

# Submittal Data

PROJECT:	UNIT TAG:	QUANTITY:
REPRESENTATIVE: _____	TYPE OF SERVICE:	DATE: _____
ENGINEER: OBAIDULLAH MUNEEB	SUBMITTED BY:	DATE:
CONTRACTOR:	APPROVED BY:	DATE:
	ORDER NO.:	DATE:

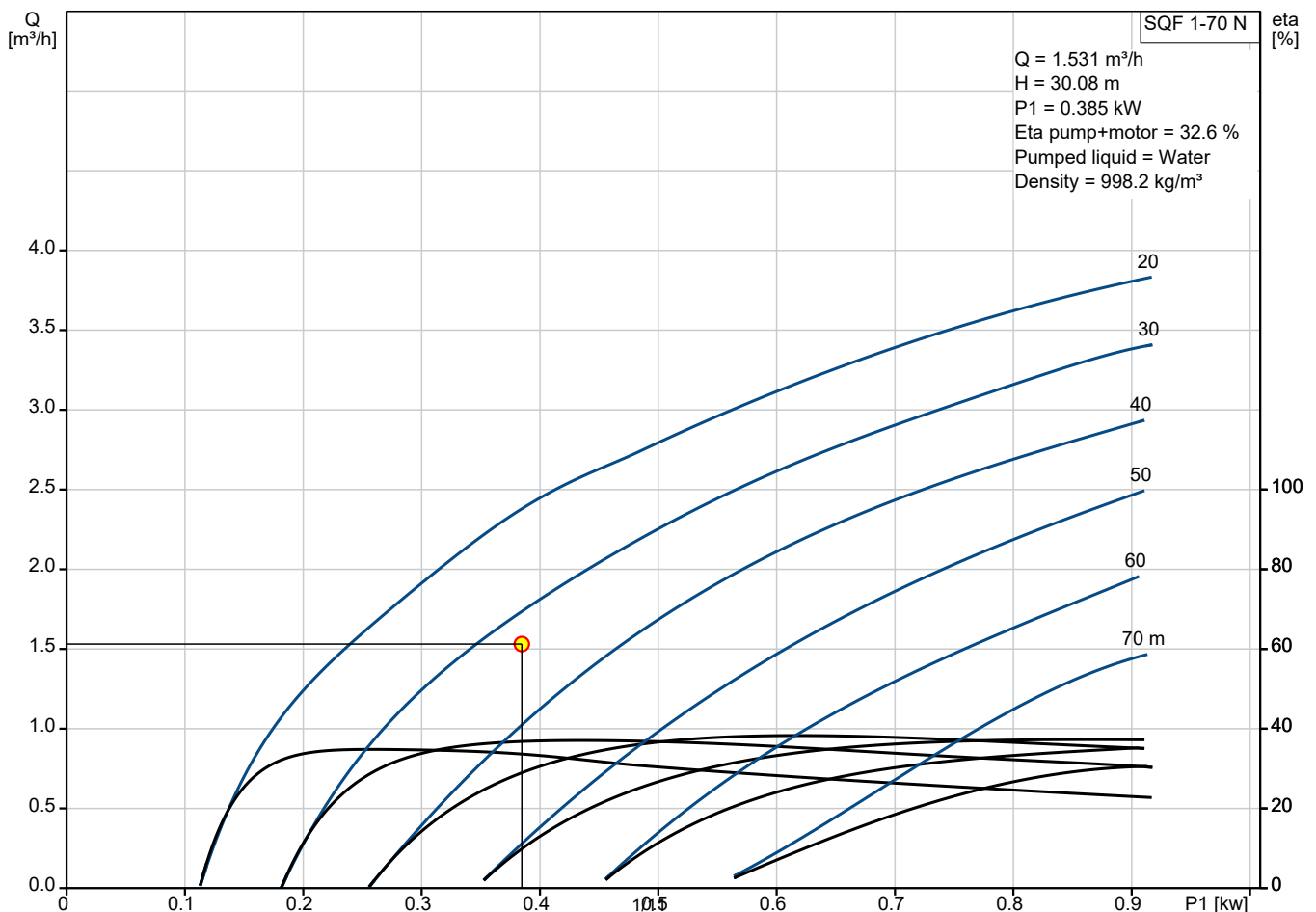


## SQF 1-70 N

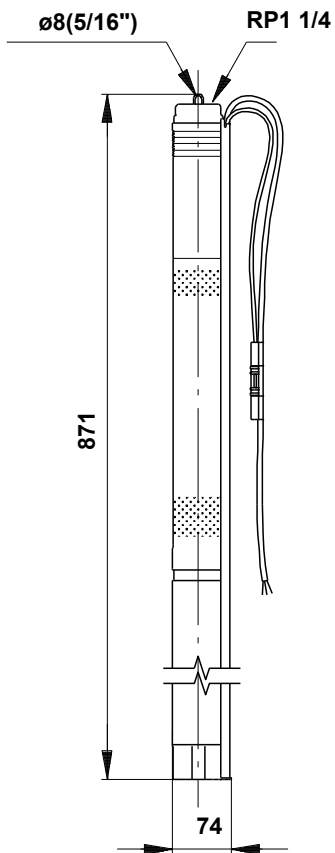
Renewable energy submersible pumps with build in inverter for solar, wind and AC powersource. Runs on both AC and DC voltage

Note! Product picture may differ from actual product

Conditions of Service	Pump Data	Motor Data
