





# COMPANY PROFILE

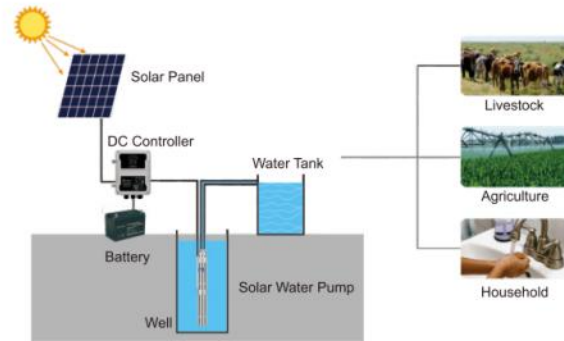
In 2014, Zhejiang Hande Pump industry took the first step in the field of deep well pump manufacturing. After years of persistent pursuit and technological change, Hande Company developed from traditional deep well water pump to solar-energy water pump with its own national brand "HANDURO".

Handuro Company becomes more professional in manufacturing different kinds of deep well submersible water pump, centrifugal pump, solar water pumps and so on, which are sold out to Europe, Asia, America, Africa and other countries and regions. The pumps are widely used in human and livestock water use, farmland irrigation, domestic water use and urban industrial water use, construction site water supply etc..



# CONTENTS

A DC solar pumping system captures sunlight using solar panels, converting it into direct current(DC)electricity. This DC power then drives a pump, equipped with a brushless motor for efficiency. A controller monitors and optimizes the pump's performance based on the available solar energy, ensuring consistent water flow even under varying sunlight conditions.

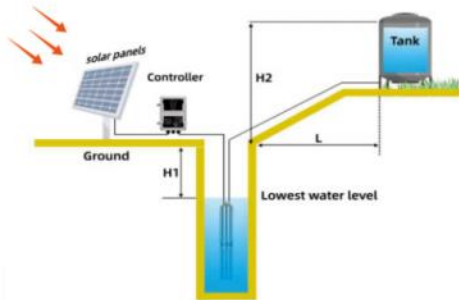


## Controller Unit

- Waterproof Rating:** IP65 ensures resilience against moisture.
- Temperature Tolerance:** Operates effectively between -15°C to 60°C.
- Efficient Energy Use:** Integrated MPPT maximizes solar energy utilization.
- Comprehensive Display:** Monitors power, voltage, current, speed, and other operational metrics.
- Automated Operation:** Controller manages start/stop cycles, allowing 24/7 operation without manual oversight.
- Adaptive Speed Control:** Auto-adjusts to sunlight intensity and offers manual speed modification for customized needs.
- Soft Start Feature:** Eliminates surge currents, safeguarding the pump motor.
- Advanced Protections:** Shields against over/under voltage, excessive current, phase anomalies, short circuits, water scarcity, and high temperatures.

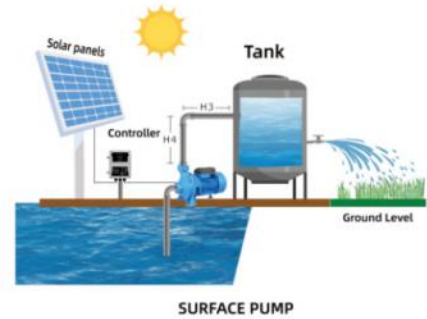


## How to select the right pump



### How to calculate lift (deep well pump)?

- H1(Lift from lowest water level to ground):mt
- H2 (Tank height and additional lift if available) :mt
- L (Horizontal distance of water delivery):mt
- Rated head >H1+H2+10%L



### How to calculate Total Head (surface water):

- H3 the horizontal distance from the water source to the water tank
- H4 vertical height from water source to water tank
- $H=10\%H3+H4$

## Formula to calculate the solar panels



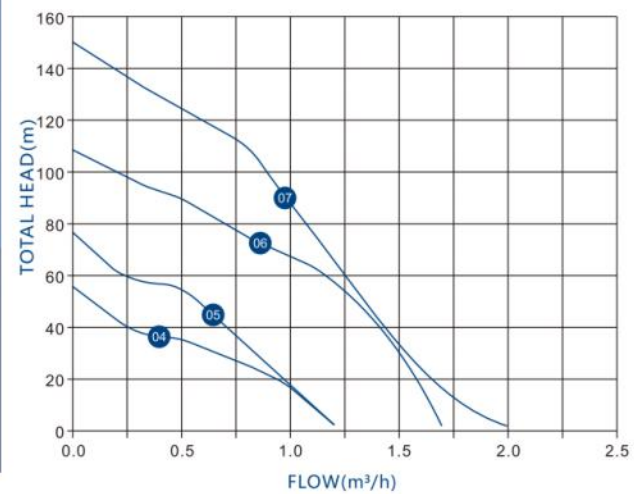
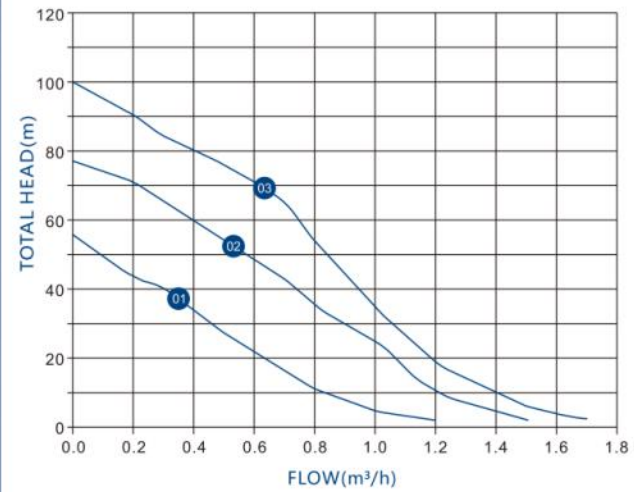
The power of the solar photovoltaic panel array is recommended to be 1.3 times or more than the power of the water pump. The voltage of the solar photovoltaic panel array needs to meet the voltage range of the water pump.

- Step 1 :** Pump power x 1.3 ÷ Solar panels' power = Nr of Solar panels Quantity of Solar panels
- Step2 :** Number of solar panels \* Open circuit voltage < Controller maximum voltage (series mode is selected)  
(If greater than the maximum voltage, consider parallel)
- Step3 :** Number of solar panels \* Operating voltage  
Within MPPT voltage range of the controller

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PERFORMANCE CURVES



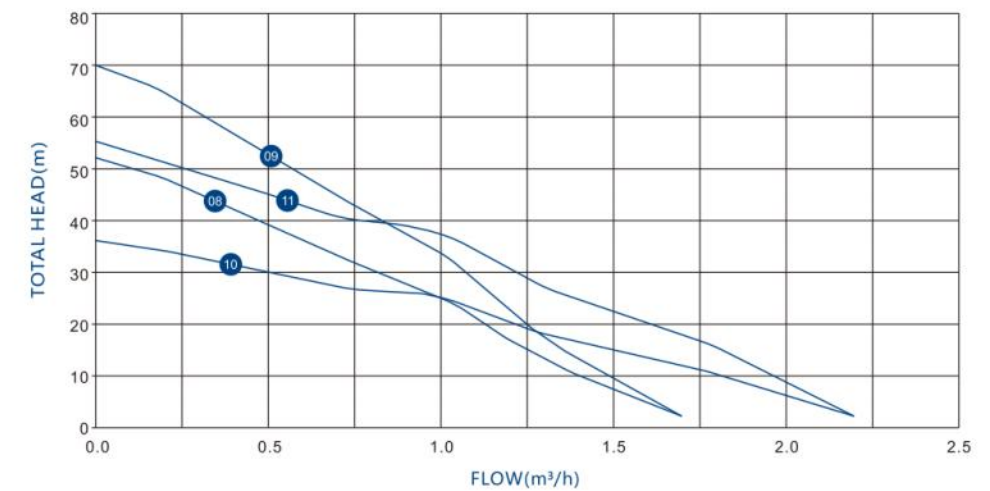
TECHNICAL DATA

NO.	Model	Power		Max. Flow	Max. Head	Outlet (Inch)	Cable	Solar Panels
		Kw	Hp					
1	HD-2SS1.2-56-24-120	0.12	0.16	1.2m³/h	56m	0.75"	1.5m	550W*1
2	HD-2SS1.5-77-24-210	0.21	0.28	1.5m³/h	77m	0.75"	1.5m	550W*1
3	HD-2SS1.7-100-48-500	0.5	0.67	1.7m³/h	100m	0.75"	1.5m	550W*2

NO.	Model	Power		Max. Flow	Max. Head	Outlet (Inch)	Cable	Solar Panels
		Kw	Hp					
4	HD-3SS1.2-56-24-120	0.12	0.16	1.2m³/h	56m	0.75"	2m	550W*1
5	HD-3SS1.2-77-24-210	0.21	0.28	1.2m³/h	77m	0.75"	2m	550W*1
6	HD-3SS1.7-109-48-500	0.5	0.67	1.7m³/h	109m	0.75"	2m	550W*2
7	HD-3SS2.0-150-72-750	0.75	1	2.0m³/h	150m	0.75"	2m	550W*3



MODEL DEFINITION

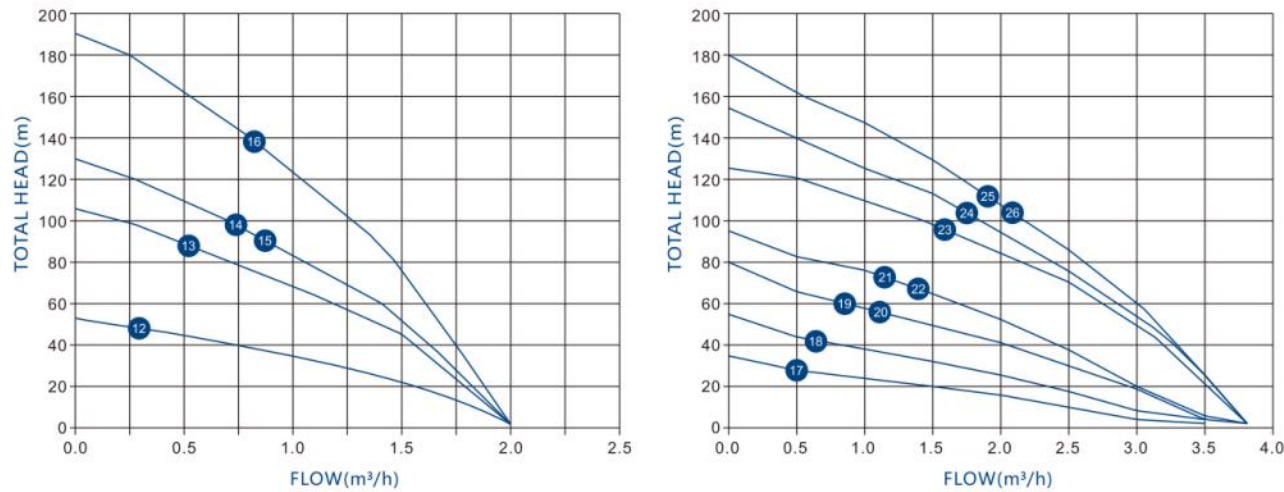


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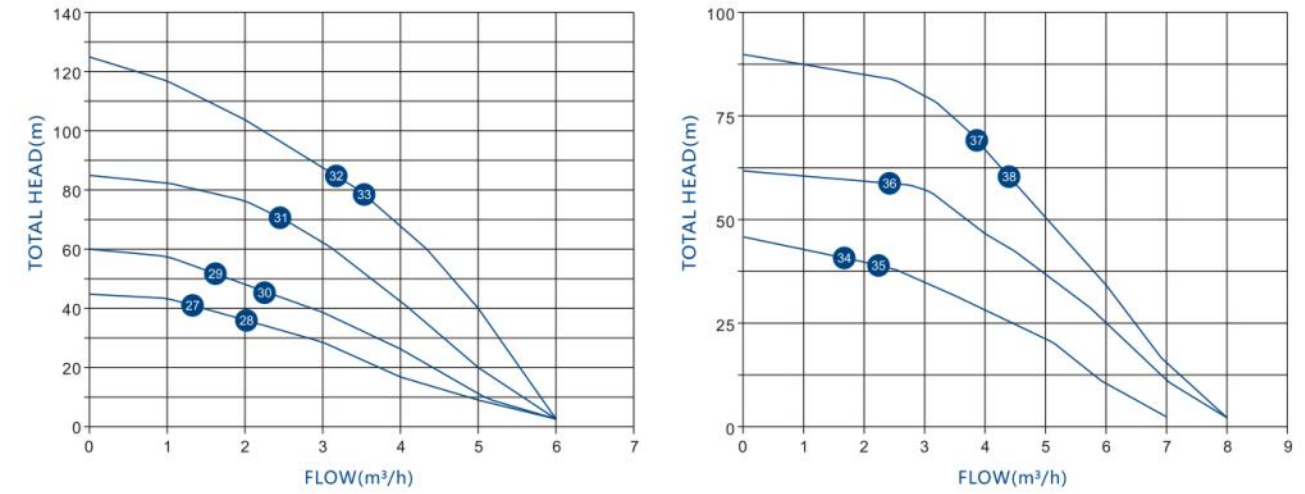
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		Kw	Hp					
8	HD-2SC1.7-52-24-300	0.3	0.4	1.7m³/h	52m	0.75"	1.5m	550W*1
9	HD-2SC1.7-70-48-400	0.4	0.55	1.7m³/h	70m	0.75"	1.5m	550W*2
10	HD-2SC2.2-36-24-300	0.3	0.4	2.2m³/h	36m	0.75"	1.5m	550W*1
11	HD-2SC2.2-55-48-400	0.4	0.55	2.2m³/h	55m	0.75"	1.5m	550W*2



PERFORMANCE CURVES



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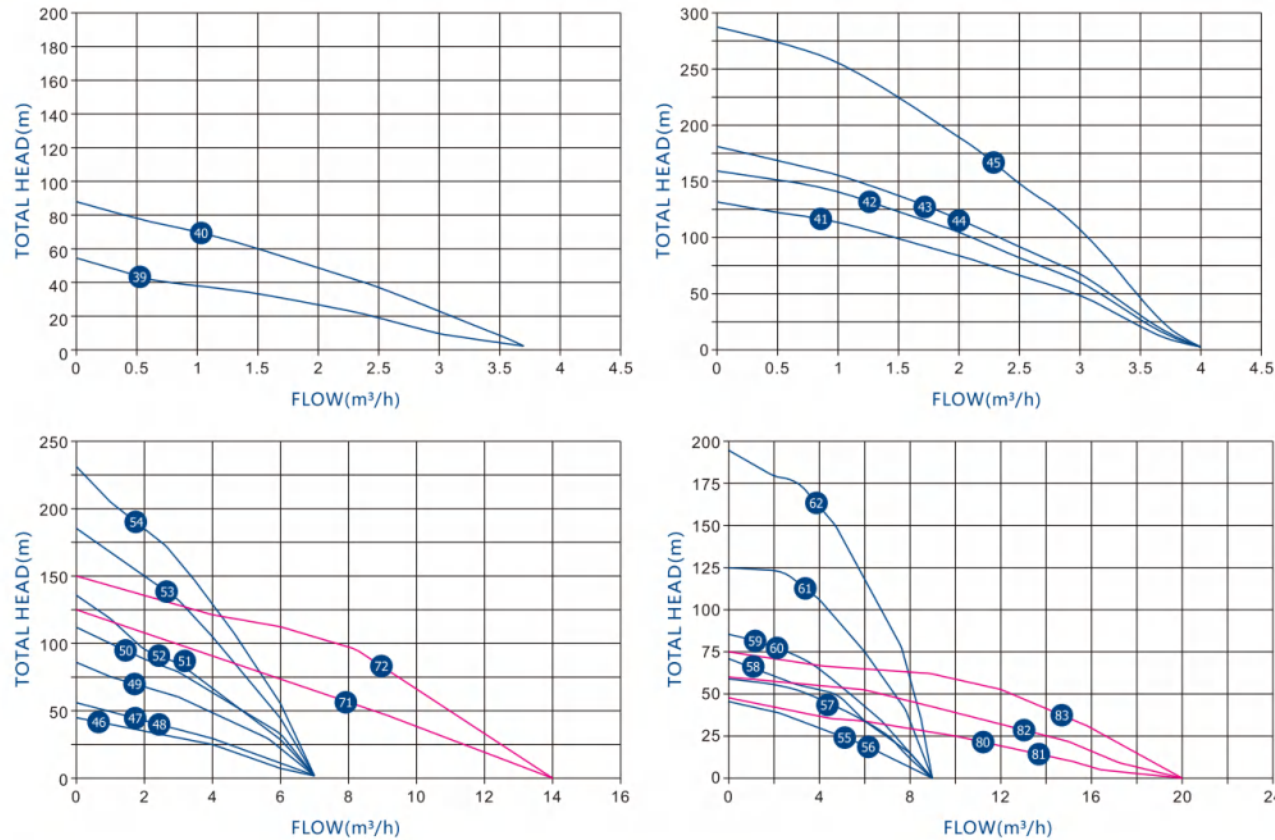


