TRm 2.2 AP



TRm 1.3



CAMPO DELLE PRESTAZIONI

- Portata fino a **410 l/min** (24.6 m³/h)
- Prevalenza fino a **44.5 m**

PERFORMANCE RANGE

- *Flow rate up to **410 l/min** (24.6 m³/h)*
- *Head up to **44.5 m***

UTILIZZI E INSTALLAZIONI

Le pompe trituratrici della serie **TR**, costruite in ghisa di notevole spessore, eccezionale robustezza, resistenza all'abrasione e durata nel tempo, sono equipaggiate di **Trituratore in acciaio inossidabile temperato ad alta resistenza** che consente di triturare completamente Solids e fibre contenute nelle acque di scarico e reflue nei settori domestico e civile, per il convogliamento in pressione nel sistema fognario attraverso tubazioni di piccolo diametro.

USES AND INSTALLATIONS

*The **TR** series of shredding pumps, made of thick cast iron with exceptional robustness, abrasion resistance and durability, are equipped with a high-strength, hardened stainless steel shredder that allows for the complete shredding of solids and fibres contained in wastewater and sewage in the domestic and civil sectors, for pressurised conveyance into the sewer system through small diameter pipes.*

ESECUZIONE

- Cavo di alimentazione di lunghezza **10 m**
- Galleggiante esterno per versioni monofase
- Quadro elettrico per versioni monofase

STANDARD

- ***10 m** power cable*
- *External float for Single-phase versions*
- *Switchbox for Single-phase versions*

LIMITI D'IMPIEGO

- Profondità sotto il livello dell'acqua fino a **10 m** (con cavo di alimentazione di lunghezza adeguata)
- Temperatura del liquido fino a **+40 °C**
- Livello di svuotamento dal fondo fino a:
  – **85 mm** per 0.75, 0.9, 1.1, 1.3
  – **95 mm** per 1.5, 2.2, TR 2.2 AP, TR 3 AP, TR 3, TR 4
- **Immersione minima per servizio continuo:**
  – 300 mm per 0.75, 0.9, 1.1, 1.3
  – 350 mm per 1.5, 2.2, TR 2.2 AP, TR 3 AP, TR 3, TR 4

LIMITS OF USE

- *Depth of use below water level up to **10 m** (with appropriate length of power cable)*
- *Liquid temperature up to **+40 °C***
- *Emptying level from buttom up to:*
  *- **85 mm** for 0.75, 0.9, 1.1, 1.3*
  *- **95 mm** for 1.5, 2.2, TR 2.2 AP, TR 3 AP, TR 3, TR 4*
- *Minimum immersion for continuous service:*
  *– **300 mm** for 0.75, 0.9, 1.1, 1.3*
  *– **350 mm** for 1.5, 2.2, TR 2.2 AP, TR 3 AP, TR 3, TR 4*

ESECUZIONI A RICHIESTA

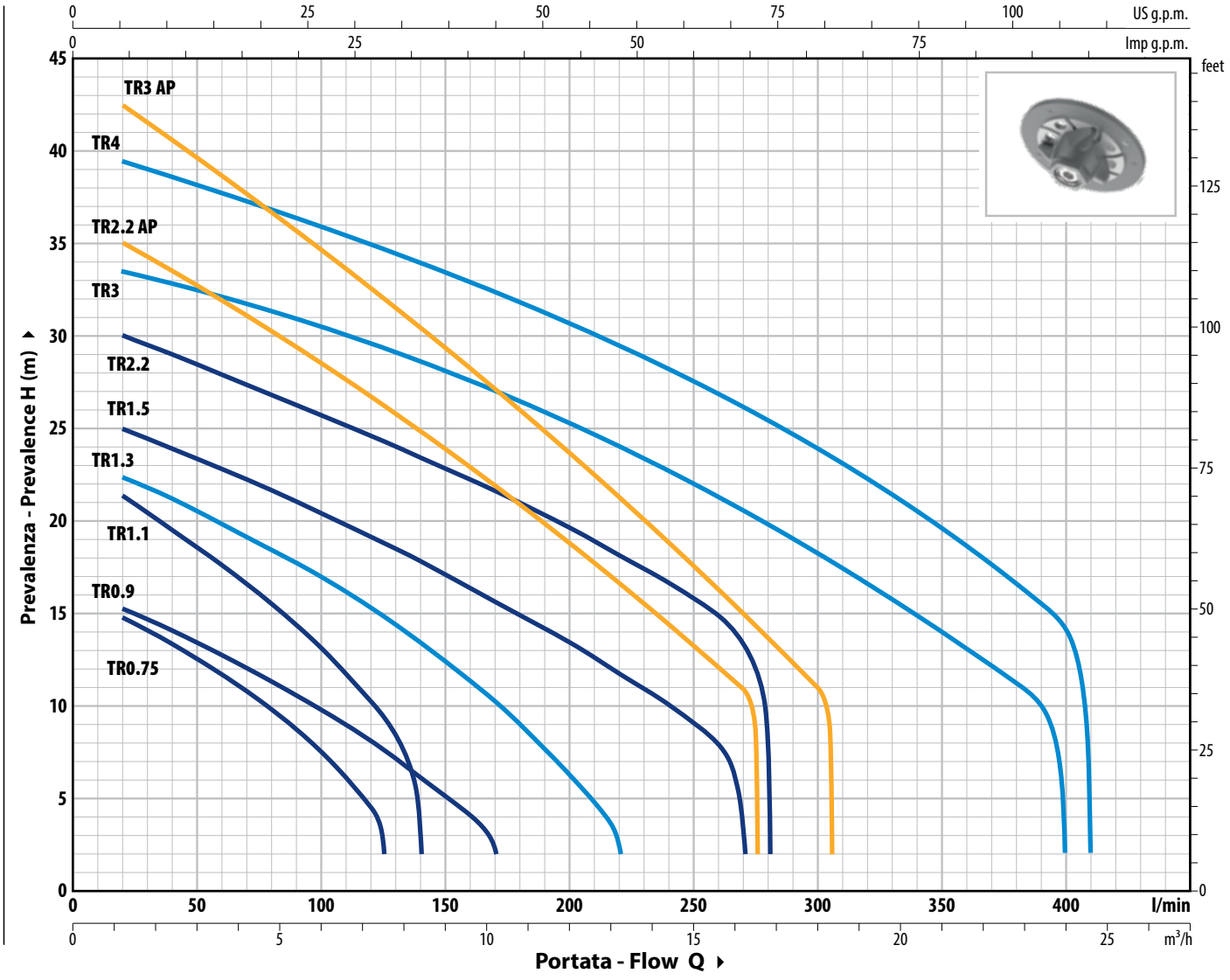
- Cavo di alimentazione di lunghezza **10 m**
- Altre tensioni o frequenza a 60 Hz

