TARDIS

ENVIRONMENTAL UK

VXC

VORTEX submersible pumps

Sewage water
Domestic use
Civil use
Industrial use

- An innovative project by **Our** Research and Development department, has resulted in the new **VXC**, 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 **VXC** 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 completely uncovered.
- They are recommended in all installations for pumping waste water with suspended solid bodies up to 65 mm diameter.
- The **VXC** series is equipped with an extremely reliable and robust VORTEX impeller with low risk of clogging.

PERFORMANCE RANGE

- Flow rate up to **1250 l/min** (75 m^3/h)
- Head up to **20 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 VXC /50-F
  – up to **Ø 65 mm** for VXC /65-F

CONSTRUCTION AND SAFETY STANDARDS

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

INSTALLATION AND USE

The **VXC** series of pumps, manufactured from heavy gauge robust cast iron, resistant to abrasion and long lasting, are fitted with a VORTEX impeller and therefore suitable for drainage of **refluent water, water mixed with mud, liquids containing air or gas, and putrid muds**. They are recommended for fixed installations, when placed in suitable wells, in sewers, tunnels, wells, underground car parks, 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

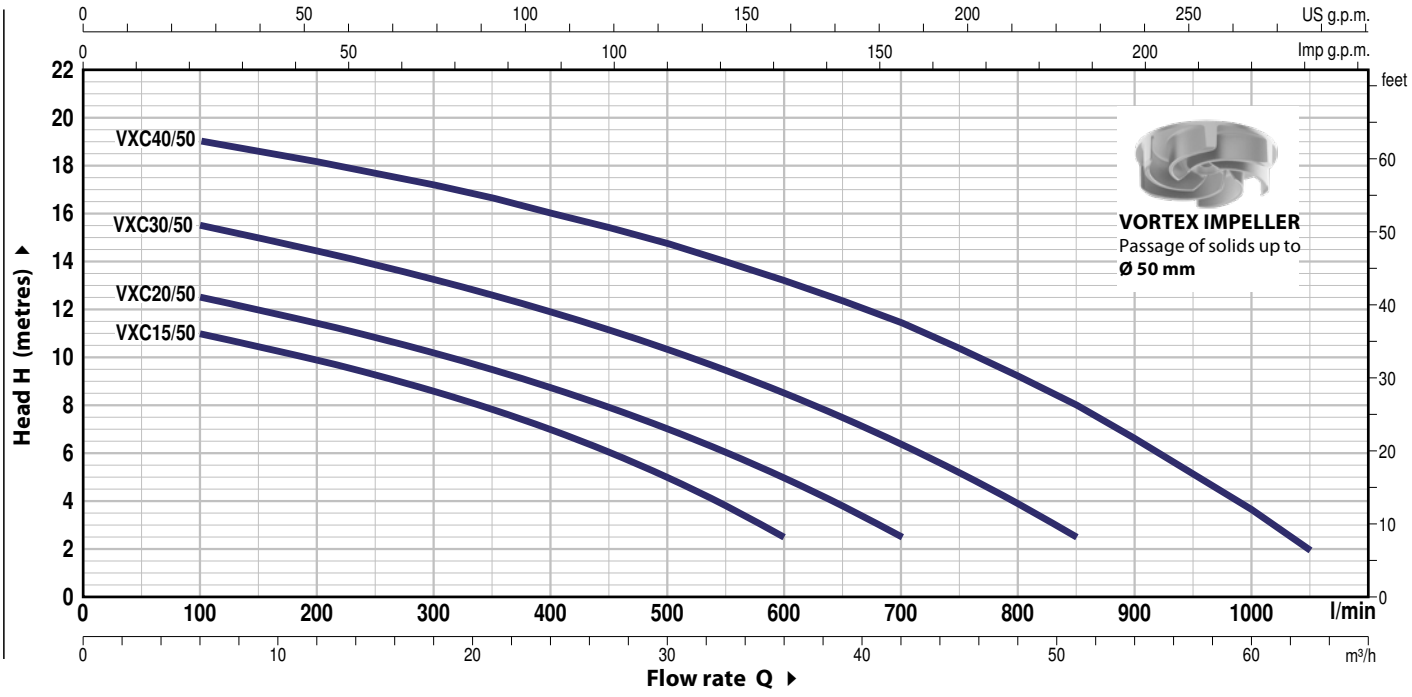
GUARANTEE

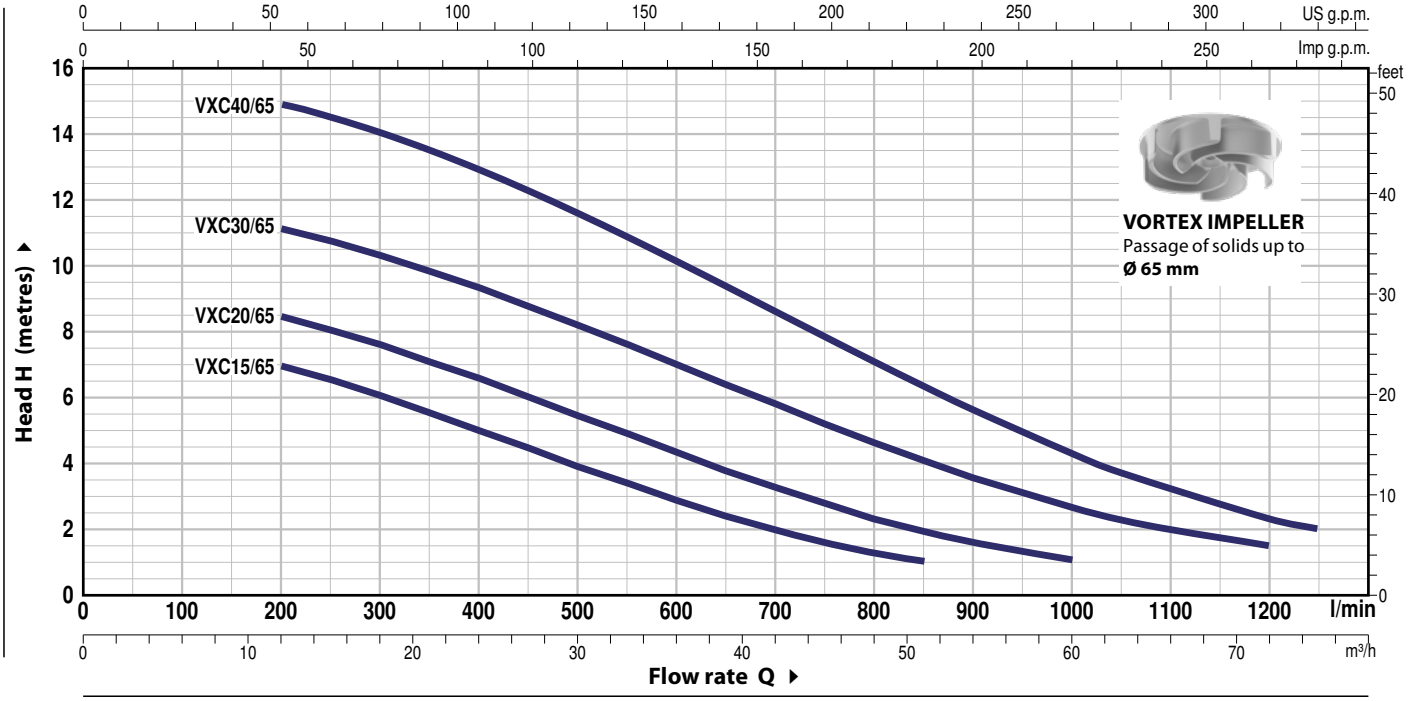
➠ **For the following versions, to validate the guarantee, the built-in thermal overload protector must be connected to the control box:**
three-phase
– VXC 15-20-30-40/50
– VXC 15-20-30-40/65

