

# DT200

## Solar-operated Submersible Pump System, 4"

### Characteristics

- lift up to 50m
- flow rate up to 5.0m<sup>3</sup>/h
- simple installation
- maintenance-free
- high reliability and life expectancy
- cost-efficient pumping

### Applications

- drinking water supply
- livestock watering
- pond management
- irrigation
- etc.

### Components

#### Controller

- controlling of the pump system and monitoring of the operating states
- mounted at surface (no electronic parts submerged)
- two control inputs for well probe (dry running protection), float or pressure switches, remote control etc.
- automatic reset 20 minutes after well probe turns pump off
- protected against reverse polarity, overload and high temperature
- speed control, max. pump speed adjustable to reduce flow rate to c. 30%
- solar operation: integrated MPPT (Maximum Power Point Tracking)
- battery operation: low voltage disconnect and restart after battery has recovered
- max. efficiency 92% (motor + controller)
- enclosure: IP 54 (sealed, weatherproof)

#### Motor ECDRIVE 200HR/C

- brushless DC motor
- no electronics inside motor
- water filled
- IP68, pressure balanced, unlimited submersion
- dynamic slide bearings, material: carbon/ceramic
- wetted material: stainless steel (AISI 316), POM, rubber, cable drinking water approved

#### Pump End (PE)

- high life expectancy
- none-return valve
- dry running protection (optional)
- material: stainless steel (AISI 316), rubber

#### HR Pumps Only

- helical rotor pump (positive displacement pump)
- two main parts only: stator and rotor, field serviceable
- stator: geometry made of abrasion resistant rubber
- rotor: stainless steel, hard chrome plated, abrasion resistant
- more resistant to damage by sand than other pump types
- self-cleaning

### Performance

DT050	DT-04	DT-07	DT-14	DT-5-4
article #	1007-X	1009-X	1008-X	1205
lift [m]	0-50	0-30	0-20	0-15
max. flow rate [m <sup>3</sup> /h]	0.8	1.2	2.7	5.0
max. efficiency [%]	60	61	62	45
solar operation	nominal voltage 24-48V DC, open circuit voltage max. 100V DC			battery operation
solar generator [Wp]	80-300	80-300	80-300	only
battery operation	nominal voltage 24-48V DC			



# DT600

## Solar-operated Submersible Pump System, 4"

### Characteristics

- lift up to 180m
- flow rate up to 11m<sup>3</sup>/h
- simple installation
- maintenance-free
- high reliability and life expectancy
- cost-efficient pumping

### Applications

- drinking water supply
- livestock watering
- pond management
- irrigation
- etc.

### Components

#### Controller

- controlling of the pump system and monitoring of the operating states
- mounted at surface (no electronic parts submerged)
- two control inputs for well probe (dry running protection), float or pressure switches, remote control etc.
- automatic reset 20 minutes after well probe turns pump off
- protected against reverse polarity, overload and high temperature
- speed control, max. pump speed adjustable to reduce flow rate to c. 30%
- solar operation: integrated MPPT (Maximum Power Point Tracking)
- battery operation: low voltage disconnect and restart after battery has recovered
- max. efficiency 92% (motor + controller)
- enclosure: IP 54 (sealed, weatherproof)

#### Motor

- brushless DC motor
- no electronics inside motor
- water filled
- IP68, pressure balanced, unlimited submersion
- dynamic slide bearings, material: carbon/ceramic
- wetted material: stainless steel (AISI 316), POM, rubber, cable drinking water approved

#### Pump End (PE)

- high life expectancy
- none-return valve
- dry running protection (optional)
- material: stainless steel (AISI 316), rubber

#### HR Pumps Only

- helical rotor pump (positive displacement pump)
- two main parts only: stator and rotor, field serviceable
- stator: geometry made of abrasion resistant rubber
- rotor: stainless steel, hard chrome plated, abrasion resistant
- more resistant to damage by sand than other pump types
- self-cleaning