POSSIBLE ON DEMAND

- *Power cable length **10 m***
- *Other voltages or frequency at 60 Hz*

CARATTERISTICHE IDRAULICHE - HYDRAULIC PERFORMANCES

50 Hz



TIPO - TYPE		POWER (P2)		Q	m³/h	0	1.2	2.4	3.6	4.8	6	7.5	8.4	10.2	12	13.2	14.4	16.2	16.8
Single-phase	Three-phase	kW	HP		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	(m)	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

TIPO - TYPE		POWER (P2)		Q	m³/h	0	1.2	3	6	9	12	15	16.5	18	18.3
Single-phase	Three-phase	kW	HP		l/min	**0**	**20**	**50**	**100**	**150**	**200**	**250**	**275**	**300**	**305**
TRm 2.2 AP	TR 2.2 AP	2.2	3	H	(m)	36.5	35	33	28.5	23.8	18.7	13.2	2		
–	TR 3 AP	3	4			44.5	42.5	40	35	29.5	23.7	17.5	14.3	11	2

TIPO - TYPE	POWER (P2)		Q	m³/h	0	1.2	3	6	9	12	15	16.5	18	21	24	24.6
Three-phase	kW	HP		l/min	**0**	**20**	**50**	**100**	**150**	**200**	**250**	**275**	**300**	**350**	**400**	**410**
TR 3	3	4	H	(m)	34.5	33.5	32.5	30.4	28	25.2	22	20.3	18.4	14.2	2	
TR 4	4	5.5			40	39.5	38	35.7	33.3	30.6	27.4	25.7	23.8	19.4	14.3	2

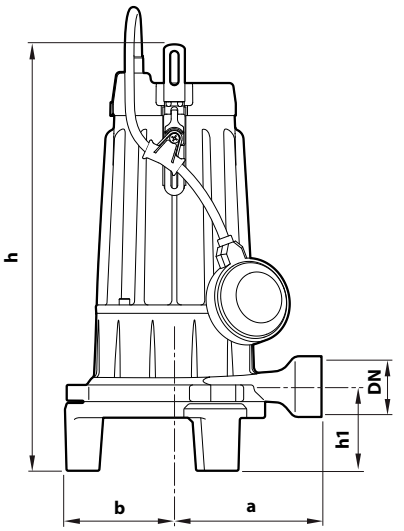
Tolleranza delle curve di prestazione secondo EN ISO 9906 Grado 3B.

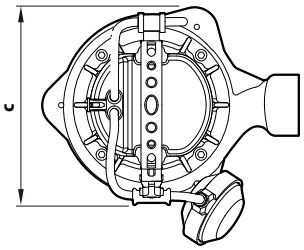
ASSORBIMENTI - ABSORPTION

TIPO - TYPE **Single-phase**	TENSIONE - VOLTAGE **230 V**
TRm 0.75	5.5 A
TRm 0.9	6.0 A
TRm 1.1	7.4 A
TRm 1.3	9.0 A

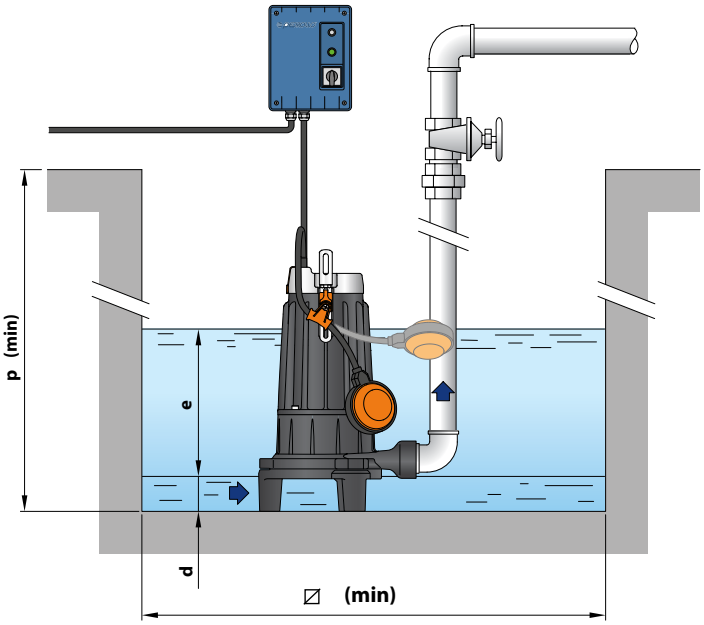
TIPO - TYPE **Three-phase**	TENSIONE - VOLTAGE **400 V**
TR 0.75	2.5 A
TR 0.9	2.6 A
TR 1.1	3.0 A
TR 1.3	3.8 A

