Low Voltage DC Brush-less Motor

4DC

The 4DC Low Voltage Brush-less motor is engineered for efficiency. This motor requires less voltage input to operate at full load capacity thanks to efficient MPPT Software and the latest DC Brush-less motor technology.

Technical Data:

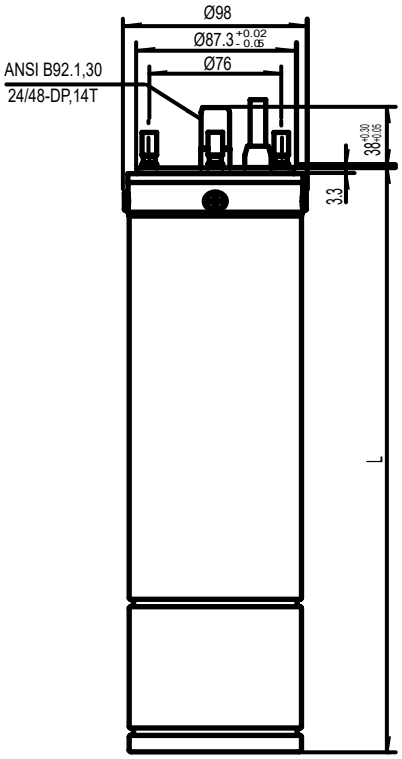
- Power Rating - 0.55kW - 1.1 kW
- Voltage - 48V - 110V
- Max Submersion Depth - 70m
- Operating Speed - 500 - 4000 rpm
- Isolation - Class B
- Material of Construction - 304 Stainless Steel
- Flange Connection - Nema Standard

Working Conditions:

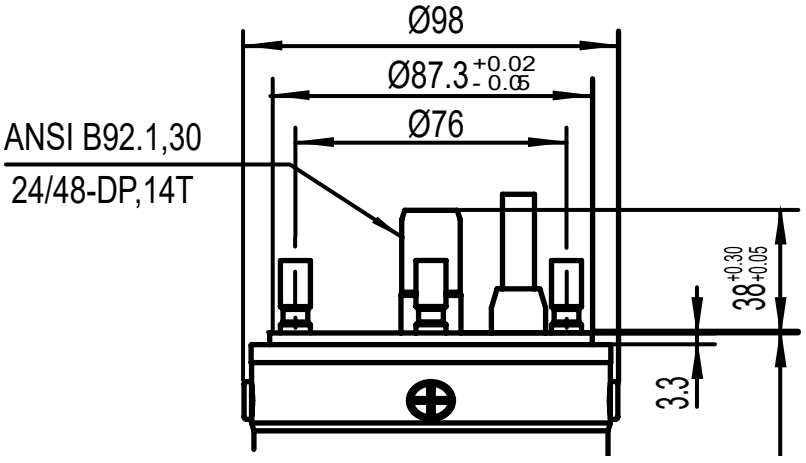
- Max control box ambient temperature: 35°C

	4DC48/0.55kW	4DC72/0.75kW	4DC110/1.1kW
Voltage	48V	72V	110V
Max Voltage VOC	96V	144V	200V
Max Amps	17A	17A	17A
Weight	5.6kg	5.6kg	5.6kg

Dimensions:

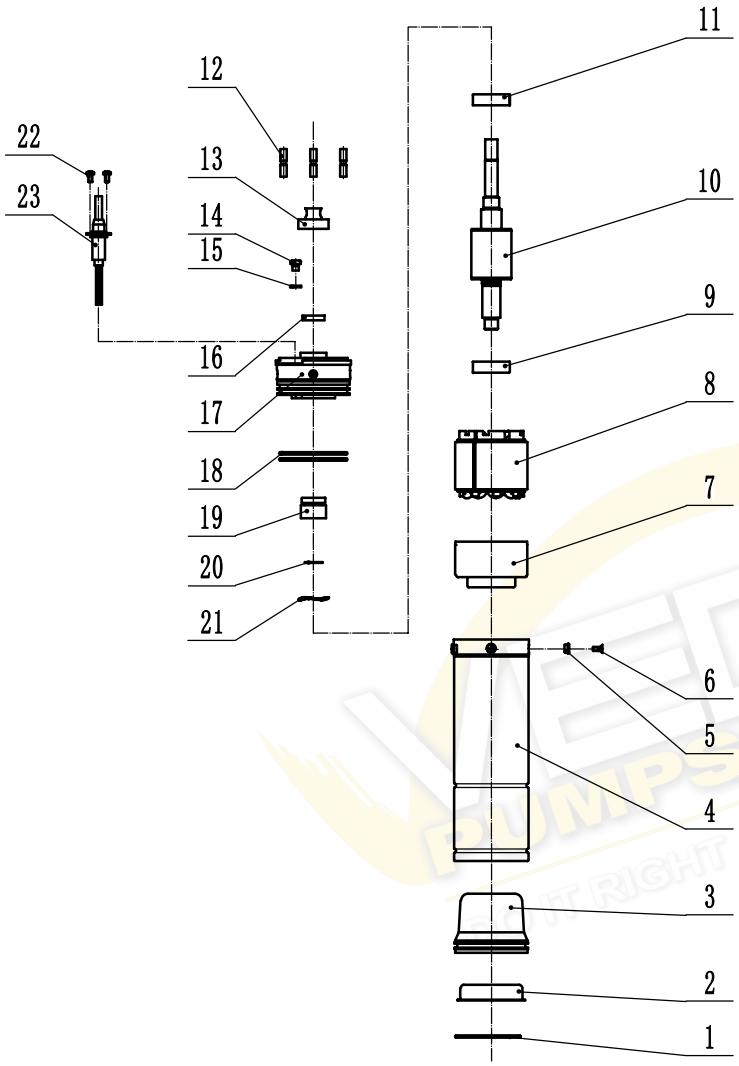


Model	L : Dimension (mm)
4DC48/0.55kW	255
4DC72/0.75kW	255
4DC110/1.1kW	255



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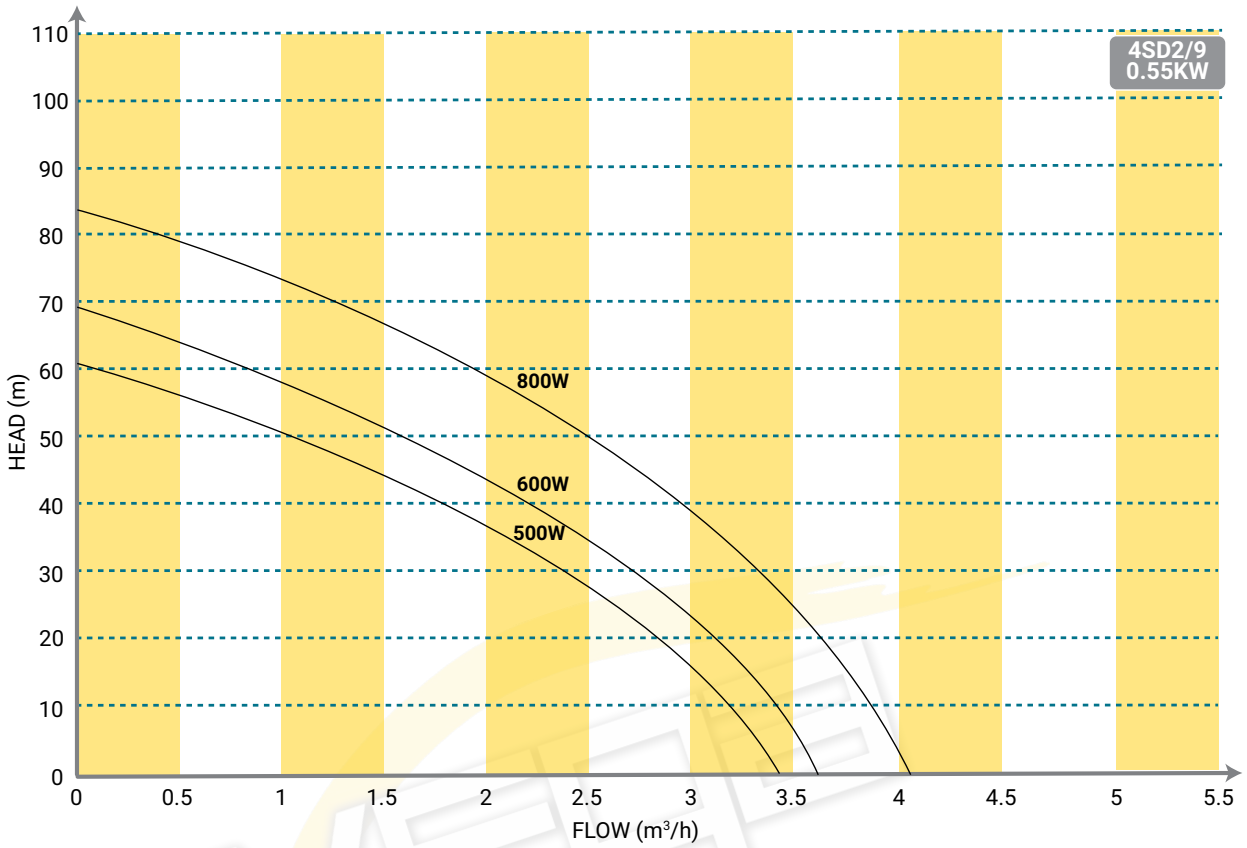
Exploded View:

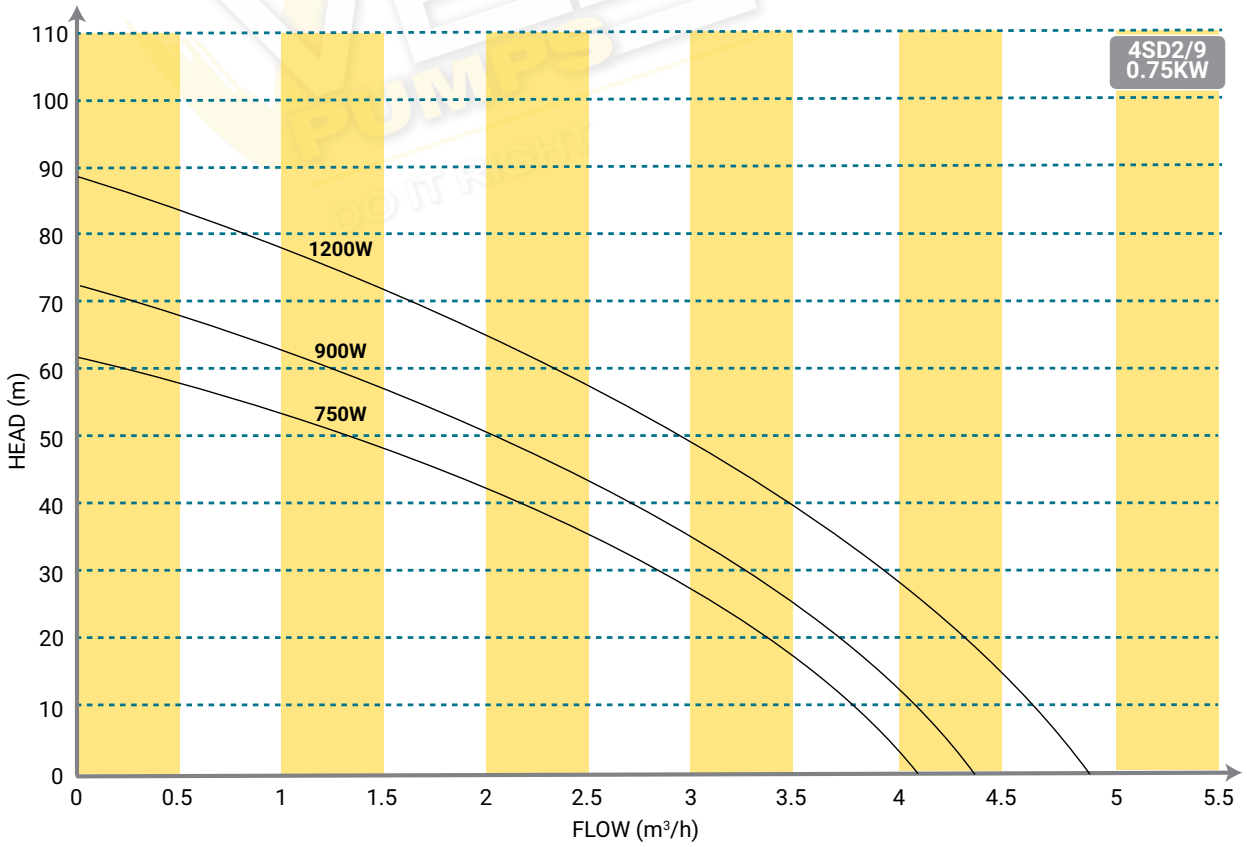


No	Description	QTY
1	Retaining Ring	1
2	Baseplate	1
3	Diaphragm	1
4	Casing	1
5	Gasket	4
6	Screw	4
7	Bearing Seat	1
8	Stator	1
9	Bearing	1
10	Rotor	1
11	Bearing	1
12	Screw	4
13	Protection Cap	1
14	Screw	1
15	Rubber Washer	1
16	Frame Seal	1
17	Oil Cylinder	1
18	O Ring	2
19	Mechanical Seal	1
20	Retaining Ring	1
21	Wave Spring	1
22	Screw	2
23	Cable Entry	1