### Performance

DT600	DT-03	DT-03H	DT-04	DT-04H	DT-07
article #	1040-X	1045-X	1050-X	1055-X	1060-X
lift [m]	0-140	140-180	0-80	80-140	40-90
max. flow rate [m <sup>3</sup> /h]	0.5	0.5	0.8	0.8	1.2
max. efficiency [%]	60	64	60	65	64
solar operation	nominal voltage 48-72V DC, open circuit voltage max. 150V DC				
solar generator [Wp]	300-480	420-900	300-480	420-900	420-900
battery operation	nominal voltage 48V DC				
DT600	DT-10	DT-14	DT-20	DTJ5-8	DTJ8-5
article #	1065-X	1070-X	1080-X	1292	1293
lift [m]	30-60	0-50	0-30	0-25	0-18
max. flow rate [m <sup>3</sup> /h]	1.9	2.7	3.6	7.5	11.0
max. efficiency [%]	64	65	64	47	47
solar operation	nominal voltage 48-72V DC, open circuit voltage max. 150V DC				
solar generator [Wp]	420-900	300-900	420-900	300-900	300-900
battery operation	nominal voltage 48V DC				



# DT-1200

## Solar-operated Submersible Pump System, 4"

### Characteristics

- lift up to 240m
- flow rate up to 21m<sup>3</sup>/h
- simple installation
- maintenance-free
- high reliability and life expectancy
- cost-efficient pumping

### Applications

- drinking water supply
- livestock watering
- pond management
- irrigation
- etc.

### Components

#### Controller

- controlling of the pump system and monitoring of the operating states
- mounted at surface (no electronic parts submerged)
- two control inputs for well probe (dry running protection), float or pressure switches, remote control etc.
- automatic reset 20 minutes after well probe turns pump off
- protected against reverse polarity, overload and high temperature
- speed control, max. pump speed adjustable to reduce flow rate to c. 30%
- solar operation: integrated MPPT (Maximum Power Point Tracking)
- battery operation: low voltage disconnect and restart after battery has recovered
- max. efficiency 92% (motor + controller)
- enclosure: IP 54 (sealed, weatherproof)

#### Motor

- brushless DC motor
- no electronics inside motor
- water filled
- IP68, pressure balanced, unlimited submersion
- dynamic slide bearings, material: carbon/ceramic
- wetted material: stainless steel (AISI 316), POM, rubber, cable drinking water approved

#### Pump End (PE)

- high life expectancy
- none-return valve
- dry running protection (optional)
- material: stainless steel (AISI 316), rubber

#### HR Pumps Only

- helical rotor pump (positive displacement pump)
- two main parts only: stator and rotor, field serviceable
- stator: geometry made of abrasion resistant rubber
- rotor: stainless steel, hard chrome plated, abrasion resistant
- more resistant to damage by sand than other pump types
- self-cleaning

### Performance

DT 240	DT-03	DT-03H	DT-04	DT-04H	DT-07
article #	1228-X	1230-X	1235-X	1240-X	1245-X
lift [m]	0-140	140-240	0-80	80-160	40-120
max. flow rate [m <sup>3</sup> /h]	0.5	0.5	0.8	0.8	1.2
max. efficiency [%]	60	64	60	65	64
solar operation	nominal voltage 72-96V DC, open circuit voltage max. 200V DC				
solar generator [Wp]	350-480	420-900	350-420	420-1200	420-1200
battery operation	nominal voltage 72-96 V DC				
DT 240	DT-10	DT-14	DTJ5-8	DTJ8-5	DTJ 12-3
article #	1250-X	1255-X	1222	1223	1224
lift [m]	30-80	0-60	0-40	0-24	0-15
max. flow rate [m <sup>3</sup> /h]	1.9	2.7	7.5	11	21
max. efficiency [%]	64	65	48	48	48
solar operation	nominal voltage 72-96V DC, open circuit voltage max. 200V DC				
solar generator [Wp]	420-1200	350-1200	350-1200	350-1200	350-1200
battery operation	nominal voltage 72-96 V DC				