Liquid: Water	Liquid temperature range: 0 .. 35 °C Product number: On request	Mains frequency: 50 Hz Enclosure class: IP68 Insulation class: F Motor protection: Y Thermal protection: INT Motor type: MSF3N



## Submittal Data




### Materials:

Pump: Stainless steel  
Pump: DIN W.-Nr. 1.4401  
Pump: AISI 316  
Impeller: Polyamide  
Impeller: EN 1.4401  
Motor: Stainless steel  
Motor: DIN W.-Nr. 1.4401  
Motor: AISI 316

**Project:** Medair Health Facility Water Supply System.  
**Reference Number:**

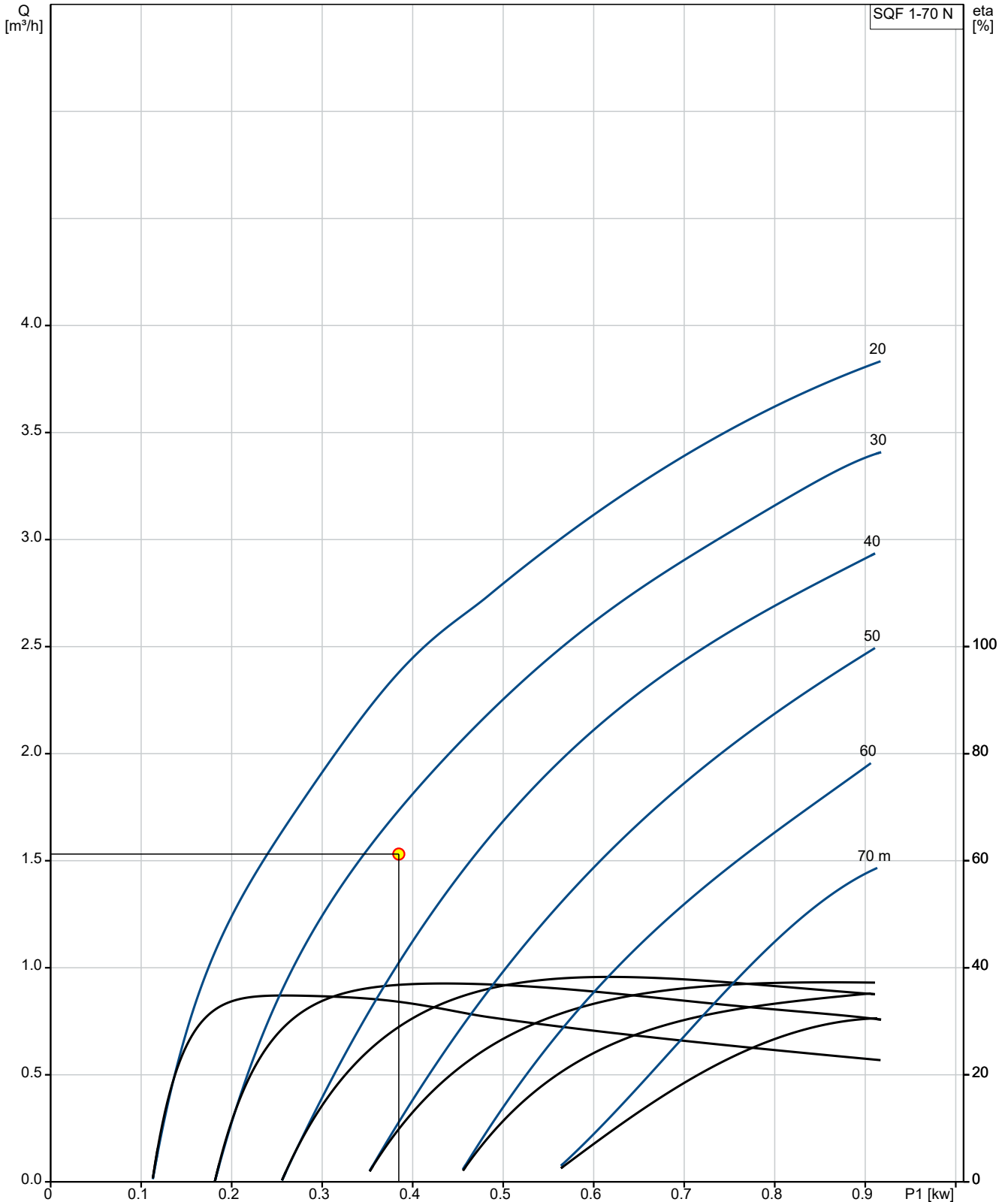
**Client:**  
**Client Number:**  
**Contact:**