Compatible Wet Ends

4SD

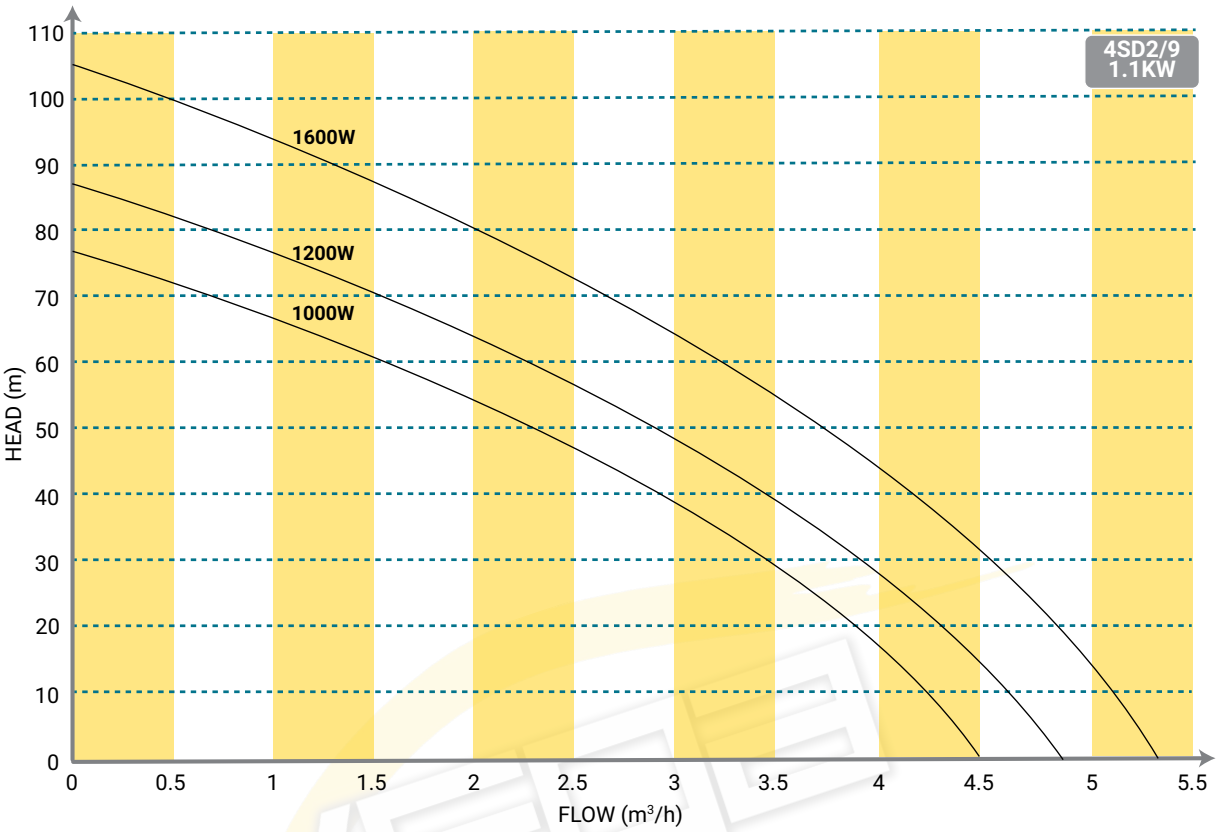


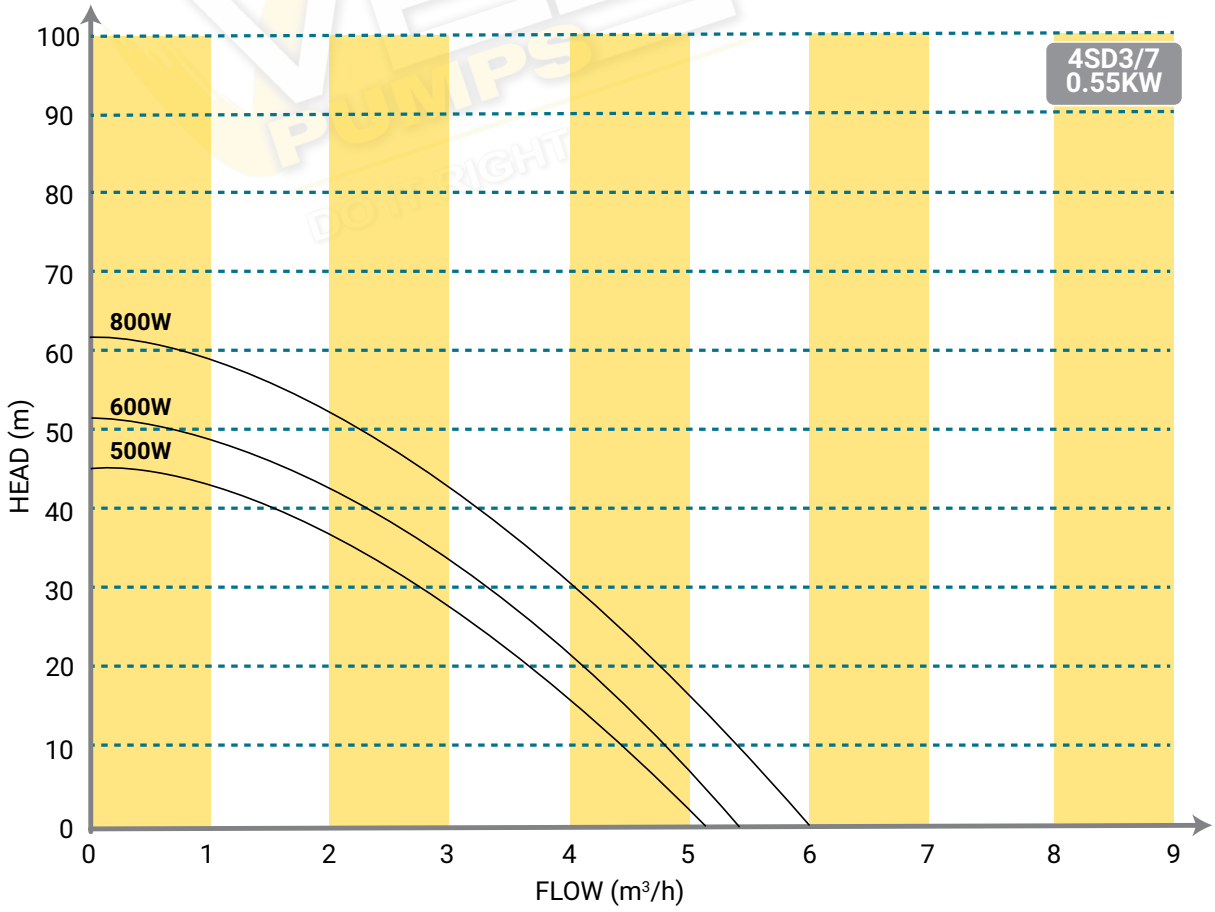


The above 4SD pump curves indicates the different performance of each model based on the different input wattage options.

