

# TRITUS<sup>®</sup>

Submersible pumps with grinder



**MADE IN ITALY**

 **PEDROLLO<sup>®</sup>**  
*the spring of life*

## Submersible pumps with grinder

**TRITUS** submersible shredder pumps are recognised for their reliability and high operational safety: not subject to locking.

The shredder group with its staggered cutting system drastically reduces the need for the motor torque.

It undertakes a perfect shredding, using less power, and it eliminates clogging caused by particularly problematic objects such as plastic, rubber, articles in cloth, sanitary napkins, wet wipes, protective masks, latex gloves and other hygiene products.

**These shredders are therefore recommended where it is necessary to transport waste water over long distances or through small pipes, for installations which are not suitable for the installation of gravity systems or located in areas which are not serviced by sewer systems.**

**They are therefore recommended for:**

- Slaughterhouse waste
- Food Industries
- Paper Mills
- Farms
- Production Activities in General
- Lavatories WC

- ✳ The shredder is manufactured entirely of high strength **AISI 440 C** tempered stainless steel
- ✳ Double mechanical seal with an interposed oil chamber
- ✳ All cast iron parts with **cataphoresis** treatment
- ✳ Electric panel with a manual reset motor protection and with a starting and operating condenser (only for single phase versions)



### PERFORMANCE RANGE

- Flow rate up to **305 l/min** (18.3 m<sup>3</sup>/h)
- Head up to **44.5 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 1.5-2.2-3**
- Minimum immersion depth for continuous service:
  - **300 mm** per **TR 0.75-0.9-1.1-1.3**
  - **350 mm** per **TR 1.5-2.2-3**

### CONSTRUCTION AND SAFETY STANDARDS

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

### INSTALLATION AND USE

The **TRITUS** series of grinder pumps 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, civil and industrial applications and conveys it under pressure into the sewers through small diameter pipes.

### PATENTS - TRADE MARKS - MODELS

- Patent n° EP2313658
- Patent n° IT0001428923
- Registered EU Design n° 002501486-0002, 008625685-0005, 008625685-0006
- TRITUS® Registered trade mark n° 013017181