# DT1800 Centrifugal Pumping Systems



## General Data and Sizing Tables

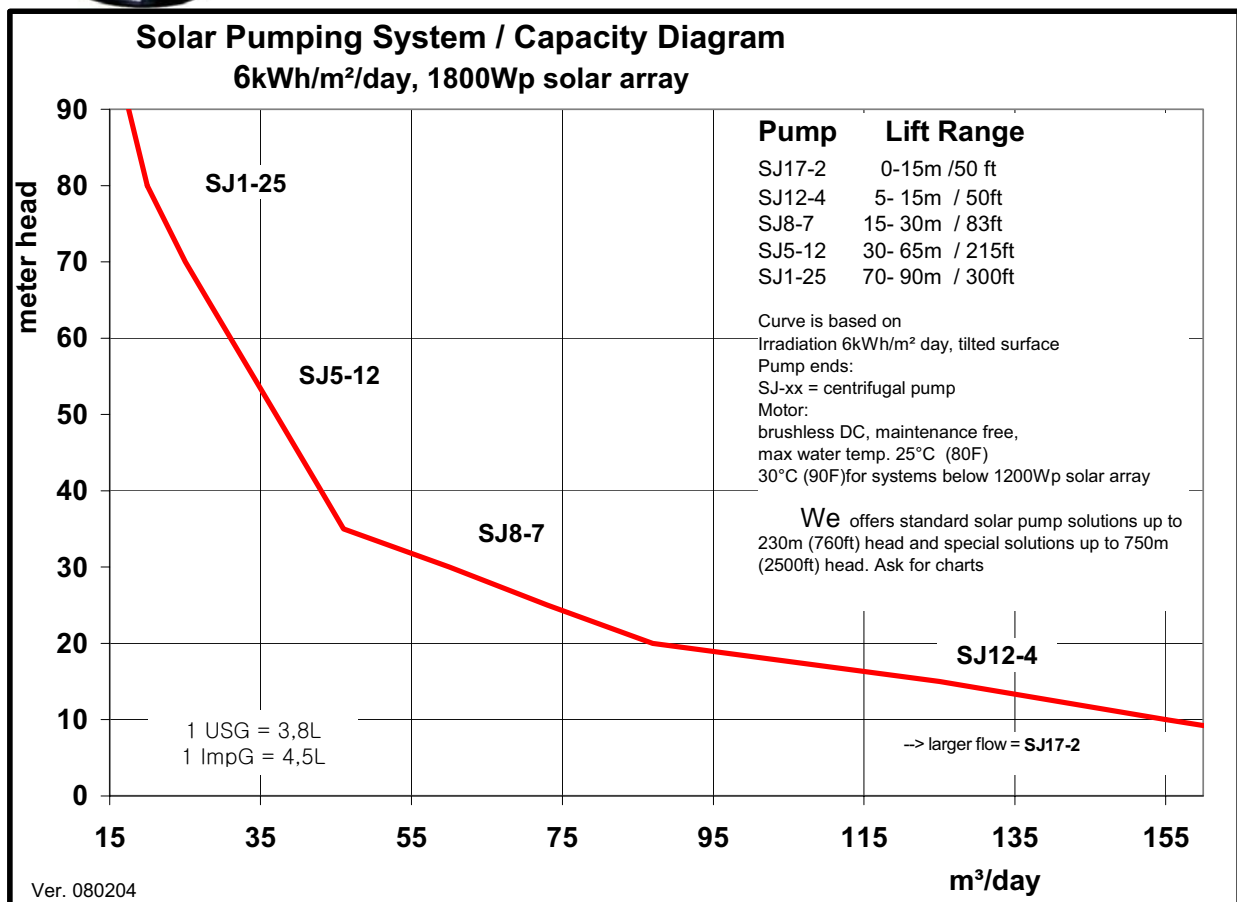
The curve show the performance range of 4 models at 1800Wp solar array

- irradiation of 6kWh/m<sup>2</sup> on a tilted surface
- ambient temperature 30°C

Solar tracking will improve performance by aprox 40% in summer month's

Application:

- drinking water supply
- livestock watering
- pond management
- irrigation
- village water supply



### Controller

- controlling of the pump system and monitoring of the operating states
- mounted at surface (no submerged electronic parts)
- two control inputs for well probe (dry running protection), float or pressure switches, remote control etc.
- automatic reset 20 minutes after well probe turns pump off
- protected against reverse polarity, overload and high temperature
- speed control, max. pump speed adjustable to reduce flow rate to approx. 30 %
- solar operation: integrated MPPT (Maximum Power Point Tracking)
- battery operation: low voltage disconnect and restart after battery has recovered
- max. efficiency 92 % (motor + controller)
- enclosure: IP 54 (sealed, weatherproof)

### Motor ECDRIVE 1200 HR / C

- brushless DC motor
- no electronics inside motor
- water filled
- IP68, pressure balanced, max. submersion unlimited
- dynamic slide bearings, material: carbon/ceramic
- wetted material: stainless steel (AISI 316), POM, rubber, cable drinking water approved

### Pump End (PE)

- high life expectancy
- none-return valve
- dry running protection (optional)
- material: stainless steel (AISI 316)

Errors excepted and possible alterations without prior notice

# DT4000

## Solar-operated Submersible Pump System

### Characteristics

- flow rate up to 55 m<sup>3</sup>/h
- lift up to 170 m
- maintenance-free
- excellent efficiency thanks to modern brushless DC motor technology

### Application

- drinking water supply
- livestock watering
- pond management
- irrigation
- etc.

### Components

#### Controller DT4000

- controlling of the pump system and monitoring of the operating states
- mounted at surface (no electronic parts submerged)
- two control inputs for well probe (dry running protection), float or pressure switches, remote control etc.
- automatic reset 20 minutes after well probe turns pump off
- protected against reverse polarity, overload and high temperature
- speed control, max. pump speed adjustable to reduce flow rate to c. 30 %
- solar operation: integrated MPPT (Maximum Power Point Tracking), Voc = 375V DC, Vmp > 230V DC
- battery operation: low voltage disconnect and restart after battery has recovered
- max. efficiency 92% (motor + controller)
- enclosure: IP 54 (sealed, weatherproof)
- ambient temperature: -30 to +40° C/-20 to +115° F

#### Motor ECDRIVE 4000

- 2-pole, synchronous brushless DC motor
- high life expectancy, electronically commutated, sensorless
- voltage: max. 240V EC (electronically commutated)
- power: 3.5 kW/4.6 HP, n<sub>max</sub> = 3,300 RPM
- no electronics inside motor
- water filled
- IP68, pressure balanced, unlimited submersion
- water lubricated dynamic slide bearings, material: carbon/ceramic
- raw earth magnets, sealed in stainless steel and encapsulated in synthetic resin
- unlimited number of starts/stops per hour
- wetted material: stainless steel (AISI 316), POM, rubber, cable drinking water approved
- max. water temperature: 40° C/105° F

#### Pump End (PE)

- centrifugal multistage direct-coupled pump end
- non-return valve
- material: stainless steel (AISI 304), rubber
- dry running protection (optional)
- max. sand content: 50 g/m<sup>3</sup>, a higher content will wear the pump and reduce its life span considerably
- max. salt content: 300–500 ppm at max. 30° C/85° F, higher salt contents require lower water temperatures
- pH value: 6-9
- high life expectancy



Motor and controller can only operate as unit. The motor cannot be operated without controller or with a different controller.