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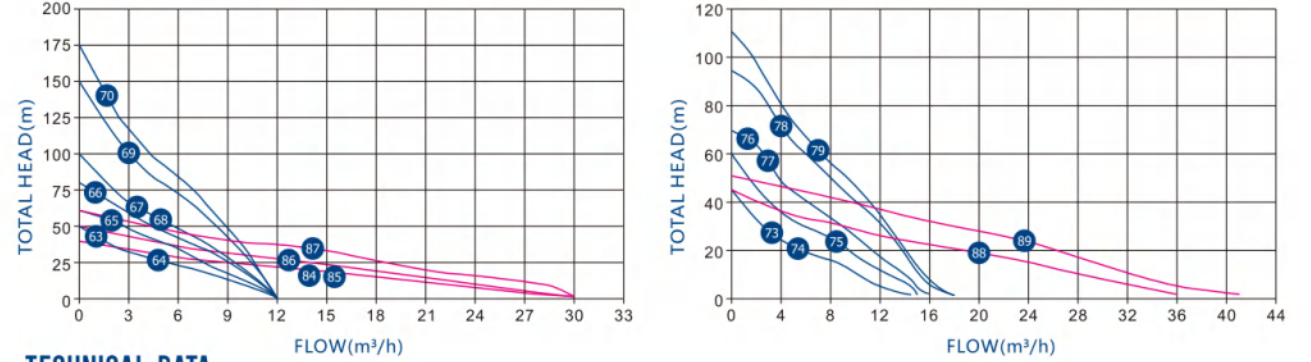
NO.	Model	Power		Max. Flow	Max. Head	Outlet (Inch)	Cable	Solar Panels
		Kw	Hp					
12	HD-3SC2-53-24-300	0.3	0.4	2m³/h	53m	1.25"	2m	550W*1
13	HD-3SC2-105-48-600	0.6	0.8	2m³/h	105m	1.25"	2m	550W*2
14	HD-3SC2-130-48-750	0.75	1	2m³/h	130m	1.25"	2m	550W*2
15	HD-3SC2-130-72-750	0.75	1	2m³/h	130m	1.25"	2m	550W*3
16	HD-3SC2-190-110-1100	1.1	1.5	2m³/h	190m	1.25"	2m	550W*3
17	HD-3SC3.5-35-24-300	0.3	0.4	3.5m³/h	35m	1.25"	2m	550W*1
18	HD-3SC3.8-55-48-400	0.4	0.55	3.8m³/h	55m	1.25"	2m	550W*2
19	HD-3SC3.8-80-48-600	0.6	0.8	3.8m³/h	80m	1.25"	2m	550W*2
20	HD-3SC3.8-80-72-600	0.6	0.8	3.8m³/h	80m	1.25"	2m	550W*3
21	HD-3SC3.8-95-48-750	0.75	1	3.8m³/h	95m	1.25"	2m	550W*2
22	HD-3SC3.8-95-72-750	0.75	1	3.8m³/h	95m	1.25"	2m	550W*3
23	HD-3SC3.8-125-110-1100	1.1	1.5	3.8m³/h	125m	1.25"	2m	550W*3
24	HD-3SC3.8-155-110-1300	1.3	1.75	3.8m³/h	155m	1.25"	2m	550W*3
25	HD-3SC3.8-180-110-1500	1.5	2	3.8m³/h	180m	1.25"	2m	550W*4
26	HD-3SC3.8-180-180-1500-HV	1.5	2	3.8m³/h	180m	1.25"	2m	550W*5
27	HD-3SC6-45-48-600	0.6	0.8	6.0m³/h	45m	1.25"/1.5"	2m	550W*2
28	HD-3SC6-45-72-600	0.6	0.8	6.0m³/h	45m	1.25"/1.5"	2m	550W*3
29	HD-3SC6-60-48-750	0.75	1	6.0m³/h	60m	1.25"/1.5"	2m	550W*2
30	HD-3SC6-60-72-750	0.75	1	6.0m³/h	60m	1.25"/1.5"	2m	550W*3
31	HD-3SC6-85-110-1100	1.1	1.5	6.0m³/h	85m	1.25"/1.5"	2m	550W*3
32	HD-3SC6-125-110-1500	1.5	2	6.0m³/h	125m	1.25"/1.5"	2m	550W*4
33	HD-3SC6-125-180-1500-HV	1.5	2	6.0m³/h	125m	1.25"/1.5"	2m	550W*5
34	HD-3SC7-46-48-750	0.75	1	7.0m³/h	46m	1.25"/1.5"	2m	550W*2
35	HD-3SC7-46-72-750	0.75	1	7.0m³/h	46m	1.25"/1.5"	2m	550W*3
36	HD-3SC8-62-110-1100	1.1	1.5	8.0m³/h	62m	1.25"/1.5"	2m	550W*3
37	HD-3SC8-90-110-1500	1.5	2	8.0m³/h	90m	1.25"/1.5"	2m	550W*4
38	HD-3SC8-90-180-1500-HV	1.5	2	8.0m³/h	90m	1.25"/1.5"	2m	550W*5



PERFORMANCE CURVES



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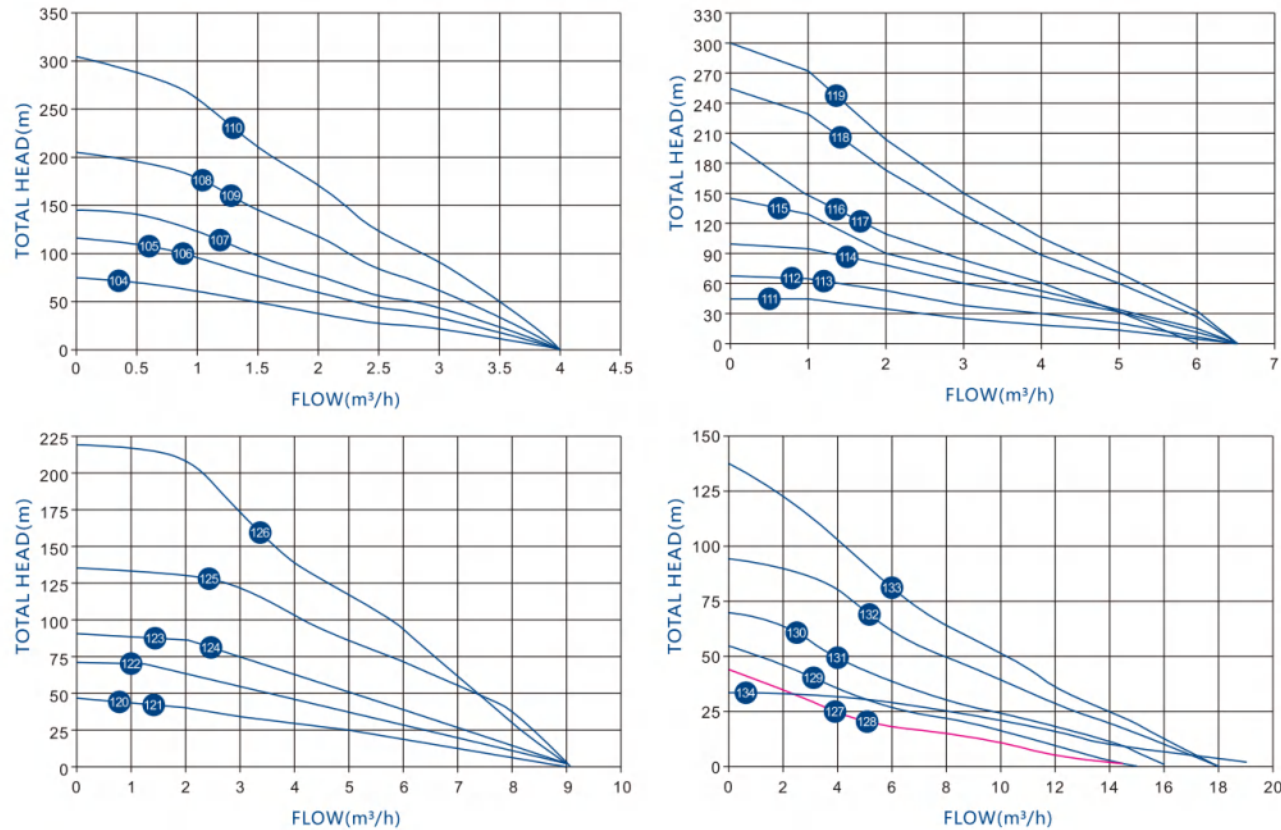
TECHNICAL DATA

NO.	Model	Power		Max. Flow	Max. Head	Outlet (Inch)	Cable	Solar Panels
		Kw	Hp					
39	HD-4SC3.6-55-48-500	0.5	0.7	3.6m³/h	55m	1.25"	2m	550W*2
40	HD-4SC3.6-88-72-750	0.75	1	3.6m³/h	88m	1.25"	2m	550W*3
41	HD-4SC4-130-110-1100	1.1	1.5	4.0m³/h	130m	1.25"	2m	550W*3
42	HD-4SC4-160-110-1300	1.3	1.75	4.0m³/h	160m	1.25"	2m	550W*3
43	HD-4SC4-180-110-1500	1.5	2	4.0m³/h	180m	1.25"	2m	550W*4
44	HD-4SC4-180-180-1500-HV	1.5	2	4.0m³/h	180m	1.25"	2m	550W*5
45	HD-4SC4-288-280-2200-HV	2.2	3	4.0m³/h	288m	1.25"	2m	550W*7
46	HD-4SC7-45-48-600	0.6	0.8	7.0m³/h	45m	1.25"/1.5"/2"	2m	550W*2
47	HD-4SC7-56-48-750	0.75	1	7.0m³/h	56m	1.25"/1.5"/2"	2m	550W*2
48	HD-4SC7-56-72-750	0.75	1	7.0m³/h	56m	1.25"/1.5"/2"	2m	550W*3
49	HD-4SC7-86-110-1100	1.1	1.5	7.0m³/h	86m	1.25"/1.5"/2"	2m	550W*3
50	HD-4SC7-112-110-1300	1.3	1.75	7.0m³/h	112m	1.25"/1.5"/2"	2m	550W*3
51	HD-4SC7-135-110-1500	1.5	2	7.0m³/h	135m	1.25"/1.5"/2"	2m	550W*4
52	HD-4SC7-135-180-1500-HV	1.5	2	7.0m³/h	135m	1.25"/1.5"/2"	2m	550W*5
53	HD-4SC7-185-280-2200-HV	2.2	3	7.0m³/h	185m	1.25"/1.5"/2"	2m	550W*7
54	HD-4SC7-230-300-3000-HV	3	4	7.0m³/h	230m	1.25"/1.5"/2"	2m	550W*8
55	HD-4SC9-45-48-750	0.75	1	9.0m³/h	45m	1.5"/2"	2m	550W*2
56	HD-4SC9-45-72-750	0.75	1	9.0m³/h	45m	1.5"/2"	2m	550W*3
57	HD-4SC9-58-110-1100	1.1	1.5	9.0m³/h	58m	1.5"/2"	2m	550W*3
58	HD-4SC9-71-110-1300	1.3	1.75	9.0m³/h	71m	1.5"/2"	2m	550W*3
59	HD-4SC9-85-110-1500	1.5	2	9.0m³/h	85m	1.5"/2"	2m	550W*4
60	HD-4SC9-85-180-1500-HV	1.5	2	9.0m³/h	85m	1.5"/2"	2m	550W*5
61	HD-4SC9-125-280-2200-HV	2.2	3	9.0m³/h	125m	1.5"/2"	2m	550W*7
62	HD-4SC9-195-300-3000-HV	3	4	9.0m³/h	195m	1.5"/2"	2m	550W*8
63	HD-4SC12-50-48-750	0.75	1	12m³/h	50m	2"	2m	550W*2
64	HD-4SC12-50-72-750	0.75	1	12m³/h	50m	2"	2m	550W*3
65	HD-4SC12-60-110-1100	1.1	1.5	12m³/h	60m	2"	2m	550W*3
66	HD-4SC12-80-110-1300	1.3	1.75	12m³/h	80m	2"	2m	550W*3
67	HD-4SC12-100-110-1500	1.5	2	12m³/h	100m	2"	2m	550W*4
68	HD-4SC12-100-180-1500-HV	1.5	2	12m³/h	100m	2"	2m	550W*5
69	HD-4SC12-150-280-2200-HV	2.2	3	12m³/h	150m	2"	2m	550W*7
70	HD-4SC12-175-300-3000-HV	3	4	12m³/h	175m	2"	2m	550W*8
71	HD-4SC14-125-280-2200-HV	2.2	3	14m³/h	125m	2"	2m	550W*7
72	HD-4SC14-150-300-3000-HV	3	4	14m³/h	150m	2"	2m	550W*8
73	HD-4SC15-45-48-750	0.75	1	15m³/h	45m	2"	2m	550W*2
74	HD-4SC15-45-72-750	0.75	1	15m³/h	45m	2"	2m	550W*3
75	HD-4SC15-60-110-1100	1.1	1.5	15m³/h	60m	2"	2m	550W*3
76	HD-4SC16-70-110-1500	1.5	2	16m³/h	70m	2"	2m	550W*4
77	HD-4SC16-70-180-1500-HV	1.5	2	16m³/h	70m	2"	2m	550W*5
78	HD-4SC18-95-280-2200-HV	2.2	3	18m³/h	95m	2"	2m	550W*7
79	HD-4SC18-112-300-3000-HV	3	4	18m³/h	112m	2"	2m	550W*8
80	HD-4SC20-48-110-1500	1.5	2	20m³/h	48m	2"	2m	550W*4
81	HD-4SC20-48-180-1500-HV	1.5	2	20m³/h	48m	2"	2m	550W*5
82	HD-4SC20-60-280-2200-HV	2.2	3	20m³/h	60m	2"	2m	550W*7
83	HD-4SC20-75-300-3000-HV	3	4	20m³/h	75m	2"	2m	550W*8
84	HD-4SC30-40-110-1500	1.5	2	30m³/h	40m	2"	2m	550W*4
85	HD-4SC30-40-180-1500-HV	1.5	2	30m³/h	40m	2"	2m	550W*5
86	HD-4SC30-50-280-2200-HV	2.2	3	30m³/h	50m	2"	2m	550W*7
87	HD-4SC30-60-300-3000-HV	3	4	30m³/h	60m	2"	2m	550W*8
88	HD-4SC36-45-280-2200-HV	2.2	3	36m³/h	45m	3"	2m	550W*7
89	HD-4SC41-52-300-3000-HV	3	4	41.0m³/h	52m	3"	2m	550W*8

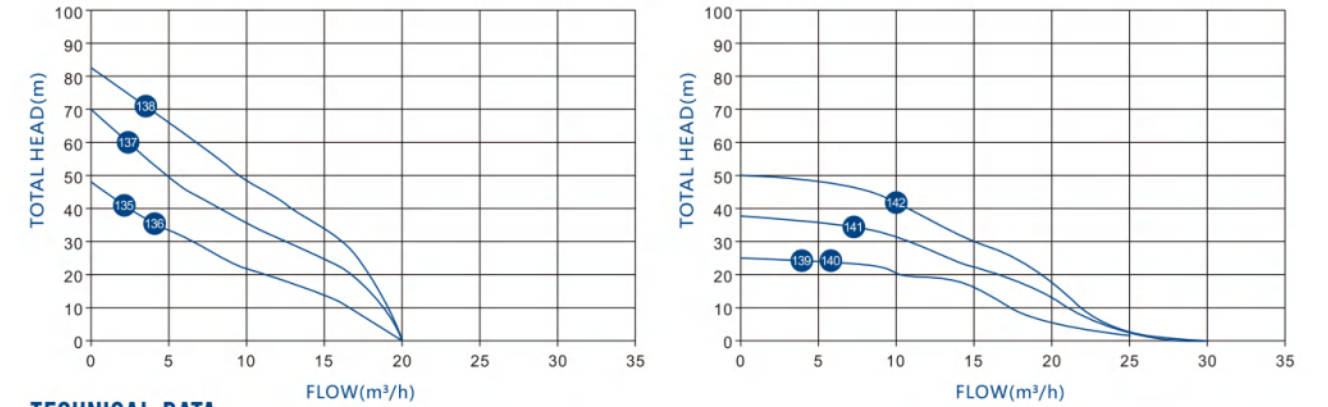




PERFORMANCE CURVES



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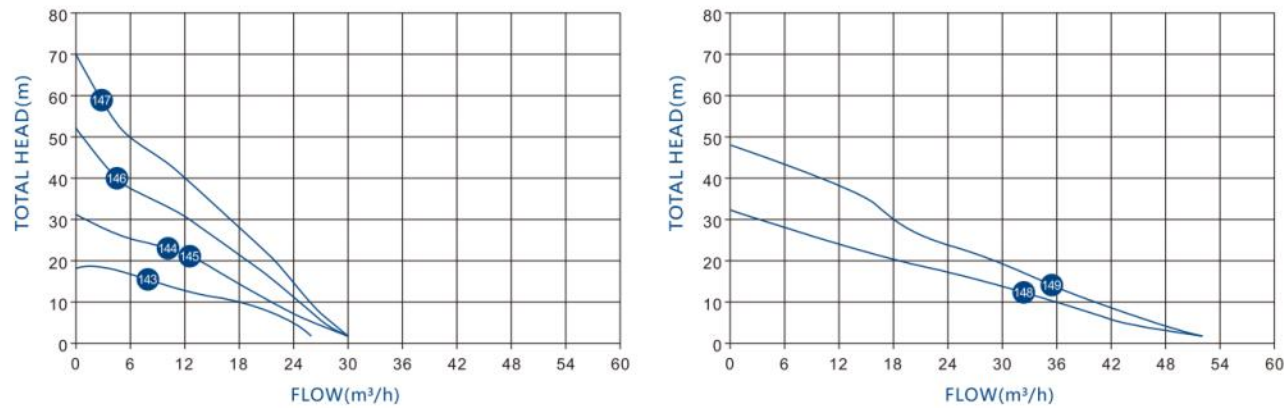