DIMENSIONI E PESI - DIMENSIONS AND WEIGHTS





Installazione tipica
Typical installation



TIPO - TYPE		PORT	DIM mm									kg *	
Single-phase	**Three-phase**	**DN**	a	b	c	h	h1	d	e	p	⍁	1~	3~
TRm 0.75	**TR 0.75**	**1¼"**	140	104	186	406	80	85	regolabile adjustable	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

(* peso elettropompa senza il quadro elettrico) - *(* weight of electric pump without control panel)*

PALLETTIZZAZIONE - PALLETIZATION

TIPO - TYPE **Single-phase**	GROUPAGE n° pumps
TRm 0.75	36
TRm 0.9	36
TRm 1.1	36
TRm 1.3	36

TIPO - TYPE **Three-phase**	GROUPAGE n° pumps
TR 0.75	60
TR 0.9	60
TR 1.1	60
TR 1.3	60

CARATTERISTICHE COSTRUTTIVE - CONSTRUCTION FEATURES

1	**Corpo pompa** ***Pump body***	Ghisa con trattamento di cataforesi *Cast iron with cataphoresis treatment*
2	**Girante** ***Impeller***	Di tipo aperto in tecnopolimero *Open type in technopolymer*
3	**Trituratore** ***shredder***	Acciaio inox **AISI 440C** temperato *Hardened **AISI 440C** stainless steel*
4	**Albero motore** ***Motor shaft***	**AISI 431**
5	**Portamotore** ***Motor holder***	Ghisa con trattamento di cataforesi *Cast iron with cataphoresis treatment*

6 Tenuta meccanica doppia in camera d'olio - *Double mechanical seal in oil chamber*

Tenuta - *Seal*	Albero - *Shaft*	Posizione - *Position*	Materiali - *Materials*
MG1-14D SIC	Ø 14 mm	Lato motore *Motor side*	Carburo di silicio / Grafite / NBR *Silicon carbide / Graphite / NBR*
		Lato pompa *Pump side*	Carburo di silicio / Carburo di silicio / NBR *Silicon carbide / Silicon carbide / NBR*

7 Motore Elettrico

TRm: monofase 230 V - 50 Hz
con salvamotore termico incorporato

TR: trifase 400 V - 50 Hz

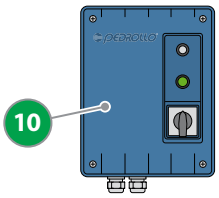
– Isolamento: classe F
– Protezione: IP X8

Electric motor

TRm: *230 V - 50 Hz Single-phase*
with built-in thermal motor protection

TR: *400 V - 50 Hz Three-phase*

– Insulation: classe F
– Protection: IP X8

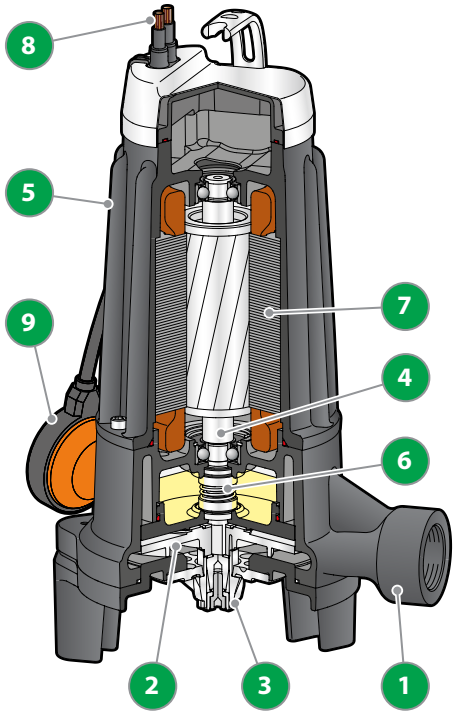


8 Cavo di alimentazione - *Power cable*
- Da 10 m di tipo "H07 RN-F" - *10 m "H07 RN-F" type*

9 Interruttore a galleggiante esterno - *External float switch*

10 Quadro elettrico - ***Electric panel***
(solo per versioni monofase) - *(for Single-phase versions only)*
Completo di:
– interruttore ON/OFF
– salvamotore a riarmo manuale
– condensatore di funzionamento (permanentemente inserito)
– condensatore di avviamento

Complete with:
– ON/OFF switch
– manual reset motor protection switch operating capacitor (permanently engaged)
– starting capacitor