### OPTIONS AVAILABLE ON REQUEST

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

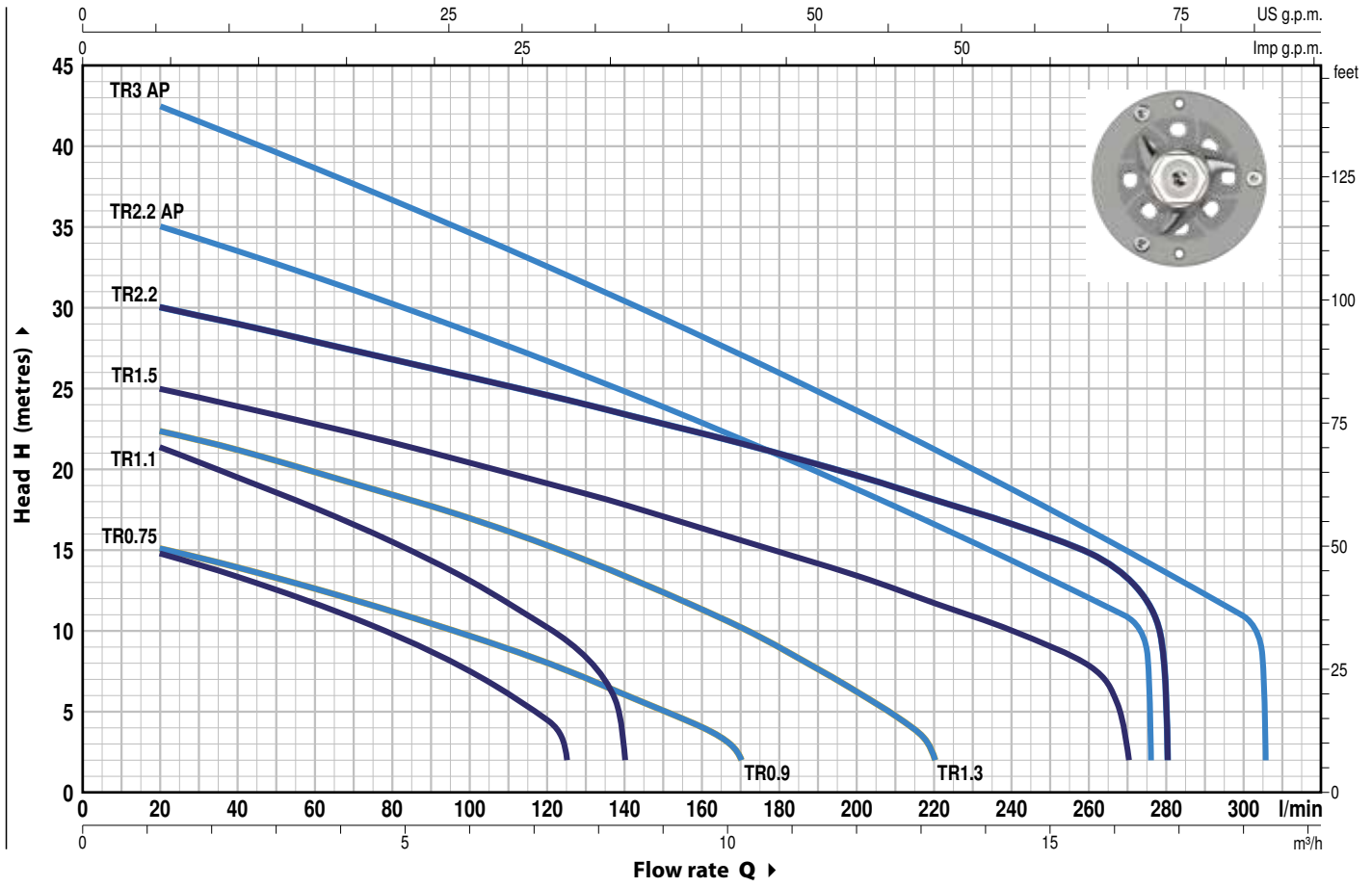
### WARRANTY

2 years in accordance with our general conditions of sale

## Submersible pumps with grinder

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

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



MODEL		POWER (P <sub>2</sub> )		Q	H metres																		
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	1.2	2.4	3.6	4.8	6.0	7.5	8.4	10.2	12	13.2	14.4	16.2	16.5	16.8	18	18.3	
				l/min	0	20	40	60	80	100	125	140	170	200	220	240	270	275	280	300	305		
TRm 0.75	TR 0.75	0.75	1		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	12	2				
TRm 2.2 AP	TR 2.2 AP	2.2	3		36.5	35	33.5	32	30.5	28.5	26.5	24.8	21.8	18.7	16.6	14.3	11	2					
-	TR 3 AP	3	4		44.5	42.5	41	39	37	35	32	30.5	27.5	23.7	21.3	18.8	15	14	13.6	11	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	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1
2	<b>IMPELLER</b>	Technopolymer open type
3	<b>GRINDER</b>	Tempered AISI 440C stainless steel
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431
5	<b>MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment

### 6 DOUBLE MECHANICAL SEAL IN 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 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

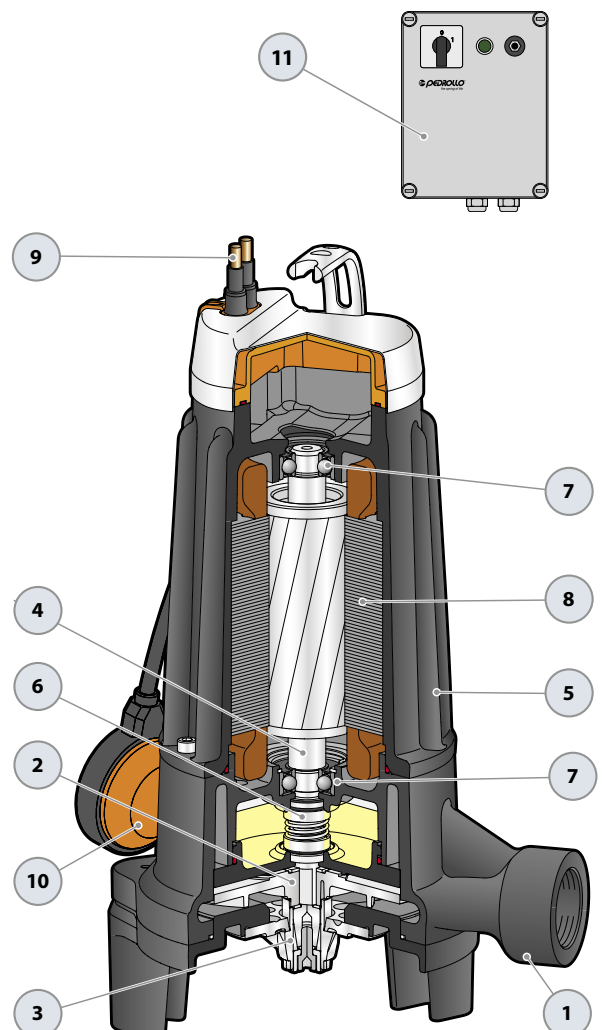
(only for single-phase versions)

