

TRITUS

Submersible pumps with grinder

 Sewage water

 Domestic use

 Civil use



PERFORMANCE RANGE

- Flow rate up to **260 l/min** (15.6 m³/h)
- Head up to **31 m**

APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Suction down above ground level:
 - **85 mm** for TR 0.75-0.9-1.1-1.3
 - **95 mm** for TR 1.5-2.2
- Minimum immersion depth for continuous service:
 - **300 mm** for TR 0.75-0.9-1.1-1.3
 - **350 mm** for TR 1.5-2.2

CONSTRUCTION AND SAFETY STANDARDS

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

EN 60335-1
IEC 60335-1
CEI 61-150

EN 60034-1
IEC 60034-1
CEI 2-3



CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY



INSTALLATION AND USE

The **TRITUS** series of grinder pumps manufactured from heavy gauge robust cast iron, resistant to abrasion and long-lasting, are fitted with a **GRINDER in tempered stainless steel of great resistance** which completely grinds up solid bodies and fibres in waste and reflux water from domestic and civil applications and conveys it under pressure into the sewers through small diameter pipes.

PATENTS - TRADE MARKS - MODELS

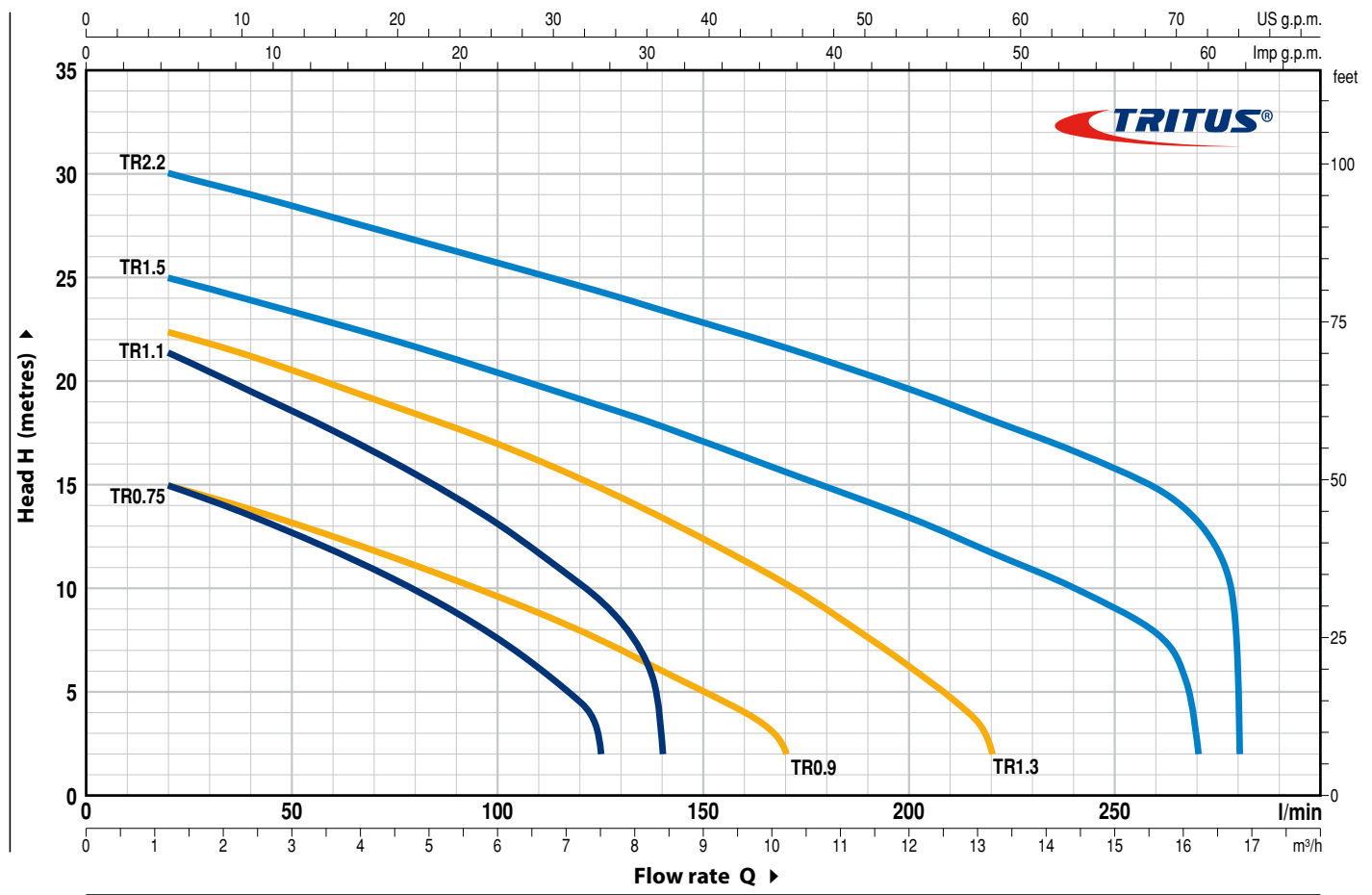
- Patent n. EP2313658
- Patent Pending n. BO2015A000116
- Registered EU Design n. 002501486-0002 (TR 0.75, TR 0.9, TR 1.1, TR 1.3)
- **TRITUS**® Registered trade mark n. 013017181

