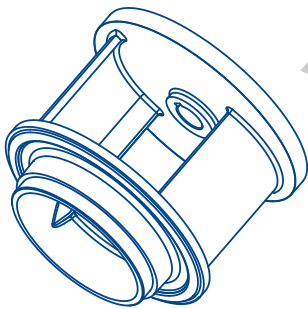




PATROL



Submersible pumps

▣▣▣▣ for sewage water

PATROL "DOUBLE-CHANNEL"

Submersible pumps

for sewage water



PERFORMANCE RANGE

- Flow rate up to **1600 l/min** (96 m³/h)
- Head up to **25 m**

APPLICATION LIMITS

- **10 m** maximum immersion depth
- Maximum liquid temperature **+40 °C**
- Solids passage:
 - up to **Ø 50 mm** for **PATROL 15-20-30-40/50**
 - up to **Ø 70 mm** for **PATROL 30-40/70**
- Minimum immersion depth for continuous service:
 - **380 mm** for **PATROL 15-20-30-40/50**
 - **430 mm** for **PATROL 30-40/70**

CONSTRUCTION AND SAFETY STANDARDS

- Complete with **10 m** long power cable
- Float switch for single-phase versions

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



INSTALLATION AND USE

PATROL series pumps, made from heavy gauge cast iron offering exceptional sturdiness, abrasion resistance and durability, come equipped 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 apartment blocks, public buildings, factories, tower garages, underground car parks and cleaning areas, etc.

OPTIONALS AVAILABLE ON REQUEST

- QES control box for three-phase pumps
- Three-phase dual voltage pumps:
 - 230/400 V or
 - 400/690 V
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