### 11 CONTROL BOX

(only for single-phase versions)

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

**Standard features  
Control box  
(only for single-phase versions)**

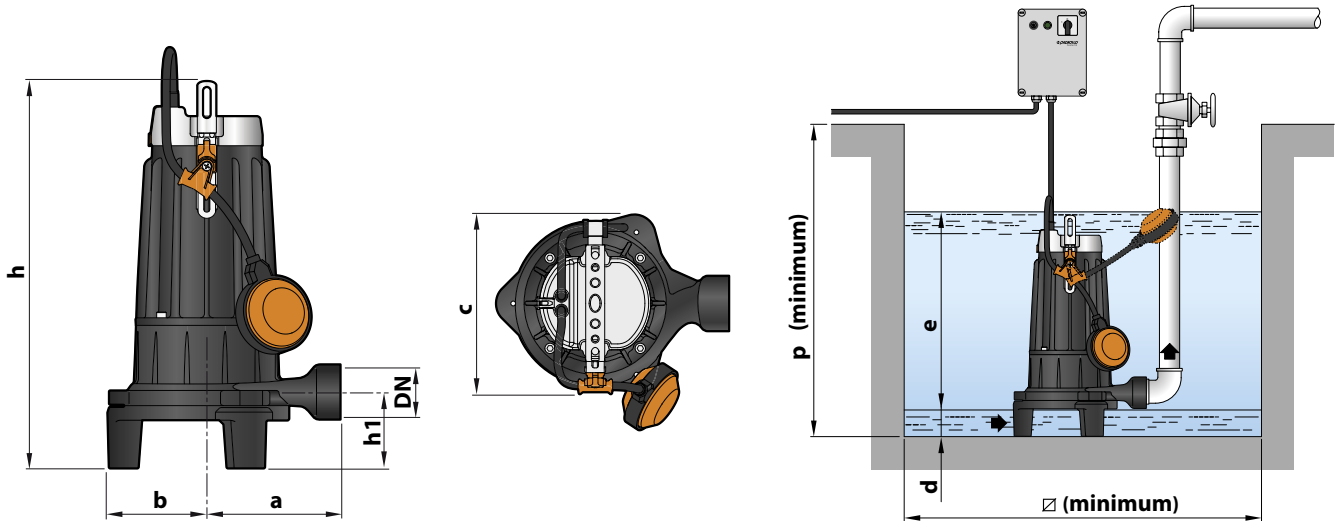


# TRITUS 0.75 – 0.9 – 1.1 – 1.3



## DIMENSIONS AND WEIGHT

Typical installation (for single-phase version)



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	104	186	406	80	85	variable	500	500	24.0	22.0
TRm 0.9	TR 0.9											23.9	22.2
TRm 1.1	TR 1.1											25.7	23.2
TRm 1.3	TR 1.3											25.5	23.1

(\* weight of pump without control box)

## ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	240 V
TRm 0.75	5.5 A	5.4 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	8.6 A

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
TR 0.75	4.3 A	2.5 A	4.2 A	2.4 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	6.6 A	3.8 A	6.2 A	3.6 A

## CAPACITOR

MODEL	CAPACITANCE	
Pump Single-phase (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		

# TRITUS 1.5 – 2.2

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with flanged and threaded port in compliance with ISO 228/1
2	<b>IMPELLER</b>	Precision cast stainless steel AISI 304 open type
3	<b>GRINDER</b>	Tempered AISI 440C stainless steel
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431
5	<b>MOTOR CASING</b>	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	Ceramic	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 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 connect to the control box