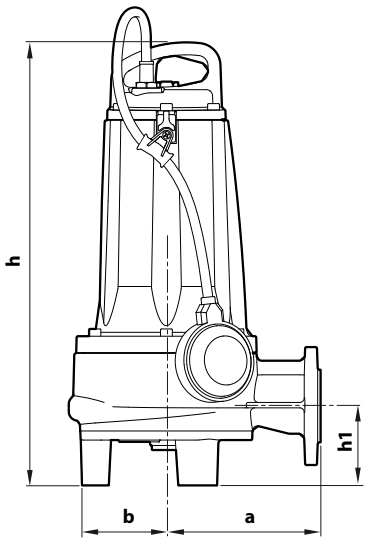


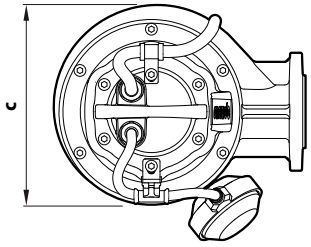
ASSORBIMENTI - ABSORPTION

TIPO - TYPE **Single-phase**	TENSIONE - VOLTAGE **230 V**
TRm 1.5	10.0 A

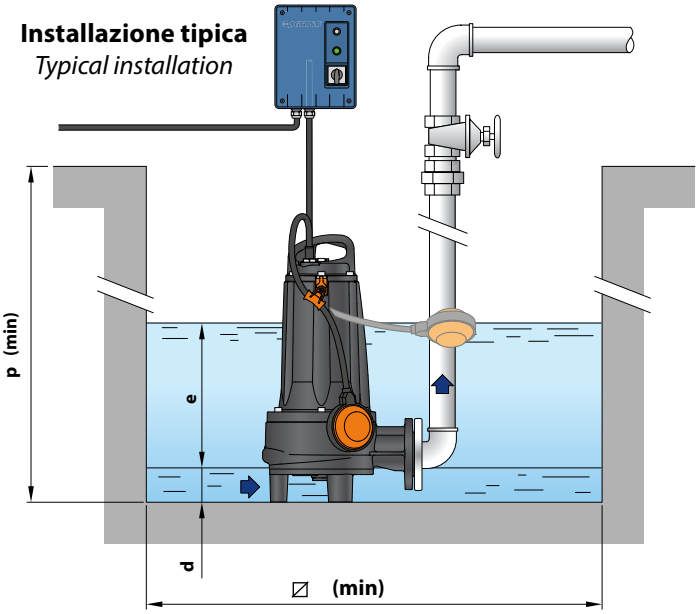
TIPO - TYPE **Three-phase**	TENSIONE - VOLTAGE **400 V**
TR 1.5	3.7 A
TR 2.2	5.5 A

DIMENSIONI E PESI - DIMENSIONS AND WEIGHTS





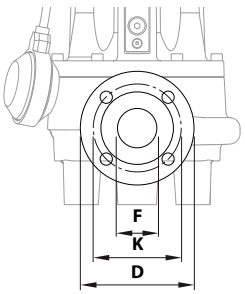
Installazione tipica
Typical installation



TIPO - TYPE		DIM mm									kg	
Single-phase	**Three-phase**	a	b	c	h	h1	d	e	p	⍁	1~	3~
TRm 1.5	**TR 1.5**	172	105	221	489	87.5	95	regolabile adjustable	800	800	45.0	44.0
–	**TR 2.2**										–	44.0

FLANGIA DELLA BOCCA - PORT FLANGE

TIPO - TYPE		FLANGE	F	K	D	FORI - 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**						



PALLETTIZZAZIONE - PALLETIZATION

TIPO - TYPE	GROUPAGE n° pumps
TRm 1.5	10
TR 1.5	12
TR 2.2	12

CARATTERISTICHE COSTRUTTIVE - CONSTRUCTION FEATURES

1	**Corpo pompa** ***Pump body***	Ghisa con trattamento di cataforesi *Cast iron with cataphoresis treatment*
2	**Girante** ***Impeller***	Acciaio inox **AISI 304** microfuso *Micro-cast **AISI 304** stainless steel*
3	**Trituratore** ***shredder***	Acciaio inox **AISI 440C** temperato *Hardened **AISI 440C** stainless steel*
4	**Albero motore** ***Motor shaft***	**AISI 431**
5	**Portamotore** ***Motor holder***	Ghisa con trattamento di cataforesi *Cast iron with cataphoresis treatment*

6 **Doppia tenuta meccanica con camera d'olio interposta** - ***Double mechanical seal with interposed oil chamber***

Tenuta - *Seal*	Albero - *Shaft*	Posizione - *Position*	Materiali - *Materials*
STA-20	Ø 20 mm	Lato motore *Motor side*	Ceramica / Grafite / NBR *Ceramic / Graphite / NBR*
STA-19	Ø 19 mm	Lato pompa *Pump side*	Carburo di silicio / Carburo di silicio / NBR *Silicon carbide / Silicon carbide / NBR*

7 **Motore Elettrico**
TRm: monofase 230 V - 50 Hz
con salvamotore termico incorporato

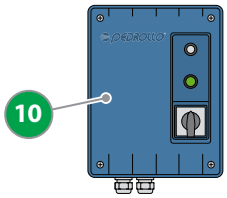
TR: trifase 400 V - 50 Hz con termico incorporato nell'avvolgimento da collegare al quadro elettrico

– Isolamento: classe F
– Protezione: IP X8

Electric motor
TRm: *230 V - 50 Hz Single-phase*
with built-in thermal motor protection

TR: *400 V - 50 Hz Three-phase - with built-in thermal winding to be connected to the Electric panel*