GUARANTEE

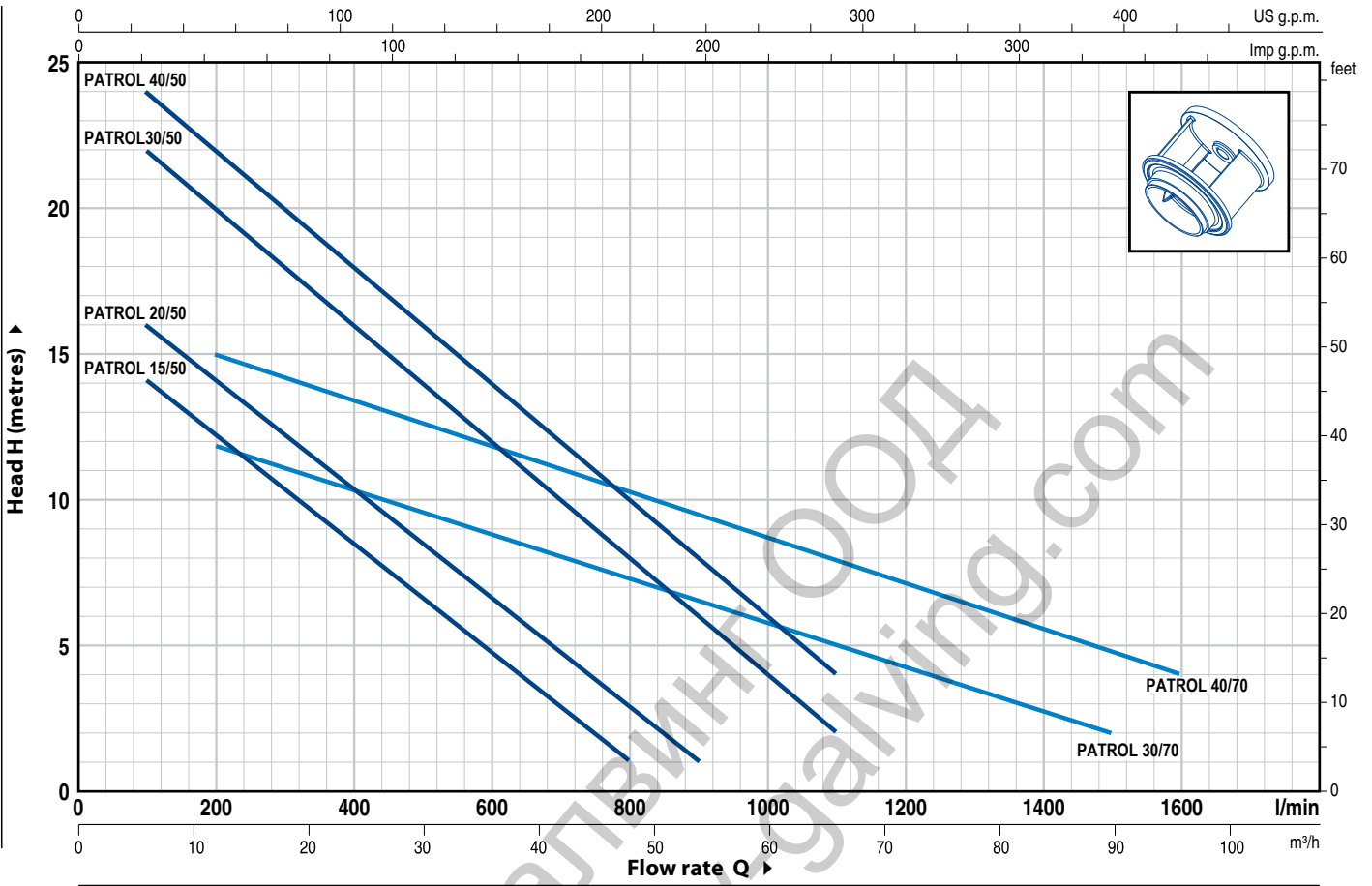
2 years subject to terms and conditions

➔ **For the following versions the built-in thermal overload protector must be connected to the control box in order for the guarantee to be considered valid:**

single-phase	three-phase
– PATROL 30/50M - HP 3	– PATROL 15-20-30-40/50 - HP 1.5-2-3-4
– PATROL 30/70M - HP 3	– PATROL 30-40/70 - HP 3-4

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 1/min

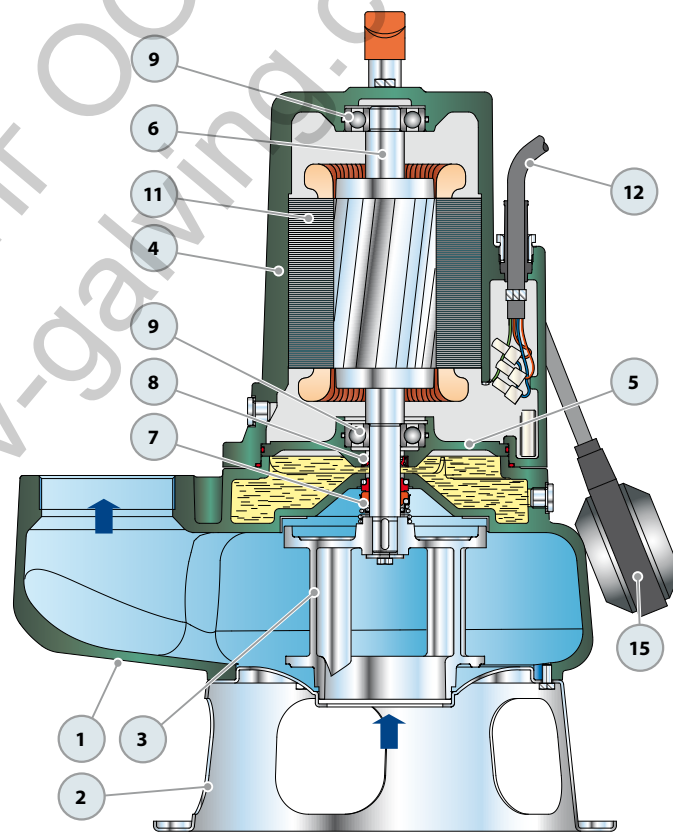


MODEL		POWER		Q	Flow rate															
Single-phase	Three-phase	kW	HP		0	6	12	18	24	30	36	42	48	54	60	66	72	84	96	
PATROL 15/50M	PATROL 15/50	1.1	1.5	l/min	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1400	1600	
PATROL 20/50M	PATROL 20/50	1.5	2	H metres	16	14	12.5	10.5	8.5	6.5	4.5	3	1							
PATROL 30/50M	PATROL 30/50	2.2	3		18	16	14	12.5	10.5	8.5	6.5	5	3	1						
-	PATROL 40/50	3	4		24	22	20	18	16	14	12	10	8	6	4	2				
PATROL 30/70M	PATROL 30/70	2.2	3		25	24	22	20	18	16	14	12	10	8	6	4				
-	PATROL 40/70	3	4		13	-	12	11	10.5	9.5	8.5	8	7.5	6.5	6	5	4.5	3	2	
-	PATROL 40/70	3	4	17	-	15	14	13.5	12.5	12	11	10.5	9.5	8.5	8	7	5.5	4		