TECHNICAL DATA

NO.	Model	Power		Max. Flow	Max. Head	Outlet (Inch)	Cable	Solar Panels
		Kw	Hp					
104	HD-4SSC4-75-48-600	0.6	0.8	4.0m³/h	75m	1.25"	2m	550W*2
105	HD-4SSC4-115-48-750	0.75	1	4.0m³/h	115m	1.25"	2m	550W*2
106	HD-4SSC4-115-72-750	0.75	1	4.0m³/h	115m	1.25"	2m	550W*3
107	HD-4SSC4-145-110-1100	1.1	1.5	4.0m³/h	145m	1.25"	2m	550W*3
108	HD-4SSC4-205-110-1500	1.5	2	4.0m³/h	205m	1.25"	2m	550W*4
109	HD-4SSC4-205-180-1500-HV	1.5	2	4.0m³/h	205m	1.25"	2m	550W*5
110	HD-4SSC4-303-280-2200-HV	2.2	3	4.0m³/h	303m	1.25"	2m	550W*7
111	HD-4SSC6.5-45-48-500	0.5	0.7	6.5m³/h	45m	1.25"	2m	550W*2
112	HD-4SSC6.5-67-48-750	0.75	1	6.5m³/h	67m	1.25"	2m	550W*2
113	HD-4SSC6.5-67-72-750	0.75	1	6.5m³/h	67m	1.25"	2m	550W*3
114	HD-4SSC6.5-101-110-1100	1.1	1.5	6.5m³/h	101m	1.25"	2m	550W*3
115	HD-4SSC6.5-146-110-1300	1.3	1.75	6.5m³/h	146m	1.25"	2m	550W*3
116	HD-4SSC6-203-110-1500	1.5	2	6.0m³/h	203m	1.25"	2m	550W*4
117	HD-4SSC6-203-180-1500-HV	1.5	2	6.0m³/h	203m	1.25"	2m	550W*5
118	HD-4SSC6.5-255-280-2200-HV	2.2	3	6.5m³/h	255m	1.25"	2m	550W*7
119	HD-4SSC6.5-300-300-3000-HV	3	4	6.5m³/h	300m	1.25"	2m	550W*8
120	HD-4SSC9-48-48-750	0.75	1	9.0m³/h	48m	2"	2m	550W*2
121	HD-4SSC9-48-72-750	0.75	1	9.0m³/h	48m	2"	2m	550W*3
122	HD-4SSC9-70-110-1100	1.1	1.5	9.0m³/h	70m	2"	2m	550W*3
123	HD-4SSC9-90-110-1500	1.5	2	9.0m³/h	90m	2"	2m	550W*4
124	HD-4SSC9-90-180-1500-HV	1.5	2	9.0m³/h	90m	2"	2m	550W*5
125	HD-4SSC9-135-280-2200-HV	2.2	3	9.0m³/h	135m	2"	2m	550W*7
126	HD-4SSC9-220-300-3000-HV	3	4	9.0m³/h	220m	2"	2m	550W*8
127	HD-4SSC14.5-45-48-750	0.75	1	14.5m³/h	45m	2"	2m	550W*2
128	HD-4SSC14.5-45-72-750	0.75	1	14.5m³/h	45m	2"	2m	550W*3
129	HD-4SSC15-55-110-1100	1.1	1.5	15m³/h	55m	2"	2m	550W*3
130	HD-4SSC16-70-110-1500	1.5	2	16m³/h	70m	2"	2m	550W*4
131	HD-4SSC16-70-180-1500-HV	1.5	2	16m³/h	70m	2"	2m	550W*5
132	HD-4SSC18-95-280-2200-HV	2.2	3	18m³/h	95m	2"	2m	550W*7
133	HD-4SSC18-137-300-3000-HV	3	4	18m³/h	137m	2"	2m	550W*8
134	HD-4SSC19-35-110-1100	1.1	1.5	19m³/h	35m	2"	2m	550W*3
135	HD-4SSC20-48-110-1500	1.5	2	20m³/h	48m	2"	2m	550W*4
136	HD-4SSC20-48-180-1500-HV	1.5	2	20m³/h	48m	2"	2m	550W*5
137	HD-4SSC20-70-280-2200-HV	2.2	3	20m³/h	70m	2"	2m	550W*7
138	HD-4SSC20-82-300-3000-HV	3	4	20m³/h	82m	2"	2m	550W*8
139	HD-4SSC25-25-110-1500	1.5	2	25m³/h	25m	2"	2m	550W*4
140	HD-4SSC25-25-180-1500-HV	1.5	2	25m³/h	25m	2"	2m	550W*5
141	HD-4SSC30-38-280-2200-HV	2.2	3	30m³/h	38m	2"	2m	550W*7
142	HD-4SSC30-50-300-3000-HV	3	4	30m³/h	50m	2"	2m	550W*8



PERFORMANCE CURVES

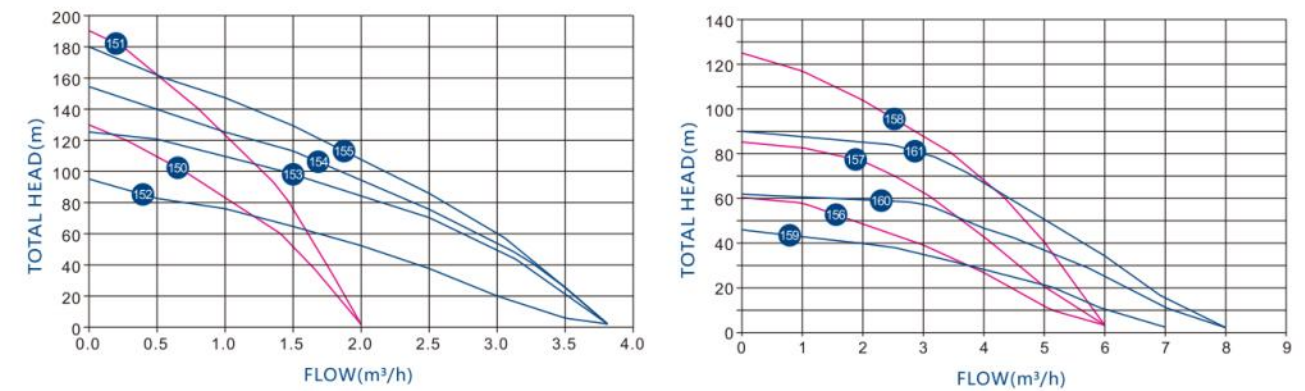


TECHNICAL DATA

NO.	Model	Power		Max. Flow	Max. Head	Outlet (Inch)	Cable	Solar Panels
		Kw	Hp					
143	HD-4/6SSC26-18-110-1100	1.1	1.5	26m³/h	18m	3"	2m	550W*3
144	HD-4/6SSC30-31-110-1500	1.5	2	30m³/h	31m	3"	2m	550W*4
145	HD-4/6SSC30-31-180-1500-HV	1.5	2	30m³/h	31m	3"	2m	550W*5
146	HD-4/6SSC30-52-280-2200-HV	2.2	3	30m³/h	52m	3"	2m	550W*7
147	HD-4/6SSC30-70-300-3000-HV	3	4	30m³/h	70m	3"	2m	550W*8
148	HD-4/6SSC52-32-280-2200-HV	2.2	3	52m³/h	32m	3"	2m	550W*7
149	HD-4/6SSC52-48-300-3000-HV	3	4	52m³/h	48m	3"	2m	550W*8



PERFORMANCE CURVES

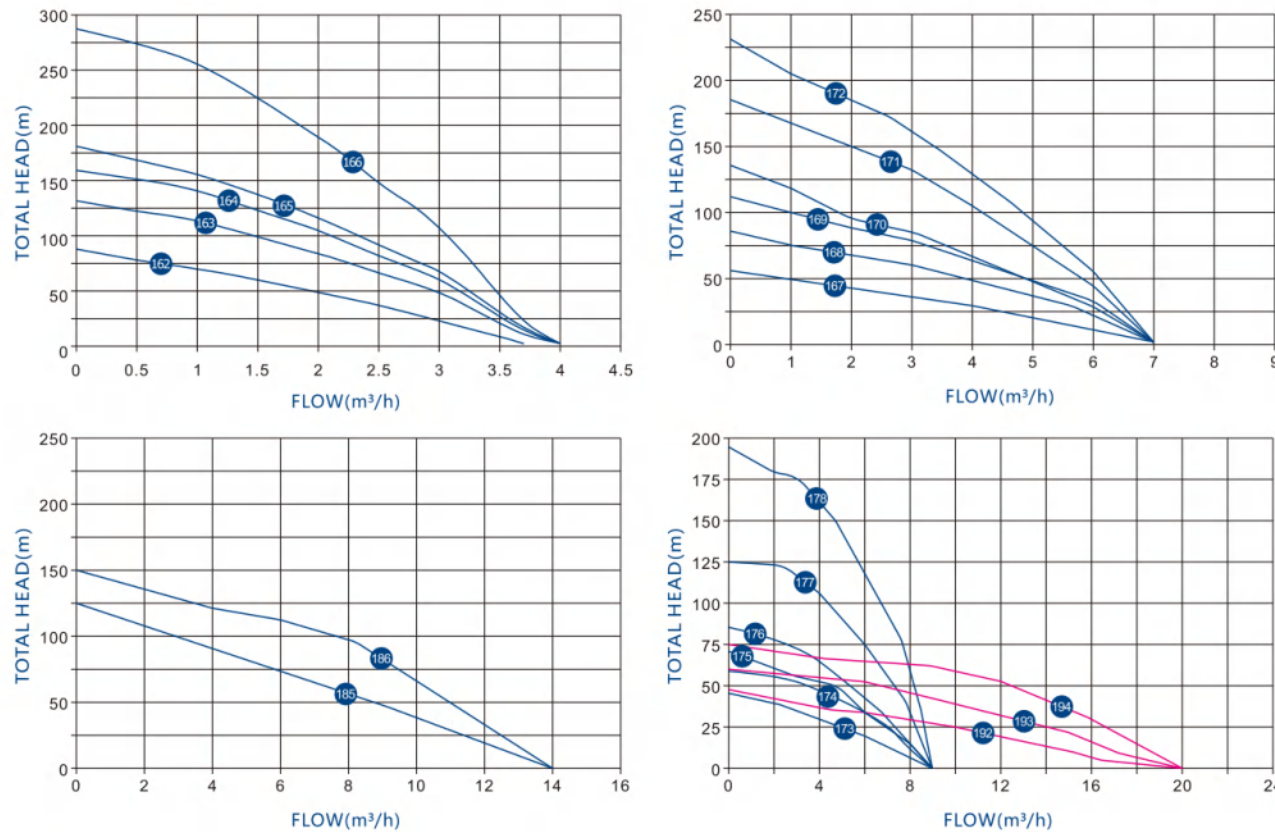


TECHNICAL DATA

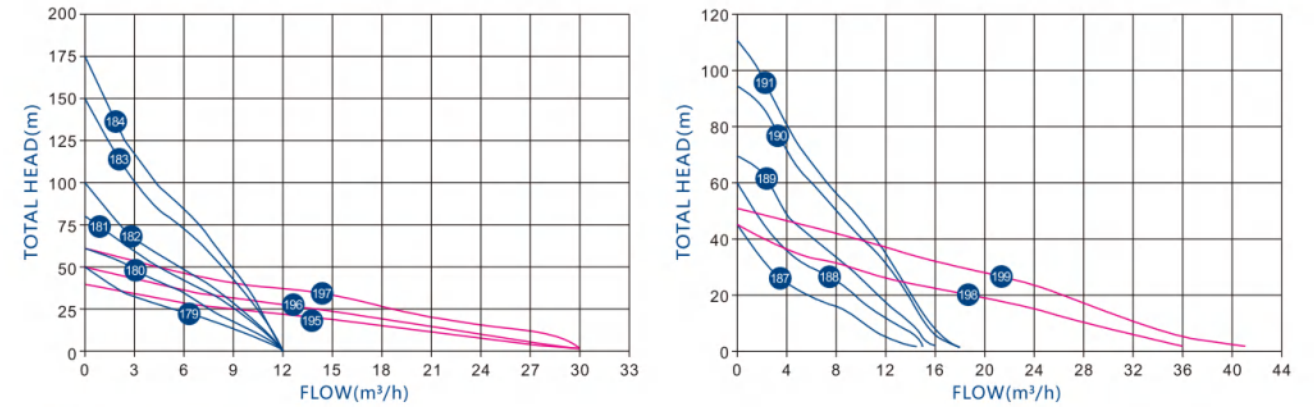
NO.	Model	Power		Max. Flow	Max. Head	Outlet (Inch)	Cable	Solar Panels
		Kw	Hp					
150	HD-3SC2-130-96-750-A/D	0.75	1	2.0m³/h	130m	1.25"	2m	550W*3
151	HD-3SC2-190-150-1100-A/D	1.1	1.5	2.0m³/h	190m	1.25"	2m	550W*4
152	HD-3SC3-8-95-96-750-A/D	0.75	1	3.8m³/h	95m	1.25"	2m	550W*3
153	HD-3SC3-8-125-150-1100-A/D	1.1	1.5	3.8m³/h	125m	1.25"	2m	550W*4
154	HD-3SC3-8-155-170-1300-A/D	1.3	1.75	3.8m³/h	155m	1.25"	2m	550W*5
155	HD-3SC3-8-180-180-1500-A/D	1.5	2	3.8m³/h	180m	1.25"	2m	550W*5
156	HD-3SC6-60-96-750-A/D	0.75	1	6.0m³/h	60m	1.25"/1.5"	2m	550W*3
157	HD-3SC6-85-150-1100-A/D	1.1	1.5	6.0m³/h	85m	1.25"/1.5"	2m	550W*4
158	HD-3SC6-125-180-1500-A/D	1.5	2	6.0m³/h	125m	1.25"/1.5"	2m	550W*5
159	HD-3SC7-46-96-750-A/D	0.75	1	7.0m³/h	46m	1.25"/1.5"	2m	550W*3
160	HD-3SC8-62-150-1100-A/D	1.1	1.5	8.0m³/h	62m	1.25"/1.5"	2m	550W*4
161	HD-3SC8-90-180-1500-A/D	1.5	2	8.0m³/h	90m	1.25"/1.5"	2m	550W*5