VXC

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min^{-1}





MODEL		POWER (P2)		Q m³/h	0	6	12	18	24	30	36	42	51	60	63	72	75
Single-phase	**Three-phase**	**kW**	**HP**	l/min	**0**	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**850**	**1000**	**1050**	**1200**	**1250**
VXCm 15/50	**VXC 15/50**	1.1	1.5		12.0	11.0	9.9	8.6	7.0	5.0	2.5						
VXCm 20/50	**VXC 20/50**	1.5	2		13.5	12.5	11.4	10.2	8.7	7.0	5.0	2.5					
VXCm 30/50	**VXC 30/50**	2.2	3		16.5	15.5	14.4	13.2	11.9	10.3	8.5	6.4	2.5				
–	**VXC 40/50**	3	4	H metres	20.0	19.0	18.1	17.1	16.0	14.7	13.2	11.4	8.0	3.6	2.0		
VXCm 15/65	**VXC 15/65**	1.1	1.5		8.0	–	7.0	6.0	5.0	3.9	2.8	2.0	1.0				
VXCm 20/65	**VXC 20/65**	1.5	2		9.5	–	8.5	7.6	6.6	5.4	4.3	3.3	2.0	1.0			
VXCm 30/65	**VXC 30/65**	2.2	3		12.0	–	11.1	10.3	9.3	8.2	7.0	5.8	4.1	2.6	2.3	1.5	
–	**VXC 40/65**	3	4		15.5	–	15.0	14.0	13.0	11.6	10.1	8.6	6.3	4.3	3.7	2.3	2.0

Q = Flow rate **H** = Total manometric head

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

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**PUMP BODY**	Cast iron with an Epoxy Electro Coating treatment, with threaded ports in compliance with ISO 228/1
2	**IMPELLER**	Precision cast stainless steel AISI 304 VORTEX type
3	**MOTOR CASING**	Cast iron with an Epoxy Electro Coating treatment
4	**MOTOR CASING PLATE**	Cast iron with an Epoxy Electro Coating treatment
5	**MOTOR SHAFT**	Stainless steel AISI 431

6 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal	***Shaft***	*Position*		*Materials*	
Model	***Diameter***		*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 BEARINGS **6305 CM D 6 / 6204 ZZ - C3**

8 ELECTRIC MOTOR

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

VXC: 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

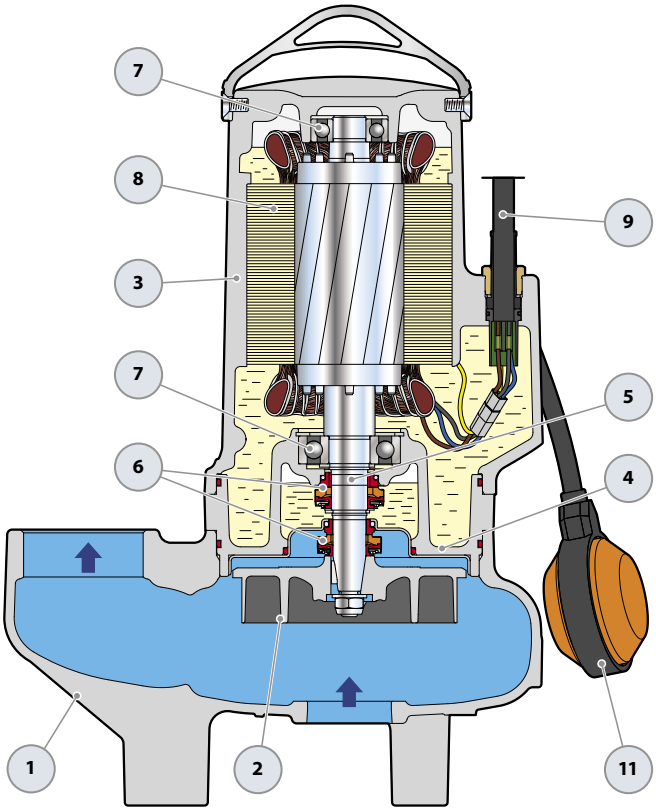
10 metres long "H07 RN-F" cable

10 CONTROL BOX for VXCm 15-20-30
(only for single-phase versions)

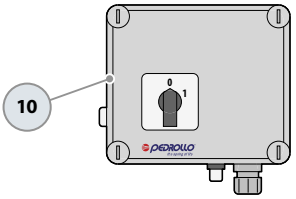
Complete with capacitor and manual reset motor protector

11 FLOAT SWITCH
(only for single-phase versions)

OPTIONAL – Supporting Base

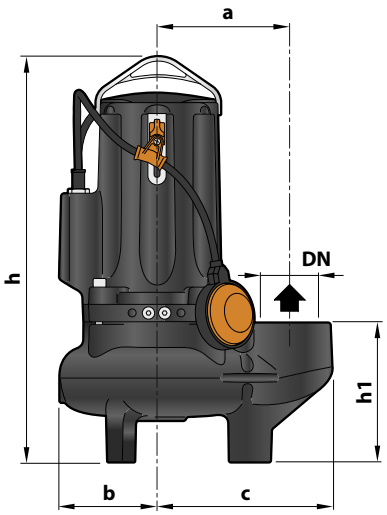


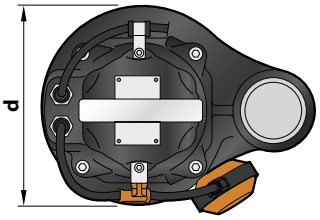
Standard features



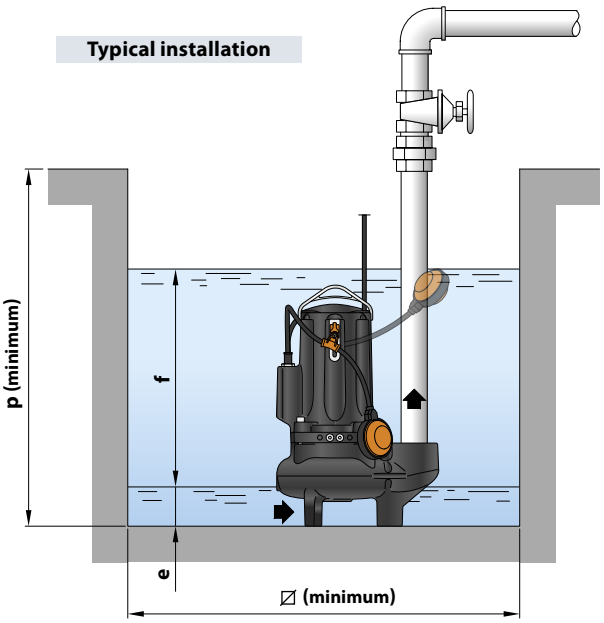
Control box
(only for single-phase versions)

DIMENSIONS AND WEIGHT





Typical installation



MODEL		PORT	Passage of solids mm	DIMENSIONS mm										kg	
Single-phase	Three-phase	DN		a	b	c	h	h1	d	e	f	p	⍁	1~	3~
VXCm 15/50	**VXC 15/50**	**2½"**	**Ø 50**	162	119	212	487	167	242	75	variable	800	800	**42.0**	**40.5**
VXCm 20/50	**VXC 20/50**													**43.0**	**42.0**
VXCm 30/50	**VXC 30/50**						513 | 487						**48.0**	**43.0**
–	**VXC 40/50**						513							**–**	**48.0**
VXCm 15/65	**VXC 15/65**	**3"**	**Ø 65**	180	120	240	521	201	246	85				**44.0**	**42.5**
VXCm 20/65	**VXC 20/65**													**45.0**	**44.0**
VXCm 30/65	**VXC 30/65**						547 | 521						**50.0**	**45.0**
–	**VXC 40/65**						547							**–**	**50.0**

ABSORPTION AND CAPACITORS

MODEL	VOLTAGE	
Single-phase	230 V	240 V
VXCm 15/50	**8.5** A	**8.1** A
VXCm 20/50	**9.0** A	**8.6** A
VXCm 30/50	**12.0** A	**11.5** A
VXCm 15/65	**8.5** A	**8.1** A
VXCm 20/65	**9.0** A	**8.6** A
VXCm 30/65	**12.0** A	**11.5** A