Compatible Wet Ends

4SD

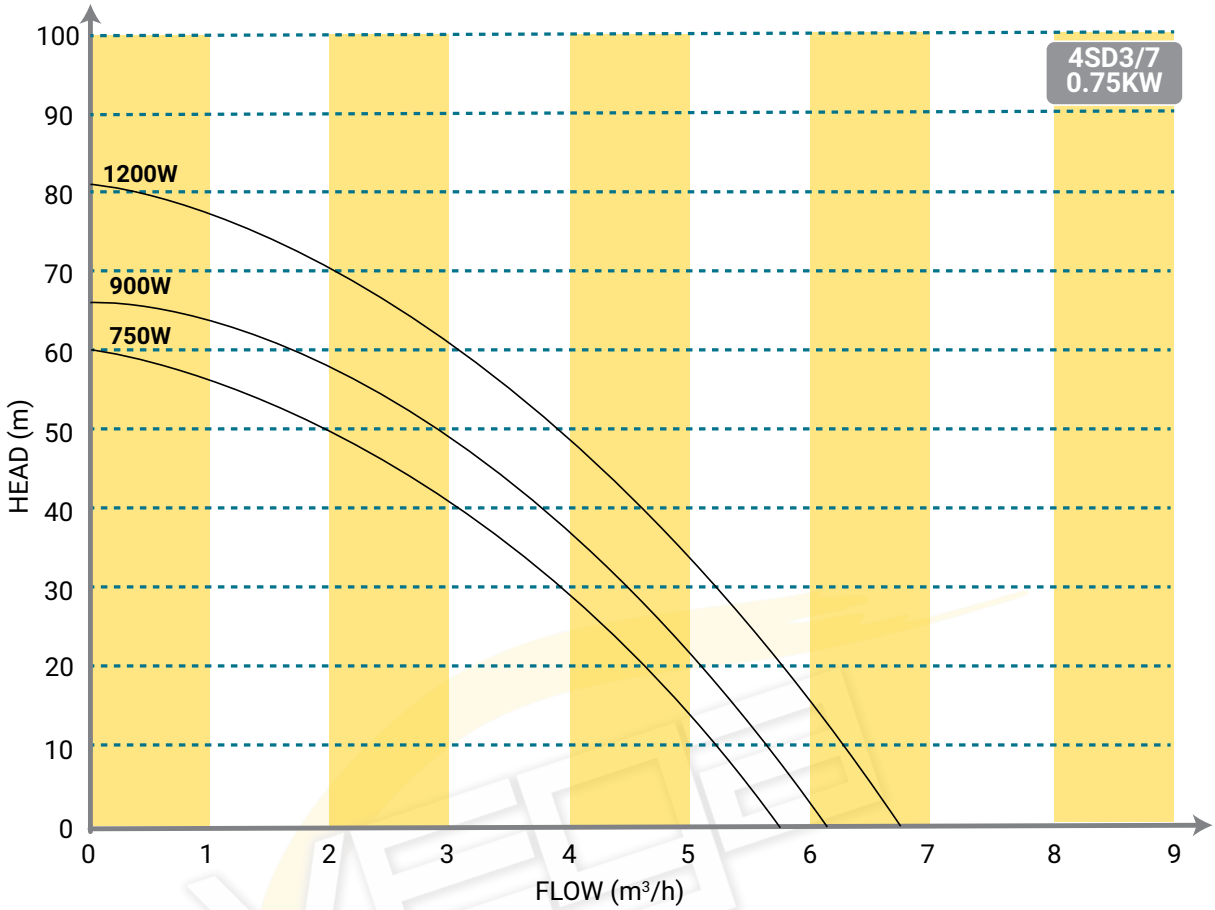


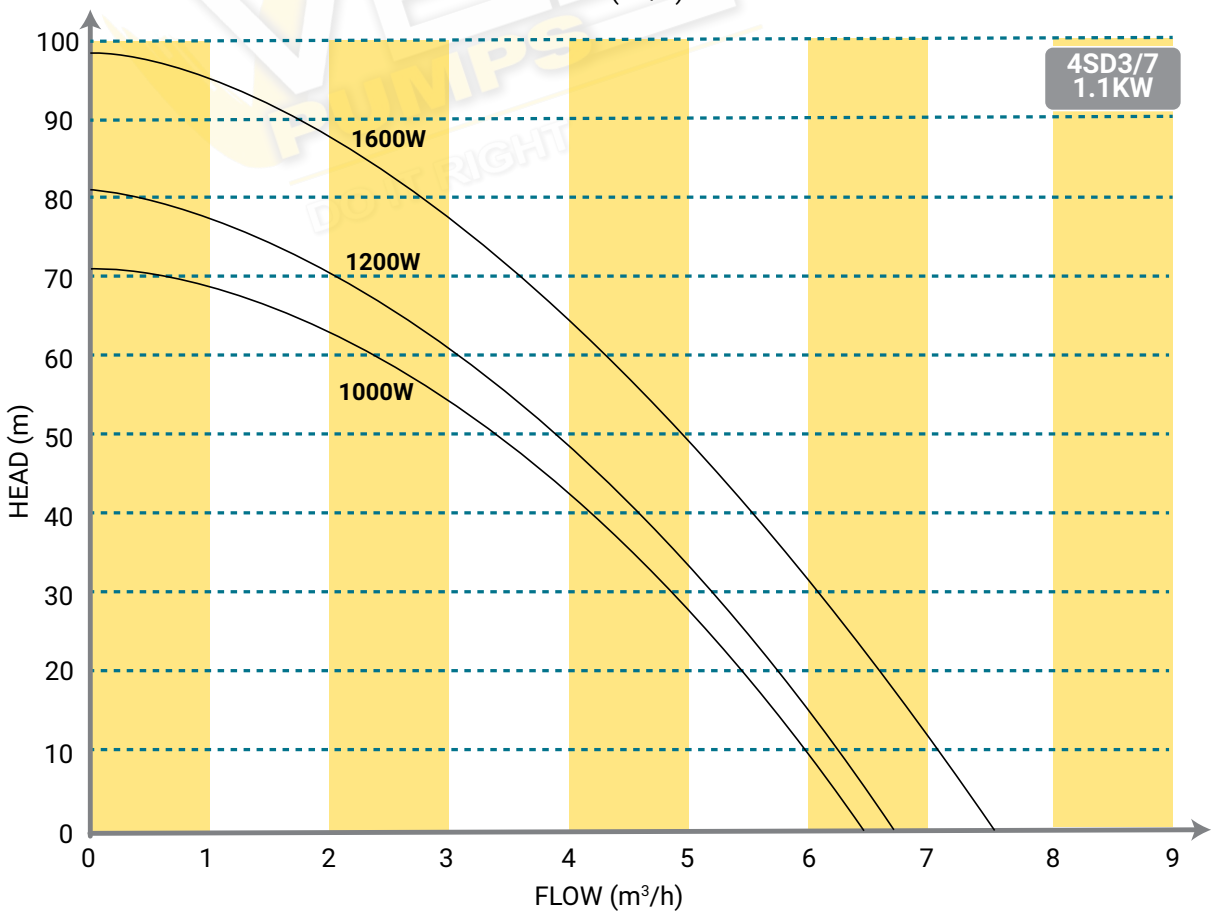


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Compatible Wet Ends

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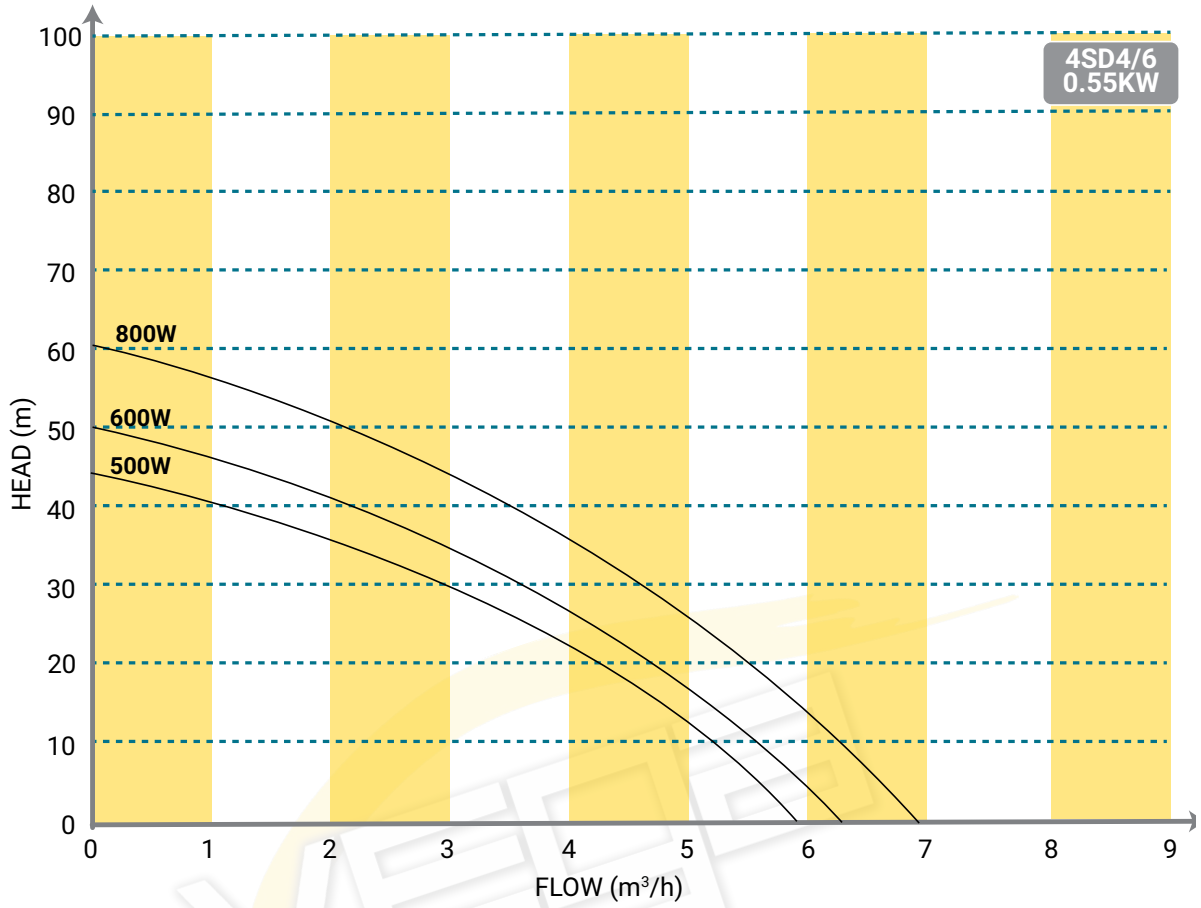