PERFORMANCE CURVES



PERFORMANCE CURVES

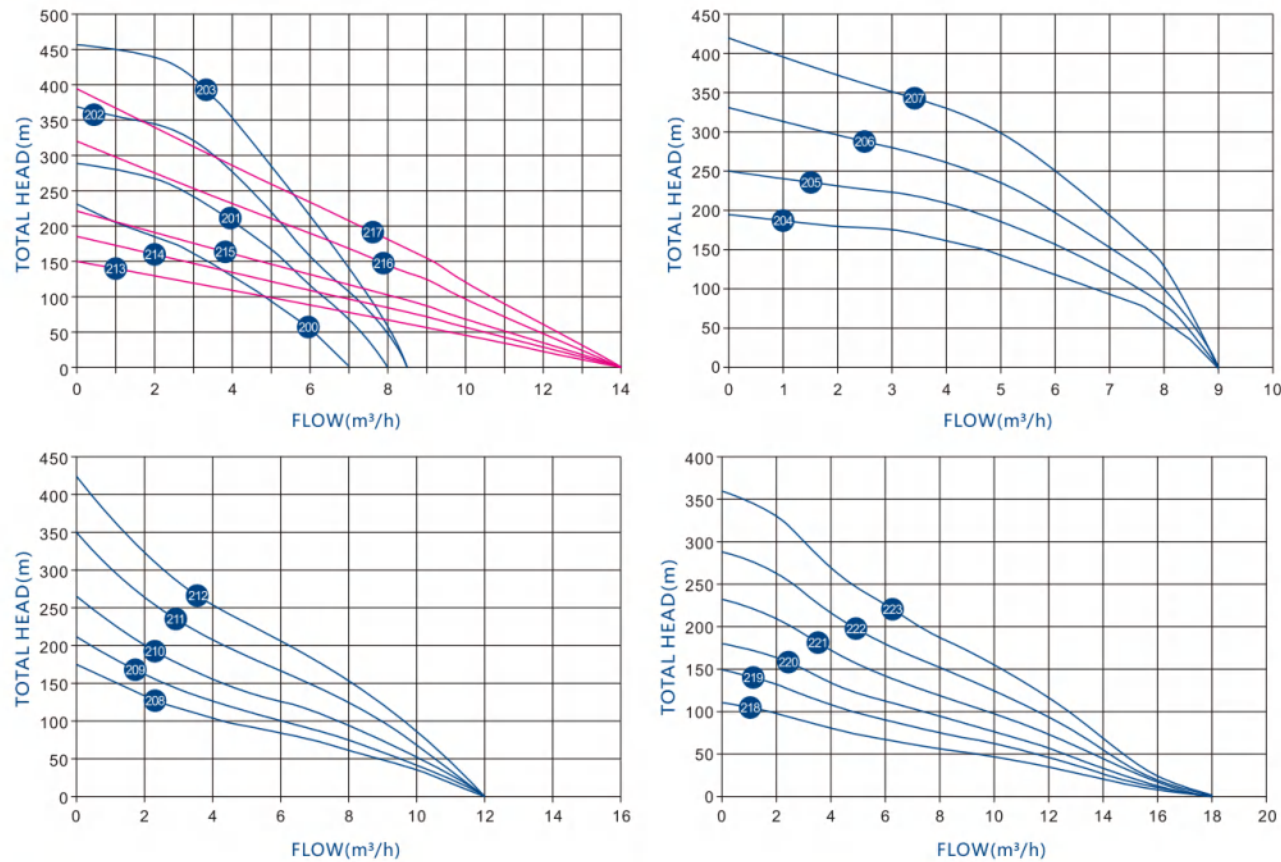


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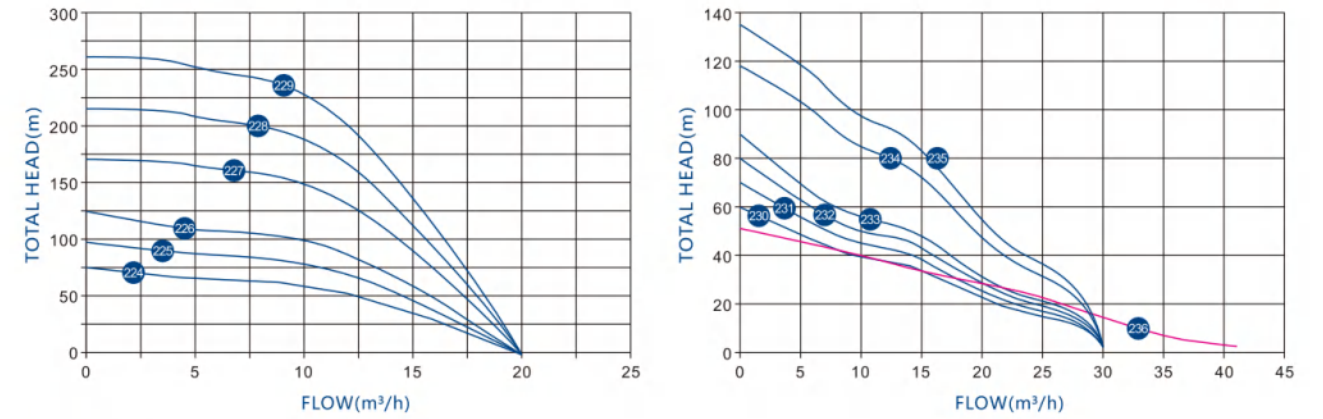
NO.	Model	Power		Max. Flow	Max. Head	Outlet (Inch)	Cable	Solar Panels
		Kw	Hp					
162	HD-4SC3.6-88-96-750-A/D	0.75	1	3.6m³/h	88m	1.25"	2m	550W*3
163	HD-4SC4-130-150-1100-A/D	1.1	1.5	4.0m³/h	130m	1.25"	2m	550W*4
164	HD-4SC4-160-170-1300-A/D	1.3	1.75	4.0m³/h	160m	1.25"	2m	550W*5
165	HD-4SC4-180-180-1500-A/D	1.5	2	4.0m³/h	180m	1.25"	2m	550W*5
166	HD-4SC4-288-280-2200-A/D	2.2	3	4.0m³/h	288m	1.25"	2m	550W*7
167	HD-4SC7-56-96-750-A/D	0.75	1	7.0m³/h	56m	1.25"/1.5"/2"	2m	550W*3
168	HD-4SC7-86-150-1100-A/D	1.1	1.5	7.0m³/h	86m	1.25"/1.5"/2"	2m	550W*4
169	HD-4SC7-112-170-1300-A/D	1.3	1.75	7.0m³/h	112m	1.25"/1.5"/2"	2m	550W*5
170	HD-4SC7-135-180-1500-A/D	1.5	2	7.0m³/h	135m	1.25"/1.5"/2"	2m	550W*5
171	HD-4SC7-185-280-2200-A/D	2.2	3	7.0m³/h	185m	1.25"/1.5"/2"	2m	550W*7
172	HD-4SC7-230-300-3000-A/D	3	4	7.0m³/h	230m	1.25"/1.5"/2"	2m	550W*8
173	HD-4SC9-45-96-750-A/D	0.75	1	9.0m³/h	45m	1.5"/2"	2m	550W*3
174	HD-4SC9-58-150-1100-A/D	1.1	1.5	9.0m³/h	58m	1.5"/2"	2m	550W*4
175	HD-4SC9-71-170-1300-A/D	1.3	1.75	9.0m³/h	71m	1.5"/2"	2m	550W*5
176	HD-4SC9-85-180-1500-A/D	1.5	2	9.0m³/h	85m	1.5"/2"	2m	550W*5
177	HD-4SC9-125-280-2200-A/D	2.2	3	9.0m³/h	125m	1.5"/2"	2m	550W*7
178	HD-4SC9-195-300-3000-A/D	3	4	9.0m³/h	195m	1.5"/2"	2m	550W*8
179	HD-4SC12-50-96-750-A/D	0.75	1	12m³/h	50m	2"	2m	550W*3
180	HD-4SC12-60-150-1100-A/D	1.1	1.5	12m³/h	60m	2"	2m	550W*4
181	HD-4SC12-80-170-1300-A/D	1.3	1.75	12m³/h	80m	2"	2m	550W*5
182	HD-4SC12-100-180-1500-A/D	1.5	2	12m³/h	100m	2"	2m	550W*5
183	HD-4SC12-150-280-2200-A/D	2.2	3	12m³/h	150m	2"	2m	550W*7
184	HD-4SC12-175-300-3000-A/D	3	4	12m³/h	175m	2"	2m	550W*8
185	HD-4SC14-125-280-2200-A/D	2.2	3	14m³/h	125m	2"	2m	550W*7
186	HD-4SC14-150-300-3000-A/D	3	4	14m³/h	150m	2"	2m	550W*8
187	HD-4SC15-45-96-750-A/D	0.75	1	15m³/h	45m	2"	2m	550W*3
188	HD-4SC15-60-150-1100-A/D	1.1	1.5	15m³/h	60m	2"	2m	550W*4
189	HD-4SC16-70-180-1500-A/D	1.5	2	16m³/h	70m	2"	2m	550W*5
190	HD-4SC18-95-280-2200-A/D	2.2	3	18m³/h	95m	2"	2m	550W*7
191	HD-4SC18-112-300-3000-A/D	3	4	18m³/h	112m	2"	2m	550W*8
192	HD-4SC20-48-180-1500-A/D	1.5	2	20m³/h	48m	2"	2m	550W*5
193	HD-4SC20-60-280-2200-A/D	2.2	3	20m³/h	60m	2"	2m	550W*7
194	HD-4SC20-75-300-3000-A/D	3	4	20m³/h	75m	2"	2m	550W*8
195	HD-4SC30-40-180-1500-A/D	1.5	2	30m³/h	40m	2"	2m	550W*5
196	HD-4SC30-50-280-2200-A/D	2.2	3	30m³/h	50m	2"	2m	550W*7
197	HD-4SC30-60-300-3000-A/D	3	4	30m³/h	60m	2"	2m	550W*8
198	HD-4SC36-45-280-2200-A/D	2.2	3	36m³/h	45m	3"	2m	550W*7
199	HD-4SC41-52-300-3000-A/D	3	4	41m³/h	52m	3"	2m	550W*8



PERFORMANCE CURVES



PERFORMANCE CURVES

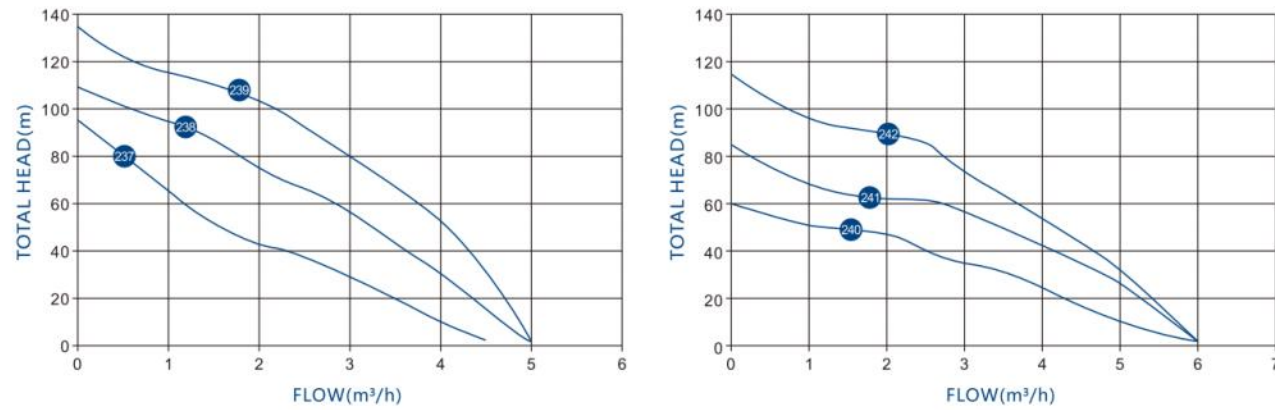


TECHNICAL DATA

NO.	Model	Power		Max. Flow	Max. Head	Outlet (inch)	Cable	Solar Panels
		Kw	HP					
200	HD-4SC7-230-530-3000-A/D	3	4	7.0m³/h	230m	1.25"/1.5"/2"	2m	550W*12
201	HD-4SC8-290-530-4000-A/D	4	5.5	8.0m³/h	290m	1.25"/1.5"/2"	2m	550W*12
202	HD-4SC8.5-370-530-5500-A/D	5.5	7.5	8.5m³/h	370m	1.25"/1.5"/2"	2m	550W*13
203	HD-4SC8.5-456-530-7500-A/D	7.5	10	8.5m³/h	456m	1.25"/1.5"/2"	2m	550W*13*2
204	HD-4SC9-195-530-3000-A/D	3	4	9.0m³/h	195m	1.5"/2"	2m	550W*12
205	HD-4SC9-250-530-4000-A/D	4	5.5	9.0m³/h	250m	1.5"/2"	2m	550W*12
206	HD-4SC9-330-530-5500-A/D	5.5	7.5	9.0m³/h	330m	1.5"/2"	2m	550W*13
207	HD-4SC9-420-530-7500-A/D	7.5	10	9.0m³/h	420m	1.5"/2"	2m	550W*13*2
208	HD-4SC12-175-530-3000-A/D	3	4	12m³/h	175m	2"	2m	550W*12
209	HD-4SC12-213-530-4000-A/D	4	5.5	12m³/h	213m	2"	2m	550W*12
210	HD-4SC12-265-530-5500-A/D	5.5	7.5	12m³/h	265m	2"	2m	550W*13
211	HD-4SC12-350-530-7500-A/D	7.5	10	12m³/h	350m	2"	2m	550W*13*2
212	HD-4SC12-425-530-9200-A/D	9.2	12.5	12m³/h	425m	2"	2m	550W*13*2
213	HD-4SC14-150-530-3000-A/D	3	4	14m³/h	150m	2"	2m	550W*12
214	HD-4SC14-185-530-4000-A/D	4	5.5	14m³/h	185m	2"	2m	550W*12
215	HD-4SC14-220-530-5500-A/D	5.5	7.5	14m³/h	220m	2"	2m	550W*13
216	HD-4SC14-320-530-7500-A/D	7.5	10	14m³/h	320m	2"	2m	550W*13*2
217	HD-4SC14-394-530-9200-A/D	9.2	12.5	14m³/h	394m	2"	2m	550W*13*2
218	HD-4SC18-112-530-3000-A/D	3	4	18m³/h	112m	2"	2m	550W*12
219	HD-4SC18-150-530-4000-A/D	4	5.5	18m³/h	150m	2"	2m	550W*12
220	HD-4SC18-180-530-5500-A/D	5.5	7.5	18m³/h	180m	2"	2m	550W*13
221	HD-4SC18-232-530-7500-A/D	7.5	10	18m³/h	232m	2"	2m	550W*13*2
222	HD-4SC18-288-530-9200-A/D	9.2	12.5	18m³/h	288m	2"	2m	550W*13*2
223	HD-4SC18-360-530-11000-A/D	11	15	18m³/h	360m	2"	2m	550W*15*2
224	HD-4SC20-75-530-3000-A/D	3	4	20m³/h	75m	2"	2m	550W*12
225	HD-4SC20-98-530-4000-A/D	4	5.5	20m³/h	98m	2"	2m	550W*12
226	HD-4SC20-125-530-5500-A/D	5.5	7.5	20m³/h	125m	2"	2m	550W*13
227	HD-4SC20-170-530-7500-A/D	7.5	10	20m³/h	170m	2"	2m	550W*13*2
228	HD-4SC20-215-530-9200-A/D	9.2	12.5	20m³/h	215m	2"	2m	550W*13*2
229	HD-4SC20-261-530-11000-A/D	11	15	20m³/h	261m	2"	2m	550W*15*2
230	HD-4SC30-60-530-3000-A/D	3	4	30m³/h	60m	2"	2m	550W*12
231	HD-4SC30-70-530-4000-A/D	4	5.5	30m³/h	70m	2"	2m	550W*12
232	HD-4SC30-80-530-5500-A/D	5.5	7.5	30m³/h	80m	2"	2m	550W*13
233	HD-4SC30-90-530-7500-A/D	7.5	10	30m³/h	90m	2"	2m	550W*13*2
234	HD-4SC30-118-530-9200-A/D	9.2	12.5	30m³/h	118m	2"	2m	550W*13*2
235	HD-4SC30-135-530-11000-A/D	11	15	30m³/h	135m	2"	2m	550W*15*2
236	HD-4SC41-52-530-3000-A/D	3	4	41m³/h	52m	3"	2m	550W*12



PERFORMANCE CURVES

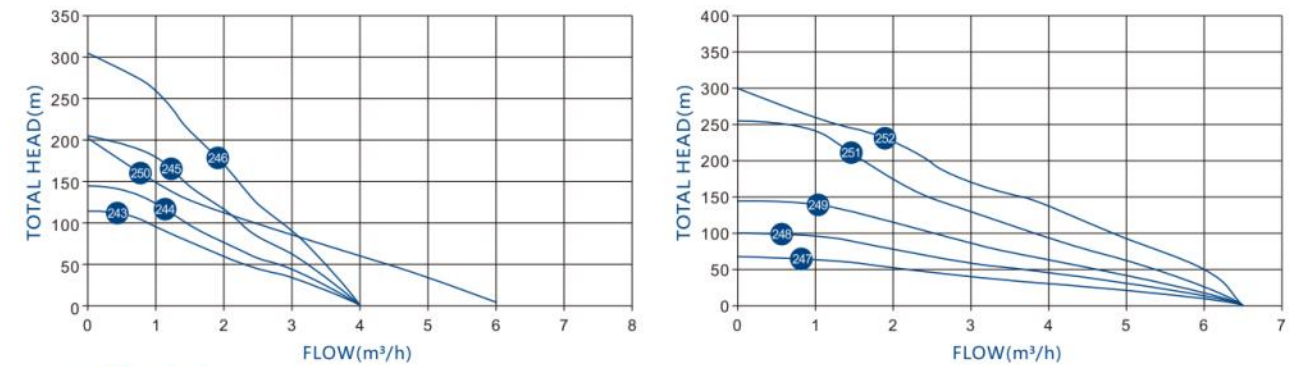


TECHNICAL DATA

NO.	Model	Power		Max. Flow	Max. Head	Outlet (Inch)	Cable	Solar Panels
		Kw	Hp					
237	HD-3SSC4.5-95-96-750-A/D	0.75	1	4.5m³/h	95m	1.25"	2m	550W*3
238	HD-3SSC5-110-150-1100-A/D	1.1	1.5	5.0m³/h	110m	1.25"	2m	550W*4
239	HD-3SSC5-135-180-1500-A/D	1.5	2	5.0m³/h	135m	1.25"	2m	550W*5
240	HD-3SSC6-60-96-750-A/D	0.75	1	6.0m³/h	60m	1.25"	2m	550W*3
241	HD-3SSC6-85-150-1100-A/D	1.1	1.5	6.0m³/h	85m	1.25"	2m	550W*4
242	HD-3SSC6-115-180-1500-A/D	1.5	2	6.0m³/h	115m	1.25"	2m	550W*5



