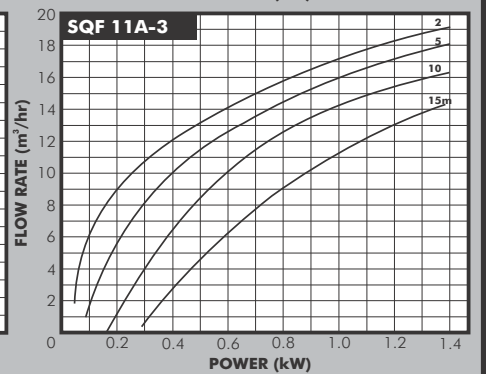
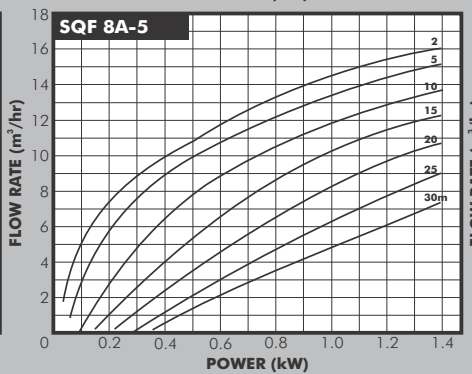
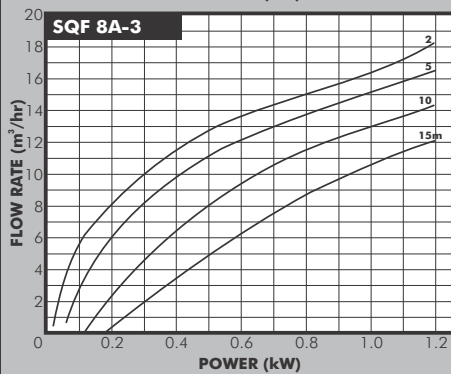
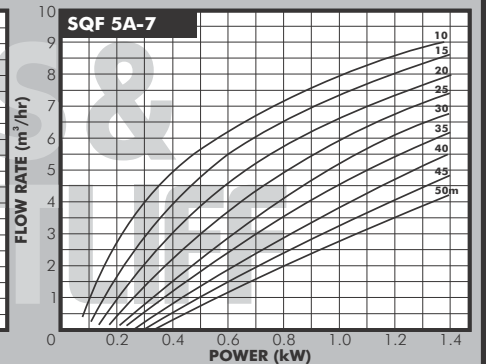
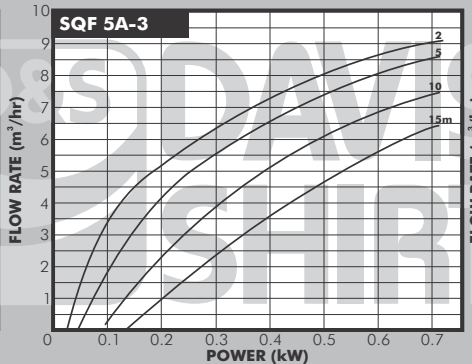
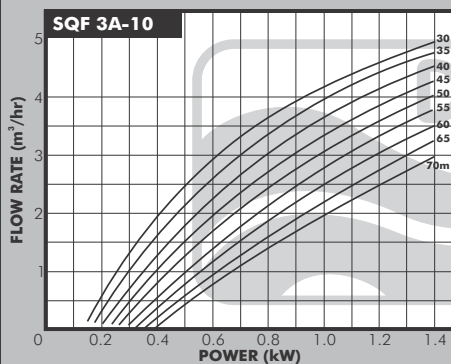
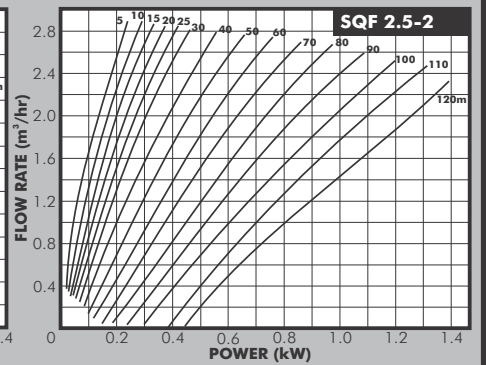
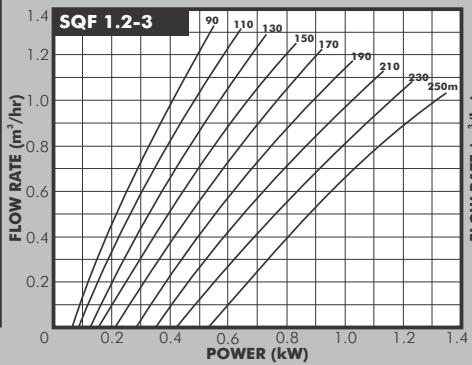
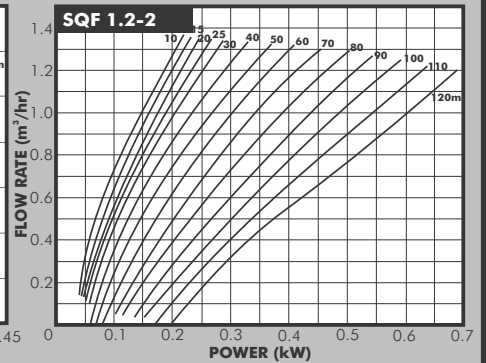
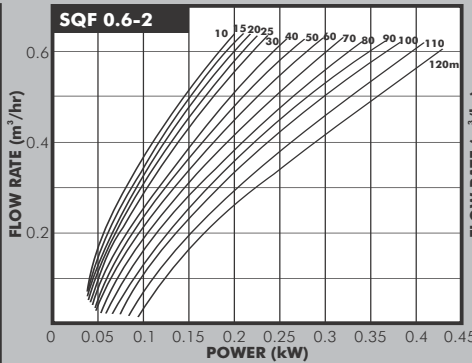




DATA SHEET

Compact Submersible Borehole Pumps

SQ



PUMP OUTPUTS

Pump output curves are given at standard test conditions of 1000W/m² solar irradiance and 25° C .