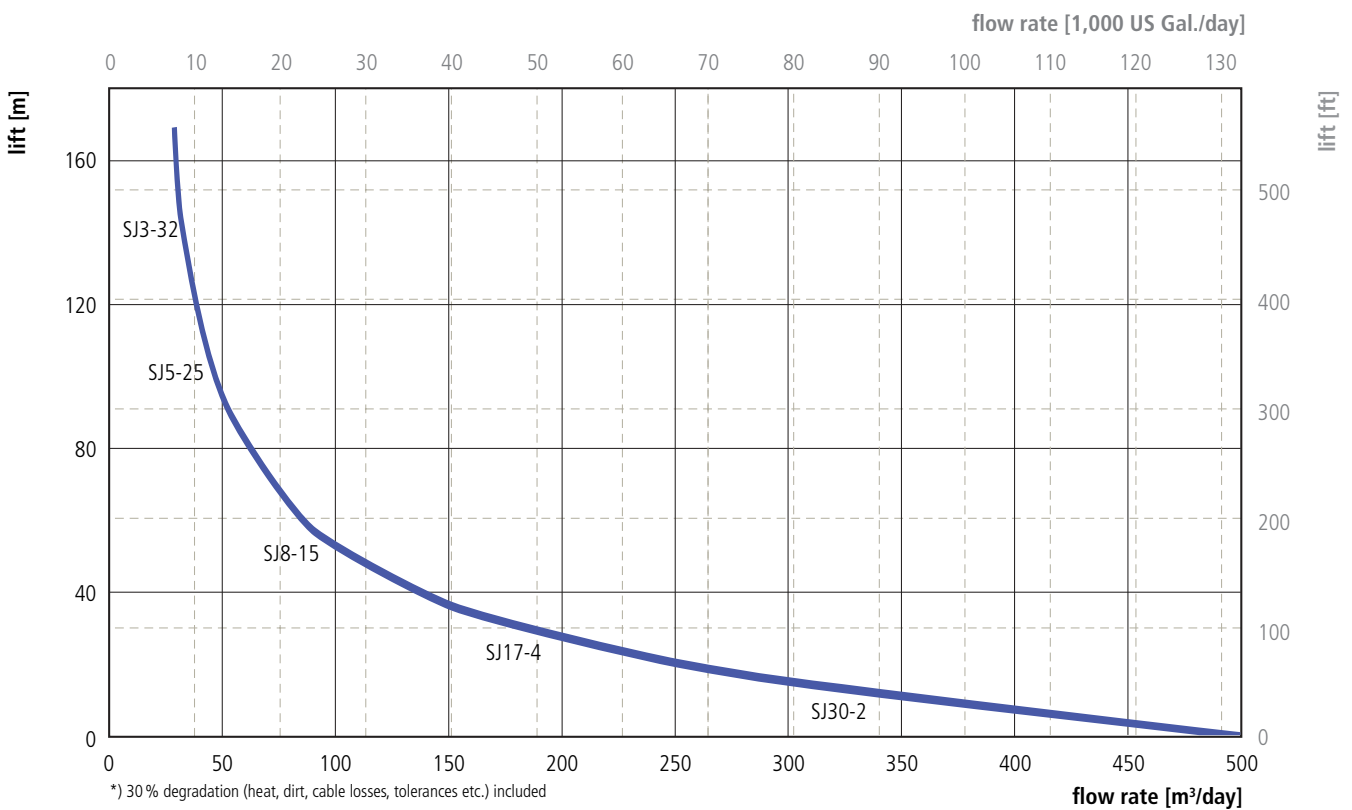
# DT4000

## Solar-operated Submersible Pump System

### Performance

Pump Head	Lift		Flow Rate	
	[m]	[ft]	[m <sup>3</sup> /h]	[US-Gal./h]
C-SJ3-32	130–170	430–560	3.3–3.8	800–1,000
C-SJ5-25	70–130	260–430	4.3–6.6	1,150–1,720
C-SJ8-15	30–80	100–260	6.9–12.2	1,700–3,200
C-SJ17-4	15–50	50–165	14.0–24.5	3,700–6,500
C-SJ30-2	up to 22	up to 70	33–55	8,500–14,500