PERFORMANCE CURVES

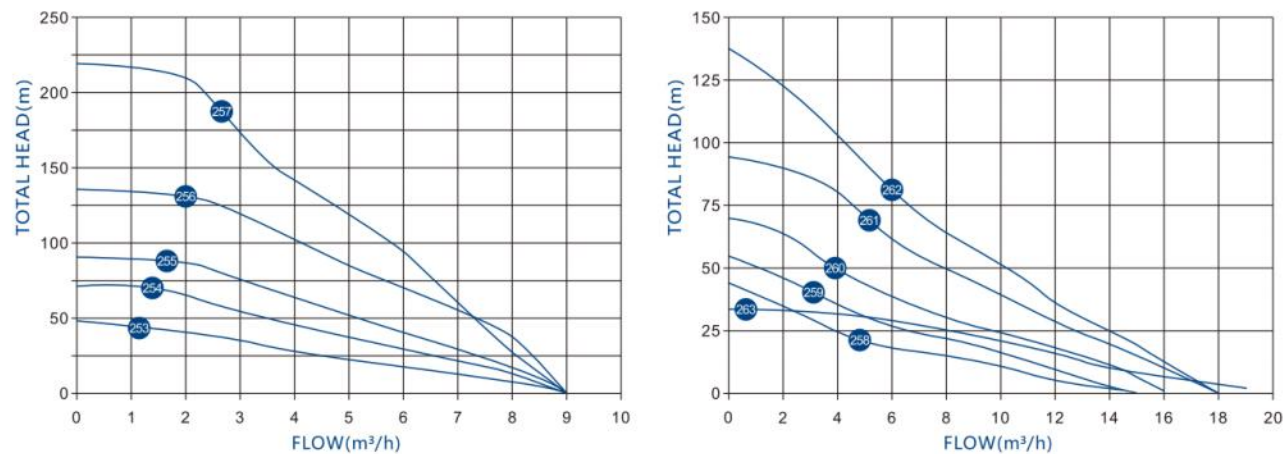


TECHNICAL DATA

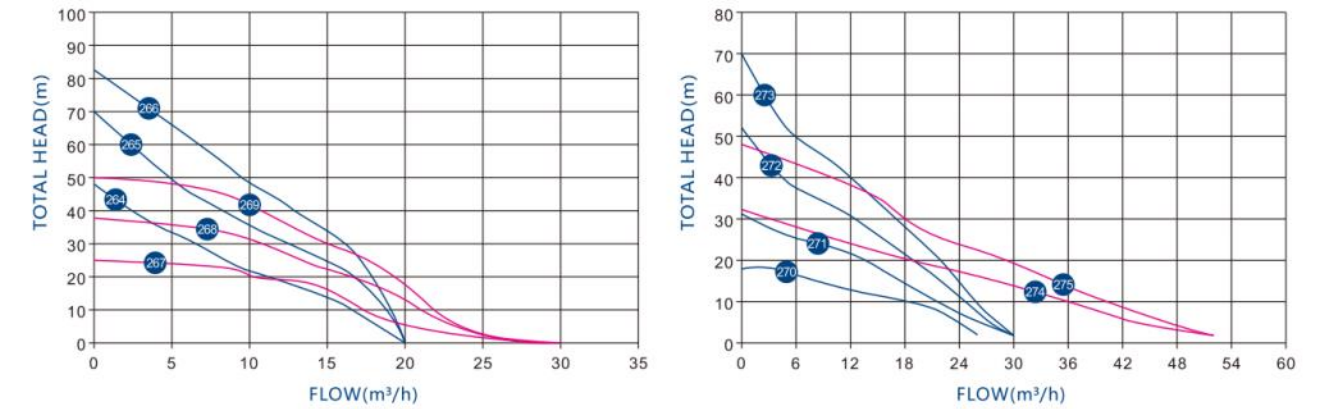
NO.	Model	Power		Max. Flow	Max. Head	Outlet (Inch)	Cable	Solar Panels
		Kw	Hp					
243	HD-4SSC4-115-96-750-A/D	0.75	1	4.0m³/h	115m	1.25"	2m	550W*3
244	HD-4SSC4-145-150-1100-A/D	1.1	1.5	4.0m³/h	145m	1.25"	2m	550W*4
245	HD-4SSC4-205-180-1500-A/D	1.5	2	4.0m³/h	205m	1.25"	2m	550W*5
246	HD-4SSC4-303-280-2200-A/D	2.2	3	4.0m³/h	303m	1.25"	2m	550W*7
247	HD-4SSC6.5-67-96-750-A/D	0.75	1	6.5m³/h	67m	1.25"	2m	550W*3
248	HD-4SSC6.5-101-150-1100-A/D	1.1	1.5	6.5m³/h	101m	1.25"	2m	550W*4
249	HD-4SSC6.5-146-170-1300-A/D	1.3	1.75	6.5m³/h	146m	1.25"	2m	550W*5
250	HD-4SSC6-203-180-1500-A/D	1.5	2	6.0m³/h	203m	1.25"	2m	550W*5
251	HD-4SSC6.5-255-280-2200-A/D	2.2	3	6.5m³/h	255m	1.25"	2m	550W*7
252	HD-4SSC6.5-300-300-3000-A/D	3	4	6.5m³/h	300m	1.25"	2m	550W*8



PERFORMANCE CURVES



PERFORMANCE CURVES

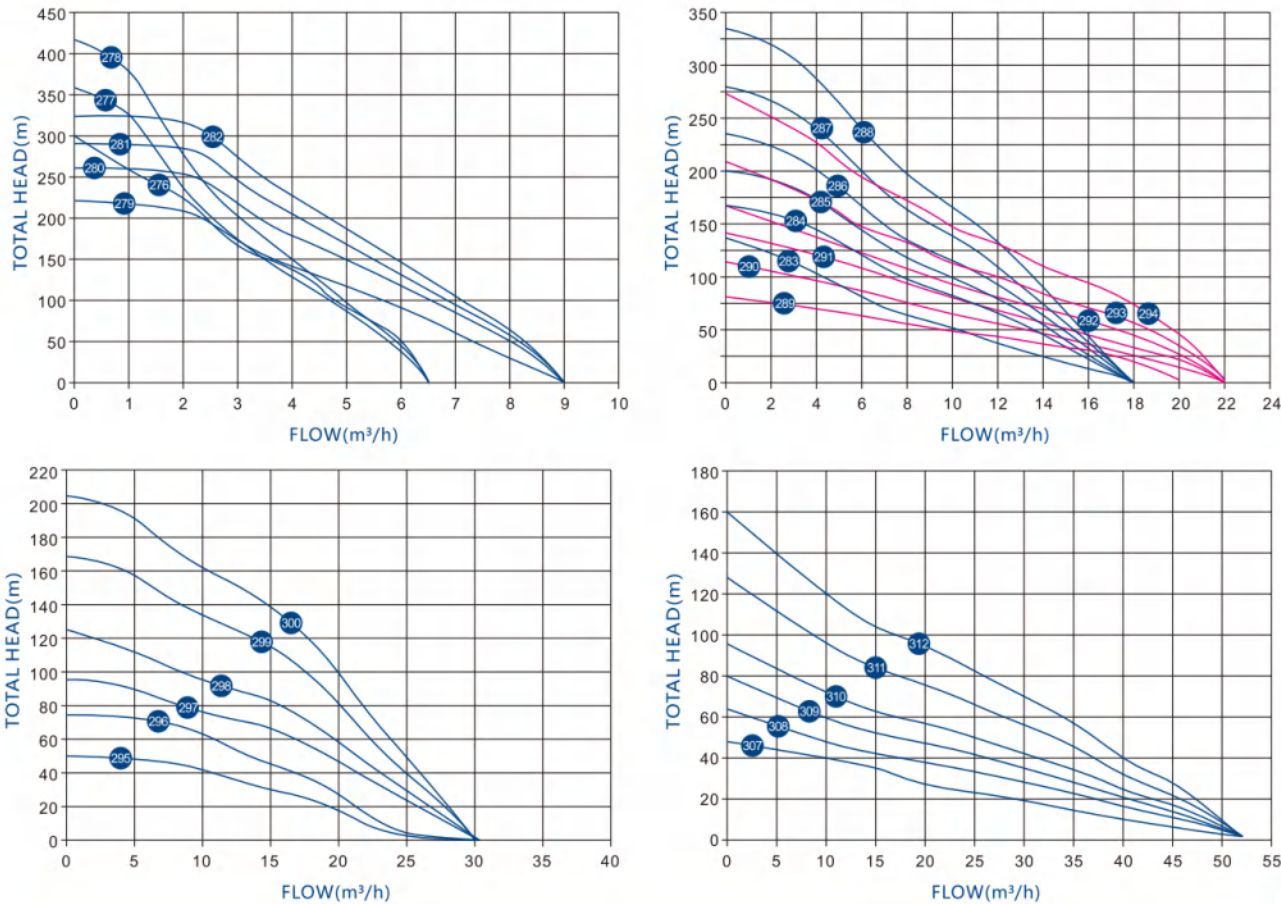


TECHNICAL DATA

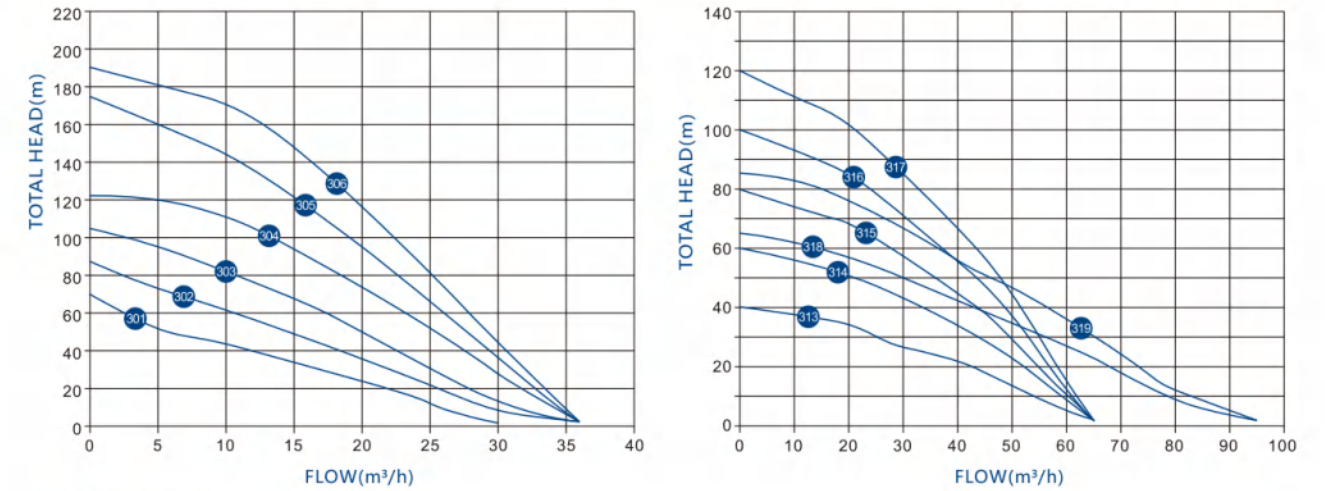
NO.	Model	Power		Max. Flow	Max. Head	Outlet (Inch)	Cable	Solar Panels
		Kw	Hp					
253	HD-4SSC9-48-96-750-A/D	0.75	1	9.0m³/h	48m	2"	2m	550W*3
254	HD-4SSC9-70-150-1100-A/D	1.1	1.5	9.0m³/h	70m	2"	2m	550W*4
255	HD-4SSC9-90-180-1500-A/D	1.5	2	9.0m³/h	90m	2"	2m	550W*5
256	HD-4SSC9-135-280-2200-A/D	2.2	3	9.0m³/h	135m	2"	2m	550W*7
257	HD-4SSC9-220-300-3000-A/D	3	4	9.0m³/h	220m	2"	2m	550W*8
258	HD-4SSC14.5-45-96-750-A/D	0.75	1	14.5m³/h	45m	2"	2m	550W*3
259	HD-4SSC15-55-150-1100-A/D	1.1	1.5	15m³/h	55m	2"	2m	550W*4
260	HD-4SSC16-70-180-1500-A/D	1.5	2	16m³/h	70m	2"	2m	550W*5
261	HD-4SSC18-95-280-2200-A/D	2.2	3	18m³/h	95m	2"	2m	550W*7
262	HD-4SSC18-137-300-3000-A/D	3	4	18m³/h	137m	2"	2m	550W*8
263	HD-4SSC19-35-150-1100-A/D	1.1	1.5	19m³/h	35m	2"	2m	550W*4
264	HD-4SSC20-48-180-1500-A/D	1.5	2	20m³/h	48m	2"	2m	550W*5
265	HD-4SSC20-70-280-2200-A/D	2.2	3	20m³/h	70m	2"	2m	550W*7
266	HD-4SSC20-82-300-3000-A/D	3	4	20m³/h	82m	2"	2m	550W*8
267	HD-4SSC25-25-180-1500-A/D	1.5	2	25m³/h	25m	2"	2m	550W*5
268	HD-4SSC30-38-280-2200-A/D	2.2	3	30m³/h	38m	2"	2m	550W*7
269	HD-4SSC30-50-300-3000-A/D	3	4	30m³/h	50m	2"	2m	550W*8
270	HD-4/6SSC26-18-150-1100-A/D	1.1	1.5	26m³/h	18m	3"	2m	550W*4
271	HD-4/6SSC30-31-180-1500-A/D	1.5	2	30m³/h	31m	3"	2m	550W*5
272	HD-4/6SSC30-52-280-2200-A/D	2.2	3	30m³/h	52m	3"	2m	550W*7
273	HD-4/6SSC30-70-300-3000-A/D	3	4	30m³/h	70m	3"	2m	550W*8
274	HD-4/6SSC52-32-280-2200-A/D	2.2	3	52m³/h	32m	3"	2m	550W*7
275	HD-4/6SSC52-48-300-3000-A/D	3	4	52m³/h	48m	3"	2m	550W*8



PERFORMANCE CURVES



PERFORMANCE CURVES

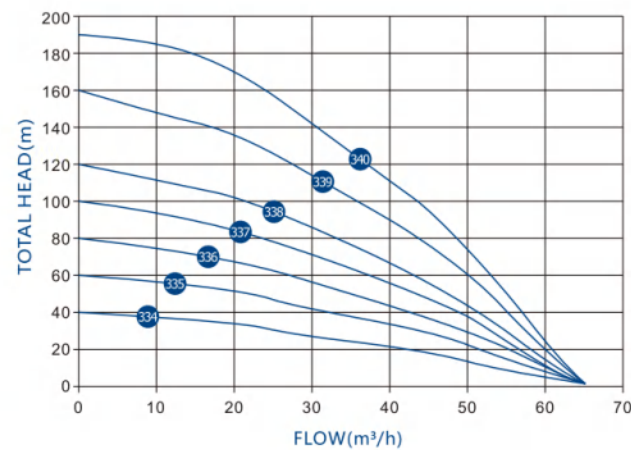
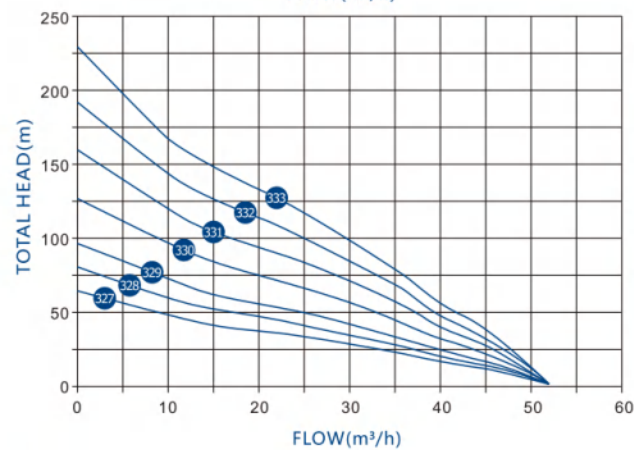
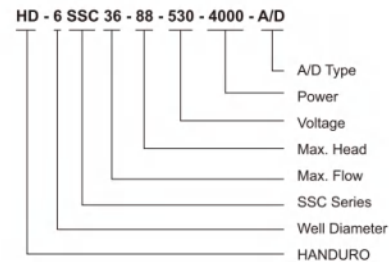
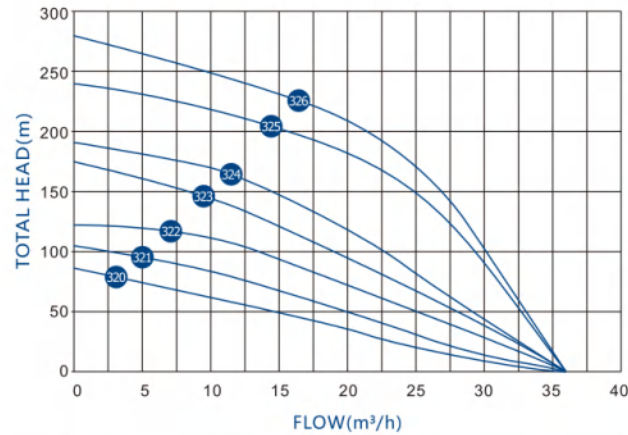