OPTIONS AVAILABLE ON REQUEST

- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹



MODEL		POWER (P ₂)		Q	Flow rate (l/min)																
Single-phase	Three-phase	kW	HP		0	1.2	2.4	3.6	4.8	6.0	7.5	8.4	10.2	12	13.2	14.4	16.2	16.8			
				l/min	0	20	40	60	80	100	125	140	170	200	220	240	270	280			
TRm 0.75	TR 0.75	0.75	1	H metres	16.5	15	13.5	11.8	10	7.5	2										
TRm 0.9	TR 0.9	0.9	1.25		16	15	13.8	12.5	11.1	9.6	7.5	6	2								
TRm 1.1	TR 1.1	1.1	1.5		23	21.5	19.5	17.5	15.5	13	9.5	2									
TRm 1.3	TR 1.3	1.3	1.75		23.5	22.5	21.2	19.8	18.4	17	14.8	13.4	10.2	6.2	2						
TRm 1.5	TR 1.5	1.5	2		26	25	24	22.8	21.7	20.4	18.8	17.8	15.6	13.4	11.7	10	2				
-	TR 2.2	2.2	3		31	30	29	28	26.8	25.7	24.3	23.5	21.5	19.5	18	16.5	13.2	2			

Q = Flow rate H = Total manometric head

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

TRITUS 0.75 – 0.9 – 1.1 – 1.3

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1
2	IMPELLER	Technopolymer open type
3	GRINDER	Tempered AISI 440C stainless steel
4	MOTOR SHAFT	Stainless steel AISI 431
5	MOTOR CASING	Cast iron with an Epoxy Electro Coating treatment

6 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

7 BEARINGS 6203 ZZ-C3E / 6203 ZZ-C3E

8 ELECTRIC MOTOR

TRm: single-phase 220-230 V - 50 Hz
with thermal overload protector incorporated into the winding

TR: three-phase 400 V - 50 Hz

- Insulation: class F
- Protection: IP X8

9 POWER CABLE

“H07 RN-F” type

Standard length 10 metres

10 FLOAT SWITCH

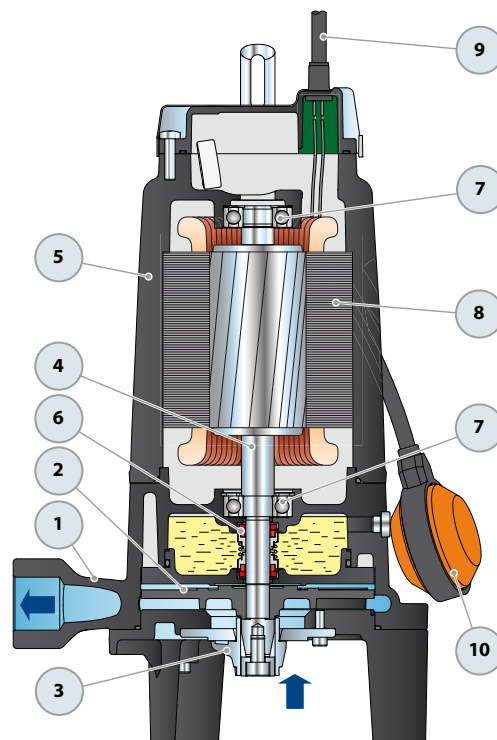
(only for single-phase versions)

11 CONTROL BOX

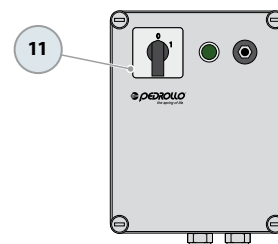
(only for single-phase versions)

With manual overload cut-out and with capacitors for starting and operating.