Qty.	Description
1	<p><b>SQF 1-70 N</b></p>  <p><b>Note! Product picture may differ from actual product</b></p> <p>Product No.: On request</p> <p>The 3" SQFlex centrifugal pump is for medium heads and flow rates.</p> <p>The SQFlex system is a reliable water supply system based on renewable energy sources, such as solar and wind energy.</p> <p>Thanks to its flexible energy supply and performance, the SQFlex system can be combined and adapted to meet any need on the installation site.</p> <p>The SQFlex system has a wide voltage range, built-in maximum power point tracking (MPPT) as well as dry-running, voltage and overload protection.</p>

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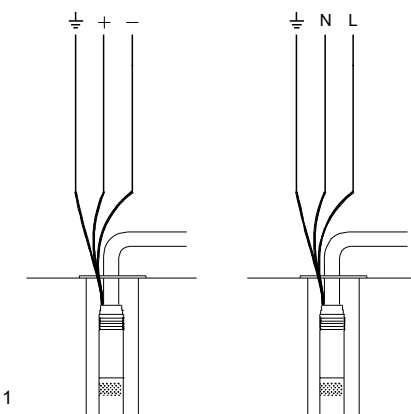
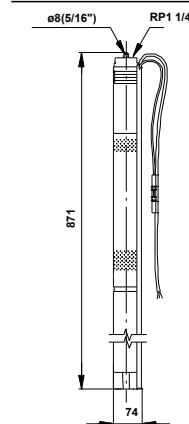
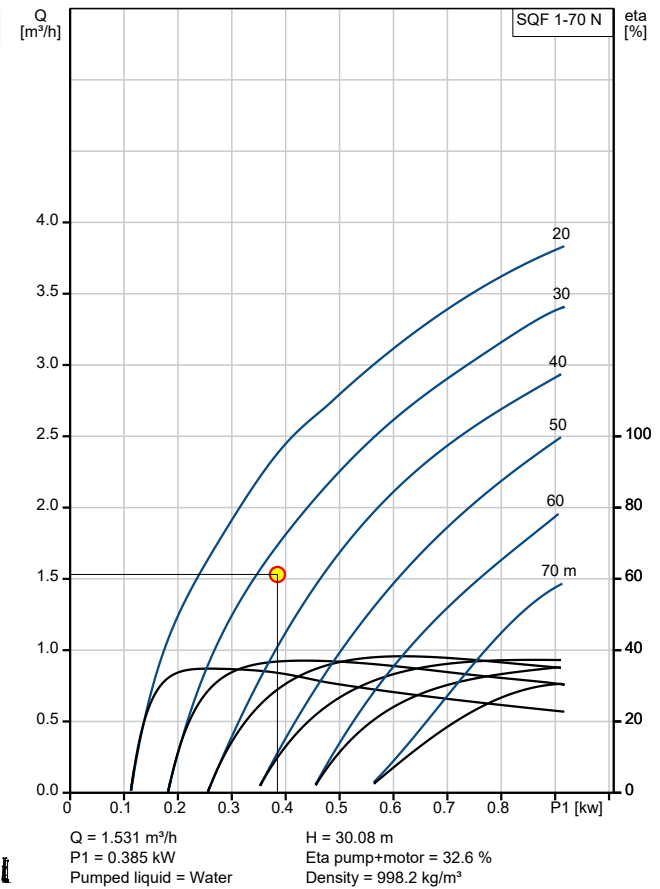
$Q = 1.531 \text{ m}^3/\text{h}$   
 $P1 = 0.385 \text{ kW}$   
 Pumped liquid = Water