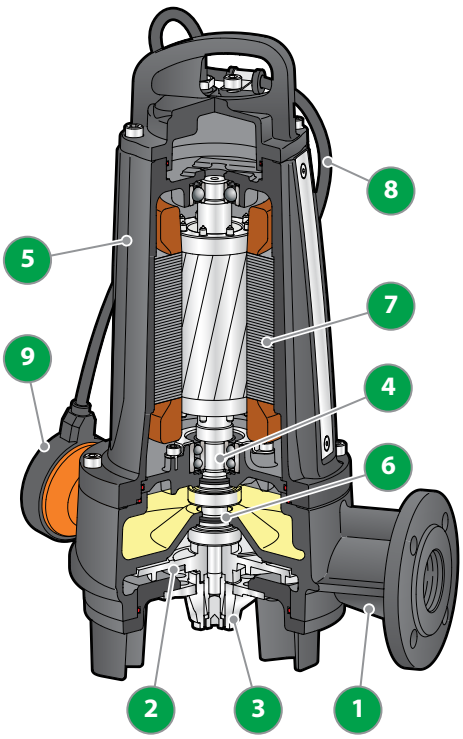
– Insulation: classe F
– Protection: IP X8



8 **Cavo di alimentazione** - ***Power cable***
Da **10 m** di TIPO "H07 RN-F" - *10 m "H07 RN-F" type*

9 **Interruttore a galleggiante esterno** - ***External float switch***

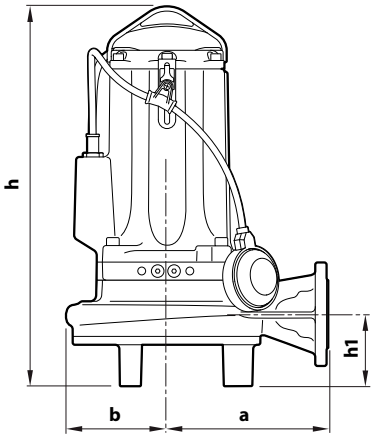
10 **Quadro elettrico** - ***Electric panel***
(solo per versioni monofase) - *(Single-phase versions only)*
Completo di:
– interruttore ON/OFF
– salvamotore a riarmo manuale
– condensatore di funzionamento (permanentemente inserito)
– condensatore di avviamento
Completo di:
– Complete with:
– ON/OFF switch
– manual reset motor protection switch
– operating capacitor (permanently switched on)
– starting capacitor

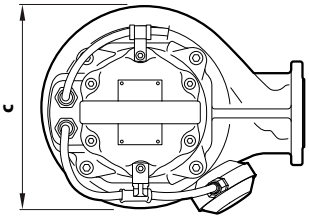


ASSORBIMENTI - ABSORPTION

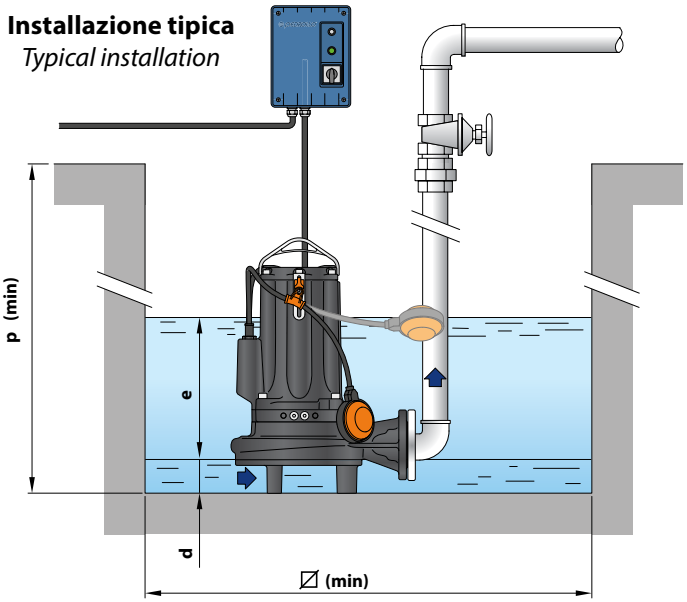
TIPO - TYPE **Single-phase**	TENSIONE - VOLTAGE **230 V**
TRm 2.2 AP	14.0 A

TIPO - TYPE **Three-phase**	TENSIONE - VOLTAGE **400 V**
TR 2.2 AP	5.5 A
TR 3 AP	6.3 A
TR 3	6.3 A
TR 4	7.5 A





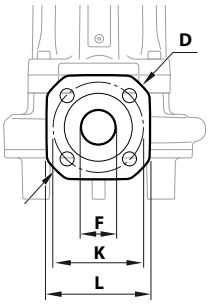
Installazione tipica
Typical installation



TIPO - TYPE		DIM mm									kg	
Single-phase	**Three-phase**	a	b	c	h	h1	d	e	p	⍁	1~	3~
TRm 2.2 AP	**TR 2.2 AP**	203	126	256	480 | 453	90	95	regolabile adjustable	800	800	53.5	47.0
–	**TR 3 AP**				480						–	53.0
	TR 3										–	53.0
	TR 4										–	54.0

FLANGIA DELLA BOCCA - PORT FLANGE

TIPO - TYPE		FLANGE	F	K	D	L	FORI - 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**							
–	**TR 3**							
–	**TR 4**							



PALLETTIZZAZIONE - PALLETIZATION

TIPO - TYPE	GROUPAGE n° pumps
TRm 2.2 AP **TR 2.2 AP**	18
TR 3 AP	18
TR 3	18
TR 4	18

CARATTERISTICHE COSTRUTTIVE - CONSTRUCTION FEATURES

1	**Corpo pompa** ***Pump body***	Ghisa con trattamento di cataforesi *Cast iron with cataphoresis treatment*
2	**Girante** ***Impeller***	Acciaio inox **AISI 304** microfuso *Micro-cast **AISI 304** stainless steel*
3	**Trituratore** ***shredder***	Acciaio inox **AISI 440C** temperato *Hardened **AISI 440C** stainless steel*
4	**Albero motore** ***Motor shaft***	**AISI 431**
5	**Portamotore** ***Motor holder***	Ghisa con trattamento di cataforesi *Cast iron with cataphoresis treatment*