Pump Single-phase (220-230 V o 240 V)	Capacitance of the operating capacitor	Capacitance of the starting capacitor
TRm 0.75	25 µF 450 VL	80 µF 450 VL
TRm 0.9		
TRm 1.1		
TRm 1.3		



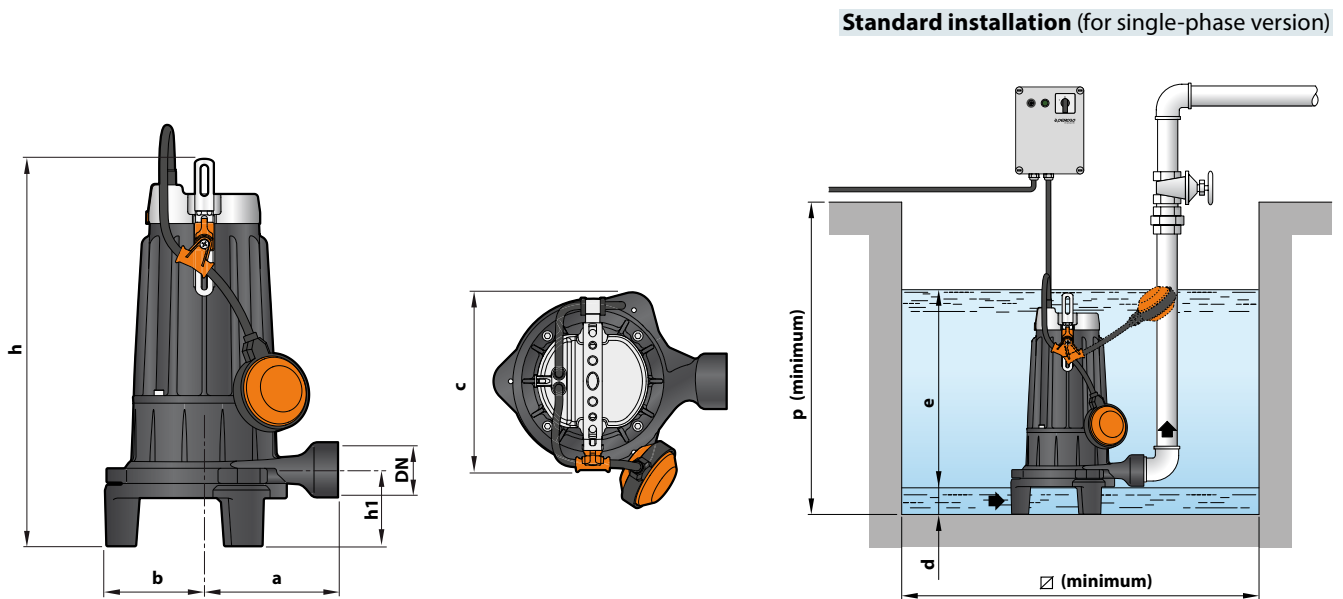
Standard features



Control box

(only for single-phase versions)

DIMENSIONS AND WEIGHT



MODEL		PORT DN	DIMENSIONS mm									kg *	
Single-phase	Three-phase		a	b	c	h	h1	d	e	p	∅	1~	3~
TRm 0.75	TR 0.75	1 1/4"	140	100	200	405	80	85	variable	500	500	22.3	22.3
TRm 0.9	TR 0.9											22.3	22.3
TRm 1.1	TR 1.1											23.9	23.1
TRm 1.3	TR 1.3											23.9	23.1

(* weight of pump without control box)

ABSORPTION

MODEL	VOLTAGE	
	230 V	240 V
Single-phase	230 V	240 V
TRm 0.75	5.5 A	5.3 A
TRm 0.9	6.0 A	5.8 A
TRm 1.1	7.4 A	7.1 A
TRm 1.3	9.0 A	8.7 A