MODEL	VOLTAGE		
Three-phase	230–240 V	400–415 V	690–720 V
VXC 15/50	**5.9** A	**3.4** A	**2.0** A
VXC 20/50	**6.4** A	**3.7** A	**2.1** A
VXC 30/50	**8.7** A	**5.0** A	**2.9** A
VXC 40/50	**10.7** A	**6.2** A	**3.5** A
VXC 15/65	**5.9** A	**3.4** A	**2.0** A
VXC 20/65	**6.4** A	**3.7** A	**2.1** A
VXC 30/65	**8.7** A	**5.0** A	**2.9** A
VXC 40/65	**10.7** A	**6.2** A	**3.6** A

MODEL	CAPACITANCE CAPACITORS
Single-phase	(230 V o 240 V)
VXCm 15/50 **VXCm 15/65**	**50** µF 450 VL
VXCm 20/50 **VXCm 20/65**	**50** µF 450 VL
VXCm 30/50 **VXCm 30/65**	**60** µF 450 VL

MC

Submersible pumps DOUBLE-CHANNEL

Sewage water
Domestic use
Civil use
Industrial use

- **An innovative project by Our Research and Development department, has resulted in the new MC, 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 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 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^3/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
  – up to **Ø 65 mm** for MC /65
- Minimum immersion depth for continuous service:
  – **320 mm** for MC /50
  – **360 mm** for MC /65

CONSTRUCTION AND SAFETY STANDARDS

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

INSTALLATION AND USE

MC 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

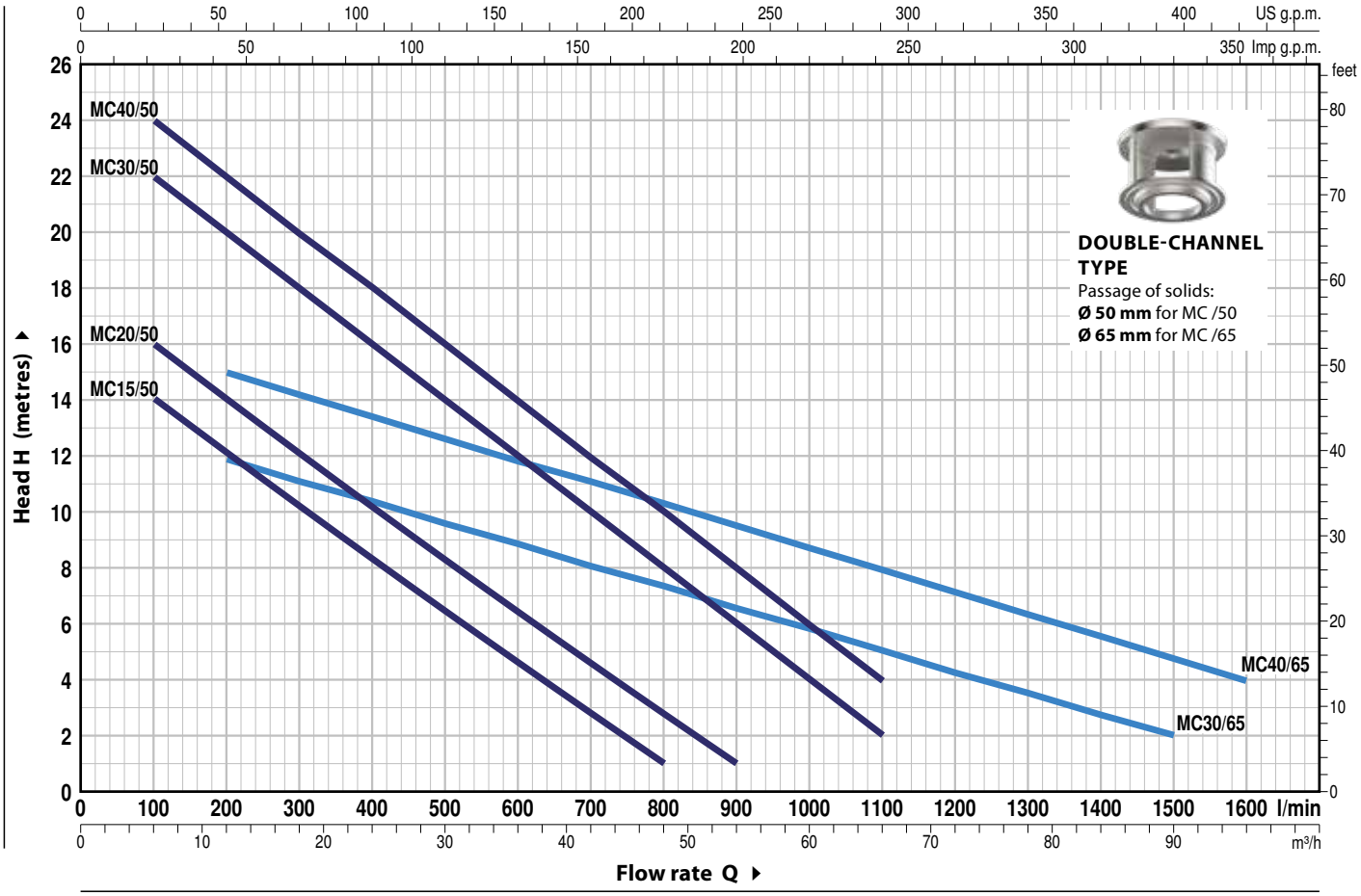
- **QES** control box for three-phase pumps
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

GUARANTEE

➠ **For the following versions, to validate the guarantee, the built-in thermal overload protector must be connected to the control box:**
three-phase
– MC 15-20-30-40/50
– MC 30-40/65

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min^{-1}



MODEL		POWER (P2)		Q															
Single-phase	Three-phase	kW	HP	m³/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	**MC 15/50**	1.1	1.5	H metres	16	14	12.5	10.5	8.5	6.5	4.5	3	1						
MCm 20/50	**MC 20/50**	1.5	2		18	16	14	12.5	10.5	8.5	6.5	5	3	1					
MCm 30/50	**MC 30/50**	2.2	3		24	22	20	18	16	14	12	10	8	6	4	2			
–	**MC 40/50**	3	4		25	24	22	20	18	16	14	12	10	8	6	4			
MCm 30/65	**MC 30/65**	2.2	3		13	–	12	11	10.5	9.7	9	8	7.5	6.5	6	5	4.5	2	
–	**MC 40/65**	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.

DOUBLE-CHANNEL

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**PUMP BODY**	Cast iron with an Epoxy Electro Coating treatment, with threaded ports in compliance with ISO 228/1
2	**IMPELLER**	Precision cast stainless steel AISI 304 DOUBLE-CHANNEL type
3	**MOTOR CASING**	Cast iron with an Epoxy Electro Coating treatment
4	**MOTOR CASING PLATE**	Cast iron with an Epoxy Electro Coating treatment
5	**MOTOR SHAFT**	Stainless steel AISI 431

6 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal	***Shaft***	*Position*	*Materials*		
Model	***Diameter***		*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 BEARINGS **6305 CM D 6 / 6204 ZZ - C3**