- Insulation: class F
- Protection: IP X8

### 9 POWER CABLE

"H07 RN-F" type  
**Standard length 10 metres**

### 10 FLOAT SWITCH

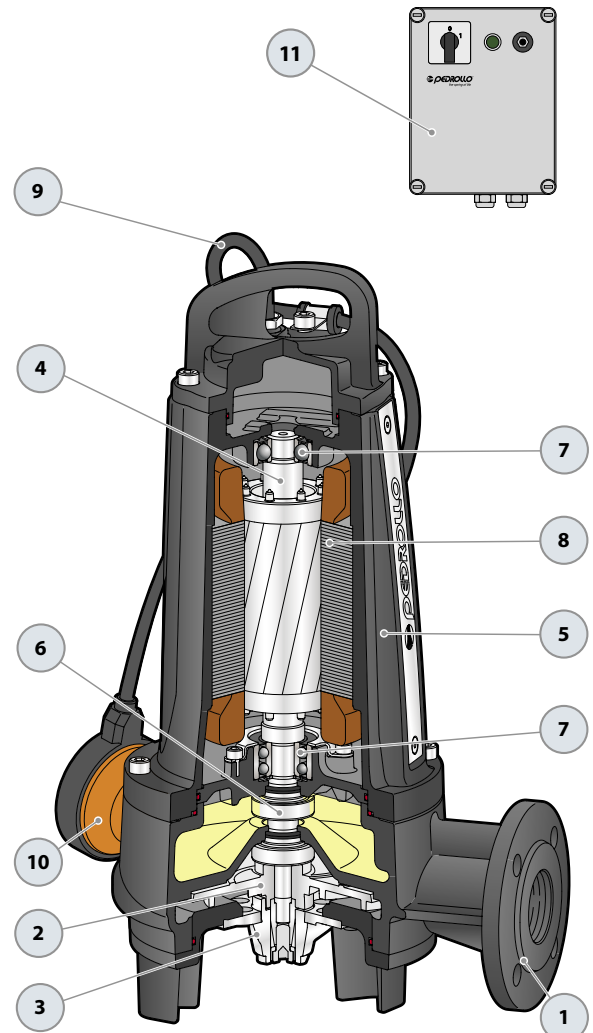
(only for single-phase versions)

### 11 CONTROL BOX

(only for single-phase versions)

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

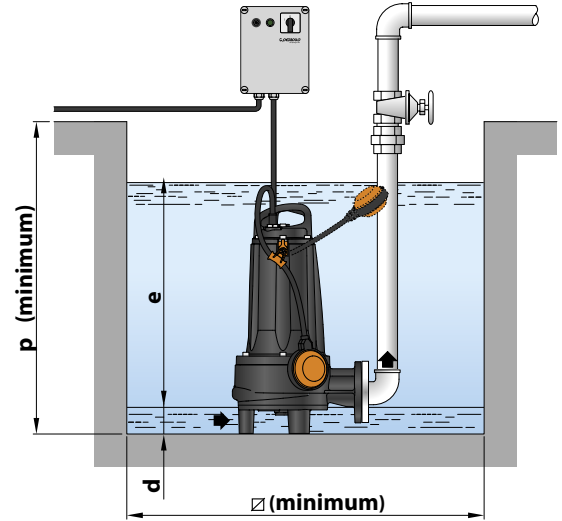
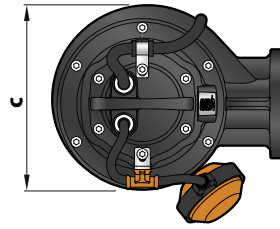
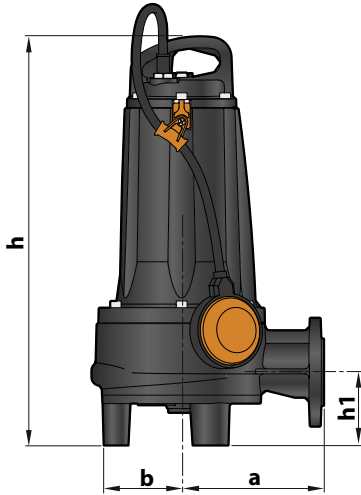
**Standard features**  
**Control box**  
(only for single-phase versions)



# TRITUS 1.5 – 2.2

## DIMENSIONS AND WEIGHT

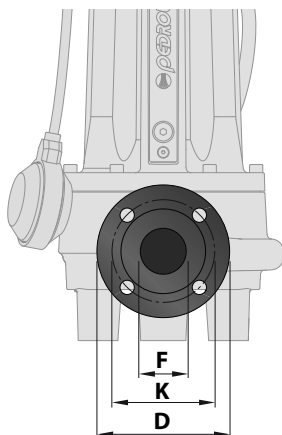
Typical installation (for single-phase version)



