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# PULSAR

## 5" BOREHOLE ELECTRIC PUMPS



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### GENERAL DATA

#### Applications

PULSAR electric pumps are utilised for lifting clear water from boreholes, first water collection tanks or cisterns, wells or water courses and are capable of distributing pressurised water to domestic installations, small agricultural plants, and sprinkler systems for lawns and vegetable gardens. The pump, which is very silent running, can be installed inside boreholes and sumps thus avoiding all potential problems of suction and loss of priming.

#### Pump construction features

Multistage monobloc borehole pump with hydraulic section below motor, which is cooled by the pumped liquid. Impellers, diffusers, strainer and oil sump in abrasion-proof thermoplastic. Outer liner, stator sleeve, upper head with delivery connection and closing ring in AISI 304 stainless steel. Upper and lower bearing support in anti-dezincification pressed brass. Impeller shaft extension in AISI 304. Elastomers in NBR Stainless steel screws. Double mechanical seal with interposed oil chamber, in ceramic/carbon on motor side and silicon carbide/silicon carbide on pump side. The seal system adopted ensures watertight sealing of the motor and correct operation of the mechanical seal even in the event of short duration dry running.

#### Motor construction characteristics

Submerged type with continuous duty asynchronous motor. Stator enclosed in airtight casing made of AISI 304 stainless steel and enclosed in a case that protects wiring and capacitor. Rotor running on ball bearings, oversized to ensure low noise and durability. Integral thermal and overload protection and permanently connected capacitor in single phase version. For protection of the three-phase motor we recommend the use of remote overload cut-outs in compliance with statutory regulations. Construction to CEI 2-3 and CEI 61-69 (EN 60335-2-41).

Motor protection rating: IP 68

Insulation class: F

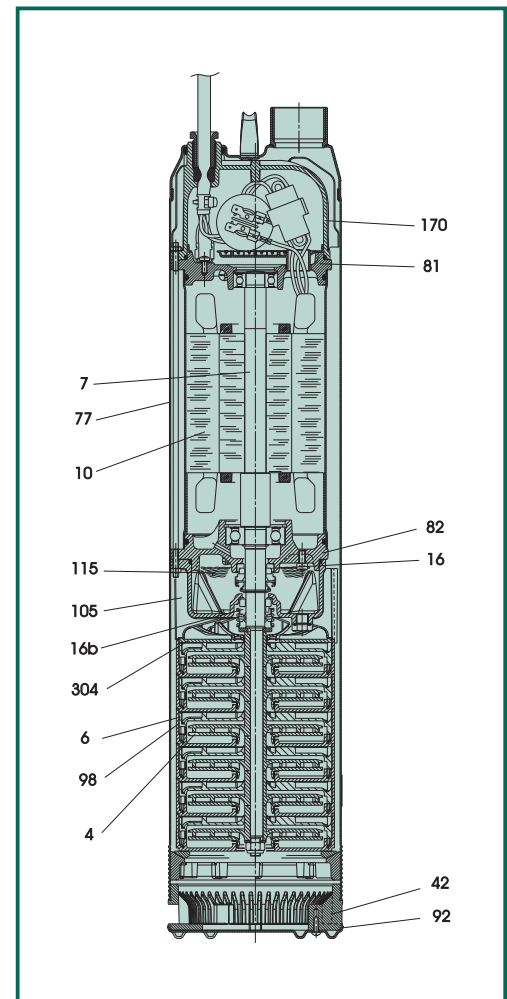
Standard voltage:     Single phase 220/240V V / 50 Hz  
                              Three-phase 400V / 50 Hz

Standard cables: 20 m cable type H07 RN-F, complete with SCHUKO CEE 7-VII-UNEL 47166-68 plug for single-phase version. Single-phase versions can be equipped with or without float switches for automatic operation.