6 **Doppia tenuta meccanica con camera d'olio interposta** - ***Double mechanical seal with interposed oil chamber***

Tenuta - *Seal*	Albero - *Shaft*	Posizione - *Position*	Materiali - *Materials*
STA-24	Ø 24 mm	Lato motore *Motor side*	Ceramica / Grafite / NBR *Ceramic / Graphite / NBR*
STA-22	Ø 22 mm	Lato pompa *Pump side*	Carburo di silicio / Carburo di silicio / NBR *Silicon carbide / Silicon carbide / NBR*

7 **Motore Elettrico**
TRm: monofase 230 V - 50 Hz
con salvamotore termico incorporato

TR: trifase 400 V - 50 Hz - con termico incorporato nell'avvolgimento da collegare al quadro elettrico

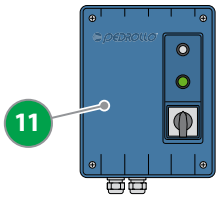
– Isolamento: classe F
– Protezione: IP X8

Electric motor
TRm: *230 V - 50 Hz Single-phase*
with built-in thermal motor protection

TR: *400 V - 50 Hz Three-phase - with built-in thermal winding to be connected to the Electric panel*

– Insulation: classe F
– Protection: IP X8

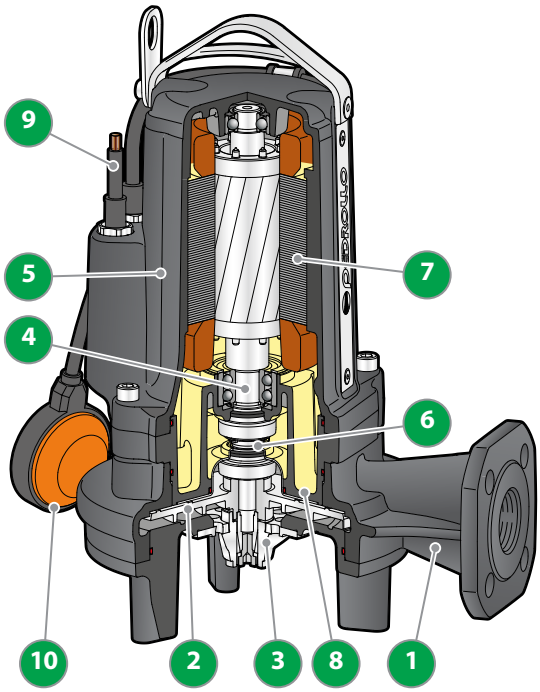
8 **Lanterna**
Lantern



9 **Cavo di alimentazione** - ***Power cable***
Da 10 m di tipo "H07 RN-F" - *10 m "H07 RN-F" type*

10 **Interruttore a galleggiante esterno** - ***External float switch***

11 **Quadro elettrico** - ***Electric panel***
(solo per versioni monofase) - *(Single-phase versions only)*
Completo di:
– interruttore ON/OFF
– salvamotore a riarmo manuale
– condensatore di funzionamento (permanentemente inserito)
– condensatore di avviamento
Completo di:
– Complete with:
– ON/OFF switch
– manual reset motor protection switch
– operating capacitor (permanently switched on)
– starting capacitor



VERSIONE CON MANDATA ORIZZONTALE E TUBI GUIDA DA ¾"
VERSION WITH HORIZONTAL DELIVERY AND ¾" GUIDE PIPES



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

KIT:



Piede di accoppiamento
Coupling foot



Guida di scorrimento
Slide Guide



Supporto per i tubi di guida
Support for guide tubes

VERSIONE CON MANDATA VERTICALE E TUBI GUIDA DA ¾"
VERSION WITH VERTICAL DELIVERY AND ¾" GUIDE PIPES



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

KIT:



Piede di accoppiamento completo di controflangia
Coupling foot complete with counter flange



Guida di scorrimento
Slide Guide



Supporto per i tubi di guida
Support for guide tubes

ACCESSORI ORDINABILI - ACCESSORIES TO BE ORDERED

GUIDA DI SCORRIMENTO - SLIDE GUIDE



TR 0.75, 0.9, 1.1, 1.3	Cod. ASSFL003
TR 1.5, 2.2	Cod. ASSFL004

Completa di ghiera e guarnizione per 0.75, 0.9, 1.1, 1.3 - *Complete with ring and gasket for 0.75, 0.9, 1.1, 1.3*

Completa di viti e guarnizioni per TR 1.5, 2.2 - *Complete with screws and seals for TR 1.5, 2.2*