MODEL		DIMENSIONS mm									kg	
Single-phase	Three-phase	a	b	c	h	h1	d	e	p	Ø	1~	3~
TRm 1.5	TR 1.5	172	105	221	489	87.5	95	variable	800	800	45	44
-	TR 2.2										-	44

## PORT FLANGE

MODEL		FLANGE	F	K	D	HOLES	
Single-phase	Three-phase	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

## CAPACITOR

MODEL	CAPACITANCE	
Pump Single-phase (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

# TRITUS 2.2 - 3 AP

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS					
1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with flanged and threaded port in compliance with ISO 228/1					
2	<b>IMPELLER</b>	Precision cast stainless steel AISI 304 open type					
3	<b>GRINDER</b>	Tempered AISI 440C stainless steel					
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431					
5	<b>MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment					
6	<b>MOTOR CASING PLATE</b>	Cast iron with an Epoxy Electro Coating treatment					
7	<b>SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER</b>						
	<b>Seal</b>	<b>Shaft</b>	<b>Position</b>	<b>Stationary ring</b>	<b>Rotational ring</b>	<b>Materials</b>	<b>Elastomer</b>
	<i>Model</i>	<i>Diameter</i>					
	STA-24	Ø 24 mm	Motor side	Ceramic	Graphite		NBR
	STA-22	Ø 22 mm	Pump side	Silicon carbide	Silicon carbide		NBR

8 **BEARINGS**                      **3305 B-2RS-EA5/6204-ZZ-EA3**

9 **ELECTRIC MOTOR**

**TRm:** single-phase 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 connect to the control box

- Insulation: class F
- Protection: IP X8

10 **POWER CABLE**

"H07 RN-F" type  
**Standard lenght 10 metres**

11 **LOAT SWITCH**

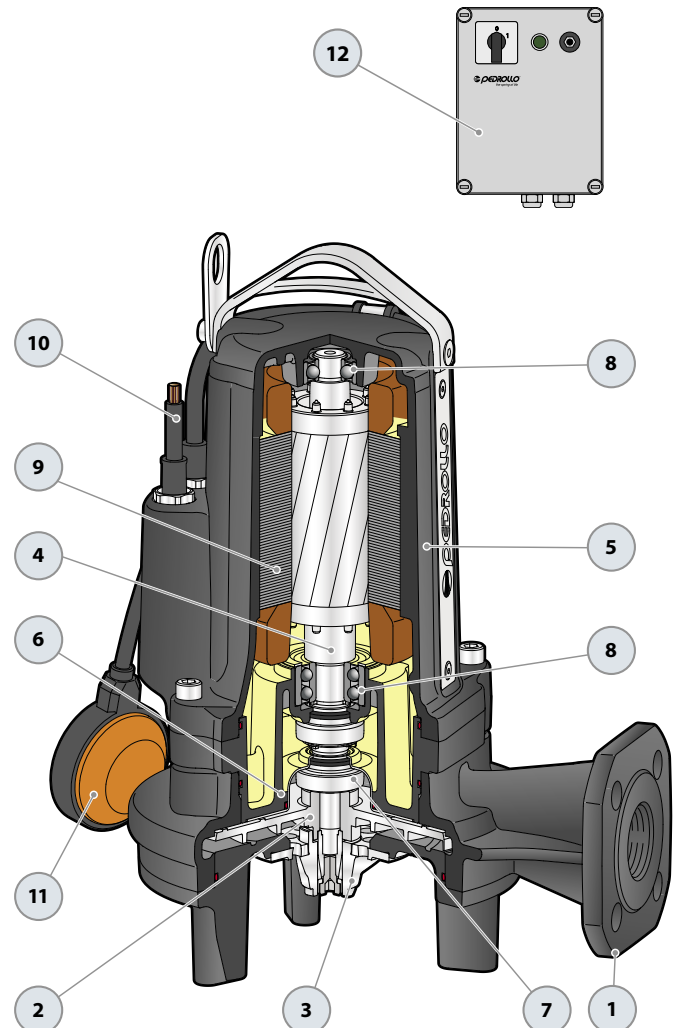
(only for single-phase versions)

12 **CONTROL BOX**

(only for single-phase versions)

