

# TRITUS

## Submersible pumps with grinder

-  Filthy water
-  Domestic use
-  Civil use



### PERFORMANCE RANGE

- Flow rate up to **220 l/min** (13.2 m<sup>3</sup>/h)
- Head up to **30 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Suction down to **50 mm** above ground level
- Minimum immersion depth for continuous service:
  - **300 mm** for TR 0.75-1.1
  - **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  
ISO 14001: ENVIRONMENT AND SAFETY



### 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

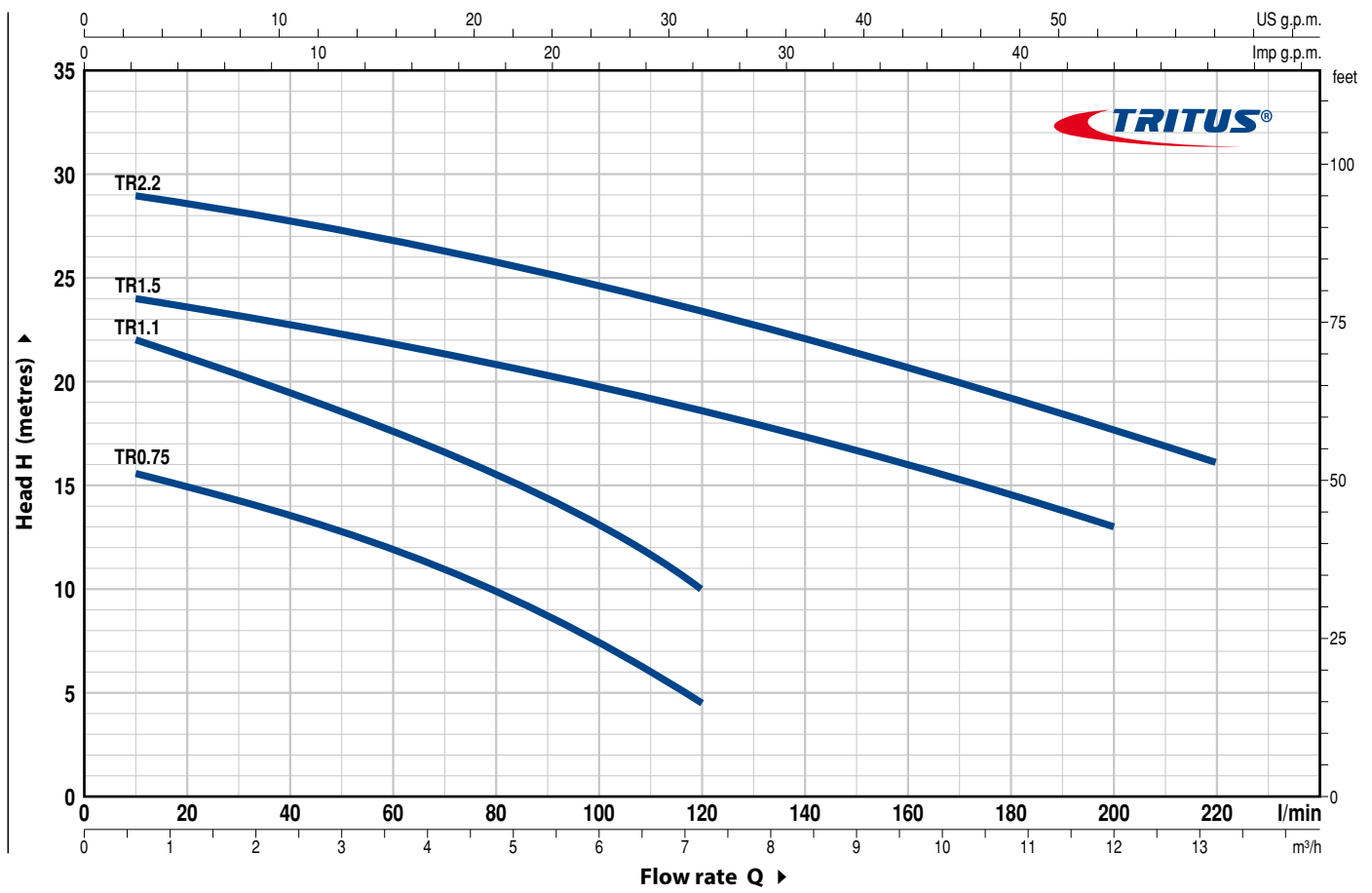
- Registered Trade Mark n. 013017181 
- Patent Pending n. BO2015A000116
- Registered EU Design n. 002501486-0002