SUPPORTO TUBI GUIDA - GUIDE PIPE SUPPORT



Per tubi guida Ø **¾" -** *For guide pipes Ø* **¾"**	Cod. 859SV340INTFA

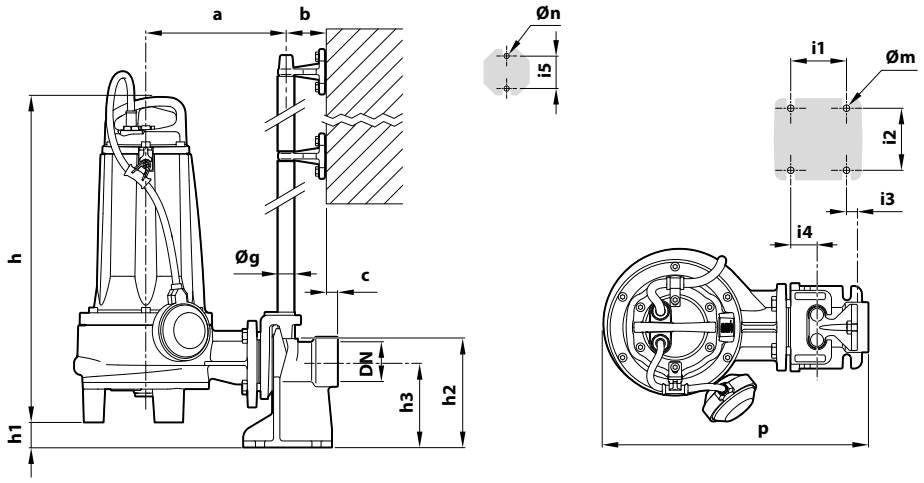
Per motivi di stabilità, interporre un supporto ogni 2 metri di tubo guida
For reasons of stability, interpose a support every 2 m of guide tube

TUBO GUIDA - GUIDE PIPE (AISI 304)



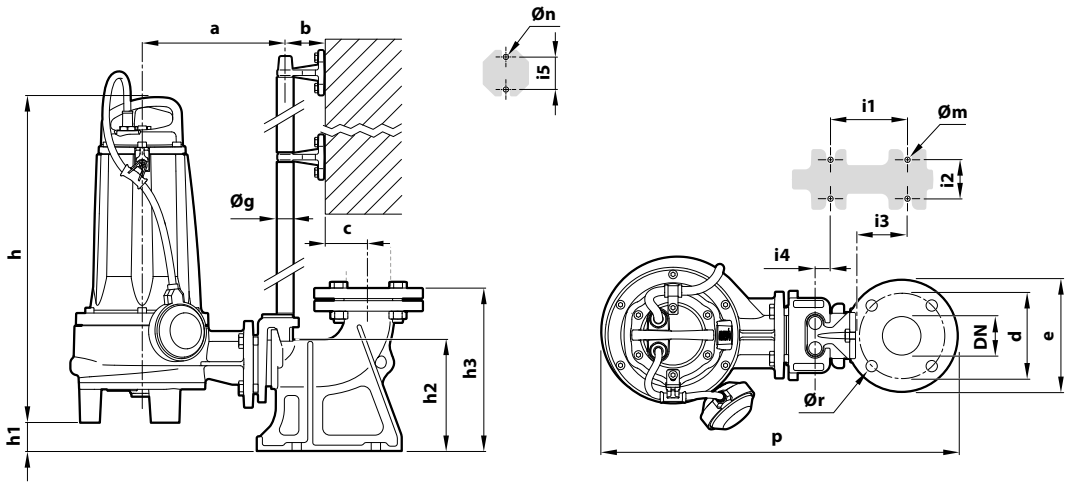
Tubo guida Ø ¾" da **2 m** - *guide tube Ø ¾"* ***2 m***	Cod. 54SARTG0052F
Tubo guida Ø ¾" da **3 m** - *guide tube Ø ¾"* ***3 m***	Cod. 54SARTG0053F
Tubo guida Ø ¾" da **6 m** - *guide tube Ø ¾"* ***6 m***	Cod. 54SARTG0056F

DIMENSIONI (Versione con mandata orizzontale) - DIMENSIONS (version with horizontal delivery)



TIPO - TYPE		PORT	Solids passage	DIM mm														
Single-phase	**Three-phase**	**DN**		a	b	c	p	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn
TRm 0.75	**TR 0.75**	**2"**	**Ø 7 mm**	212	61	17	395	50	165	130	85	94	16	40	50	¾"	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 mm**	215	61	17	400	42.5	165	130	85	94	16	40	50	¾"	14	11
–	**TR 2.2**																	

DIMENSIONI (Versione con mandata verticale) - DIMENSIONS (version with vertical delivery)



TIPO - TYPE		PORT	Solids passage	DIM mm																
Single-phase	**Three-phase**	**DN**		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 mm**	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"**		211	61	51.5	125	165	514	40	163.5	215.5	120	72	62	3	50	3/4	14	11	18
–	**TR 2.2**																				

VERSIONE CON MANDATA ORIZZONTALE E TUBI GUIDA DA ¾"
VERSION WITH HORIZONTAL DELIVERY AND ¾" GUIDE PIPES

TR 2.2. AP, 3 AP, 3, 4	Cod. ASSPTRITUS61	**DN 2"**



KIT:



Piede di accoppiamento
Coupling foot



Guida di scorrimento
Slide Guide



Supporto per i tubi di guida
Support for guide pipes

VERSIONE CON MANDATA VERTICALE E TUBI GUIDA DA ¾"
VERSION WITH VERTICAL DELIVERY AND ¾" GUIDE PIPES

TR 2.2. AP, 3 AP, 3, 4	Cod. ASSPTRITUS61V	**DN 2½"**



KIT:



Piede di accoppiamento completo di controflangia
Coupling foot complete with counter flange