**Daily Flow Rate** | 8.5 peak flow hours per day, PV generator\* 5 kWp, Vmp > 230VDC, tracked, 6 kWh/m<sup>2</sup>/day

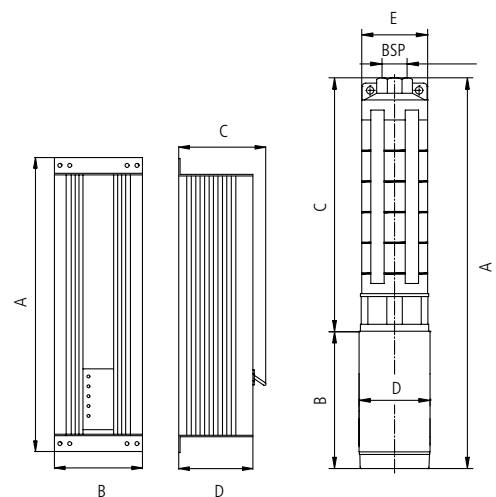


### Dimensions

Pump	Dimensions						Minimum internal borehole diameter	Weight [kg]
	A	B	C	D	E <sub>max</sub>	BSP		
	[mm]	[mm]	[mm]	[mm]	[mm]	[in]	[in / mm]	
SJ3-32	1,088	245	843	96	98	1 ¼	4 / 104	19.5
SJ5-25	941	245	696	96	98	1 ½	4 / 104	18.0
SJ8-15	1,118	245	873	96	98	2	4 / 104	20.5
SJ17-4	754	245	509	96	131	2 ½	6 / 150	20.5
SJ30-2	705	245	460	96	131	3	6 / 150	19.5

Controller	
DT4000	595 178 165 150 6.0



# DT9k/15k

## Solar-operated Submersible AC Pump Systems

### Characteristics

- flow rate up to 63 m<sup>3</sup>/h
- lift up to 150 m
- maintenance-free
- high efficiency

### Application

- drinking water supply
- livestock watering
- pond management
- irrigation
- etc.

### Components

#### Motor

- 3-phase AC motor
- corrosion-resistant, all stainless steel exterior construction
- stainless steel splined shaft
- NEMA mounting dimensions
- hermetically-sealed windings
- water lubrication
- pressure equalizing diaphragm
- max. submerged depth: 700 m/2,300 ft
- max. water temperature: 30 °C/86 °F
- PH value: 6-9
- IP 68

#### Pump End (PE)

- centrifugal multistage direct-coupled pump end
- non-return valve
- material: stainless steel (AISI 304), rubber
- dry running protection (optional)
- max. sand content: 50 g/m<sup>3</sup>, a higher content will wear the pump and reduce its life span considerably
- max. salt content: 300–500 ppm at max. 30 °C/85 °F, higher salt contents require lower water temperatures
- pH value: 6–9
- high life expectancy

### Performance

		DT9k	DT15k
output power, nominal	[kW]	7.5	11.0
output voltage	[VAC]	380–440	380–440
max. input voltage, Voc	[VDC]	750	750
min. input voltage, Vmp	[VDC]	500	500
max. flow rate	[m <sup>3</sup> /h]	63	60
max. vertical lift	[m]	150	140