MODEL	VOLTAGE			
	230 V	400 V	240 V	415 V
Three-phase	230 V	400 V	240 V	415 V
TR 0.75	4.0 A	2.5 A	3.9 A	2.5 A
TR 0.9	4.5 A	2.6 A	4.3 A	2.5 A
TR 1.1	5.2 A	3.0 A	5.0 A	2.9 A
TR 1.3	6.5 A	3.8 A	6.2 A	3.6 A

PALLETIZATION

MODEL	GROUPAGE	CONTAINER
	n. pumps	n. pumps
Single-phase	n. pumps	n. pumps
TRm 0.75	36	48
TRm 0.9	36	48
TRm 1.1	36	48
TRm 1.3	36	48

MODEL	GROUPAGE	CONTAINER
	n. pumps	n. pumps
Three-phase	GROUPAGE	CONTAINER
	n. pumps	n. pumps
TR 0.75	60	80
TR 0.9	60	80
TR 1.1	60	80
TR 1.3	60	80

TRITUS 1.5 – 2.2

POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1
2	IMPELLER	Precision cast stainless steel AISI 304 open type
3	GRINDER	Tempered AISI 440C stainless steel
4	MOTOR SHAFT	Stainless steel AISI 431
5	MOTOR CASING	Cast iron with an Epoxy Electro Coating treatment

6 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-20	Ø 20 mm	Motor side	Graphite	Graphite	NBR
STA-19	Ø 19 mm	Pump side	Silicon carbide	Silicon carbide	NBR

7 BEARINGS 3304 B-ZZ-C3 / 6304 ZZ-C3

8 ELECTRIC MOTOR

TRm: single-phase 220-230 V - 50 Hz
with thermal overload protector incorporated into the winding

TR: three-phase 400 V - 50 Hz
with thermal overload protector incorporated into the winding to be connected to the control box

- Insulation: class F
- Protection: IP X8

9 POWER CABLE

“H07 RN-F” type

Standard length 10 metres

10 FLOAT SWITCH

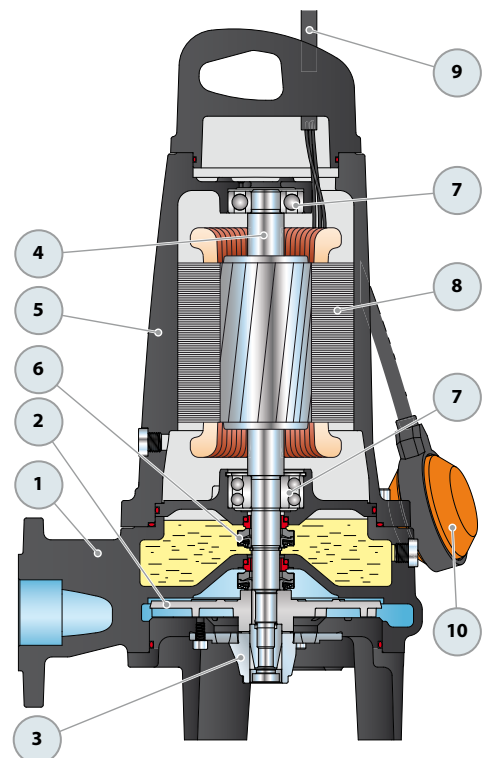
(only for single-phase versions)

11 CONTROL BOX

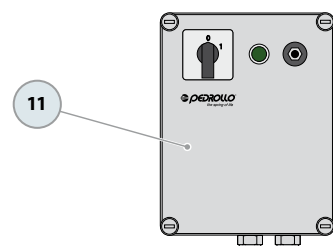
(only for single-phase versions)

With manual overload cut-out and with capacitors for starting and operating.