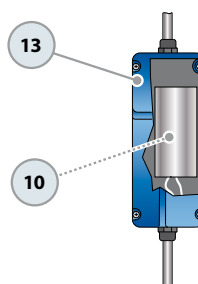
Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 App. A.

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS			
1	PUMP BODY	Cast iron, with threaded port in compliance with ISO 228/1			
2	BASE	Stainless steel AISI 304			
3	IMPELLER	Stainless steel AISI 304 DOUBLE-CHANNEL type			
4	MOTOR CASING	Cast iron			
5	MOTOR CASING PLATE	Cast iron			
6	MOTOR SHAFT	Stainless steel AISI 431			
7	SHAFT WITH DOUBLE SEAL AND OIL CHAMBER				
	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
	FN-20 DV	Ø 20 mm	Widia	Silicon carbide	NBR
8	LIP SEAL	Ø 20 x Ø 30 x H 7 mm			
9	BEARINGS	6304 ZZ - C3 / 6304 ZZ - C3			
10	CAPACITOR				
	<i>Pump</i>	<i>Capacitance</i>			
	<i>Single-phase</i>	<i>(230 V or 240 V)</i>			
	PATROL 15/50M	31.5 µF 450 VL			
	PATROL 20/50M	50 µF 450 VL			
	PATROL 30/50M	60 µF 450 VL			
	PATROL 30/70M	60 µF 450 VL			
11	ELECTRIC MOTOR				
	PATROL 15-20M: single-phase 230 V - 50 Hz with thermal overload protector built-in to the winding				
	⇒ PATROL 30M: single-phase 230 V - 50 Hz with thermal overload protector built-in to the winding to be connected to the control box				
	⇒ PATROL: three-phase 400 V - 50 Hz with thermal overload protector built-in to the winding to be connected to the control box				
	- Insulation: F class				
	- Protection: IP 68				
12	POWER CABLE				
	10 metre long "H07 RN-F" cable				
13	CONTROL BOX for PATROL 15-20M				
	(only for single-phase versions)				
	Complete with capacitor and manual reset motor protector				
14	CONTROL BOX for PATROL 30				
	(only for single-phase versions)				
	QES 300 MONO series				
15	FLOAT SWITCH				
	(only for single-phase versions)				

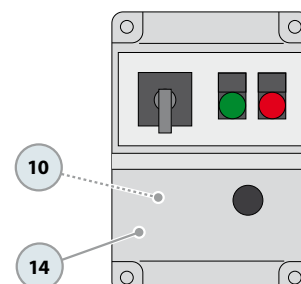


Standard features



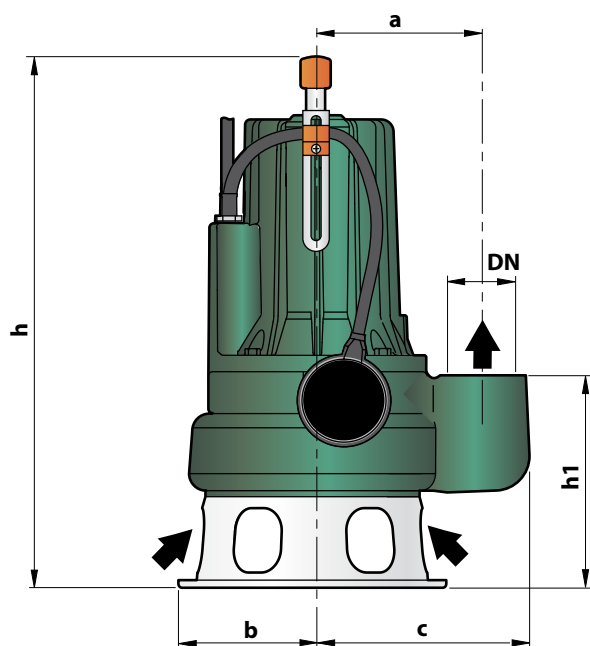
Control box for PATROL 15-20M
(only for single-phase versions)