$H = 30.08 \text{ m}$   
 $\text{Eta pump+motor} = 32.6 \%$   
 $\text{Density} = 998.2 \text{ kg/m}^3$

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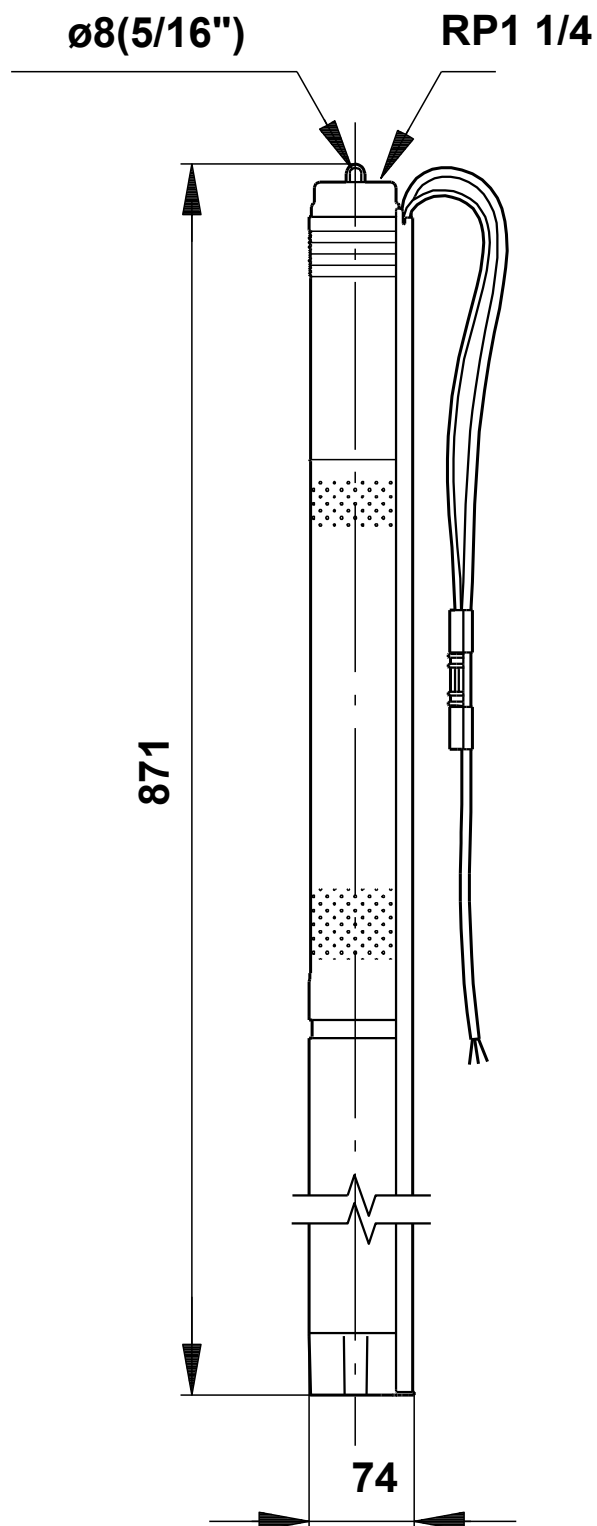
Description	Value
<b>General information:</b>	
Product name:	SQF 1-70 N
Product No:	On request
EAN number:	On request
<b>Technical:</b>	
Rated flow:	1 m³/h
Rated head:	70 m
Stages:	6
Approvals:	UKCA, CE, EAC, CN RoHS Exempt, Morocco, Sepro
Pump No:	99596841
Model:	A
Return valve:	Y
Zinc Anodes:	Yes, pump and motor
<b>Materials:</b>	
Pump:	Stainless steel
Pump:	DIN W.-Nr. 1.4401
Pump:	AISI 316
Impeller:	Polyamide
Impeller:	EN 1.4401
Motor:	Stainless steel
Motor:	DIN W.-Nr. 1.4401
Motor:	AISI 316
<b>Installation:</b>	
Maximum ambient pressure:	15 bar
Maximum operating pressure:	15 bar
Type of connection:	Rp
Size of connection:	1 1/4 inch
Minimum borehole diameter:	76 mm
<b>Liquid:</b>	
Pumped liquid:	Water
Liquid temperature range:	0 .. 35 °C
<b>Electrical data:</b>	
Motor type:	MSF3N
Power input - P1:	0.9 kW
Rated power - P2:	0.6 kW
Rated voltage AC:	1 x 90-240 V
Rated voltage DC:	30-300 V
Rated current:	8.4 A
Power factor:	1.0
Rated speed:	10700 rpm
Start. method:	DOL
Enclosure class (IEC 34-5):	IP68
Insulation class (IEC 85):	F
Built-in motor protection:	Y
Thermal protec:	INT
Length of cable:	2 m
Motor No:	99652356
Udc:	300 V
Udc:	30 V
<b>Others:</b>	
Net weight:	6.57 kg
Gross weight:	7.3 kg
Shipping volume:	0.012 m³
Sales region:	Australia