8 ELECTRIC MOTOR

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

MC: 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

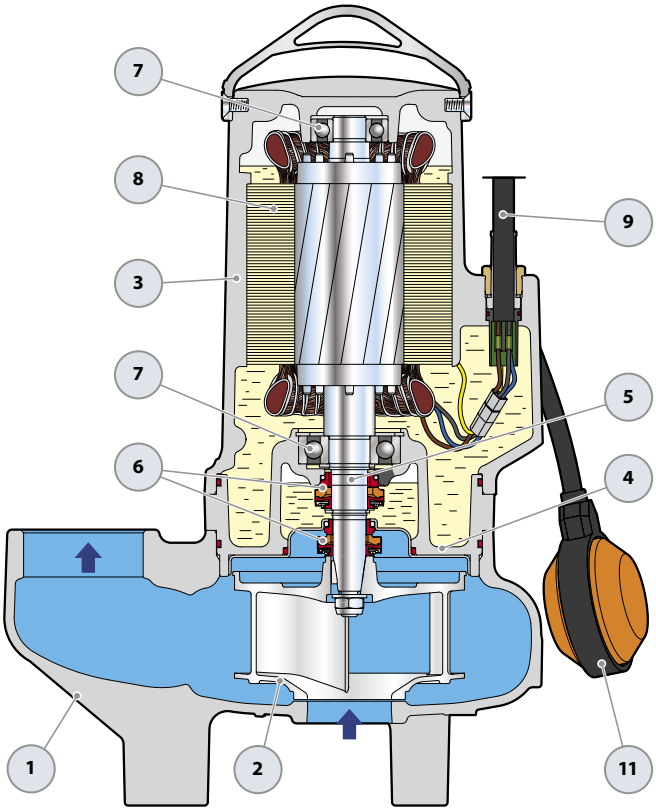
9 POWER CABLE

10 metres long "H07 RN-F" cable

10 CONTROL BOX for MCm 15-20-30
(only for single-phase versions)

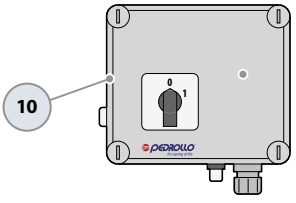
Complete with capacitor and manual reset motor protector

11 FLOAT SWITCH
(only for single-phase versions)



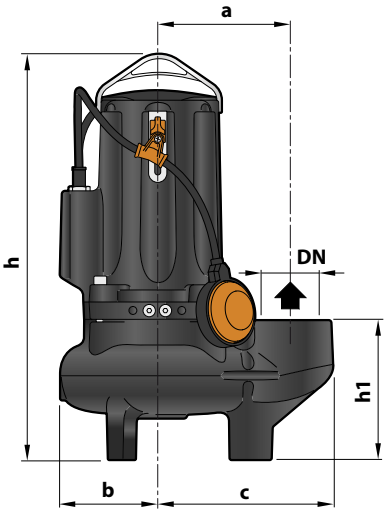
Standard Equipment

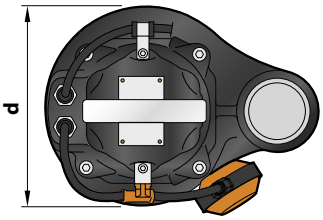
OPTIONAL – Supporting Base

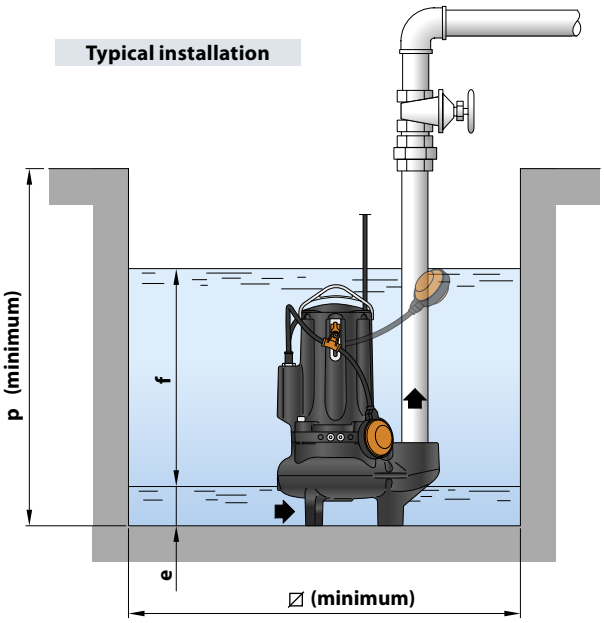


Control Box
(only for single-phase versions)

DIMENSIONS AND WEIGHT







MODEL		PORT	Passage of solids mm	DIMENSIONS mm										kg	
Single-phase	Three-phase	DN		a	b	c	h	h1	d	e	f	p	⍁	1~	3~
MCm 15/50	**MC 15/50**	**2½"**	**Ø 50**	162	119	212	487	167	242	75	variable	800	800	**42.0**	**40.5**
MCm 20/50	**MC 20/50**													**43.0**	**42.0**
MCm 30/50	**MC 30/50**						513 | 487						**48.0**	**43.0**
–	**MC 40/50**						513							–	**48.0**
MCm 30/65	**MC 30/65**	**3"**	**Ø 65**	180	120	240	547 | 521	201	246	85				**50.0**	**45.0**
–	**MC 40/65**						547							–	**50.0**

ABSORPTION AND CAPACITORS

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

MODEL	VOLTAGE		
Three-phase	230–240 V	400–415 V	690–720 V
MC 15/50	**7.8** A	**4.5** A	**2.6** A
MC 20/50	**8.7** A	**5.0** A	**2.9** A
MC 30/50	**11.2** A	**6.5** A	**3.7** A
MC 40/50	**12.1** A	**7** A	**4.1** A
MC 30/65	**11.2** A	**6.5** A	**3.7** A
MC 40/65	**13.0** A	**7.5** A	**4.3** A

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

VXC-F

VORTEX Submersible Pumps with flanged ports

Sewage water
Domestic use
Civil use
Industrial use

- An innovative project by **Our** Research and Development department, has resulted in the new **VXC-F**, a complete range of extremely robust and reliable reliable electric pumps.
- Thanks to the enhanced oversizing of the oil-bath electric motor, shaft and bearings, the new **VXC-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 completely uncovered.
- They are recommended in all installations for pumping waste water with suspended solid bodies up to 65 mm diameter.
- The **VXC-F** series is equipped with an extremely reliable and robust VORTEX impeller with low risk of clogging.

PERFORMANCE RANGE

- Flow rate up to **1250 l/min** (75 m^3/h)
- Head up to **20 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 VXC /50-F
  – up to **Ø 65 mm** for VXC /65-F

CONSTRUCTION AND SAFETY STANDARDS

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

NSTALLATION AND USE

The **VXC-F** series of pumps, manufactured from heavy gauge robust cast iron, resistant to abrasion and long lasting, are fitted with a VORTEX impeller and therefore suitable for drainage of **refluent water, water mixed with mud, liquids containing air or gas, and putrid muds**. They are recommended for fixed installations, when placed in suitable wells, in sewers, tunnels, wells, underground car parks, etc.