TECHNICAL DATA

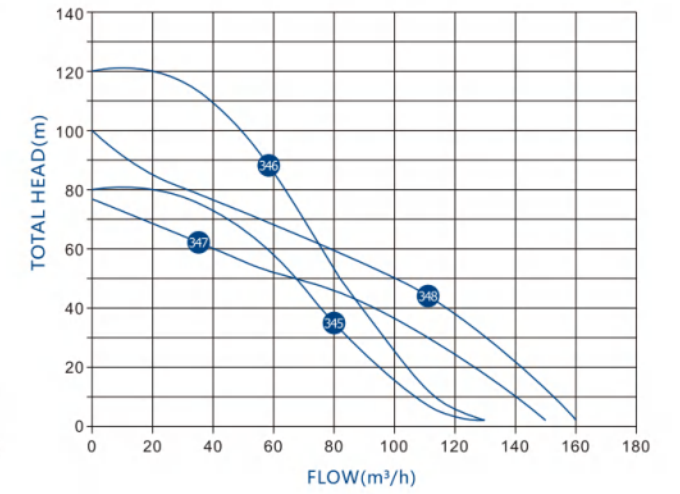
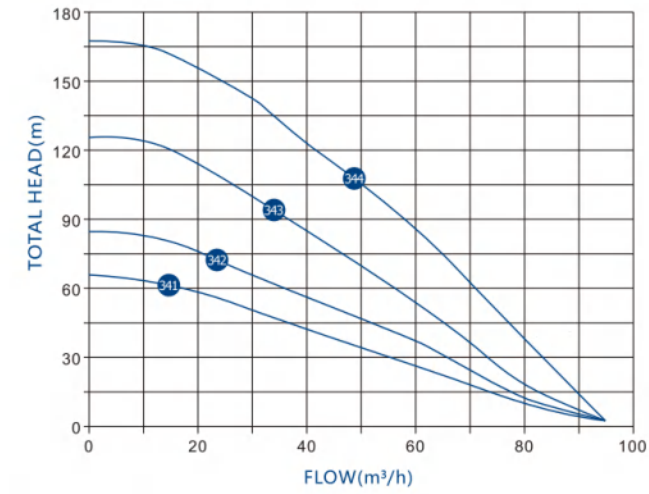
NO.	Model	Power		Max. Flow	Max. Head	Outlet (inch)	Cable	Solar Panels
		Kw	HP					
276	HD-4SSC6.5-300-530-3000-A/D	3	4	6.5m³/h	300m	1.25"	2m	550W*12
277	HD-4SSC6.5-360-530-4000-A/D	4	5.5	6.5m³/h	360m	1.25"	2m	550W*12
278	HD-4SSC6.5-420-530-5500-A/D	5.5	7.5	6.5m³/h	420m	1.25"	2m	550W*13
279	HD-4SSC9-220-530-3000-A/D	3	4	9.0m³/h	220m	2"	2m	550W*12
280	HD-4SSC9-260-530-4000-A/D	4	5.5	9.0m³/h	260m	2"	2m	550W*12
281	HD-4SSC9-295-530-5500-A/D	5.5	7.5	9.0m³/h	295m	2"	2m	550W*13
282	HD-4SSC9-325-530-7500-A/D	7.5	10	9.0m³/h	325m	2"	2m	550W*13*2
283	HD-4SSC18-137-530-3000-A/D	3	4	18m³/h	137m	2"	2m	550W*12
284	HD-4SSC18-168-530-4000-A/D	4	5.5	18m³/h	168m	2"	2m	550W*12
285	HD-4SSC18-200-530-5500-A/D	5.5	7.5	18m³/h	200m	2"	2m	550W*13
286	HD-4SSC18-235-530-7500-A/D	7.5	10	18m³/h	235m	2"	2m	550W*13*2
287	HD-4SSC18-280-530-9200-A/D	9.2	12.5	18m³/h	280m	2"	2m	550W*13*2
288	HD-4SSC18-335-530-11000-A/D	11	15	18m³/h	335m	2"	2m	550W*15*2
289	HD-4SSC20-82-530-3000-A/D	3	4	20m³/h	82m	2"	2m	550W*12
290	HD-4SSC22-115-530-4000-A/D	4	5.5	22m³/h	115m	2"	2m	550W*12
291	HD-4SSC22-143-530-5500-A/D	5.5	7.5	22m³/h	143m	2"	2m	550W*13
292	HD-4SSC22-169-530-7500-A/D	7.5	10	22m³/h	169m	2"	2m	550W*13*2
293	HD-4SSC22-208-530-9200-A/D	9.2	12.5	22m³/h	208m	2"	2m	550W*13*2
294	HD-4SSC22-273-530-11000-A/D	11	15	22m³/h	273m	2"	2m	550W*15*2
295	HD-4SSC30-50-530-3000-A/D	3	4	30m³/h	50m	2"	2m	550W*12
296	HD-4SSC30-75-530-4000-A/D	4	5.5	30m³/h	75m	2"	2m	550W*12
297	HD-4SSC30-96-530-5500-A/D	5.5	7.5	30m³/h	96m	2"	2m	550W*13
298	HD-4SSC30-125-530-7500-A/D	7.5	10	30m³/h	125m	2"	2m	550W*13*2
299	HD-4SSC30-168-530-9200-A/D	9.2	12.5	30m³/h	168m	2"	2m	550W*13*2
300	HD-4SSC30-204-530-11000-A/D	11	15	30m³/h	204m	2"	2m	550W*15*2
301	HD-4/6SSC30-70-530-3000-A/D	3	4	30m³/h	70m	3"	2m	550W*12
302	HD-4/6SSC36-88-530-4000-A/D	4	5.5	36m³/h	88m	3"	2m	550W*12
303	HD-4/6SSC36-105-530-5500-A/D	5.5	7.5	36m³/h	105m	3"	2m	550W*13
304	HD-4/6SSC36-122-530-7500-A/D	7.5	10	36m³/h	122m	3"	2m	550W*13*2
305	HD-4/6SSC36-175-530-9200-A/D	9.2	12.5	36m³/h	175m	3"	2m	550W*13*2
306	HD-4/6SSC36-190-530-11000-A/D	11	15	36m³/h	190m	3"	2m	550W*15*2
307	HD-4/6SSC52-48-530-3000-A/D	3	4	52m³/h	48m	3"	2m	550W*12
308	HD-4/6SSC52-64-530-4000-A/D	4	5.5	52m³/h	64m	3"	2m	550W*12
309	HD-4/6SSC52-80-530-5500-A/D	5.5	7.5	52m³/h	80m	3"	2m	550W*13
310	HD-4/6SSC52-96-530-7500-A/D	7.5	10	52m³/h	96m	3"	2m	550W*13*2
311	HD-4/6SSC52-128-530-9200-A/D	9.2	12.5	52m³/h	128m	3"	2m	550W*13*2
312	HD-4/6SSC52-160-530-11000-A/D	11	15	52m³/h	160m	3"	2m	550W*15*2
313	HD-4/6SSC65-40-530-4000-A/D	4	5	65m³/h	40m	3"	2m	550W*12
314	HD-4/6SSC65-60-530-5500-A/D	5.5	7.5	65m³/h	60m	3"	2m	550W*13
315	HD-4/6SSC65-80-530-7500-A/D	7.5	10	65m³/h	80m	3"	2m	550W*13*2
316	HD-4/6SSC65-100-530-9200-A/D	9.2	12.5	65m³/h	100m	3"	2m	550W*13*2
317	HD-4/6SSC65-120-530-11000-A/D	11	15	65m³/h	120m	3"	2m	550W*15*2
318	HD-4/6SSC95-65-530-7500-A/D	7.5	10	95m³/h	65m	4"	2m	550W*13*2
319	HD-4/6SSC95-85-530-11000-A/D	11	15	95m³/h	85m	4"	2m	550W*15*2



PERFORMANCE CURVES

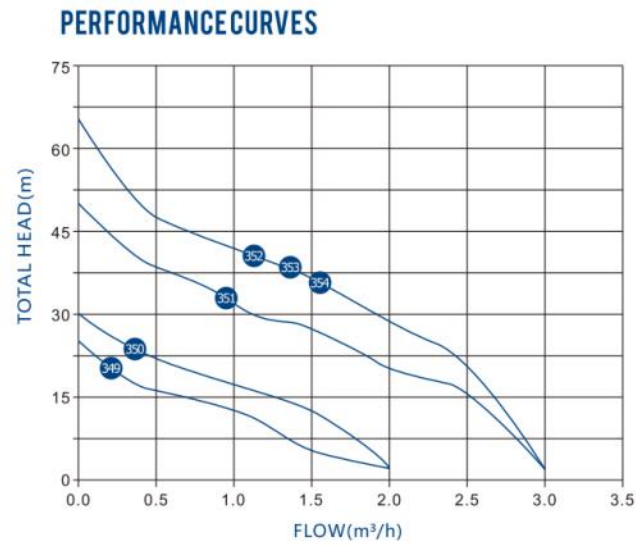


PERFORMANCE CURVES



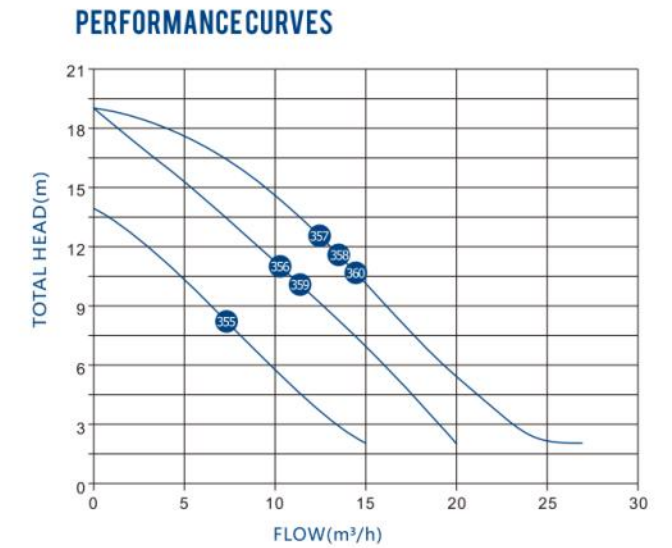
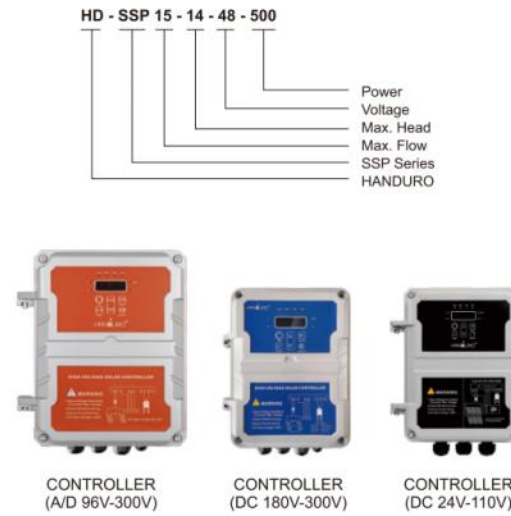
TECHNICAL DATA

NO.	Model	Power		Max. Flow	Max. Head	Outlet (inch)	Cable	Solar Panels
		Kw	HP					
320	HD-6SSC36-88-530-4000-A/D	4	5.5	36m³/h	88m	3"	2m	550W*12
321	HD-6SSC36-105-530-5500-A/D	5.5	7.5	36m³/h	105m	3"	2m	550W*13
322	HD-6SSC36-122-530-7500-A/D	7.5	10	36m³/h	122m	3"	2m	550W*13*2
323	HD-6SSC36-175-530-9200-A/D	9.2	12.5	36m³/h	175m	3"	2m	550W*13*2
324	HD-6SSC36-190-530-11000-A/D	11	15	36m³/h	190m	3"	2m	550W*15*2
325	HD-6SSC36-240-530-15000-A/D	15	20	36m³/h	240m	3"	2m	550W*13*3
326	HD-6SSC36-280-530-22000-A/D	22	30	36m³/h	280m	3"	2m	550W*13*4
327	HD-6SSC52-64-530-4000-A/D	4	5.5	52m³/h	64m	3"	2m	550W*12
328	HD-6SSC52-80-530-5500-A/D	5.5	7.5	52m³/h	80m	3"	2m	550W*13
329	HD-6SSC52-96-530-7500-A/D	7.5	10	52m³/h	96m	3"	2m	550W*13*2
330	HD-6SSC52-128-530-9200-A/D	9.2	12.5	52m³/h	128m	3"	2m	550W*13*2
331	HD-6SSC52-160-530-11000-A/D	11	15	52m³/h	160m	3"	2m	550W*15*2
332	HD-6SSC52-192-530-15000-A/D	15	20	52m³/h	192m	3"	2m	550W*13*3
333	HD-6SSC52-230-530-22000-A/D	22	30	52m³/h	230m	3"	2m	550W*13*4
334	HD-6SSC65-40-530-4000-A/D	4	5.5	65m³/h	40m	3"	2m	550W*12
335	HD-6SSC65-60-530-5500-A/D	5.5	7.5	65m³/h	60m	3"	2m	550W*13
336	HD-6SSC65-80-530-7500-A/D	7.5	10	65m³/h	80m	3"	2m	550W*13*2
337	HD-6SSC65-100-530-9200-A/D	9.2	12.5	65m³/h	100m	3"	2m	550W*13*2
338	HD-6SSC65-120-530-11000-A/D	11	15	65m³/h	120m	3"	2m	550W*15*2
339	HD-6SSC65-160-530-15000-A/D	15	20	65m³/h	160m	3"	2m	550W*13*3
340	HD-6SSC65-190-530-22000-A/D	22	30	65m³/h	190m	3"	2m	550W*13*4
341	HD-6SSC95-65-530-7500-A/D	7.5	10	95m³/h	65m	4"	2m	550W*13*2
342	HD-6SSC95-85-530-11000-A/D	11	15	95m³/h	85m	4"	2m	550W*15*2
343	HD-6SSC95-125-530-15000-A/D	15	20	95m³/h	125m	4"	2m	550W*13*3
344	HD-6SSC95-166-530-22000-A/D	22	30	95m³/h	166m	4"	2m	550W*13*4
345	HD-6SSC130-80-530-15000-A/D	15	20	130m³/h	80m	4"	2m	550W*13*3
346	HD-6SSC130-120-530-22000-A/D	22	30	130m³/h	120m	4"	2m	550W*13*4
347	HD-8SSC150-77-530-15000-A/D	15	20	150m³/h	77m	5"	2m	550W*13*3
348	HD-8SSC160-100-530-22000-A/D	22	30	160m³/h	100m	5"	2m	550W*13*4



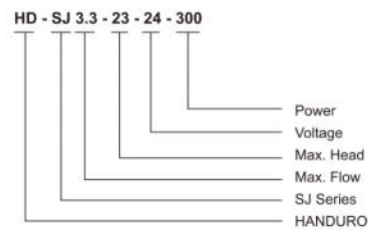
TECHNICAL DATA

NO.	Model	Power		Max. Flow	Max. Head	Outlet (inch)	Cable	Solar Panels
		Kw	Hp					
349	HD-SQB2-25-24-210	0.21	0.28	2.0m³/h	25m	1"	2m	550W*1
350	HD-SQB2-30-24-280	0.28	0.38	2.0m³/h	30m	1"	2m	550W*1
351	HD-SQB3-50-48-550	0.55	0.75	3.0m³/h	50m	1"	2m	550W*2
352	HD-SQB3-65-48-750	0.75	1	3.0m³/h	65m	1"	2m	550W*2
353	HD-SQB3-65-72-750	0.75	1	3.0m³/h	65m	1"	2m	550W*3
354	HD-SQB3-65-96-750-A/D	0.75	1	3.0m³/h	65m	1"	2m	550W*3