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

**Standard features**  
**Control box**  
(only for single-phase versions)

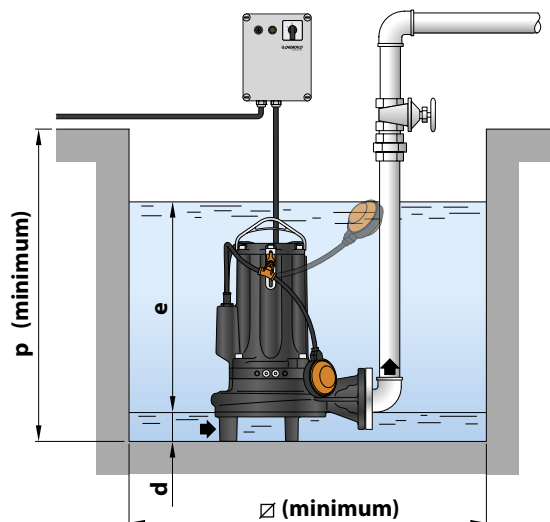
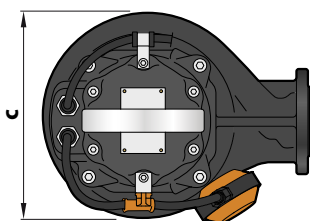
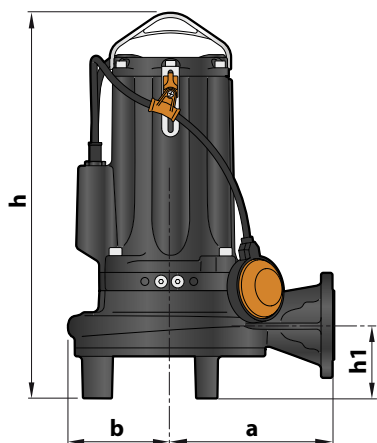




# TRITUS 2.2 - 3 AP

## DIMENSIONS AND WEIGHT

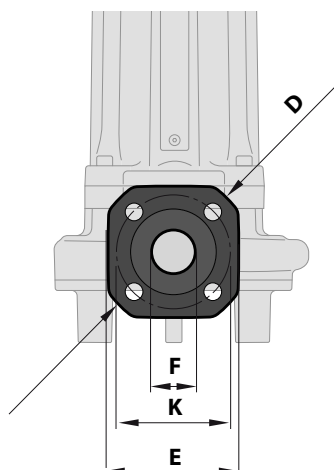
Typical installation (for single-phase version)



MODEL		DIMENSIONS mm										kg	
Single-phase	Three-phase	a	b	c	h Single-phase	h Three-phase	h1	d	e	p	Ø	1~	3~
TRm 2.2 AP	TR 2.2 AP	203	126	256	480	453	90	95	variable	800	800	53.5	47
-	TR 3 AP				480							-	53

## PORT FLANGE

MODEL		FLANGE	F	K	D	E	HOLES	
Single-phase	Three-phase	DN		mm	mm	mm	N°	Ø (mm)
TRm 2.2 AP	TR 2.2 AP	40 (PN10)	1½"	110	150	130	4	18
-	TR 3 AP							



## ABSORPTION

MODEL	VOLTAGE
Single-phase	230 V
TRm 2.2 AP	14.0 A

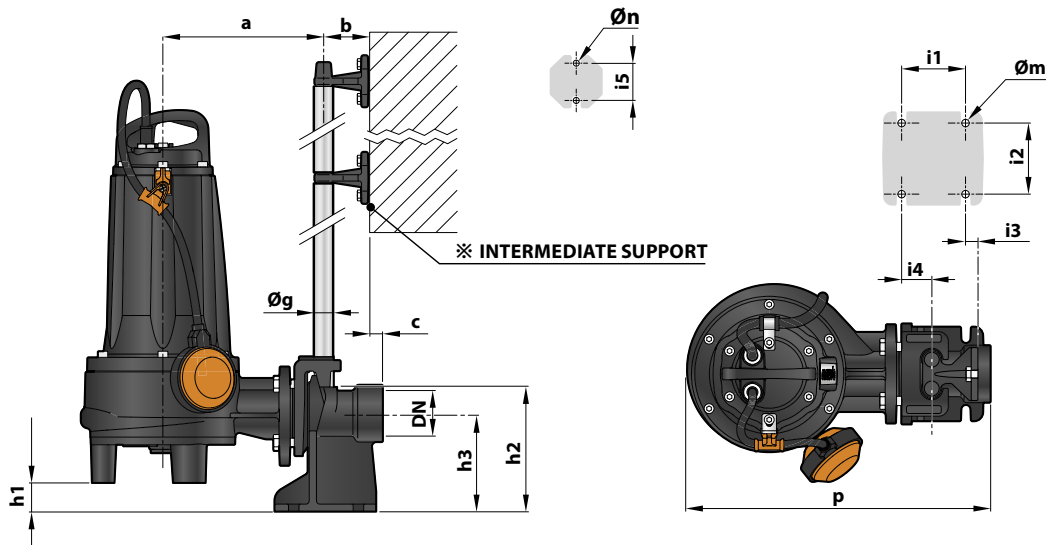
MODEL	VOLTAGE
Three-phase	400 V
TR 2.2 AP	5.5 A
TR 3 AP	6.3 A