Pump Single-phase (220-230 V o 240 V)	Capacitance of the operating capacitor	Capacitance of the starting capacitor
TRm 1.5	50 µF 450 VL	80 µF 450 VL



Standard features

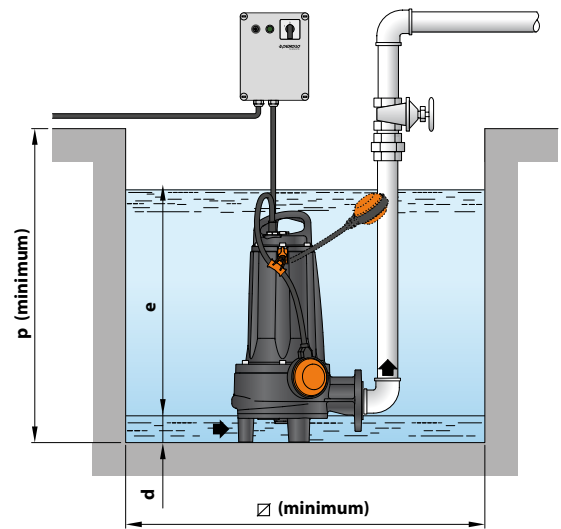
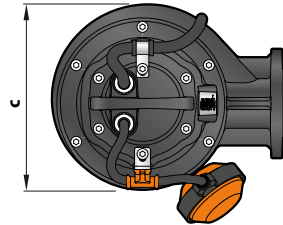
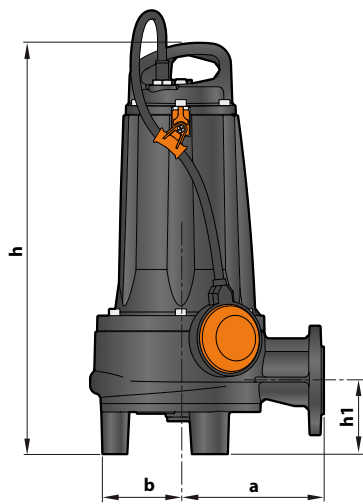


Control box

(only for single-phase versions)

DIMENSIONS AND WEIGHT

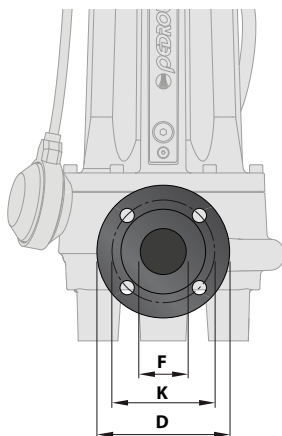
Standard installation (for single-phase version)



MODEL		DIMENSIONS mm									kg	
Single-phase	Three-phase	a	b	c	h	h1	d	e	p	□ (minimum)	1~	3~
TRm 1.5	TR 1.5	170	108	221	489	87.5	95	variable	800	800	45.5	42.0
-	TR 2.2										-	44.0

FLANGED PORT

MODEL		FLANGE	F	K	D	HOLES	
Single-ph.	Three-ph.	DN		mm	mm	N°	Ø (mm)
TRm 1.5	TR 1.5	40 (PN6)	1½"	100	130	4	14
-	TR 2.2						



ABSORPTION

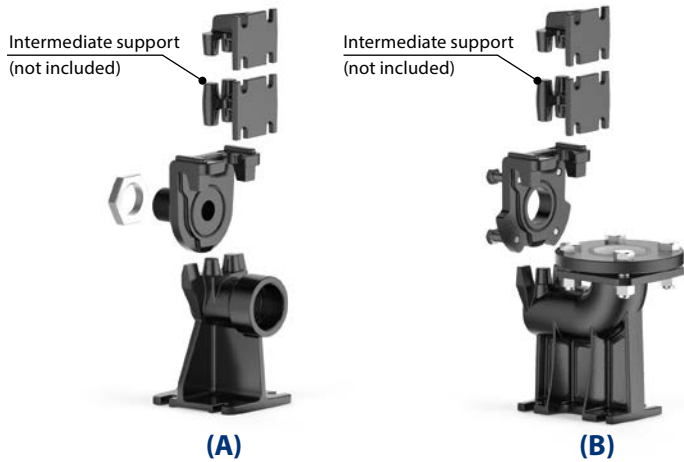
MODEL	VOLTAGE
Single-phase	230 V
TRm 1.5	10.0 A

MODEL	VOLTAGE
Three-phase	400 V
TR 1.5	3.7 A
TR 2.2	5.5 A

PALLETIZATION

MODEL	GROUPAGE n. pumps	CONTAINER n. pumps
TRm 1.5	10	15
TR 1.5	12	18
TR 2.2	12	18