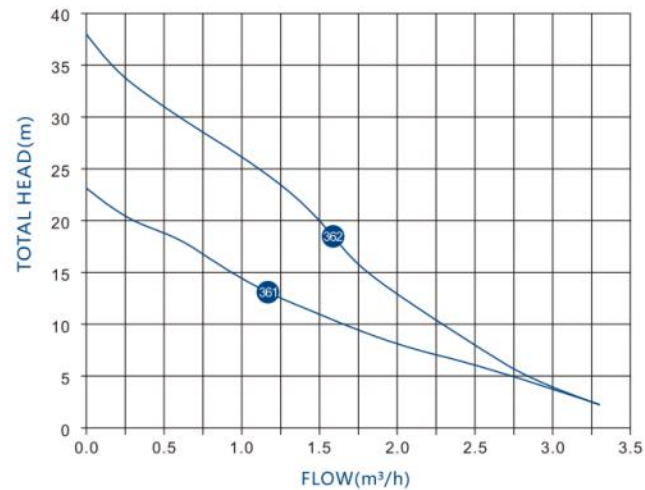
TECHNICAL DATA

NO.	Model	Power		Max. Flow	Max. Head	Outlet (mm)	Cable	Solar Panels
		Kw	Hp					
355	HD-SSP15-14-48-500	0.5	0.7	15m³/h	14m	48*48/50*50	2m	550W*2
356	HD-SSP20-19-72-900	0.9	1.2	20m³/h	19m	48*48/50*50	2m	550W*3
357	HD-SSP27-19-110-1200	1.2	1.6	27m³/h	19m	60*60/63*63	2m	550W*3
358	HD-SSP27-19-150-1200-HV	1.2	1.6	27m³/h	19m	60*60/63*63	2m	550W*4
359	HD-SSP20-19-96-900-A/D	0.9	1.2	20m³/h	19m	48*48/50*50	2m	550W*3
360	HD-SSP27-19-150-1200-A/D	1.2	1.6	27m³/h	19m	60*60/63*63	2m	550W*4



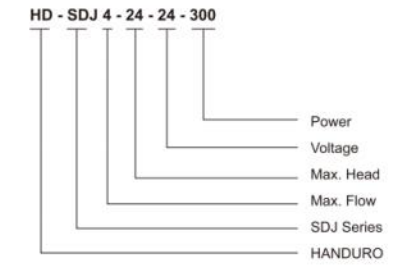
CONTROLLER (DC 24V-110V)

PERFORMANCE CURVES



TECHNICAL DATA

NO.	Model	Power		Max. Flow	Max. Head	Outlet (inch)	Cable	Solar Panels
		Kw	Hp					
361	HD-SJ3.3-23-24-300	0.3	0.4	3.3m³/h	23m	1"	2m	550W*1
362	HD-SJ3.3-38-48-550	0.55	0.75	3.3m³/h	38m	1"	2m	550W*2



CONTROLLER (A/D 96V-300V)

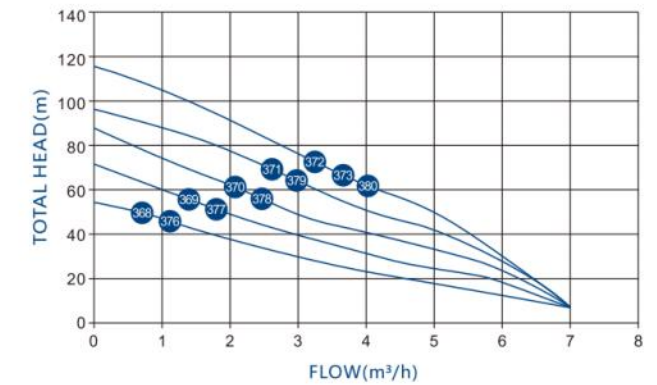
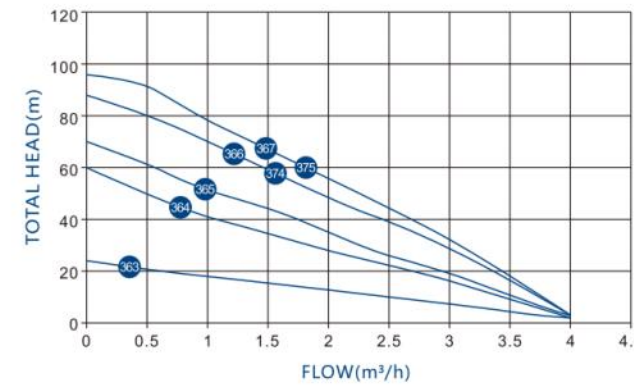


CONTROLLER (DC 180V-300V)



CONTROLLER (DC 24V-110V)

PERFORMANCE CURVES



TECHNICAL DATA

NO.	Model	Power		Max. Flow	Max. Head	Outlet (inch)	Cable	Solar Panels
		Kw	Hp					
363	HD-SDJ4-24-24-300	0.3	0.4	4m³/h	24m	1"X1"	2m	550W*1
364	HD-SDJ4-60-48-500	0.5	0.67	4m³/h	60m	1"X1"	2m	550W*2
365	HD-SDJ4-70-48-600	0.6	0.8	4m³/h	70m	1"X1"	2m	550W*2
366	HD-SDJ4-88-72-750	0.75	1	4m³/h	88m	1"X1"	2m	550W*3
367	HD-SDJ4-96-72-900	0.9	1.2	4m³/h	96m	1"X1"	2m	550W*3
368	HD-SDJ7-54-72-750	0.75	1	7m³/h	54m	1.25"X1"	2m	550W*3
369	HD-SDJ7-72-72-900	0.9	1.2	7m³/h	72m	1.25"X1"	2m	550W*3
370	HD-SDJ7-88-110-1100	1.1	1.5	7m³/h	88m	1.25"X1"	2m	550W*3
371	HD-SDJ7-96-110-1300	1.3	1.74	7m³/h	96m	1.25"X1"	2m	550W*4
372	HD-SDJ7-116-110-1500	1.5	2	7m³/h	116m	1.25"X1"	2m	550W*4
373	HD-SDJ7-116-180-1500-HV	1.5	2	7m³/h	116m	1.25"X1"	2m	550W*5
374	HD-SDJ4-88-96-750-A/D	0.75	1	4m³/h	88m	1"X1"	2m	550W*3
375	HD-SDJ4-96-96-900-A/D	0.9	1.2	4m³/h	96m	1"X1"	2m	550W*3
376	HD-SDJ7-54-96-750-A/D	0.75	1	7m³/h	54m	1.25"X1"	2m	550W*3
377	HD-SDJ7-72-96-900-A/D	0.9	1.2	7m³/h	72m	1.25"X1"	2m	550W*3
378	HD-SDJ7-88-150-1100-A/D	1.1	1.5	7m³/h	88m	1.25"X1"	2m	550W*4
379	HD-SDJ7-96-170-1300-A/D	1.3	1.74	7m³/h	96m	1.25"X1"	2m	550W*5
380	HD-SDJ7-116-180-1500-A/D	1.5	2	7m³/h	116m	1.25"X1"	2m	550W*5

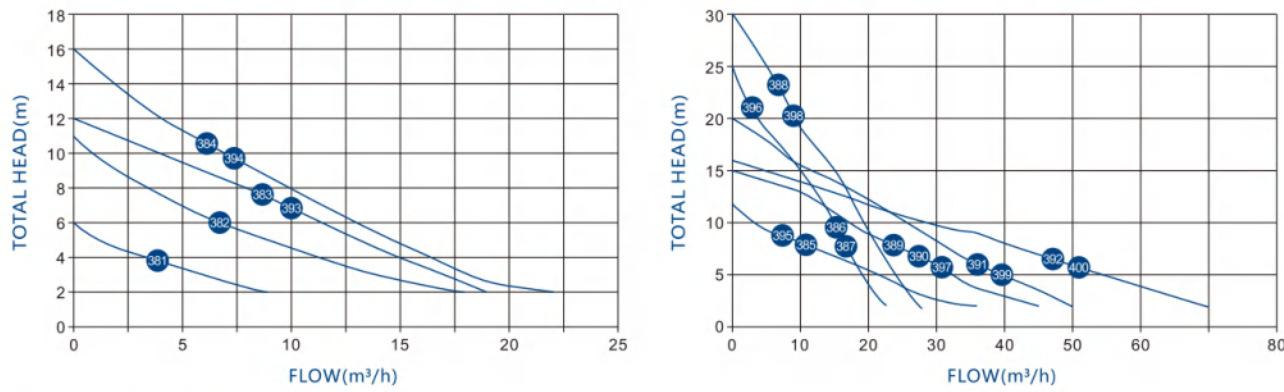


CONTROLLER (A/D 96V-300V)

CONTROLLER (DC 180V-300V)

CONTROLLER (DC 24V-110V)

PERFORMANCE CURVES



TECHNICAL DATA

NO.	Model	Power		Max. Flow	Max. Head	Outlet (inch)	Cable	Solar Panels
		Kw	Hp					
381	HD-SWP9-6-24-300	0.3	0.4	9m³/h	6m	1.5"	2m	550W*1
382	HD-SWP18-11-48-600	0.6	0.8	18m³/h	11m	2"	2m	550W*2
383	HD-SWP19-12-72-750	0.75	1	19m³/h	12m	2"	2m	550W*3
384	HD-SWP22-16-110-1100	1.1	1.5	22m³/h	16m	2"	2m	550W*3
385	HD-SWP36-12-110-1100	1.1	1.5	36m³/h	12m	3"	2m	550W*3
386	HD-SWP23-25-110-1500	1.5	2	23m³/h	25m	2"	2m	550W*4
387	HD-SWP23-25-180-1500-HV	1.5	2	23m³/h	25m	2"	2m	550W*5
388	HD-SWP28-30-280-2200-HV	2.2	3	28m³/h	30m	2"	2m	550W*7
389	HD-SWP45-15-110-1500	1.5	2	45m³/h	15m	3"	2m	550W*4
390	HD-SWP45-15-180-1500-HV	1.5	2	45m³/h	15m	3"	2m	550W*5
391	HD-SWP50-20-280-2200-HV	2.2	3	50m³/h	20m	3"	2m	550W*7
392	HD-SWP70-16-280-2200-HV	2.2	3	70m³/h	16m	4"	2m	550W*7
393	HD-SWP19-12-96-750-A/D	0.75	1	19m³/h	12m	2"	2m	550W*3
394	HD-SWP22-16-150-1100-A/D	1.1	1.5	22m³/h	16m	2"	2m	550W*4
395	HD-SWP36-12-150-1100-A/D	1.1	1.5	36m³/h	12m	3"	2m	550W*4
396	HD-SWP23-25-180-1500-A/D	1.5	2	23m³/h	25m	2"	2m	550W*5
397	HD-SWP45-15-180-1500-A/D	1.5	2	45m³/h	15m	3"	2m	550W*5
398	HD-SWP28-30-280-2200-A/D	2.2	3	28m³/h	30m	2"	2m	550W*7
399	HD-SWP50-20-280-2200-A/D	2.2	3	50m³/h	20m	3"	2m	550W*7
400	HD-SWP70-16-280-2200-A/D	2.2	3	70m³/h	16m	4"	2m	550W*7

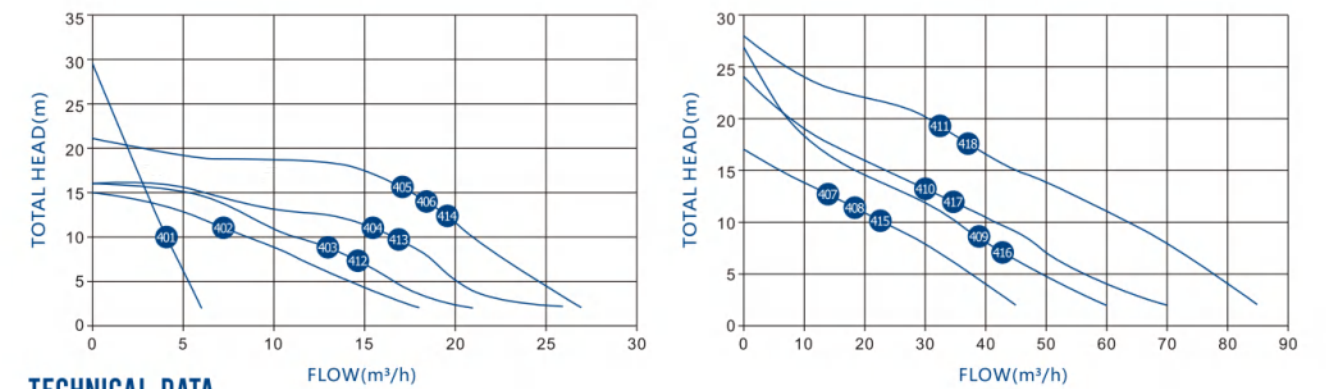


CONTROLLER (A/D 96V-300V)

CONTROLLER (DC 180V-300V)

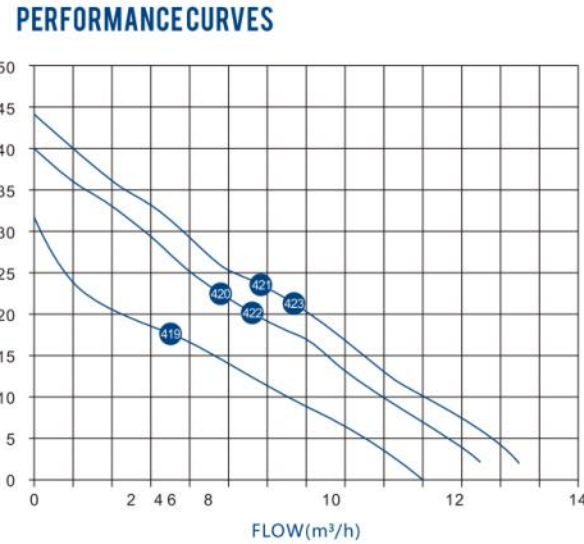
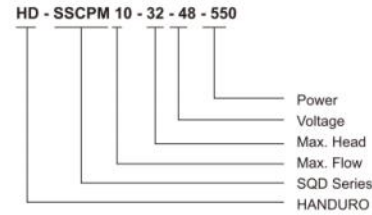
CONTROLLER (DC 24V-110V)

PERFORMANCE CURVES



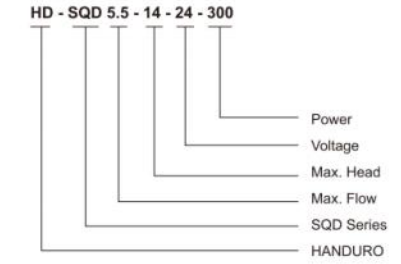
TECHNICAL DATA

NO.	Model	Power		Max. Flow	Max. Head	Outlet (inch)	Cable	Solar Panels
		Kw	Hp					
401	HD-SCPM6-30-48-550	0.55	0.75	6m³/h	30m	1"	2m	550W*2
402	HD-SCPM18-15-48-550	0.55	0.75	18m³/h	15m	2"	2m	550W*2
403	HD-SCPM21-16-72-750	0.75	1	21m³/h	16m	2"	2m	550W*3
404	HD-SCPM26-16-110-1100	1.1	1.5	26m³/h	16m	2"	2m	550W*3
405	HD-SCPM27-21-110-1500	1.5	2	27m³/h	21m	2"	2m	550W*4
406	HD-SCPM27-21-180-1500-HV	1.5	2	27m³/h	21m	2"	2m	550W*5
407	HD-SCPM45-17-110-1500	1.5	2	45m³/h	17m	3"	2m	550W*4
408	HD-SCPM45-17-180-1500-HV	1.5	2	45m³/h	17m	3"	2m	550W*5
409	HD-SCPM60-27-280-2200-HV	2.2	3	60m³/h	27m	3"	2m	550W*7
410	HD-SCPM70-24-280-2200-HV	2.2	3	70m³/h	24m	4"	2m	550W*7
411	HD-SCPM85-28-300-3000-HV	3	4	85m³/h	28m	4"/5"	2m	550W*8
412	HD-SCPM21-16-96-750-A/D	0.75	1	21m³/h	16m	2"	2m	550W*3
413	HD-SCPM26-16-150-1100-A/D	1.1	1.5	26m³/h	16m	2"	2m	550W*4
414	HD-SCPM27-21-180-1500-A/D	1.5	2	27m³/h	21m	2"	2m	550W*5
415	HD-SCPM45-17-180-1500-A/D	1.5	2	45m³/h	17m	3"	2m	550W*5
416	HD-SCPM60-27-280-2200-A/D	2.2	3	60m³/h	27m	3"	2m	550W*7
417	HD-SCPM70-24-280-2200-A/D	2.2	3	70m³/h	24m	4"	2m	550W*7
418	HD-SCPM85-28-300-3000-A/D	3	4	85m³/h	28m	4"/5"	2m	550W*8

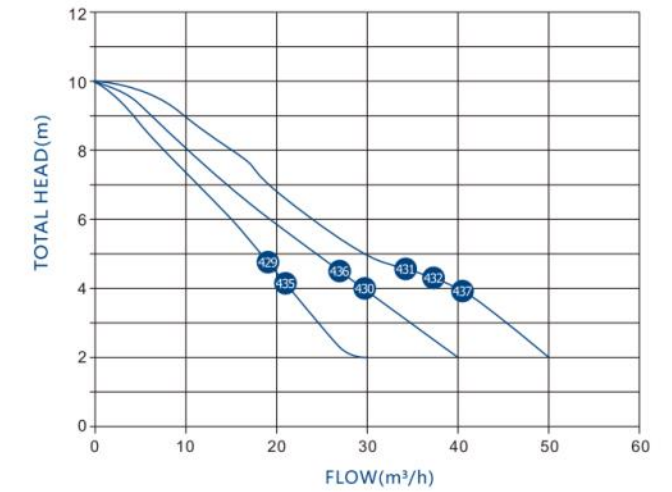
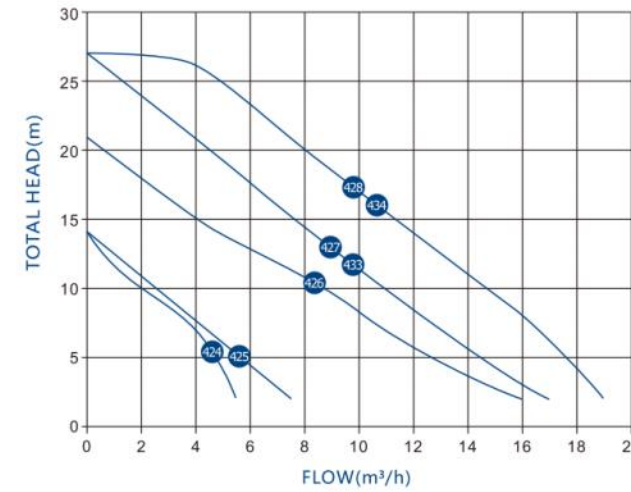