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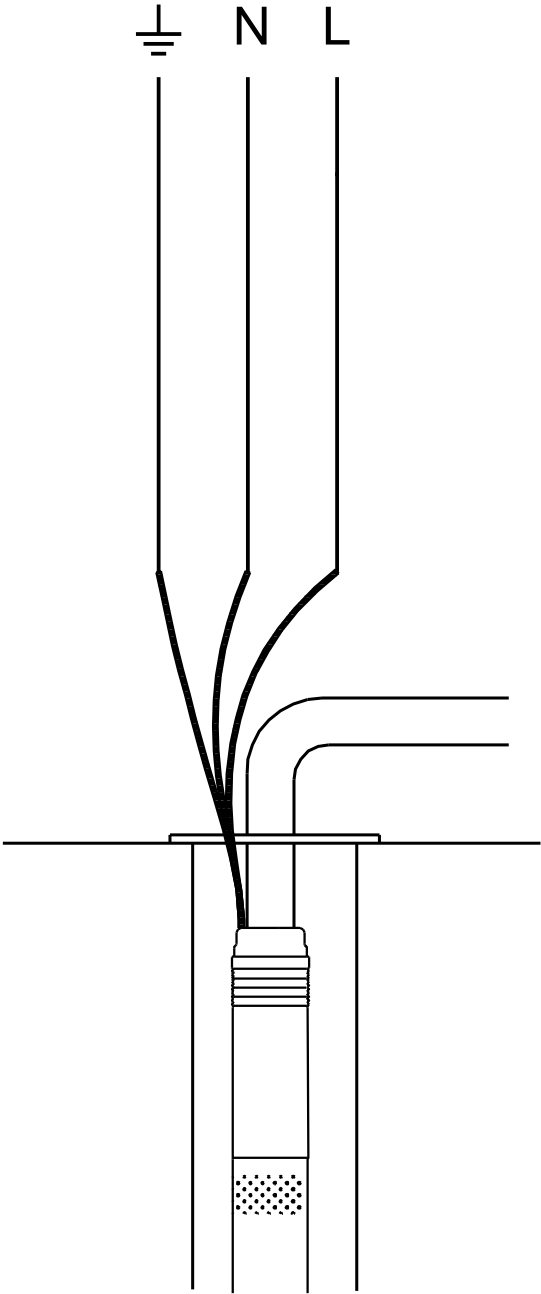
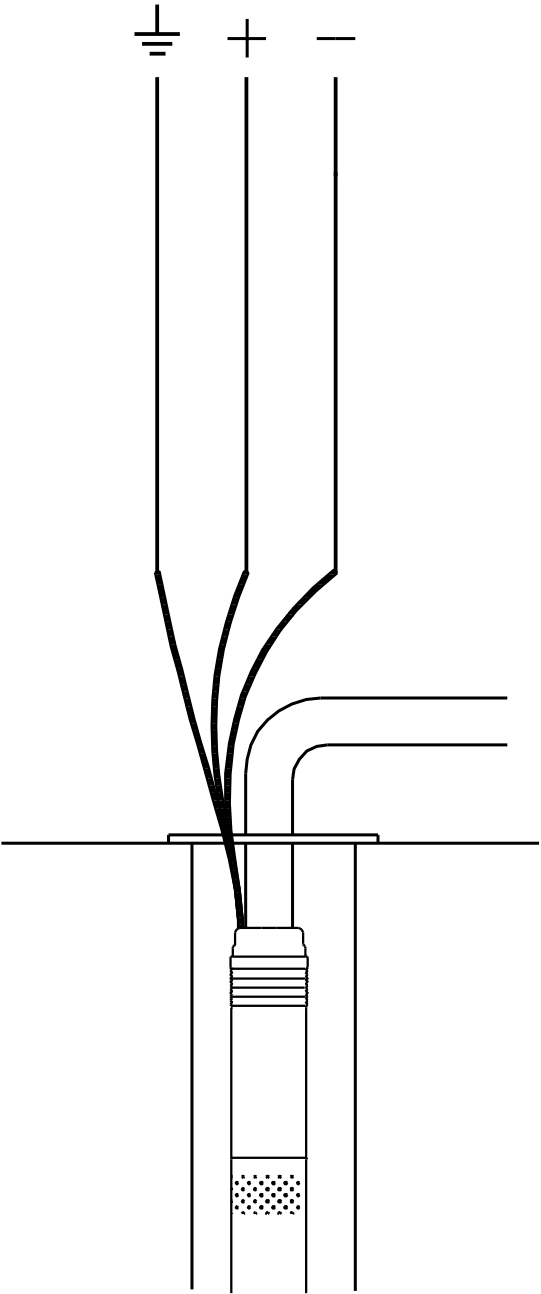