PATENTS - TRADE MARKS - MODELS

- Patent n° IT0001428923

OPTIONS AVAILABLE ON REQUEST

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

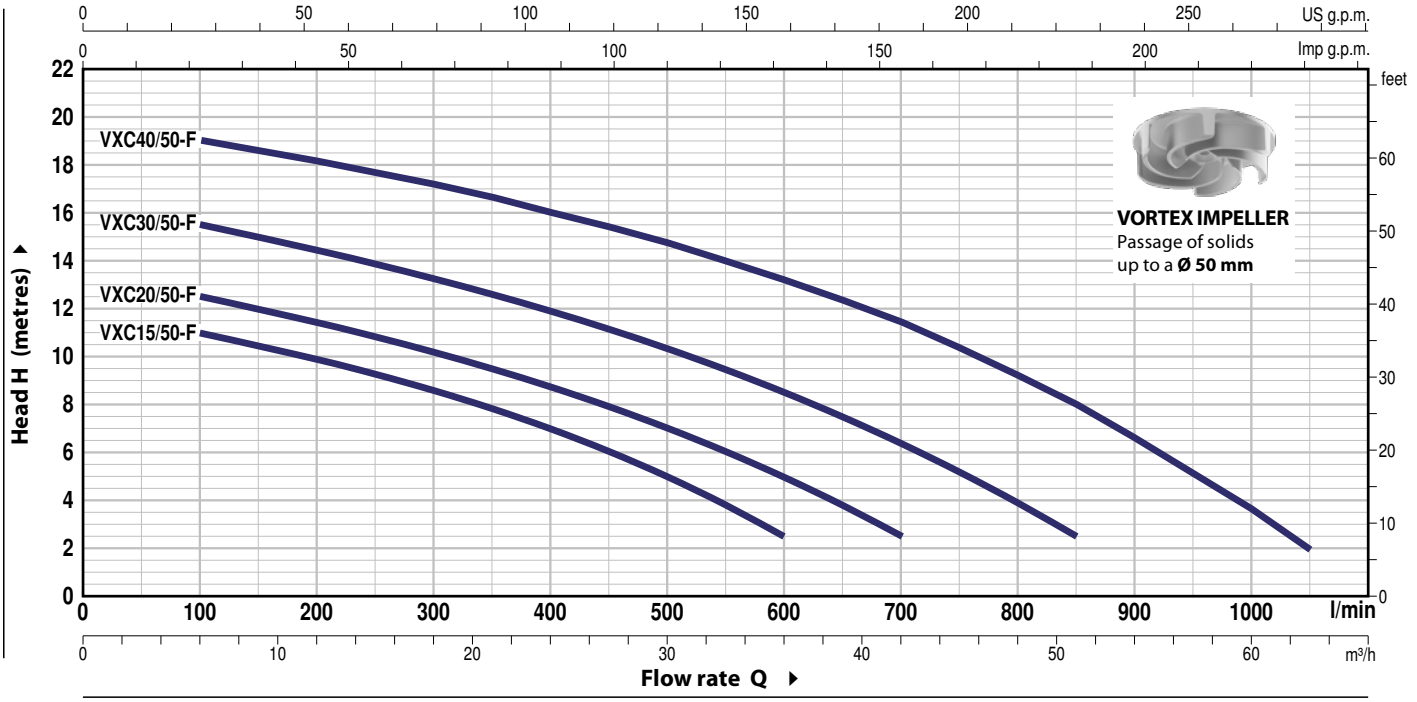
GUARANTEE

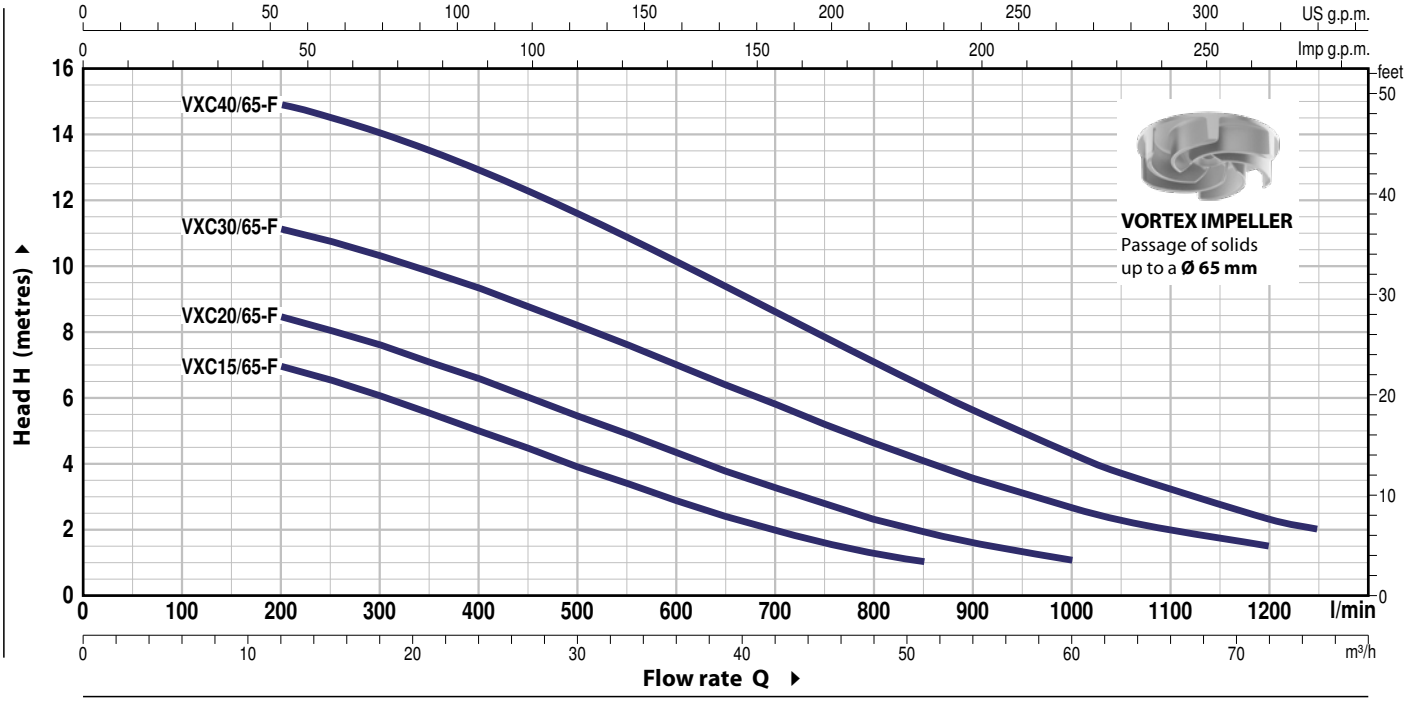
➠ **For the following versions, to validate the guarantee, the built-in thermal overload protector must be connected to the control box:**
three-phase
– VXC 15-20-30-40/50-F
– VXC 15-20-30-40/65-F

VXC-F

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min^{-1}





MODEL		POWER (P2)		Q m³/h	0	6	12	18	24	30	36	42	51	60	63	72	75
Single-phase	**Three-phase**	**kW**	**HP**	l/min	**0**	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**850**	**1000**	**1050**	**1200**	**1250**
VXCm 15/50-F	**VXC 15/50-F**	1.1	1.5	H metri	12.0	11.0	9.9	8.6	7.0	5.0	2.5						
VXCm 20/50-F	**VXC 20/50-F**	1.5	2		13.5	12.5	11.4	10.2	8.7	7.0	5.0	2.5					
VXCm 30/50-F	**VXC 30/50-F**	2.2	3		16.5	15.5	14.4	13.2	11.9	10.3	8.5	6.4	2.5				
–	**VXC 40/50-F**	3	4		20.0	19.0	18.1	17.1	16.0	14.7	13.2	11.4	8.0	3.6	2.0		
VXCm 15/65-F	**VXC 15/65-F**	1.1	1.5		8.0	–	7.0	6.0	5.0	3.9	2.8	2.0	1.0				
VXCm 20/65-F	**VXC 20/65-F**	1.5	2		9.5	–	8.5	7.6	6.6	5.4	4.3	3.3	2.0	1.0			
VXCm 30/65-F	**VXC 30/65-F**	2.2	3		12.0	–	11.1	10.3	9.3	8.2	7.0	5.8	4.1	2.6	2.3	1.5	
–	**VXC 40/65-F**	3	4		15.5	–	15.0	14.0	13.0	11.6	10.1	8.6	6.3	4.3	3.7	2.3	2.0

Q = Flow rate **H** = Total manometric head

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

VXC-F

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**PUMP BODY**	Cast iron with an Epoxy Electro Coating treatment, with flanged and threaded ports in compliance with ISO 228/1
2	**IMPELLER**	VORTEX type in cast iron with an Epoxy Electro Coating treatment
3	**MOTOR CASING**	Cast iron with an Epoxy Electro Coating treatment
4	**MOTOR CASING PLATE**	Cast iron with an Epoxy Electro Coating treatment
5	**MOTOR SHAFT**	Stainless steel AISI 431

6 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal	*Shaft*	*Position*	*Materials*		
Model	***Diameter***		*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 BEARINGS — **6305 CM D 6 / 6204 ZZ - C3**