### OPTIONS AVAILABLE ON REQUEST

- Version with adjustable supports for TR 0.75-1.1
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 rpm



MODEL		POWER (P <sub>2</sub> )		Q	H metres												
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	0.6	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12
				l/min	0	10	20	40	60	80	100	120	140	160	180	200	220
TRm 0.75	TR 0.75	0.75	1	H metres	16.5	15.5	15	13.5	11.8	10	7.5	4.5					
TRm 1.1	TR 1.1	1.1	1.5		23	22	21	19.5	17.5	15.5	13	10					
TRm 1.5	TR 1.5	1.5	2		25	24	23.5	22.8	22	21	19.8	18.5	17.3	16	14.5	13	
-	TR 2.2	2.2	3		30	29	28.5	27.8	26.8	25.8	24.7	23.5	22	20.5	19	17.8	16

Q = Flow rate H = Total manometric head

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

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

<b>1 PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1
<b>2 IMPELLER</b>	Open type: – technopolymer for TR 0.75, TR 1.1 – precision cast stainless steel AISI 304 for TR 1.5, TR 2.2
<b>3 GRINDER</b>	Tempered AISI 440C stainless steel
<b>4 MOTOR SHAFT</b>	– Stainless steel EN 10088-3 - 1.4104 for TR 0.75, TR 1.1 – Stainless steel AISI 431 for TR 1.5, TR 2.2
<b>5 MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment

### 6 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

Pump Model	Seal Model	Shaft Diameter	Position	Materials		
				Stationary ring	Rotational ring	Elastomer
TR 0.75, TR 1.1	MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
			Pump side	Silicon carbide	Silicon carbide	NBR
TR 1.5, TR 2.2	STA-20	Ø 20 mm	Motor side	Ceramic	Graphite	NBR
	STA-19	Ø 19 mm	Pump side	Silicon carbide	Silicon carbide	NBR

### 7 BEARINGS

Pump Model	Model
TR 0.75, TR 1.1	6203 ZZ-C3E / 6203 ZZ-C3E
TR 1.5, TR 2.2	5304 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  
– Insulation: class F  
– Protection: IP X8

### 9 POWER CABLE

“H07 RN-F” type  
(with Schuko plug for single-phase versions only)  
**Standard length 10 metres**

### 10 FLOAT SWITCH

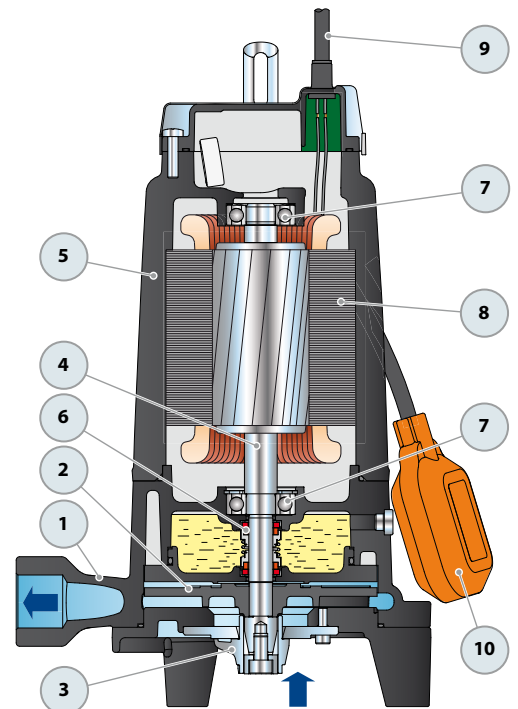
(only for single-phase versions)