Note! All units are in [mm] unless others are stated.  
Disclaimer: This simplified dimensional drawing does not show all details.

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**On request SQF 1-70 N**





**Company name:** Medair  
**Created by:** Eng Obaidullah Muneeb  
**Phone:** 705997752  
**Email:** Obaidullah.Muneeb@medair.org  
**Date:** 28/05/2024

**Project:** Medair Health Facility Water Supply System.  
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## On request SQF 1-70 N

### Input - summary

Water volume (max): 10 m<sup>3</sup>/day  
Month for sizing: July  
Static lift above ground: 25 m  
Dynamic water level: 5 m  
Sun tracking: No (fixed)  
Location: Khas Urozgan District, Urozgan, Afghanistan  
Latitude: 32.9721 DD, Longitude: 66.6387 DD

### Products

Pump: SQF 1-70 N, 1 x On request  
Solar module: 2 x GF 270

### Sizing results - summary

#### Water production, Peak flow and Price

Total water production per year: 4530 m<sup>3</sup>  
Avg. water production per day: 12.4 m<sup>3</sup>/day  
Average water production per watt per day: 23 l/Wp/day

#### Solar module configuration:

Number of solar modules in series: 2, in parallel: 1  
Solar array rated power: 0.54 kW  
Solar array rated volts: 63 V  
Sun tracking: No (fixed)  
Tilt angle: 33 deg.