8 ELECTRIC MOTOR

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

VXC-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

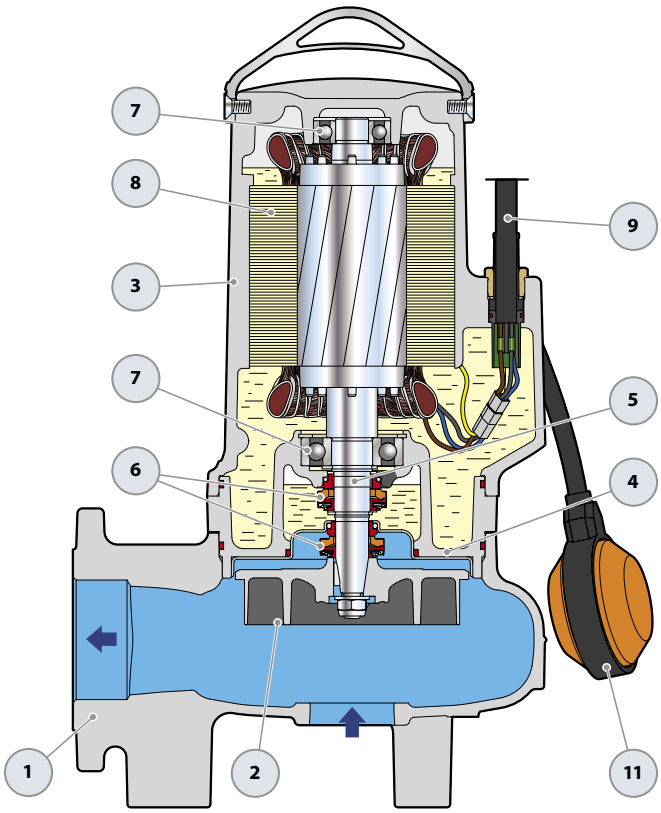
10 metres long "H07 RN-F" cable

10 CONTROL BOX for VXCm 15-20-30-F
(only for single-phase versions)

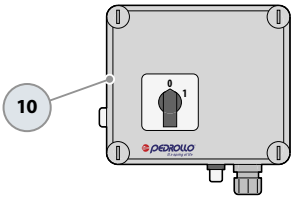
Complete with capacitor and manual reset motor protector

11 FLOAT SWITCH
(only for single-phase versions)

OPTIONAL – Supporting Base

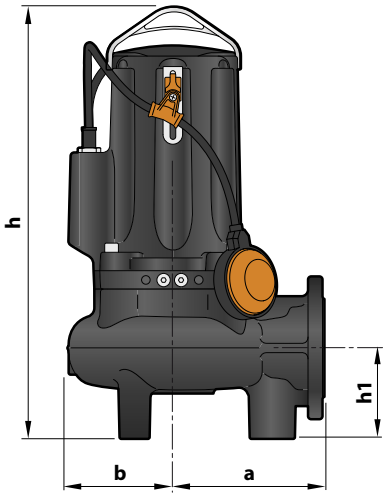


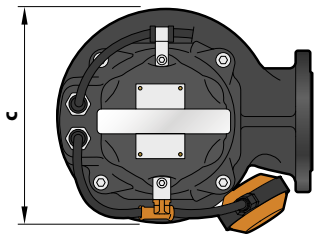
Standard Equipment



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~
VXCm 15/50-F	**VXC 15/50-F**	**Ø 50**	170	119	242	487	102	**43.5**	**42.0**
VXCm 20/50-F	**VXC 20/50-F**							**44.5**	**43.5**
VXCm 30/50-F	**VXC 30/50-F**					513 | 487		**49.5**	**44.5**
–	**VXC 40/50-F**					513		–	**49.5**
VXCm 15/65-F	**VXC 15/65-F**	**Ø 65**	210	120	246	521	123	**46.0**	**44.5**
VXCm 20/65-F	**VXC 20/65-F**							**47.0**	**46.0**
VXCm 30/65-F	**VXC 30/65-F**					547 | 521		**52.0**	**47.0**
–	**VXC 40/65-F**					547		–	**52.0**

ABSORPTION AND CAPACITORS

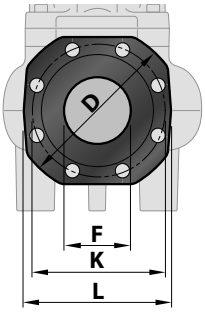
MODEL	VOLTAGE	
Single-phase	230 V	240 V
VXCm 15/50-F	**8.5** A	**8.1** A
VXCm 20/50-F	**9.0** A	**8.6** A
VXCm 30/50-F	**12.0** A	**11.5** A
VXCm 15/65-F	**8.5** A	**8.1** A
VXCm 20/65-F	**9.0** A	**8.6** A
VXCm 30/65-F	**12.0** A	**11.5** A

MODEL	VOLTAGE		
Three-phase	230–240 V	400–415 V	690–720 V
VXC 15/50-F	**5.9** A	**3.4** A	**2.0** A
VXC 20/50-F	**6.4** A	**3.7** A	**2.1** A
VXC 30/50-F	**8.7** A	**5.0** A	**2.9** A
VXC 40/50-F	**10.7** A	**6.2** A	**3.5** A
VXC 15/65-F	**5.9** A	**3.4** A	**2.0** A
VXC 20/65-F	**6.4** A	**3.7** A	**2.1** A
VXC 30/65-F	**8.7** A	**5.0** A	**2.9** A
VXC 40/65-F	**10.7** A	**6.2** A	**3.6** A

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

PORT FLANGE

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



MC-F

Submersible pumps DOUBLE-CHANNEL with flanged ports

Sewage water
Domestic use
Civil use
Industrial use

- An innovative project by **Our** 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^3/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

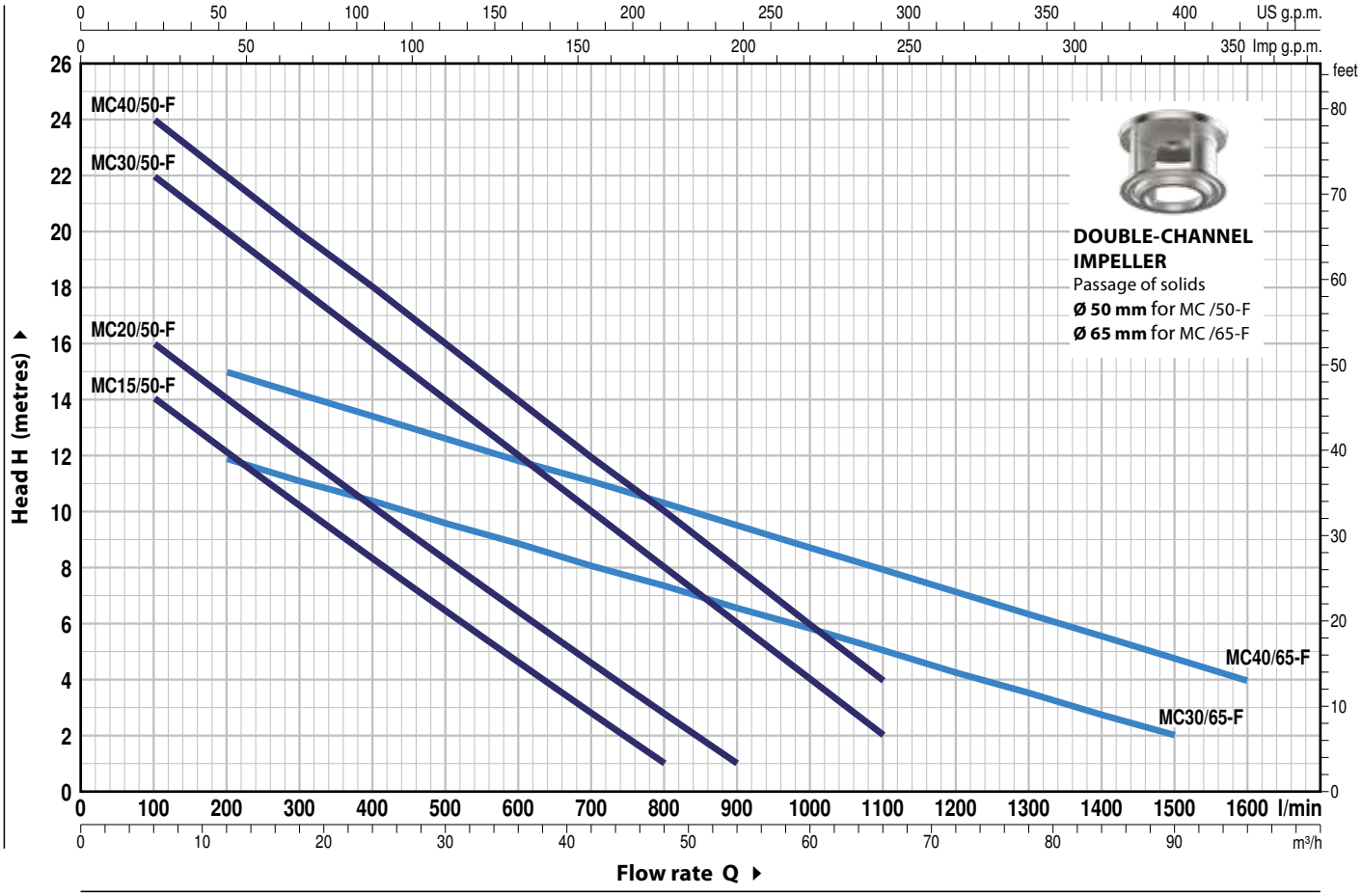
- **QES** control box for three-phase pumps
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

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^{-1}



MODEL		POWER (P2)		Q m³/h	0	6	12	18	24	30	36	42	48	54	60	66	72	90	96
Single-phase	**Three-phase**	**kW**	**HP**	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.