## CAPACITOR

MODEL	CAPACITANCE	
Pump Single-phase (230 V o 240 V)	Capacitance of the operating capacitor	Capacitance of the starting capacitor
TRm 2.2 AP	60 µF 450 VL	120 µF 450 VL

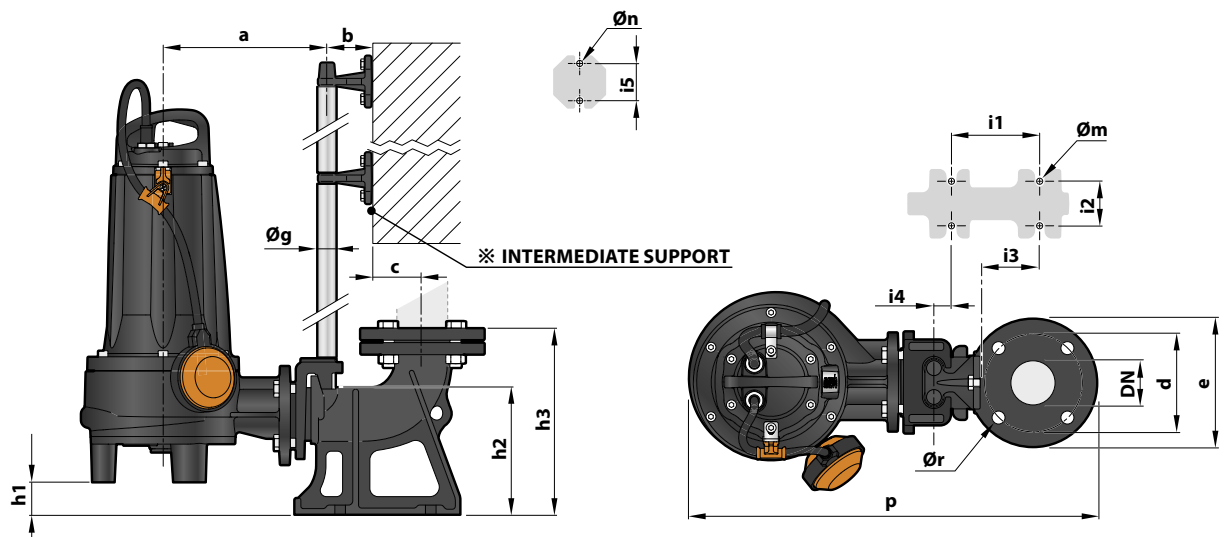
# SEWAGE LIFTING SYSTEM

## DIMENSIONS (Horizontal delivery version)



MODEL		PORT DN	Solids mm	DIMENSIONS mm															
Single-phase	Three-phase			a	b	c	p	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	
TRm 0.75	TR 0.75	2"	Ø 7	212	61	17	395	50	165	130	85	94	16	40	50	3/4	14	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"	Ø 7	215			400	42.5											
-	TR 2.2																		

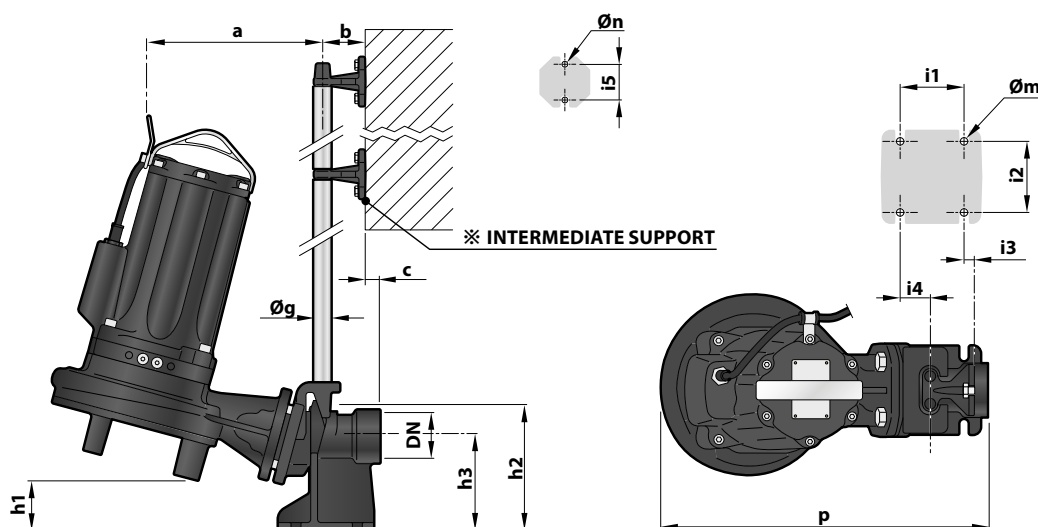
## DIMENSIONS (Vertical delivery version)