# TECHNICAL DATA

No.	PART (*)	MATERIAL
4*	IMPELLER	TECHNOPOLYMER
6*	DIFFUSER	TECHNOPOLYMER
7*	SHAFT WITH ROTOR	AISI 304 (Pumped liquid contact part)
10*	MOTOR CASING WITH WOUND STATOR	AISI 304
16*	COMPLETE UPPER MECHANICAL SEAL	NBR/CERAMIC/CARBON
16b	COMPLETE LOWER MECHANICAL SEAL	NBR/SILICON/CARBON
42*	SUCTION STRAINER	TECHNOPOLYMER
77*	LINER	AISI 304
81*	UPPER BEARING SUPPORT	PRESSED BRASS
82*	LOWER BEARING SUPPORT	PRESSED BRASS
92*	STRAINER COVER	AISI 304
98*	DIFFUSER HOUSING	TECHNOPOLYMER
105*	SUMP	TECHNOPOLYMER
115	SEAL LUBRICATING FLUID	ESSO MARCOL 172 OIL
170*	WIRING COMPARTMENT COVER	TECHNOPOLYMER
304*	REAR DISC	TECHNOPOLYMER

\*in contact with the pumped liquid

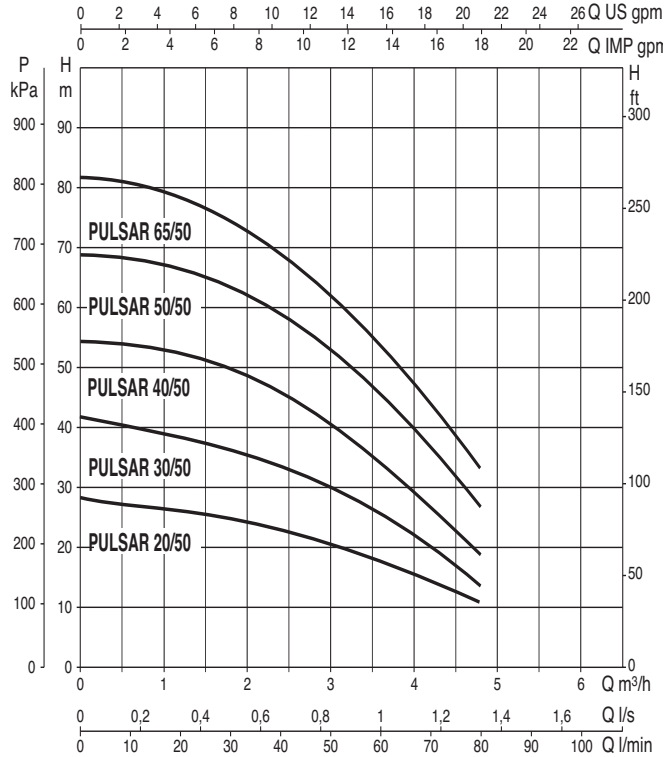
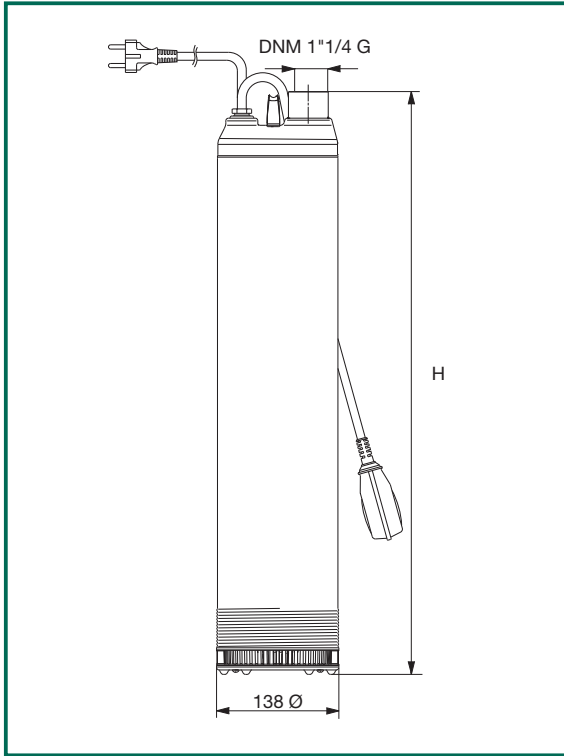