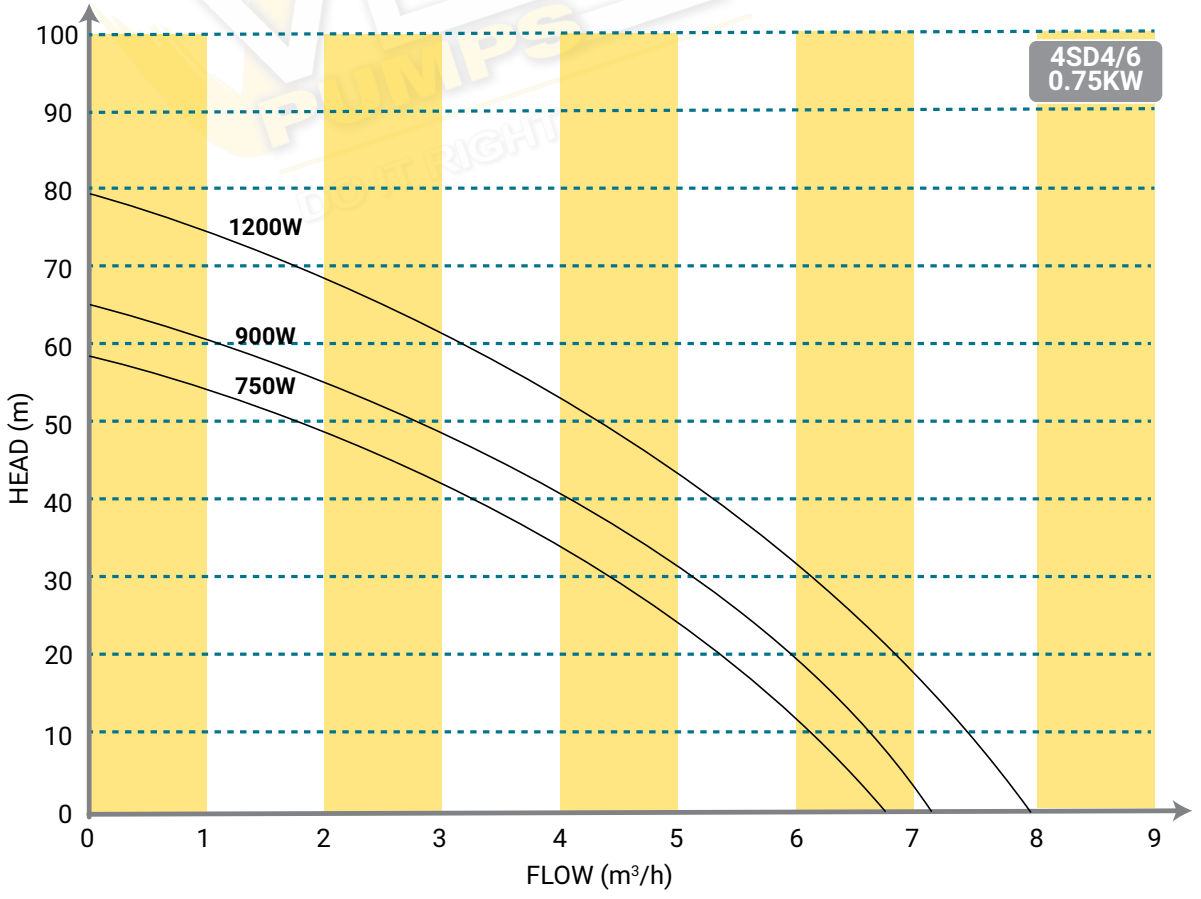


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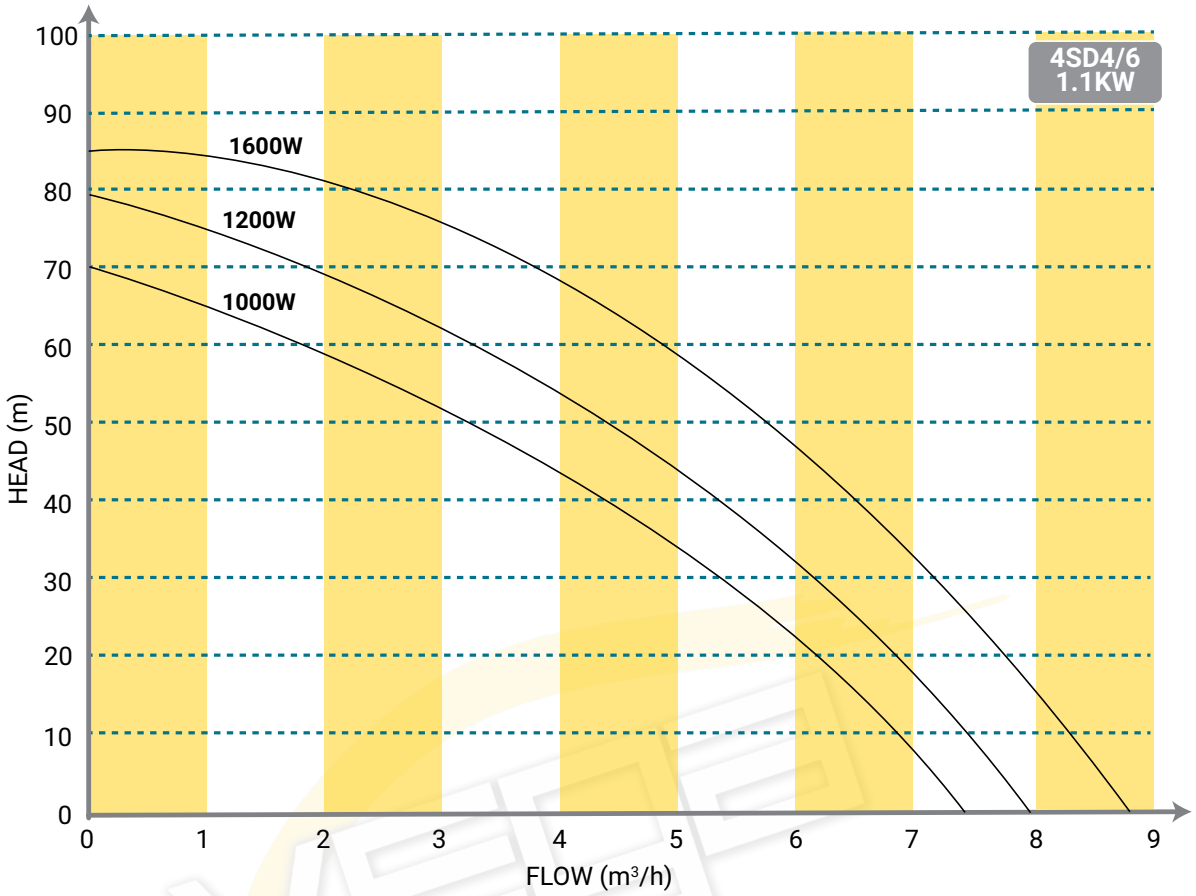


