCm 15/50-F	MC 15/50-F	Ø 50	170	119	242	487	102	43.5	42.0
MCm 20/50-F	MC 20/50-F					513   487		44.5	43.5
MCm 30/50-F	MC 30/50-F					513		49.5	44.5
-	MC 40/50-F					513		-	49.5
MCm 30/65-F	MC 30/65-F	Ø 65	210	120	246	547   521	123	52.0	47.0
-	MC 40/65-F					547		-	52.0

## ABSORPTION AND CAPACITORS

MODEL	VOLTAGE	
Single-phase	230 V	240 V
MCm 15/50-F	10.5 A	10.1 A
MCm 20/50-F	14.0 A	13.4 A
MCm 30/50-F	18.0 A	17.3 A
MCm 30/65-F	14.0 A	13.4 A

MODEL	VOLTAGE		
Three-phase	230-240 V	400-415 V	690-720 V
MC 15/50-F	7.8 A	4.5 A	2.8 A
MC 20/50-F	8.7 A	5.0 A	3.3 A
MC 30/50-F	10.4 A	6.0 A	4.3 A
MC 40/50-F	11.2 A	6.5 A	4.8 A
MC 30/65-F	9.5 A	5.5 A	3.8 A
MC 40/65-F	13.0 A	7.5 A	5.8 A

MODEL	CAPACITANCE CAPACITORS
Single-phase	(230 V or 240 V)
MCm 15/50-F	50 µF 450 VL
MCm 20/50-F	50 µF 450 VL
MCm 30/50-F MCm 30/65-F	60 µF 450 VL

## PORT FLANGE

MODEL	FLANGE	F	K	D	L	HOLES	
						N°	Ø (mm)
MC /50-F	DN65 (PN10)	2½"	145	185	160	4	18
MC /65-F	DN80 (PN10)	3"	160	200	180	8	18