- Operating range: from 0.9 to 7.2 m<sup>3</sup>/h with head of up to 86 m.
- Liquid quality requirements: clean, without solid or abrasive contaminants, non aggressive.
- Max. percentage of sand in water: 50 gr/m<sup>3</sup>
- Liquid temperature range: from 0°C to +40°C
- Maximum immersion depth: 20 metres
- Motor protection rating: IP 68
- Motor protection class: F
- Installation: fixed or portable in vertical or horizontal position.
- Operation: manual or automatic (continuous duty with totally borehole pump)
- Discharge port diameter: 1"1/4 GAS
- Pump maximum diameter: 138 mm

The performance curves are based on kinematic viscosity values = 1 mm<sup>2</sup>/s and density equivalent to 1000 kg/m<sup>3</sup>. Tolerance of curves to ISO 9906.

# PULSAR 50

Liquid temperature range: from 0°C to +40°C



MODEL	Ø (mm)	HEIGHT H (mm)	DNM	PACK DIMENSIONS (mm)			VOLUME m <sup>3</sup>	GROSS WEIGHT Kg		
				L/A	L/B	H		MA*	MNA*	TNA*
PULSAR 20/50	224	603	1" 1/4 G	780	240	265	0,049		16,5	17
PULSAR 30/50	138	562	1" 1/4 G	690	220	165	0,025	17,3	16,7	17,3
PULSAR 40/50	138	562	1" 1/4 G	690	220	165	0,025	17,5	17	17,5
PULSAR 50/50	138	630	1" 1/4 G	690	220	165	0,025	18,5	18	18,5
PULSAR 65/50	138	657	1" 1/4 G	690	220	165	0,025	19,5	19	19,5

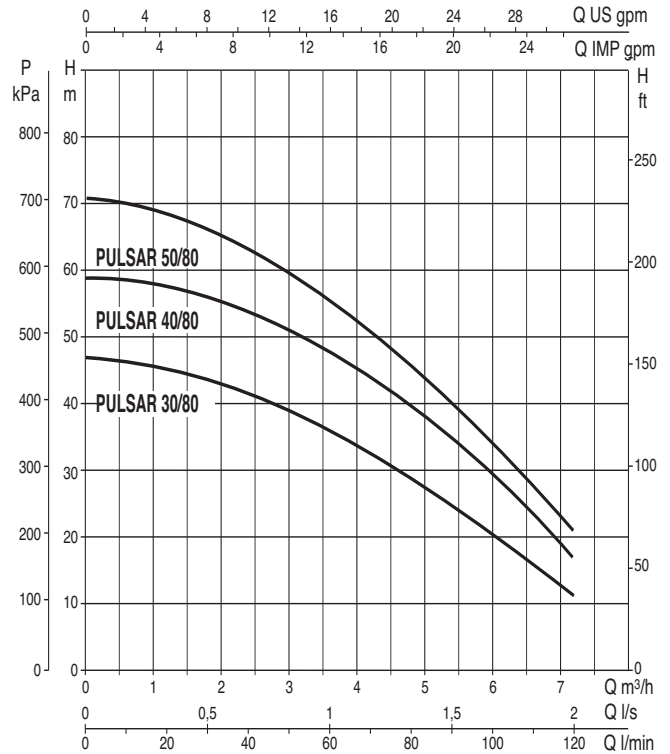
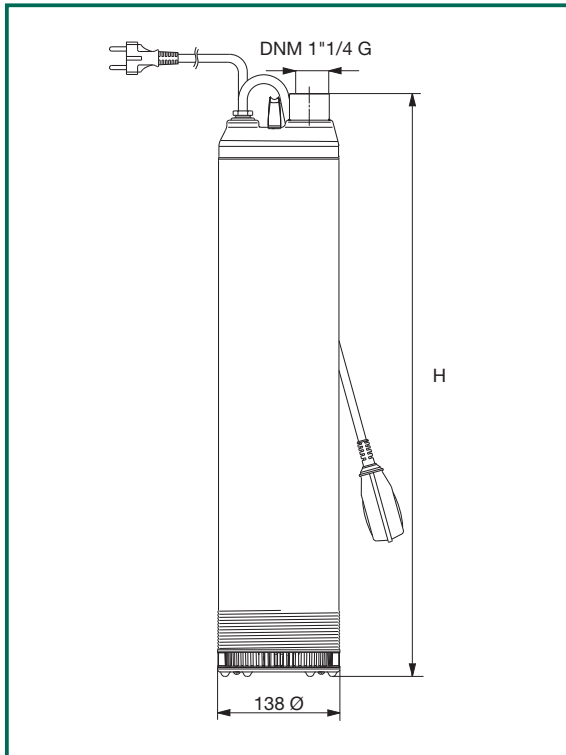
\* Models available with or without float switch.