Standard features

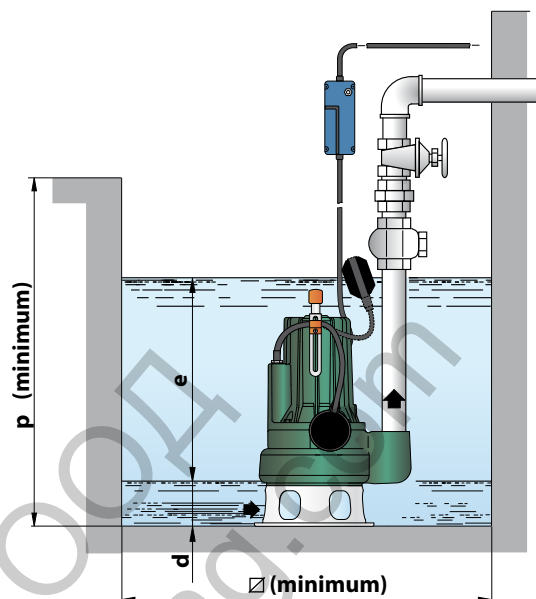


Control box for PATROL 30M
(only for single-phase versions)

DIMENSIONS AND WEIGHT



Typical installation



MODEL		PORT DN	solids passage	DIMENSIONS mm										kg	
Single-phase	Three-phase			a	b	c	h	h1	d	e	p	Ø	1~	3~	
PATROL 15/50M	PATROL 15/50	2½"	Ø 50 mm	162	135	214	490	191	75	variable	800	800	37.1	35.9	
PATROL 20/50M	PATROL 20/50						505/490						39.0	36.8	
PATROL 30/50M	PATROL 30/50						505						43.2	39.2	
-	PATROL 40/50	3"	Ø 70 mm	180	150	241	536	231	85	variable	800	800	-	42.2	
PATROL 30/70M	PATROL 30/70						550/536						48.3	42.6	
-	PATROL 40/70						550/536						-	48.1	

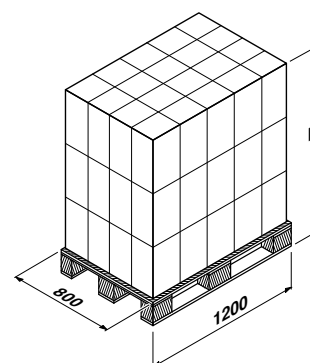
ABSORPTION

MODEL	VOLTAGE (single-phase)	
	230 V	240 V
Single-phase	230 V	240 V
PATROL 15/50M	9.0 A	9.0 A
PATROL 20/50M	10.5 A	10.5 A
PATROL 30/50M	15.2 A	15.2 A
PATROL 30/70M	15.2 A	15.2 A

MODEL	VOLTAGE (three-phase)					
	230 V	400 V	690 V	240 V	415 V	720 V
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
PATROL 15/50	5.5 A	3.2 A	1.8 A	5.5 A	3.2 A	1.8 A
PATROL 20/50	7.4 A	4.3 A	2.5 A	7.4 A	4.3 A	2.5 A
PATROL 30/50	9.9 A	5.7 A	3.3 A	9.9 A	5.7 A	3.3 A
PATROL 40/50	13.5 A	7.8 A	4.5 A	13.5 A	7.8 A	4.5 A
PATROL 30/70	10.2 A	5.9 A	3.4 A	10.2 A	5.9 A	3.4 A
PATROL 40/70	13.5 A	7.8 A	4.5 A	13.5 A	7.8 A	4.5 A

PALLETIZATION

MODEL		GROUPAGE / CONTAINER			
Single-phase	Three-phase	n° pumps	H (mm)	kg	
				1~	3~
PATROL 15/50M	PATROL 15/50	24	1715	908	879
PATROL 20/50M	PATROL 20/50	24	1715	953	901
PATROL 30/50M	PATROL 30/50	24	1715	1054	958
-	PATROL 40/50	24	1715	-	1030
PATROL 30/70M	PATROL 30/70	12	1280	596	528
-	PATROL 40/70	12	1280	-	594



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