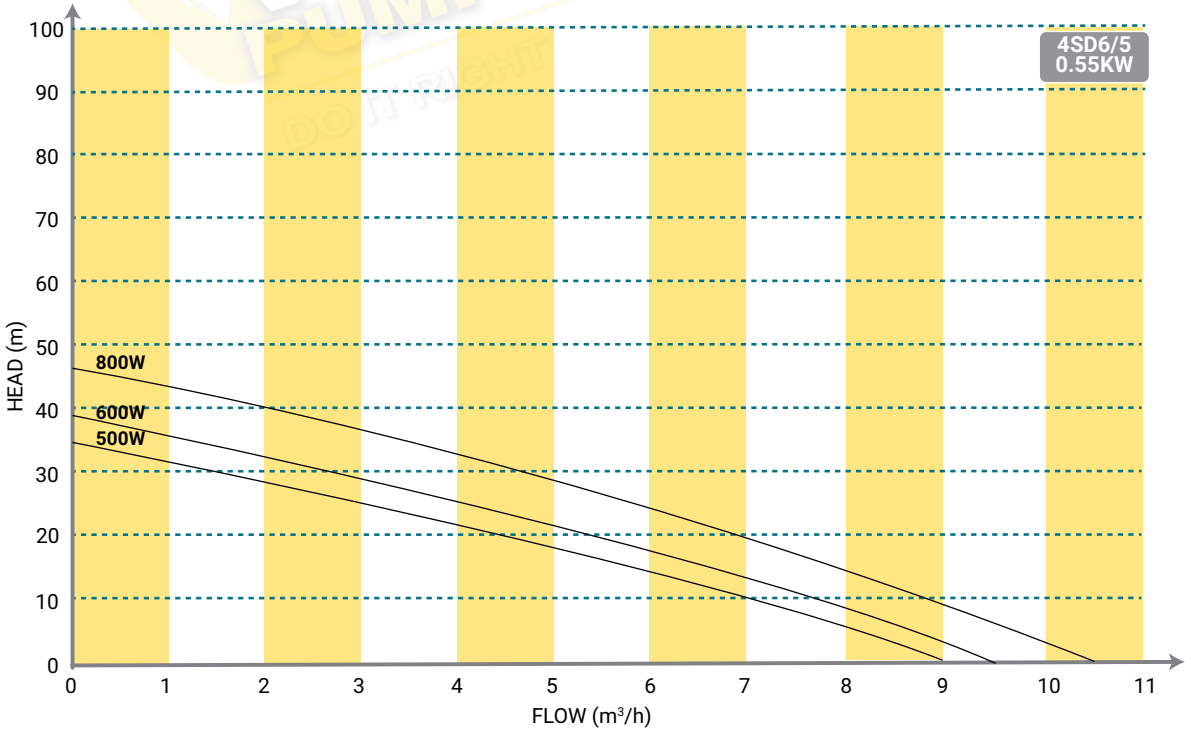


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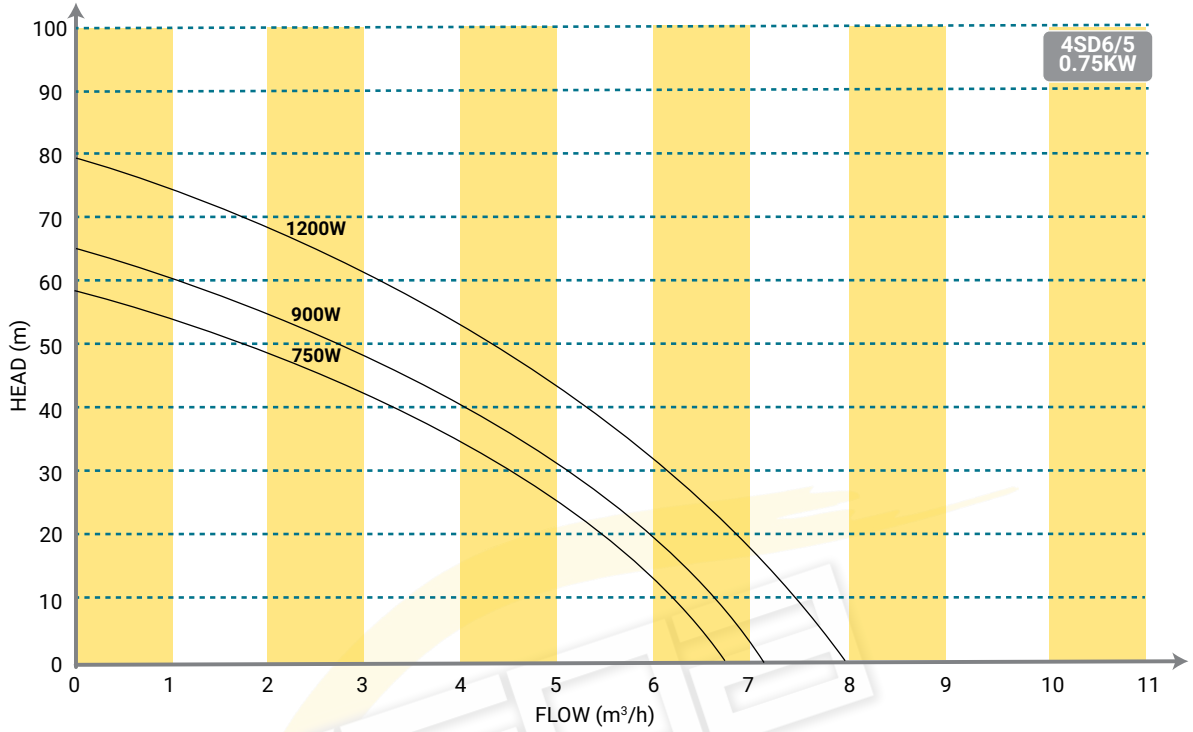