**TECHNICAL DATA**

NO.	Model	Power		Max. Flow	Max. Head	Outlet (inch)	Cable	Solar Panels
		Kw	Hp					
419	HD-SSCPM10-32-48-550	0.55	0.75	10m³/h	32m	1.25"*1"	2m	550W*2
420	HD-SSCPM11.5-40-72-750	0.75	1	11.5m³/h	40m	1.25"*1"	2m	550W*3
421	HD-SSCPM12.5-44-72-900	0.9	1.2	12.5m³/h	44m	1.25"*1"	2m	550W*3
422	HD-SSCPM11.5-40-96-750-A/D	0.75	1	11.5m³/h	40m	1.25"*1"	2m	550W*3
423	HD-SSCPM12.5-44-96-900-A/D	0.9	1.2	12.5m³/h	44m	1.25"*1"	2m	550W*3



**PERFORMANCE CURVES**

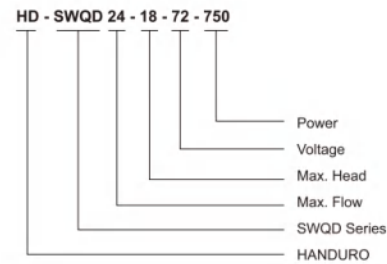


**TECHNICAL DATA**

NO.	Model	Power		Max. Flow	Max. Head	Outlet (inch)	Cable	Solar Panels
		Kw	Hp					
424	HD-SQD5.5-14-24-300	0.3	0.4	5.5m³/h	14m	1"	5m	550W*1
425	HD-SQD7.5-14-24-300	0.3	0.4	7.5m³/h	14m	1.5"	5m	550W*1
426	HD-SQD16-21-48-600	0.6	0.8	16m³/h	21m	2"	5m	550W*2
427	HD-SQD17-27-72-750	0.75	1	17m³/h	27m	2"	5m	550W*3
428	HD-SQD19-27-110-1100	1.1	1.5	19m³/h	27m	2"	5m	550W*3
429	HD-SQD30-10-72-750	0.75	1	30m³/h	10m	3"	5m	550W*3
430	HD-SQD40-10-110-1100	1.1	1.5	40m³/h	10m	3"	5m	550W*3
431	HD-SQD50-10-110-1500	1.5	2	50m³/h	10m	3"	5m	550W*4
432	HD-SQD50-10-180-1500-HV	1.5	2	50m³/h	10m	3"	5m	550W*5
433	HD-SQD17-27-96-750-A/D	0.75	1	17m³/h	27m	2"	5m	550W*3
434	HD-SQD19-27-150-1100-A/D	1.1	1.5	19m³/h	27m	2"	5m	550W*4
435	HD-SQD30-10-96-750-A/D	0.75	1	30m³/h	10m	3"	5m	550W*3
436	HD-SQD40-10-150-1100-A/D	1.1	1.5	40m³/h	10m	3"	5m	550W*4
437	HD-SQD50-10-180-1500-A/D	1.5	2	50m³/h	10m	3"	5m	550W*5

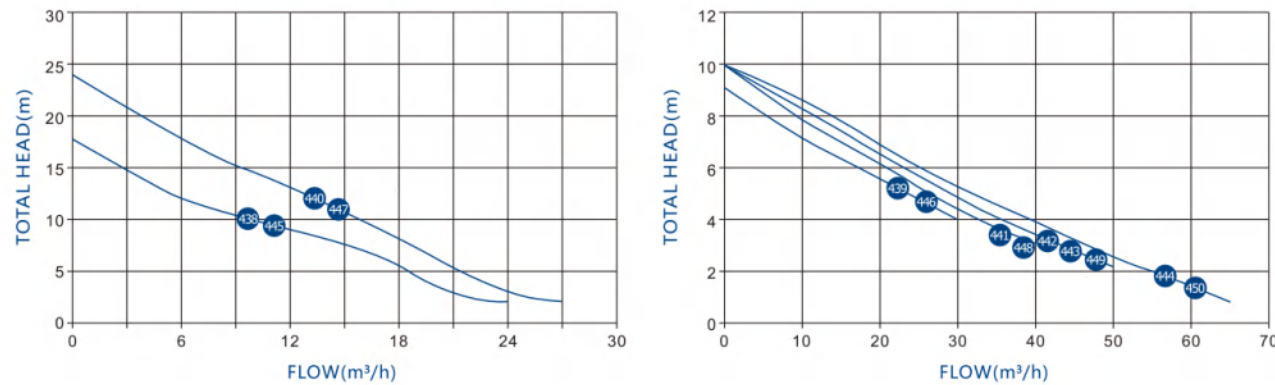


HD-SWQD



CONTROLLER (A/D 96V-300V) CONTROLLER (DC 180V-300V) CONTROLLER (DC 24V-110V)

PERFORMANCE CURVES



TECHNICAL DATA

NO.	Model	Power		Max. Flow	Max. Head	Outlet (inch)	Cable	Solar Panels
		Kw	Hp					
438	HD-SWQD24-18-72-750	0.75	1	24m³/h	18m	2"	5m	550W*3
439	HD-SWQD30-9-72-750	0.75	1	30m³/h	9m	3"	5m	550W*3
440	HD-SWQD27-24-110-1100	1.1	1.5	27m³/h	24m	2"	5m	550W*3
441	HD-SWQD40-10-110-1100	1.1	1.5	40m³/h	10m	3"	5m	550W*3
442	HD-SWQD50-10-110-1500	1.5	2	50m³/h	10m	3"	5m	550W*4
443	HD-SWQD50-10-180-1500-HV	1.5	2	50m³/h	10m	3"	5m	550W*5
444	HD-SWQD65-10-280-2200-HV	2.2	3	65m³/h	10m	4"	5m	550W*7
445	HD-SWQD24-18-96-750-A/D	0.75	1	24m³/h	18m	2"	5m	550W*3
446	HD-SWQD30-9-96-750-A/D	0.75	1	30m³/h	9m	3"	5m	550W*3
447	HD-SWQD27-24-150-1100-A/D	1.1	1.5	27m³/h	24m	2"	5m	550W*4
448	HD-SWQD40-10-150-1100-A/D	1.1	1.5	40m³/h	10m	3"	5m	550W*4
449	HD-SWQD50-10-180-1500-A/D	1.5	2	50m³/h	10m	3"	5m	550W*5
450	HD-SWQD65-10-280-2200-A/D	2.2	3	65m³/h	10m	4"	5m	550W*7



CONTROLLER (A/D 96V-300V) CONTROLLER (DC 180V-300V) CONTROLLER (DC 24V-110V)

TECHNICAL DATA

NO.	Model	Power		Max. Flow	Max. Head	Outlet (inch)	Cable	Solar Panels
		Kw	Hp					
451	HD-SA20-5-24-370	0.37	0.5	20m³/h	5m	3"	2m	550W*1
452	HD-SA27-5-72-750	0.75	1	27m³/h	5m	3"	2m	550W*3
453	HD-SA32-7-110-1100	1.1	1.5	32m³/h	7m	3"	2m	550W*3
454	HO-SA43-7-110-1500	1.5	2	43m³/h	7m	3"	2m	550W*4
455	HO-SA43-7-180-1500-HV	1.5	2	43m³/h	7m	3"	2m	550W*5
456	HD-SA60-5-280-2200-HV	2.2	3	60m³/h	5m	4"	2m	550W*7
457	HD-SA27-5-96-750-A/D	0.75	1	27m³/h	5m	3"	2m	550W*3
458	HD-SA32-7-150-1100-A/D	1.1	1.5	32m³/h	7m	3"	2m	550W*4
459	HO-SA43-7-180-1500-A/D	1.5	2	43m³/h	7m	3"	2m	550W*5
460	HD-SA60-5-280-2200-A/D	2.2	3	60m³/h	5m	4"	2m	550W*7



Solar Aerator

TECHNICAL DATA

NO.	Model	Power		Oxygenation rate	Covering Area (m²)	QTY of impeller	Cable	Solar Panels
		Kw	Hp					
461	HD-SWA-110-1500	1.5	2	≥ 1.1	2000-6000	4	2m	550W*4
462	HD-SWA-180-1500-HV	1.5	2	≥ 1.1	2000-6000	4	2m	550W*5
463	HD-SWA-280-2200-HV	2.2	3	≥ 1.5	2665-8000	6	2m	550W*7



Solar Paddle Wheel Aerator

NO.	Model	Power		Oxygenation rate	Covering Area (m²)	QTY of impeller	Cable	Solar Panels
		Kw	Hp					
464	HD-SWA-180-1500-A/D	1.5	2	≥ 1.1	2000-6000	4	2m	550W*5
465	HD-SWA-280-2200-A/D	2.2	3	≥ 1.5	2665-8000	6	2m	550W*7

TECHNICAL DATA

NO.	ITEM	Voltage	P <sub>2</sub>		Oxygenation rate (kgo/h)	Covering Area (m²)	Solar Panel		Solar Panels
			KW	HP			open voltage	power	
466	HD-SIA-110-1500	110V	1.5	2	≥ 1.6	2000-4000	<210V	≥2000W	550W*4
467	HD-SIA-180-1500-HV	180V	1.5	2	≥ 1.6	2000-4000	<430V	≥2000W	550W*5



Solar Impeller Aerator

NO.	ITEM	AC Voltage	DC Voltage	P <sub>2</sub>		Oxygenation rate (kgo/h)	Covering Area (m²)	Solar Panel		Solar Panels
				KW	HP			open voltage	power	
468	HD-SIA-180-1500-A/D	80V-280V	80V-430V	1.5	2	≥ 1.6	2000-4000	<430V	≥2000W	550W*5
469	HD-SIA-280-2200-A/D	80V-280V	80V-430V	2.2	3	≥ 1.8	2665-5320	<430V	≥3000W	550W*7
470	HD-SIA-300-3000-A/D	80V-280V	80V-430V	3	4	≥ 4.5	2665-5328	<430V	≥4000W	550W*8

TECHNICAL DATA

NO.	ITEM	Voltage	P <sub>2</sub>		Oxygenation rate (kgo/h)	Covering Area (m²)	Solar Panel		Solar Panels
			KW	HP			open voltage	power	
471	HD-SPQ-110-1100	110V	1.1	1.5	≥ 1.1	2000-3500	<220V	≥1500W	550W*3
472	HD-SPQ-110-1500	110V	1.5	2	≥ 1.5	3500-5500	<220V	≥2000W	550W*4
473	HD-SPQ-180-1500-HV	180V	1.5	2	≥ 1.5	3500-5500	<430V	≥2000W	550W*5
474	HD-SPQ-280-2200-HV	280V	2.2	3	≥ 3	5500-8000	<430V	≥3000W	550W*7



Steam explosion

NO.	ITEM	AC Voltage	DC Voltage	P <sub>2</sub>		Oxygenation rate (kgo/h)	Covering Area (m²)	Solar Panel		Solar Panels
				KW	HP			open voltage	power	
475	HD-SPQ-180-1500-A/D	80V-280V	80V-430V	1.5	2	≥ 1.5	3500-5500	<430V	≥2000W	550W*5
476	HD-SPQ-280-2200-A/D	80V-280V	80V-430V	2.2	3	≥ 3	5500-8000	<430V	≥3000W	550W*7

## SOLAR CONTROLLER

CONTROLLER (DC 24V-110V)	CONTROLLER (DC 180V-300V)	CONTROLLER (A/D 96V-300V)	
AUTO TYPE (3000W-5500W)	MANUAL TYPE (3000-11000W)	MANUAL TYPE(15KW-22KW)	
LV CONTROLLER (DC24-72V)	SOLAR PLAY (DC 24-110V)	SIMPLE CONTROLLER (DC24-110V)	BUILT IN DRIVER (DC 24-300V)

## CONTROLLER AND PUMP MATACHING METHOD

CONTROLLER TYPE	Adaptable Pump	Max.Input Current(A)	Max.Open Circuit Voltage(V)	AC Voltage(V)	MPPT Voltage Range(V)	Working Temperature °C	Voltage Range V
HD-24	Rated 24V	18	<60	/	30-48	-15~60	18-60
HD-36	Rated 36V	18	<60	/	30-48	-15~60	18-60
HD-48	Rated 48V	18	<110	/	60-90	-15~60	30-110
HD-72	Rated 72V	18	<170	/	90-120	-15~60	50-170
HD-96/110	Rated 96/110V	18	<220	/	96-150	-15~60	60-220
HD-180-HV	Rated 180V-HV	18	<430	/	180-350	-15~60	80-430
HD-280-HV	Rated 280V-HV	18	<430	/	280-350	-15~60	80-430
HD-300-HV	Rated 300V-HV	18	<430	/	300-350	-15~60	80-430
HD-96-AD	Rated 96V-AD	18	<430	80~280	96-350	-15~60	80-430
HD-150-AD	Rated 150V-AD	18	<430	80~280	150-350	-15~60	80-430
HD-180-AD	Rated 180V-AD	18	<430	80~280	180-350	-15~60	80-430
HD-280-AD	Rated 280V-AD	18	<430	80~280	280-350	-15~60	80-430
HD-300-AD	Rated 300V-AD	18	<430	80~280	300-350	-15~60	80-430
HD-530-AD	Rated 530V-AD		<900	260~480	480-650	-15~60	200-900

## SOLAR PANEL PARAMETER

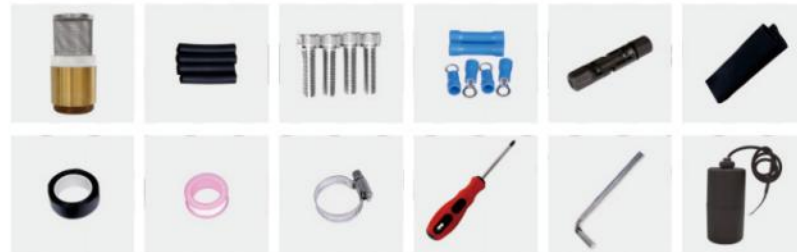
PUMP MODEL (Power-Voltage)	SOLAR PANEL PARAMETER				Control Box Parameter	
	450W		550W		Best Working Voltage	Open Voltage
	G.W.	Volume	G.W.	Volume		
	23kg/pc	1762*1134*35mm	27kg/pc	2278*1134*35mm		
Vmp	Voc	Vmp	Voc			
	43V	51V	42V	51V		
120W-24V						
210W-24V	1 pcs				30V-48V	<60V
210W-36V						
280W-24V	1 pcs				30V-48V	<60V
300W-24V						
400W-48V	2 pcs in series				60V-90V	<110V
500W-48V	2 pcs in series				60V-90V	<110V
550W-48V						
600W-48V	2 pcs in series				60V-90V	<110V
600W-72V	2 or 3 pcs in series				90V-120V	<170V
750W-72V	3 pcs in series				90V-120V	<170V
900W-72V	3 pcs in series				90V-120V	<170V
1100W-110V	4 pcs in series				110V-150V	<220V
1200W-110V	4 pcs in series				110V-150V	<220V
1300W-110V						
1500W-110V	4 pcs in series				110V-150V	<220V
750W-96V	3 pcs in series				96V-350V	<430V
1100W-150V	4 pcs in series				150V-350V	<430V
1300W-170V	5 pcs in series				170V-350V	<430V
1500W-180V	5 pcs in series				180V-350V	<430V
2200W-280V	7 pcs in series				280V-350V	<430V
3000W-300V	8 pcs in series				300V-350V	<430V
3000W-530V	12 pcs in series				480V-650V	<900V
4000W-530V	12 pcs in series				480V-650V	<900V
5500W-530V	15 pcs in series				480V-650V	<900V
7500W-530V	total 24pcs, 12pcs in series and in 2 parallels				480V-650V	<900V
9200W-530V	total 30pcs, 15pcs in series and in 2 parallels				480V-650V	<900V
11KW-530V	total 36pcs, 12pcs in series and in 3 parallels				480V-650V	<900V
15KW-530V	total 48pcs, 12pcs in series and in 4 parallels				480V-650V	<900V
22KW-530V	total 60pcs, 12pcs in series and in 5 parallels				480V-650V	<900V



FREE ACCESSORIES



FREE ACCESSORIES



FREE ACCESSORIES