Output will vary throughout the year depending upon prevailing irradiation levels. For estimated daily outputs at continuous pumping multiply by the daily irradiation given in Graph 1 (see drawing). For indicative purposes factors of 1.1 can be applied for hot arid areas and 0.9 for temperate high altitude areas in East Africa.

Output will vary through out the day as a proportion of the estimated hourly irradiation as shown in Graph 2.

NOTE: Output estimations are strictly indicative. More accurate projections are available using manufacturers data when the exact site location and installation arrangement is defined. This information will be provided with all offers.

PUMP

A range of four models of helical rotor pumps for high heads and low flows (suitable for 3" boreholes) and six models of centrifugal pumps for low heads and high flows (suitable for 4" boreholes) are offered with stainless steel used extensively in construction for both pump designs. Pump model selection is determined by the duty requirement.

MOTOR

One size of the unique 1400W Grundfos MSF 3 high efficiency permanent magnet motor is specified with all pump types. The motor can be powered by either DC or AC voltage within the range of 30-300V DC and 1X90-240V, 50/60Hz AC. An integral control module uses MPPT technology that continuously optimises output frequency to maximize system efficiency and protects against over and under voltage (except lightning), electrical overload and over temperature. Effective dry running protection is provided by a sensor in the motor cable. Maximum current is 8.4A and speed 3600rpm.

CONTROL UNITS

A variety of switch boxes are available for the various installation options including IO50 for a manual solar system, IO101 for solar/generator systems and IO102 for a wind system. In addition a CU200 control unit is offered which provides for high-level switch control together with system monitoring and alarm indication.

SOLAR MODULES

SQ Flex systems are recommended to be powered by crystalline photo voltaic modules connected in arrays to provide the power selected. Arrays should be connected to produce at least 40V input voltage with higher voltage of around 100V recommended for maximum efficiency operation.

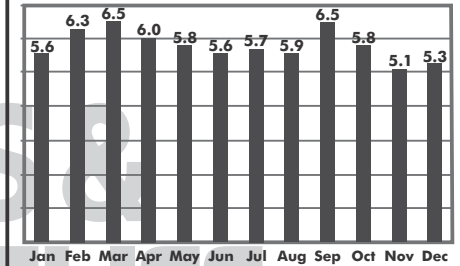
WIND GENERATOR

Permanent magnet 120V AC type alternator powered by an advanced 3.1m diameter rotor blade (8m² swept area) to provide greater output at lower wind speeds. The unit develops peak power of 1,000W at 11m/sec (40km/hr) wind speed and will startup at 3m/sec (11 km/hr) wind speed, total generation power being 6.3kWhr per day.

ACCESSORIES

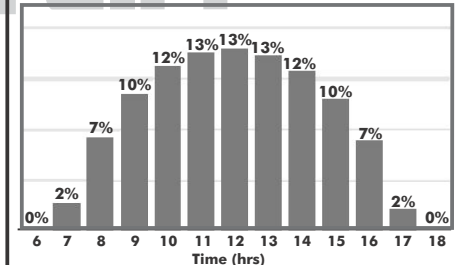
A complete range of accessories including connecting cabling and fittings, drop cable, module support structures and wind generator towers are available to provide all necessary components for a complete site installation.

Average Daily Irradiation Values (Kwhr/m²)



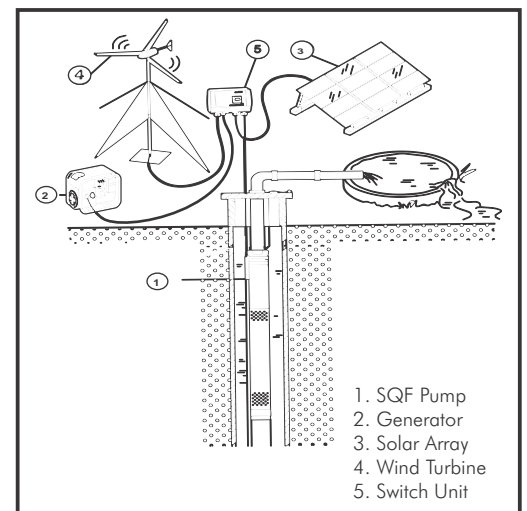
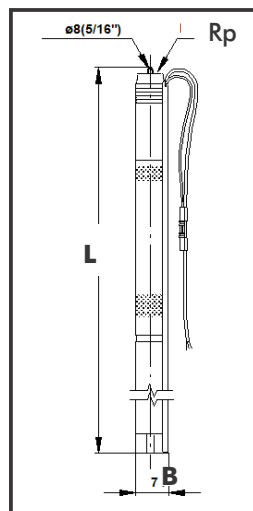
Graph 1

% Daily Output



Graph 2

Model	Dimensions (mm)			Pump weight (kg)
	Rp (inch)	L	B	
SQF 0.6-2	1.25	1185	74	9
SQF 1.2-2	1.25	1225	74	10
SQF 1.2-3	1.25	1295	74	10
SQF 2.5-2	1.25	1247	74	10
SQF 3A-10	1.25	968	101	11
SQF 5A-3	1.5	815	101	10
SQF 5A-7	1.5	920	101	10
SQF 8A-3	2	920	101	11
SQF 8A-5	2	1011	101	12
SQF 11A-3	2	982	101	12



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GR02E-03/13

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