BASE PEDESTAL KIT TRITUS



A) HORIZONTAL DELIVERY VERSION WITH 3/4" GUIDE TUBES

For TR 0.75, TR 0.9, TR 1.1, TR 1.3	Cod. ASSPTRITUS11	DN 2"
For TR 1.5, TR 2.2	Cod. ASSPTRITUS22	DN 2"

Kit consisting of:

- footing connection
- slide guide
(with ring nut and seal for TR 0.75, TR 0.9, TR 1.1, TR 1.3,
with screws and seal for TR 1.5 and TR 2.2)
- support for the guide tubes

B) VERTICAL DELIVERY VERSION WITH 3/4" GUIDE TUBES

For TR 0.75, TR 0.9, TR 1.1, TR 1.3	Cod. ASSPTRITUS11V	DN 2½"
For TR 1.5, TR 2.2	Cod. ASSPTRITUS22V	DN 2½"

Kit consisting of:

- footing connection complete with counterflange
- slide guide
(with ring nut and seal for TR 0.75, TR 0.9, TR 1.1, TR 1.3,
with screws and seal for TR 1.5 and TR 2.2)
- support for the guide tubes

INTERMEDIATE SUPPORT (To be ordered separately)

Cod. 859SV340INTFA	For Ø 3/4" guide tubes
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GUIDE TUBES (AISI 304 stainless steel)

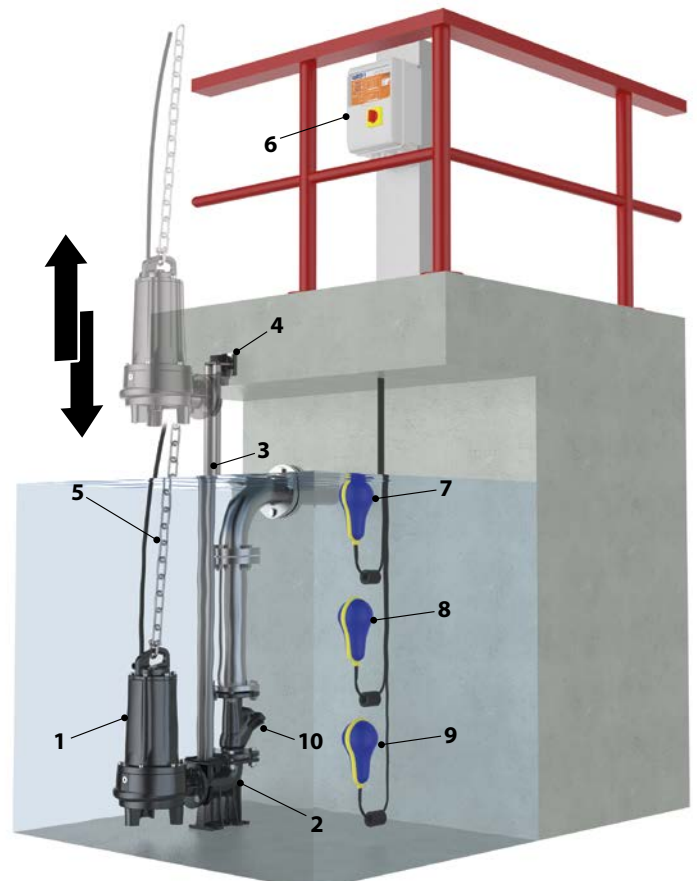
Cod. 54SARTG005	Ø 3/4"
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In order to ensure stability, insert one intermediate support every two metres of guide tube