MC-F

DOUBLE-CHANNEL

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**PUMP BODY**	Cast iron with an Epoxy Electro Coating treatment, with flanged and threaded ports in compliance with ISO 228/1
2	**IMPELLER**	Precision cast stainless steel AISI 304 DOUBLE-CHANNEL type
3	**MOTOR CASING**	Cast iron with an Epoxy Electro Coating treatment
4	**MOTOR CASING PLATE**	Cast iron with an Epoxy Electro Coating treatment
5	**MOTOR SHAFT**	Stainless steel AISI 431

6 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal	*Shaft*	*Position*		*Materials*	
Model	***Diameter***		*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 BEARINGS **6305 CM D 6 / 6204 ZZ - C3**

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

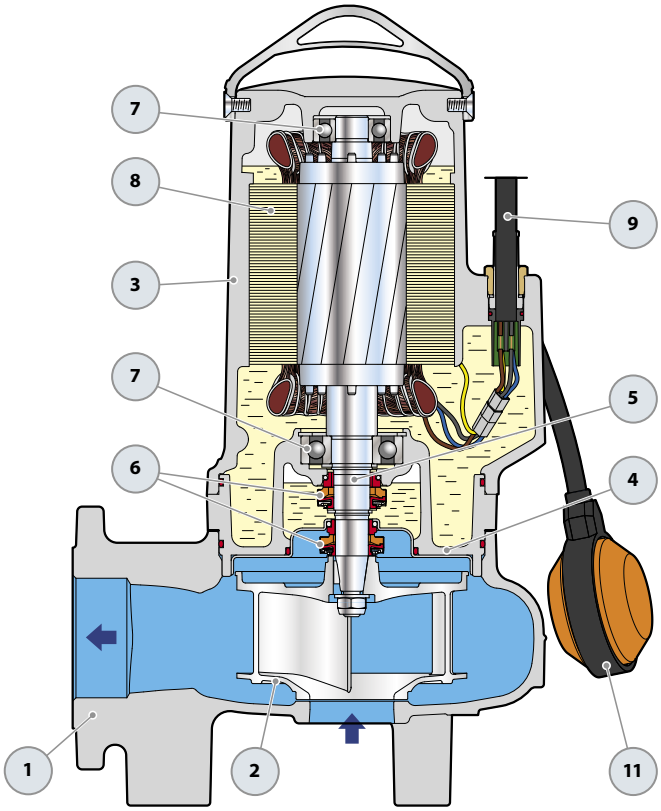
9 POWER CABLE

10 metres long "H07 RN-F" cable

10 CONTROL BOX for MCm 15-20-30-F
(only for single-phase versions)

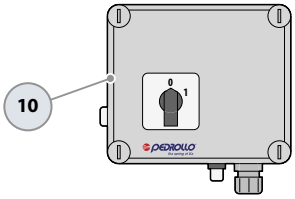
Complete with capacitor and manual reset motor protector

11 FLOAT SWITCH
(only for single-phase versions)



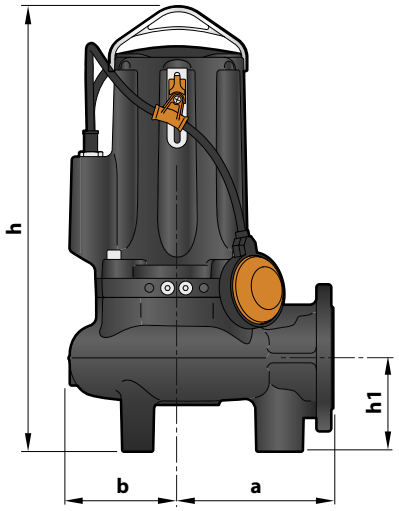
Standard Equipment

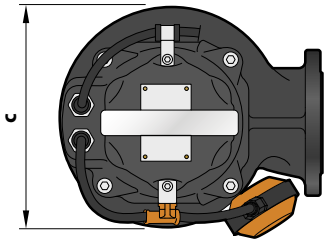
OPTIONAL – Supporting Base



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							44.5	43.5
MCm 30/50-F	MC 30/50-F					513 | 487		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

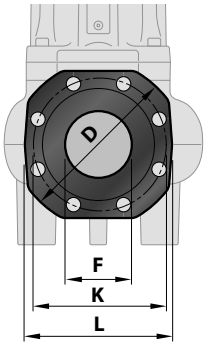
MODEL	VOLTAGE	
Single-phase	230 V	240 V
MCm 15/50-F	**10.5** A	**10.1** A
MCm 20/50-F	**14.0** A	**13.4** A
MCm 30/50-F	**18.0** A	**17.3** A
MCm 30/65-F	**14.0** A	**13.4** A

MODEL	VOLTAGE		
Three-phase	230–240 V	400–415 V	690–720 V
MC 15/50-F	**7.8** A	**4.5** A	**2.6** A
MC 20/50-F	**8.7** A	**5.0** A	**2.9** A
MC 30/50-F	**11.2** A	**6.5** A	**3.7** A
MC 40/50-F	**12.1** A	**7** A	**4.1** A
MC 30/65-F	**11.2** A	**6.5** A	**3.7** A
MC 40/65-F	**13.0** A	**7.5** A	**4.3** 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	
			mm	mm	mm	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



SEWAGE LIFTING SYSTEM VXC-F – MC-F

HORIZONTAL DELIVERY VERSION WITH ¾" GUIDE TUBES

For **VXC /50-F, MC /50-F**	Cod. ASSVXCF051	DN **2"**

Kit consisting of:
1. footing connection
2. slide guide with screws and seals
3. support for the guide tubes

VERTICAL DELIVERY VERSION WITH ¾" GUIDE TUBES

For **VXC /50-F, MC /50-F**	Cod. ASSVXCF051V	DN **2½"**
For **VXC /65-F, MC /65-F**	Cod. ASSVXCF071V	DN **3"**

Kit consisting of:
1. footing connection completo di controflangia
2. slide guide with screws and seals
3. support for the guide tubes

VERTICAL DELIVERY VERSION WITH 2" GUIDE TUBES

For **VXC /50-F, MC /50-F**	Cod. ASSVXCF0704V	DN **3"**
For **VXC /65-F, MC /65-F**	Cod. ASSVXCF0705V	

Kit consisting of:
1. footing connection completo di controflangia
2. slide guide with screws and seals
3. support for the guide tubes

ACCESSORIES CAN BE ORDERED

SLIDE GUIDE (Also to be ordered separately)

For **VXC /50-F, MC /50-F** with guide tubes **Ø ¾"**	Cod. ASSFL0017
For **VXC /65-F, MC /65-F** with guide tubes **Ø ¾"**	Cod. ASSFL0018
For **VXC /50-F, MC /50-F** with guide tubes **Ø 2"**	Cod. ASSFL071
For **VXC /65-F, MC /65-F** with guide tubes **Ø 2"**	Cod. ASSFL072