MODEL	ELECTRICAL DATA							HYDRAULIC DATA					
	POWER SUPPLY 50 Hz	P1			In A	CAPAC.		Q m <sup>3</sup> /h l/min	H (m)				
		P1 kW	kW	HP		μF	Vc		0	1,2	2,4	3,6	4,8
PULSAR 20/50 M	220-240 V~	0,78	0,55	0,75	3,7	20	450	H (m)	29	27	23,2	17,2	10,3
PULSAR 20/50 T	400 V~	0,6	0,55	0,75	1,62	-	-		42	38,2	33,8	24,8	13,5
PULSAR 30/50 M	220-240 V~	1	0,55	0,75	4,5	20	450		54,9	52,4	45,8	34,8	19,4
PULSAR 30/50 T	400 V~	0,9	0,55	0,75	1,8	-	-		68,8	66,6	59	45,4	27,4
PULSAR 40/50 M	220-240 V~	1,2	0,75	1	5,5	20	450		81,9	78,9	69,6	54,6	33,9
PULSAR 40/50 T	400 V~	1,1	0,75	1	2	-	-						
PULSAR 50/50 M	220-240 V~	1,5	1	1,36	7	25	450						
PULSAR 50/50 T	400 V~	1,4	1	1,36	2,6	-	-						
PULSAR 65/50 M	220-240 V~	1,8	1,2	1,6	8	30	450						
PULSAR 65/50 T	400 V~	1,7	1,2	1,6	3,1	-	-						

The performance curves are based on kinematic viscosity values = 1 mm<sup>2</sup>/s and density equivalent to 1000 kg/m<sup>3</sup>. Tolerance of curves to ISO 9906.

# PULSAR 80

Liquid temperature range: from 0°C to +40°C



MODEL	Ø (mm)	HEIGHT H (mm)	DNM	PACK DIMENSIONS (mm)			VOLUME m <sup>3</sup>	GROSS WEIGHT Kg		
				L/A	L/B	H		MA*	MNA*	TNA*
<b>PULSAR 30/80</b>	138	562	1" 1/4 G	690	220	165	0,025	17,5	17	17,5
<b>PULSAR 40/80</b>	138	630	1" 1/4 G	690	220	165	0,025	18,5	18	18,5
<b>PULSAR 50/80</b>	138	657	1" 1/4 G	690	220	165	0,025	19,5	19	19,5

\* Models available with or without float switch.

MODEL	ELECTRICAL DATA							HYDRAULIC DATA								
	POWER SUPPLY 50 Hz	P1			In A	CAPAC.		Q m <sup>3</sup> /h	Q							
		kW	kW	HP		μF	Vc		0	1,2	2,4	3,6	4,8	6	7,2	
<b>PULSAR 30/80 M</b>	220-240 V~	1,2	0,75	1	5,4	20	450	H (m)	0	20	40	60	80	100	120	
<b>PULSAR 30/80 T</b>	400 V~	1,1	0,75	1	2	-	-		46,8	46	42	35,3	30	20	11	
<b>PULSAR 40/80 M</b>	220-240 V~	1,5	1	1,36	7	25	450		59,2	58,5	54	46,9	40	29	17	
<b>PULSAR 40/80 T</b>	400 V~	1,4	1	1,36	2,5	-	-		70,7	68,2	63,3	54,9	45,8	34,5	20,3	
<b>PULSAR 50/80 M</b>	220-240 V~	1,8	1,2	1,6	8,2	30	450									
<b>PULSAR 50/80 T</b>	400 V~	1,6	1,2	1,6	3	-	-									