MODEL		PORT DN	Solids mm	DIMENSIONS mm																	
Single-phase	Three-phase			a	b	c	d	e	p	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør
TRm 0.75	TR 0.75	2½"	Ø 7	206	61	51.5	125	165	505	48	163.5	215.5	120	72	62	3	50	3/4	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"	Ø 7	211				514	40												
-	TR 2.2																				

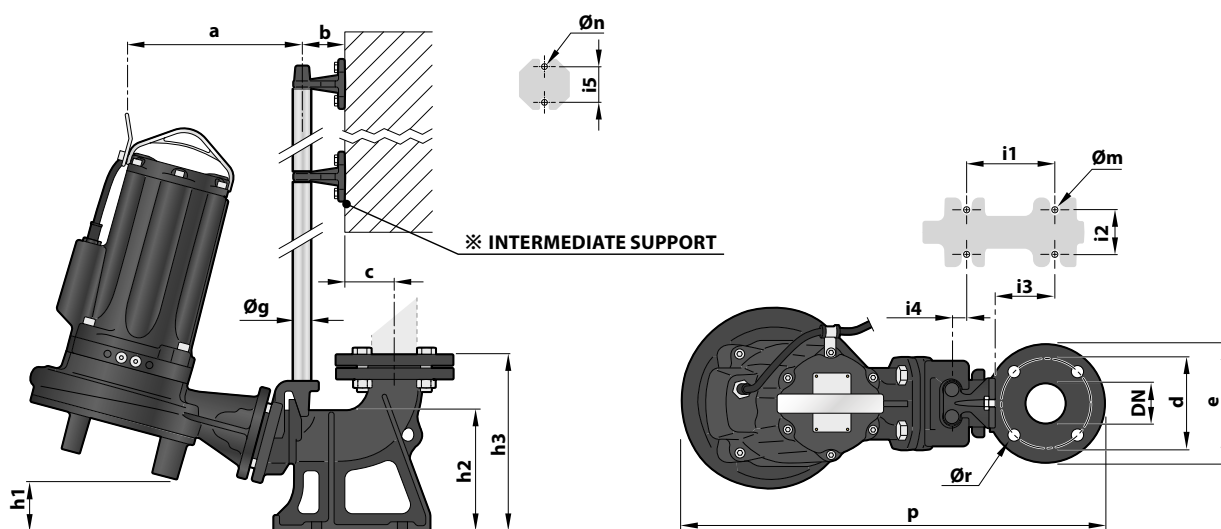
# SEWAGE LIFTING SYSTEM

## DIMENSIONS (Horizontal delivery version)



MODEL		PORT DN	Solids mm	DIMENSIONS mm														
Single-phase	Three-phase			a	b	c	p	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn
TRm 2.2 AP	TR 2.2 AP	2"	Ø 7	228	61	17	455	71	165	130	85	94	16	40	50	3/4	14	11
-	TR 3 AP			238														

## DIMENSIONS (Vertical delivery version)



MODEL		PORT DN	Solids mm	DIMENSIONS mm																	
Single-phase	Three-phase			a	b	c	d	e	p	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør
TRm 2.2 AP	TR 2.2 AP	2½"	Ø 7	225	61	51.5	125	165	569	69	163.5	215.5	120	72	62	3	50	3/4	14	11	18
-	TR 3 AP			235																	

*The features and specifications here in stated are in no way binding for the manufacturer.  
Pedrollo S.p.A. is free to modify the product in order to improve its production at any time without previous notice.*

**Pedrollo S.p.A.**

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**MADE IN ITALY**

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