Complete with screws and seals

INTERMEDIATE SUPPORT (To be ordered separately)

For guide tubes **Ø ¾"**	Cod. 859SV340INTFA
For guide tubes **Ø 2"**	Cod. 859SV349INTFA

In order to ensure stability, insert the intermediate support:
– every 2 metres with ¾" guide tubes (compulsory)
– every 3 metres with 2" guide tubes (recommended)

INTERMEDIATE SUPPORT

For guide tubes Ø **¾"**

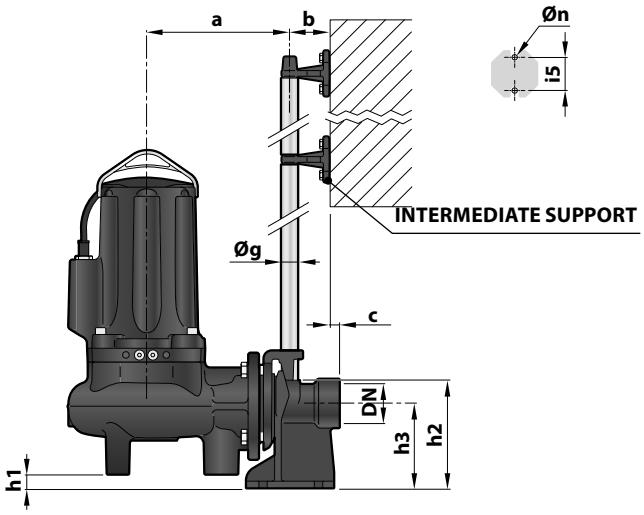
For guide tubes Ø **2"**

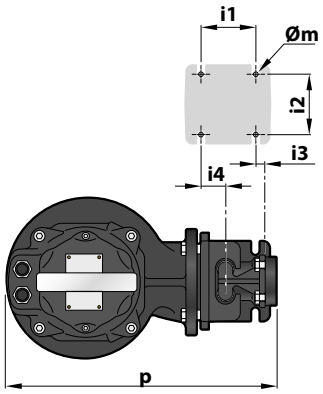
GUIDE TUBES (AISI 304 stainless steel)

Guide tube **Ø ¾"**	Cod. 54SARTG005
Guide tube **Ø 2"**	Cod. 54SARTG006

Maximum length of the tube plank: 6 metres

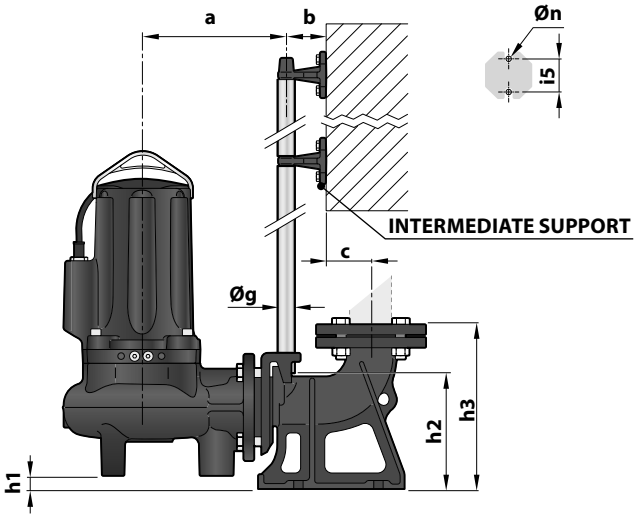
DIMENSIONS (Horizontal delivery version)

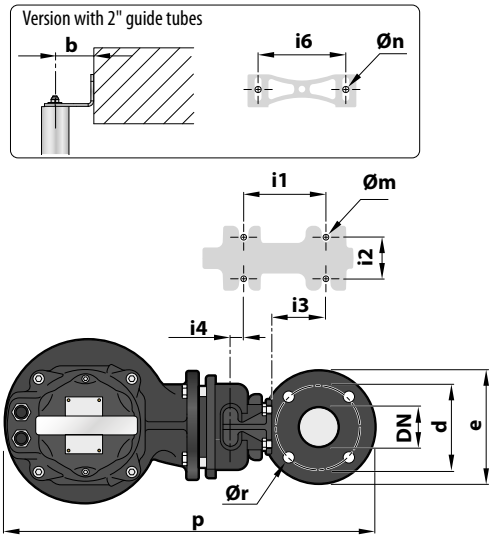




MODEL	Passage of solids	PORT	DIMENSIONS mm													
	mm	DN	a	b	c	p	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn
VXC /50-F	Ø 50	2"	216	61	17	412	28	165	130	85	94	16	40	50	¾"	12	11
MC /50-F																	

DIMENSIONS (Vertical delivery version)





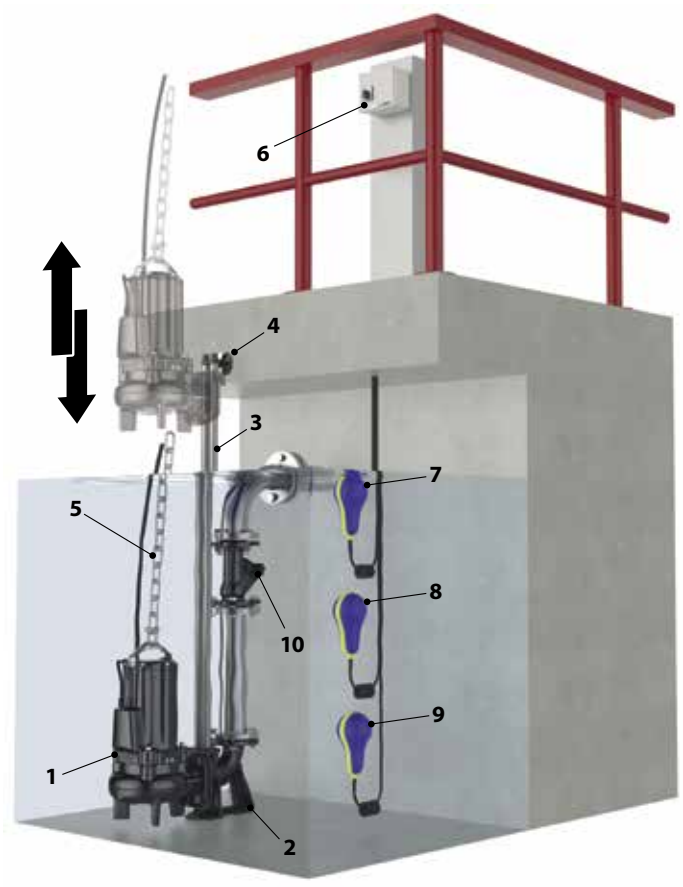
Version with ¾" guide tubes

MODEL	Passage of solids	PORT	DIMENSIONS mm																		
	mm	DN	a	b	c	d	e	p	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør
VXC /50-F	Ø 50	2½" (PN10)	213	61	52	125	165	526	25.5	164	215	120	72	62	3	50	¾"	14	11	18
MC /50-F																				
VXC /65-F	Ø 65	3" (PN6)	253	61	69	150	190	598	46	216	279	130	112	84	15	50	¾"	14	11	18
MC /65-F																				

Version with 2" guide tubes

MODEL	Passage of solids	PORT	DIMENSIONS mm																		
	mm	DN	a	b	c	d	e	p	h1	h2	h3	i1	i2	i3	i4	i5	i6	Øg	Øm	Øn	Ør
VXC /50-F	Ø 50	3" (PN10)	320	85	95	160	200	718	105	265	392	250	150	35	-130	–	187	2"	22	13.5	18
MC /50-F																					
VXC /65-F	Ø 65	3" (PN10)	359	85	95	160	200	760	84	256	392	250	150	35	-130	–	187	2"	22	13.5	18
MC /65-F																					

STANDARD INSTALLATION



1. Pump
2. Footing connection
3. Guide tubes
4. Support for the guide tubes
5. Lifting chain
6. Control box
7. Alarm float switch
8. Starting float switch
9. Stop float switch
10. Non-return valve