#### Controller PSkAC

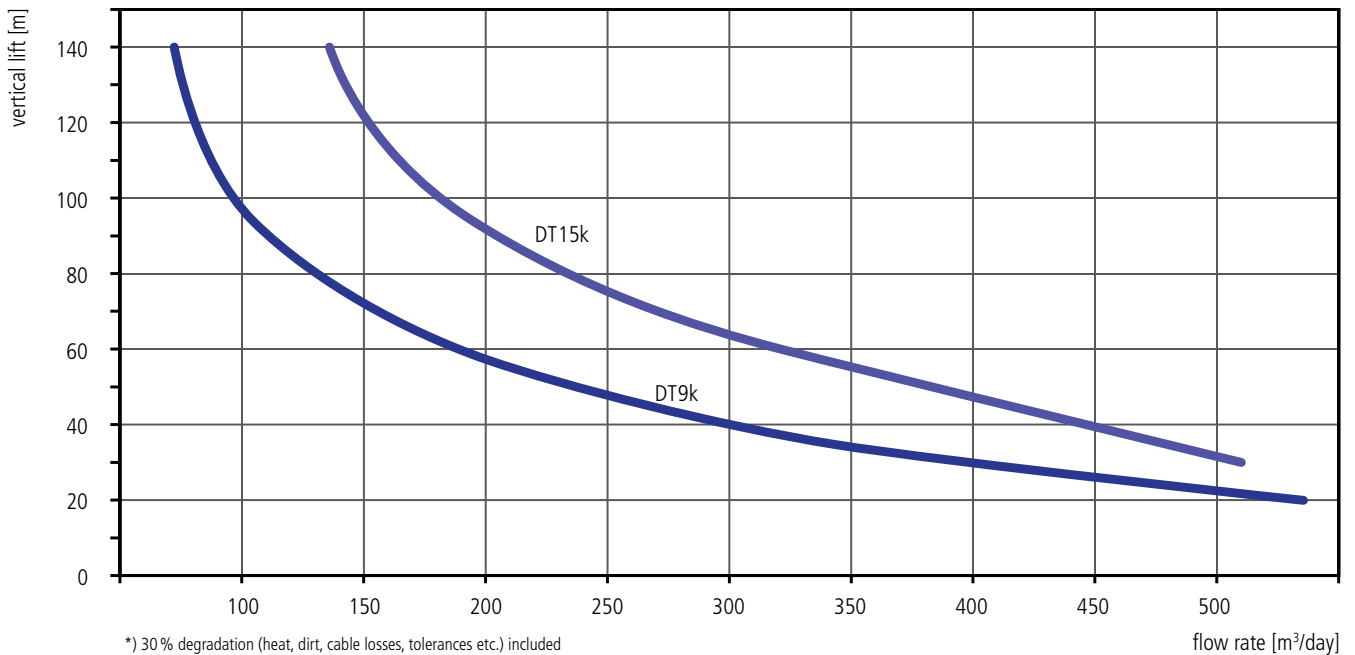
- controlling of the pump system and monitoring of the operating states
- mounted at surface (no electronic parts submerged)
- two control inputs for well probe (dry running protection), float or pressure switches, remote control etc.
- automatic reset 20 minutes after well probe turns pump off
- data logger for historical dates: running time, starting/shut down time of day, max. power/voltage of day, accumulated energy of day etc.
- display of current running data such as: input/output current/power/voltage, pump speed, temperature
- speed control selectable, max. and min. speed
- solar operation: integrated MPPT (Maximum Power Point Tracking)
- input: Voc max. 750VDC, Vmp min. 500VDC
- output: 400VAC 3-phase, 30–60 Hz
- max. efficiency 97 %, advanced IGBT
- enclosure: IP 41 (sealed, weatherproof)
- ambient temperature: –10 to +45 °C



# DT 9k/15k

## Solar-operated Submersible AC Pump Systems

**Daily Flow Rate** | 8.5 peak flow hours per day, PV generator\* 9/15 kWp, Vmp 500–600VDC, tracked, 6 kWh/m<sup>2</sup>/day



### Dimensions and Weight

Model	Dimension							Weight
	A	B	C	D	E <sub>max</sub>	BSP	Minimum Bore-hole Diameter	
Pump	[mm]	[mm]	[mm]	[mm]	[mm]	[in]	[in / mm]	[kg]
SJ8-37	2,569	772	1,797	96	98	2	4 / 104	77
SJ8-44	2,863	772	2,091	96	98	2	4 / 104	81
SJ17-11	1,568	645	923	138	140	2½	6 / 150	75
SJ17-18	2,083	711	1,372	138	140	2½	6 / 150	89
SJ30-7	1,583	645	938	138	140	3	6 / 150	72
SJ30-11	2,049	711	1,338	138	140	3	6 / 150	85
SJ30-12	2,145	711	1,434	138	140	3	6 / 150	88
SJ42-4	1,362	645	717	138	140	3	6 / 150	70
SJ42-6	1,670	711	959	138	140	3	6 / 150	82

Controller	W	H	D	W1	H1	D1	d	Weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
Device	250	310	200	235	295	167	7	9
Packing	320	400	250					10