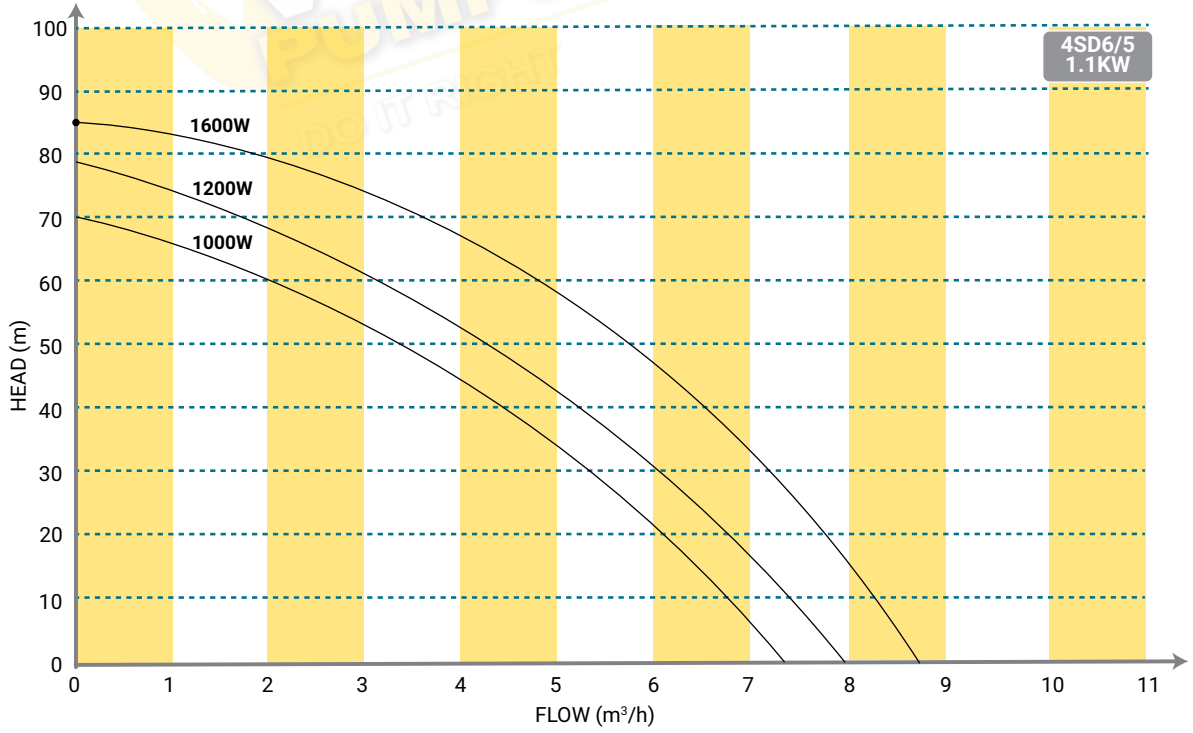


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Compatible Wet Ends

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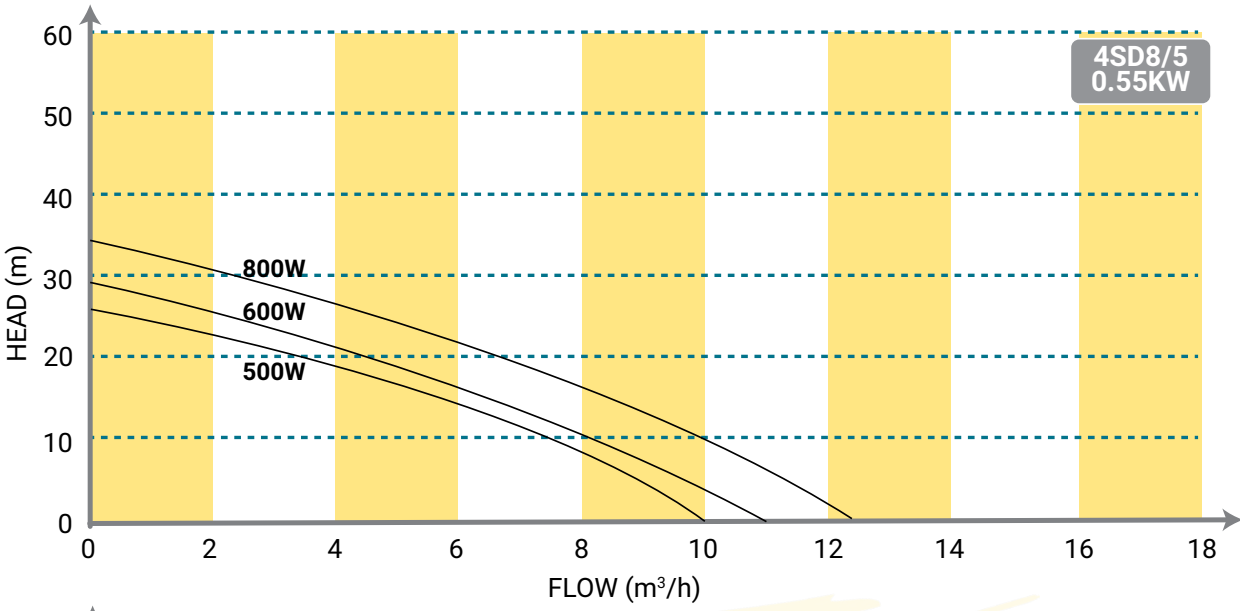


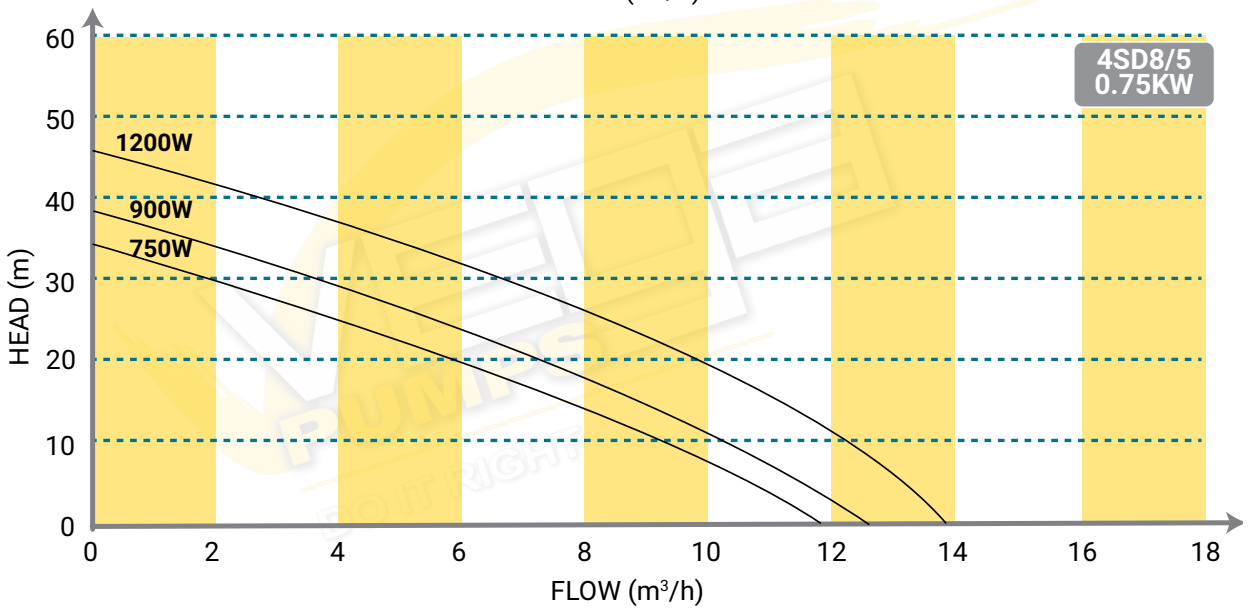


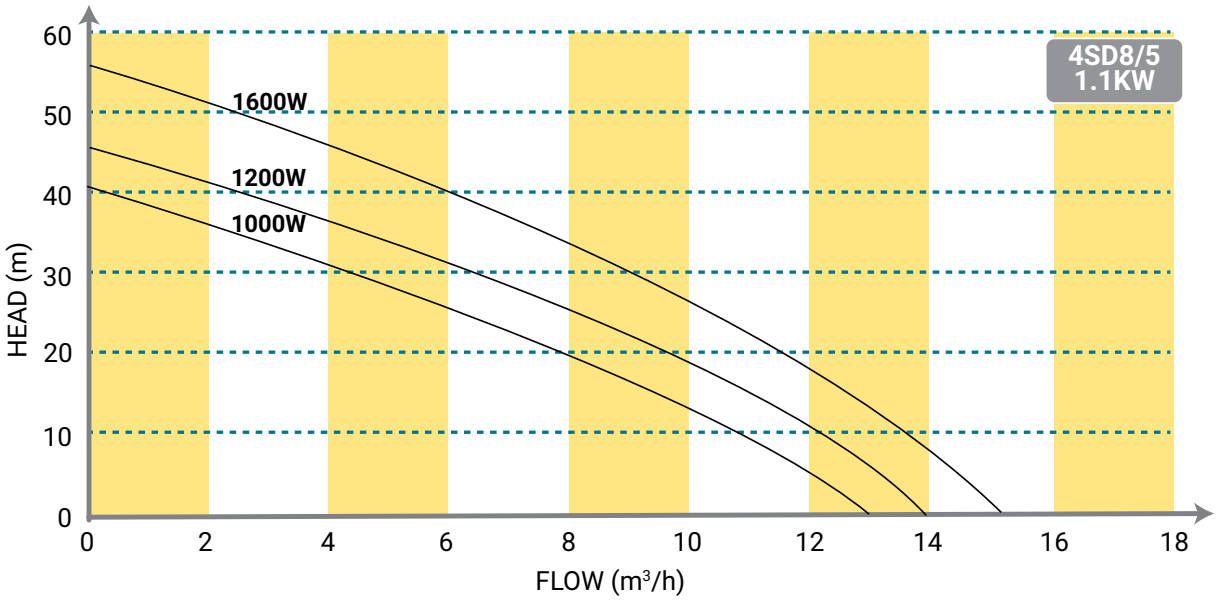
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Compatible Wet Ends