### 11 CONTROL BOX

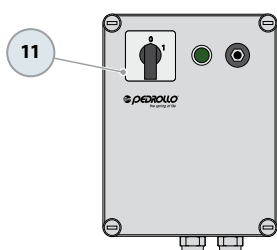
(only for single-phase versions)

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

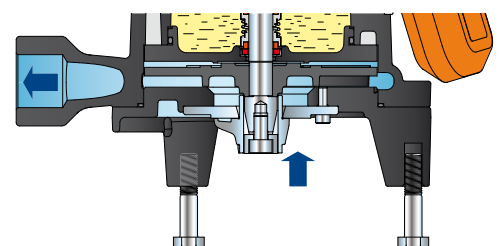
Pump Model	Capacitance of the operating capacitor	Capacitance of the starting capacitor
TRm 0.75, TRm 1.1	25 µF 450 VL	80 µF 450 VL
TRm 1.5	50 µF 450 VL	100 µF 450 VL



#### Standard features

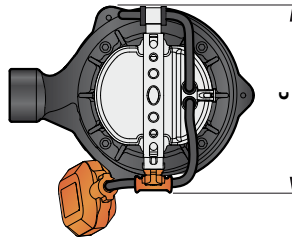
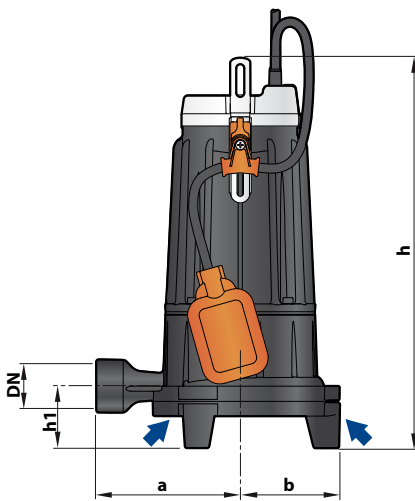


Control box  
(only for single-phase versions)

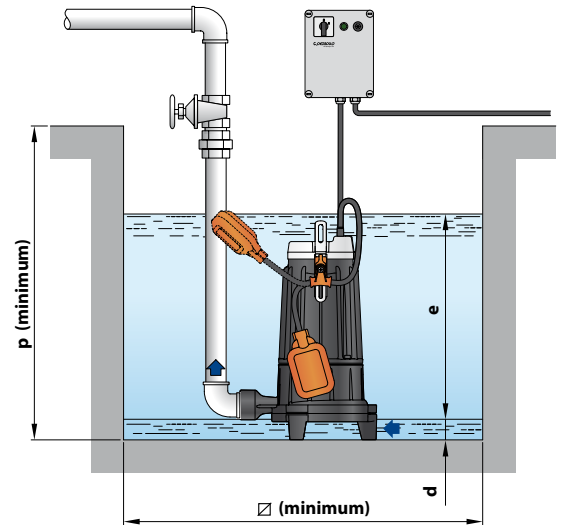


Version with adjustable supports  
(on request for TR 0.75, TR 1.1)

## DIMENSIONS AND WEIGHT



**Standard 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	1¼"	140	100	200	372	61	50	variable	500	500	21.2	21.2
TRm 1.1	TR 1.1					387						23.5	22.7
TRm 1.5	TR 1.5	1½"	170	120	216	424	68					38.0	37.0
-	TR 2.2					-	38.5						

(\* 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 1.1	7.4 A	7.1 A
TRm 1.5	10.5 A	10.1 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 1.1	5.2 A	3.0 A	5.0 A	2.9 A
TR 1.5	7.5 A	4.3 A	7.3 A	4.2 A
TR 2.2	10.2 A	5.9 A	9.9 A	5.7 A

## PALLETIZATION

MODEL		GROUPAGE n. pumps	CONTAINER n. pumps
Single-phase	Three-phase		
TRm 0.75	TR 0.75	40	60
TRm 1.1	TR 1.1	40	60
TRm 1.5	TR 1.5	16	16
-	TR 2.2	16	16