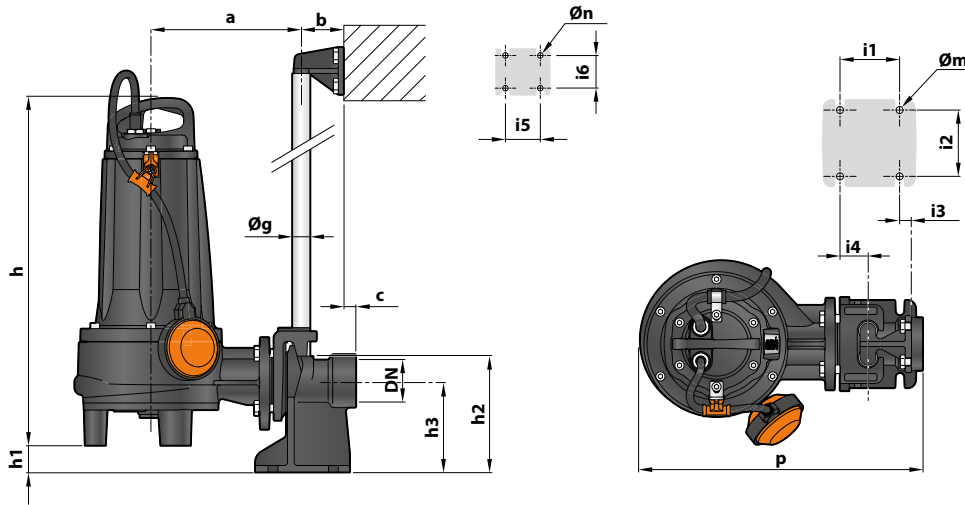
Maximum length of the tube plank: 6 metres

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

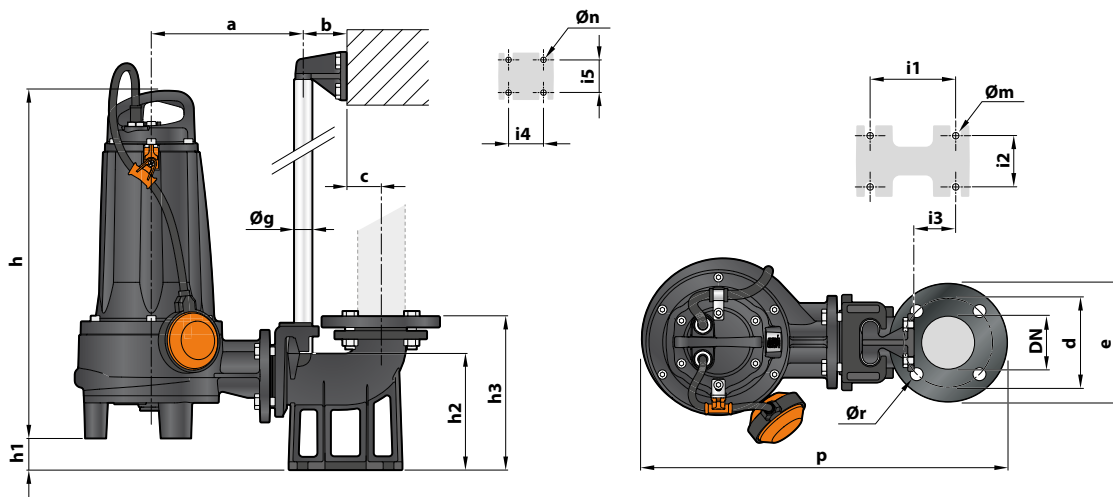


DIMENSIONS (Horizontal delivery version)



MODEL		PORT	DIMENSIONS mm																
Single-phase	Three-phase	DN	a	b	c	p	h	h1	h2	h3	i1	i2	i3	i4	i5	i6	Øg	Øm	Øn
TRm 0.75	TR 0.75	2"	210	61	17	392	405	50	165	130	85	94	40	16	50	48	¾"	12	11
TRm 0.9	TR 0.9																		
TRm 1.1	TR 1.1																		
TRm 1.3	TR 1.3																		
TRm 1.5	TR 1.5	2"	216	61	17	401	489	40	165	130	85	94	40	16	50	48	¾"	12	11
-	TR 2.2																		

DIMENSIONS (Vertical delivery version)



MODEL		PORT	DIMENSIONS mm																		
Single-phase	Three-phase	DN	a	b	c	d	e	p	h	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør
TRm 0.75	TR 0.75	2½"	202	61	52	125	165	501	405	48	164	216	120	72	62	50	48	¾"	14	11	18
TRm 0.9	TR 0.9																				
TRm 1.1	TR 1.1																				
TRm 1.3	TR 1.3																				
TRm 1.5	TR 1.5	2½"	212	61	52	125	165	515	489	38	164	216	120	72	62	50	48	¾"	14	11	18
-	TR 2.2																				