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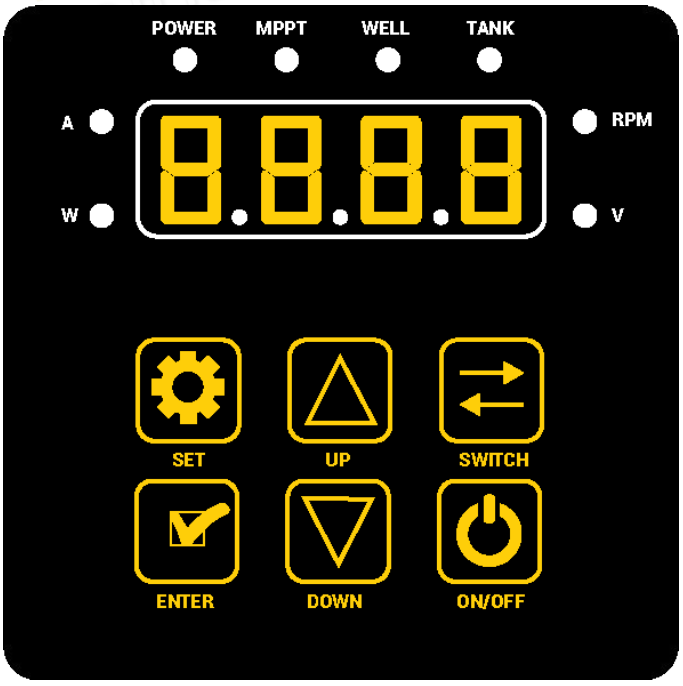




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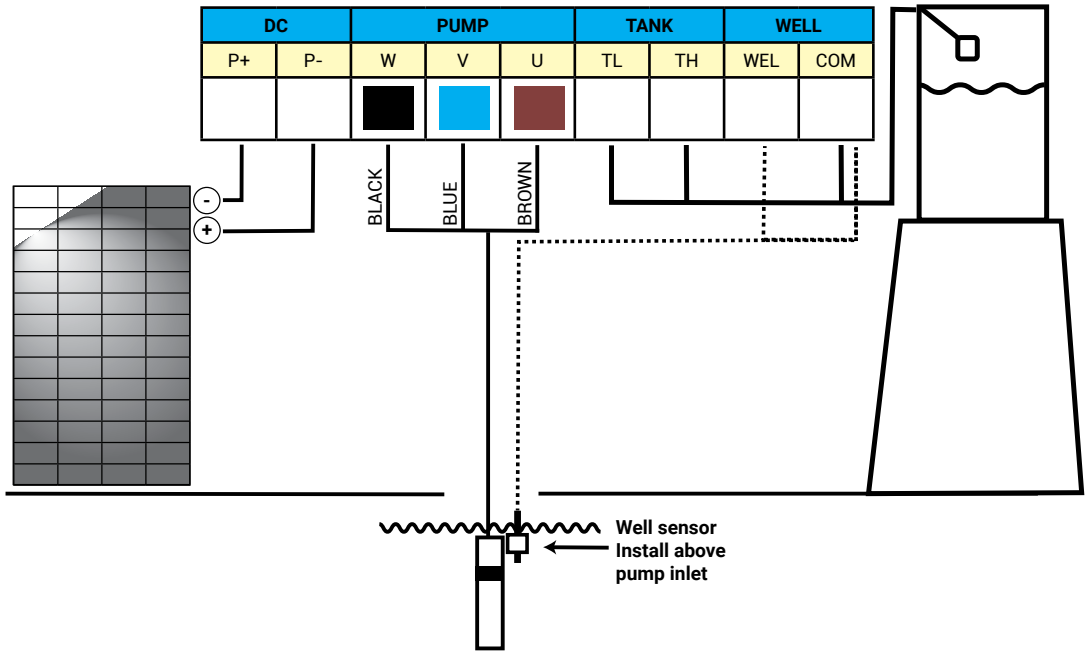
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Key	Function
Set	Factory setting. Do not open.
enter	Factory setting. Do not open
Up	RPM setting, to increase the RPM. In the Error State the key is used to turn the error display On or Off .
Down	RPM setting, to decrease RPM
Switch	In operation status this key is used to display the different values: Voltage | Speed | Current | Power
On/off	Power button - Switch unit On and Off manually.

Control Parameters:

Model	Pump Voltage	Max Input Current (A)	VOC (V)	Operating Voltage Range	Operating Temperature
CN48	48V	17	96V	42 - 96	-15°C - 60°C

Wiring Diagram:



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Error Codes:

No	Code	Description	Cause	Solution	Recovery process
1	P0	Unit over-current	Incorrect motor voltage. UVW short circuit connection.	Replace with correct specification. Rewire according to diagram.	Automatically after 30sec.
2	P43	Phase protection	UVW open circuit.	Rewire according to diagram and ensure all wires are secured properly.	Automatically after 30sec.
3	P46	Operating protection	Incorrect motor cable Length. Pump bearing stuck.	Replace with correct specification. Decrease length or replace with larger diameter cable. (See Cable chart) Return unit to supplier for evaluation and repair.	Automatically after 30sec.
4	P49	Software over-current	Pump bearing stuck. UVW short circuit connection.	Return unit to supplier for evaluation and repair. Rewire according to diagram and ensure all wires are secured properly.	Automatically after 30sec.
5	P50	Low voltage protection	Low input voltage.	Check panel wiring and ensure panels provide sufficient voltage according to pump specification.	Immediately
6	P51	High voltage protection	Input voltage too high.	Check panel wiring and ensure panel voltage specification meets pump requirement.	Immediately
7	P48/E12	Dry-run protection	Water level below inlet of pump. Air trapped in pipework.	Lower the pump or wait until well refills. Switch unit off and wait for 30seconds.	Unit will automatically start after 30minutes.
8	P60	High temperature protection	High temperature protection.	Temperature of controller more than 90°C.	Unit will automatically start after temperature has stabilised.
9	E00-E10	Current sampling failure		Switch power off and restart after 30 seconds.	Restart unit to clear error.
10	PL	Power shortage	PV Panel not receiving sufficient sunlight. PV Panels not wired correctly.	Unit will start up automatically as soon as sky clears. Check wiring and ensure that it is correct according to wiring diagram.	Unit will restart automatically after 30 seconds the first 5 times, there after it will restart after 30 minutes.
11	ALARM	Reverse wiring protection		Switch power off and rewire according to wiring diagram.	Alarm will not go off once wiring has been rectified.
12	E13	Tank Level	Tank Full / Empty	Switch pump off and restart after 30 seconds.	Automatically after 30 minutes.

Cable Chart: PV Panel to Control Box

Unit Voltage	Cable Length (m)										
	15	30	45	60	75	90	105	120	135	150	175
48V	2.5mm²	4mm²	6mm²	10mm²	10mm²	16mm²	16mm²	25mm²	25mm²	25mm²	35mm²
72V	2.5mm²	4mm²	6mm²	10mm²	10mm²	16mm²	16mm²	25mm²	25mm²	25mm²	35mm²
110V	2.5mm²	4mm²	6mm²	10mm²	10mm²	10mm²	10mm²	16mm²	16mm²	16mm²	25mm²

Cable Chart: Control Box to Pump

		CABLE DIAMETER						
Watt		1.5 mm²	2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	25 mm²
550	Cable Length		40	60	90	150		
750	Cable Length		110	190	280	380		
1100	Cable Length		110	180	280	380		