Guida di scorrimento
Slide Guide



Supporto per i tubi di guida
Support for guide pipes

ACCESSORI ORDINABILI - ACCESSORIES TO BE ORDERED

GUIDA DI SCORRIMENTO - SLIDE GUIDE

TR 2.2. AP, 3 AP, 3, 4	Cod. ASSFL014



Completa di viti e guarnizioni
Complete with screws and seals

SUPPORTO TUBI GUIDA - GUIDE PIPE SUPPORT

Per tubi guida Ø **¾" -** *For guide pipes Ø* **¾"**	Cod. 859SV340INTFA



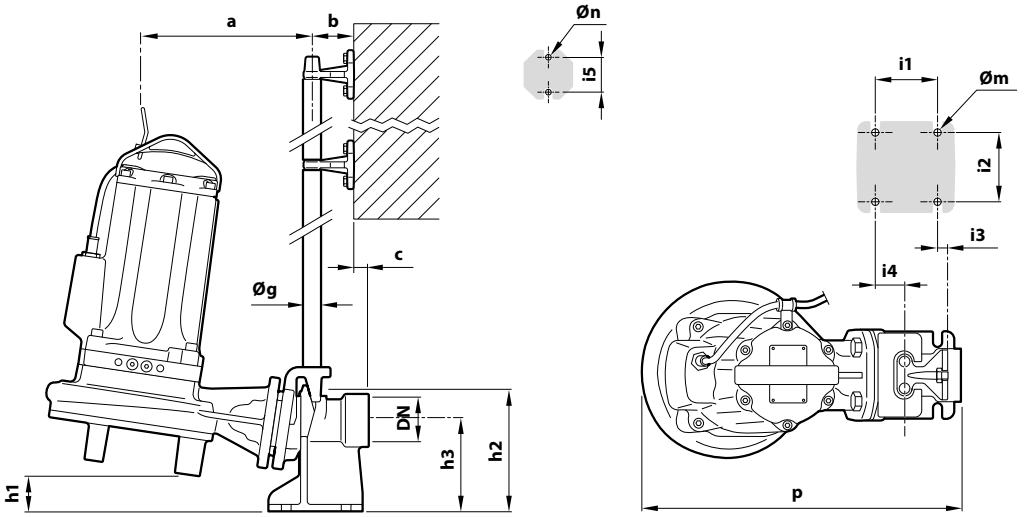
Per motivi di stabilità, interporre un supporto ogni 2 metri di tubo guida
For reasons of stability, interpose a support every 2 m of guide tube

TUBO GUIDA - GUIDE PIPE (AISI 304)

Tubo guida Ø ¾" da **2 m** - *guide tube Ø ¾"* ***2 m***	Cod. 54SARTG0052F
Tubo guida Ø ¾" da **3 m** - *guide tube Ø ¾"* ***3 m***	Cod. 54SARTG0053F
Tubo guida Ø ¾" da **6 m** - *guide tube Ø ¾"* ***6 m***	Cod. 54SARTG0056F

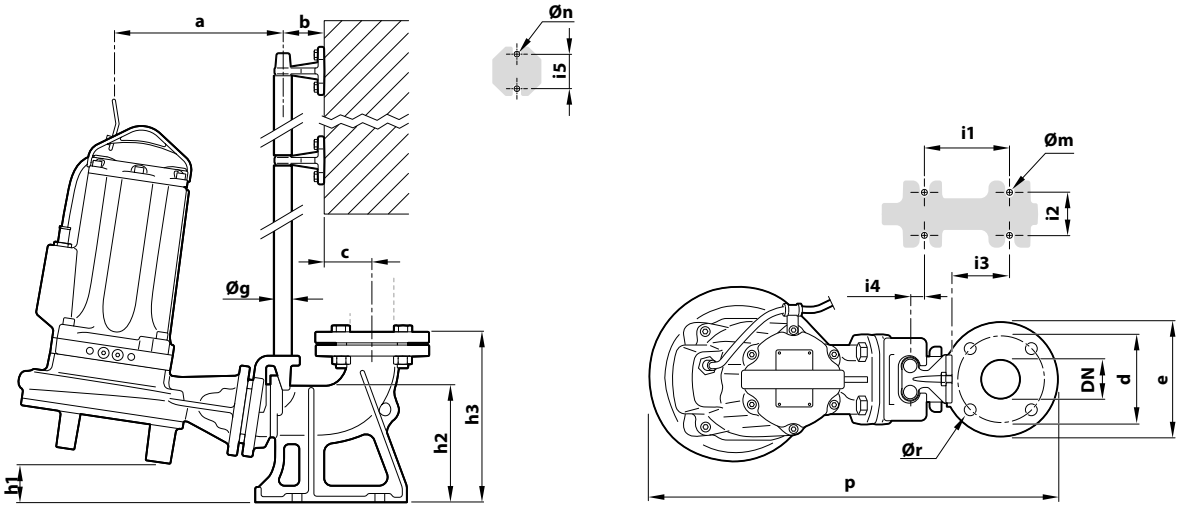


DIMENSIONI (Versione con mandata orizzontale) - DIMENSIONS (version with horizontal delivery)



TIPO - TYPE	PORT DN	Solids passage	DIM mm														
			a	b	c	p	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn
TR 2.2. AP	**2"**	**Ø 7 mm**	228	61	17	455	71	165	130	85	94	16	40	50	3/4	14	11
TR 3 AP																	
TR 3			238														
TR 4																	

DIMENSIONI (Versione con mandata verticale) - DIMENSIONS (version with vertical delivery)



TIPO - TYPE	PORT DN	Solids passage	DIM mm																
			a	b	c	d	e	p	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør
TR 2.2. AP	**2½"**	**Ø 7 mm**	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																				
TR 3			235																	
TR 4																				