#### AC power (backup) - water production

Recommended minimum output: 1 kW  
AC 115 V: Produces: 3.339 m<sup>3</sup>/h  
AC 230 V: Produces: 3.366 m<sup>3</sup>/h

#### Typical performance at solar radiation 800 W/m<sup>2</sup>

Flow: 1.5 m<sup>3</sup>/h  
Total head: 30.1 m

#### Cables and pipes:

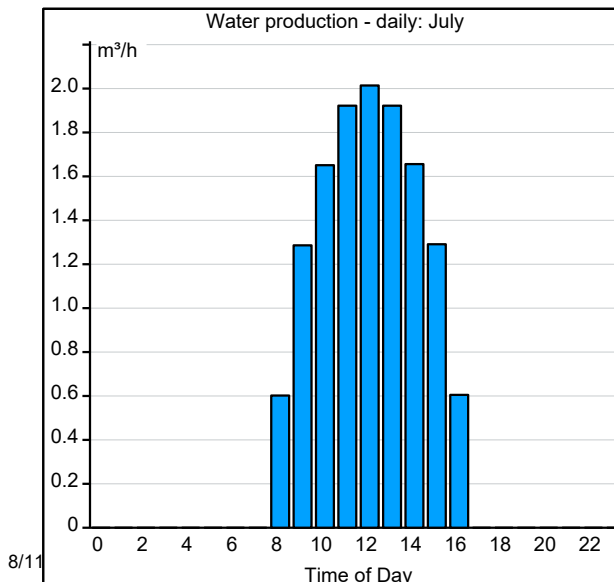
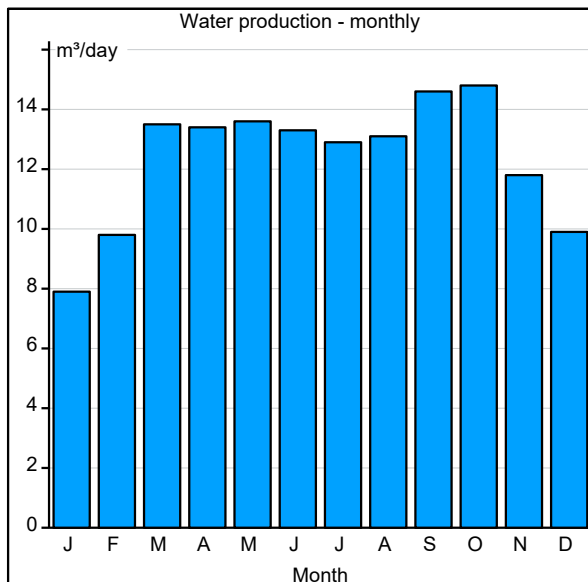
Pump cable length: 30 m  
Pump cable size: 4 mm<sup>2</sup>  
Total cable loss: 3.4 %

Material, riser pipe: PEH  
Pipe length of riser pipe: 5 m  
Friction losses: 0.077 m

### System performance - monthly average

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Water production [m <sup>3</sup> /day]	7.9	9.8	13.5	13.4	13.6	13.3	12.9	13.1	14.6	14.8	11.8	9.9
Energy production Solar [kWh/day]	2.5	3.0	3.8	3.8	3.9	3.8	3.7	3.7	4.0	4.0	3.5	2.9
Radiation horizontal [kWh/m <sup>2</sup> day]	3.1	4.2	6.3	7.5	8.8	9.3	8.9	8.1	7.6	6.2	4.3	3.3
Radiation tilt [kWh/m <sup>2</sup> day]	4.8	5.6	7.5	7.7	8.0	8.1	7.9	7.9	8.6	8.5	6.8	5.5
Avg. Temp. [°C]	-6.5	-5.2	0.9	7.8	14.1	18.3	19.9	18.1	13.1	7.4	2.7	-2.4

Data location: Latitude: 33 DD, Longitude: 67 DD







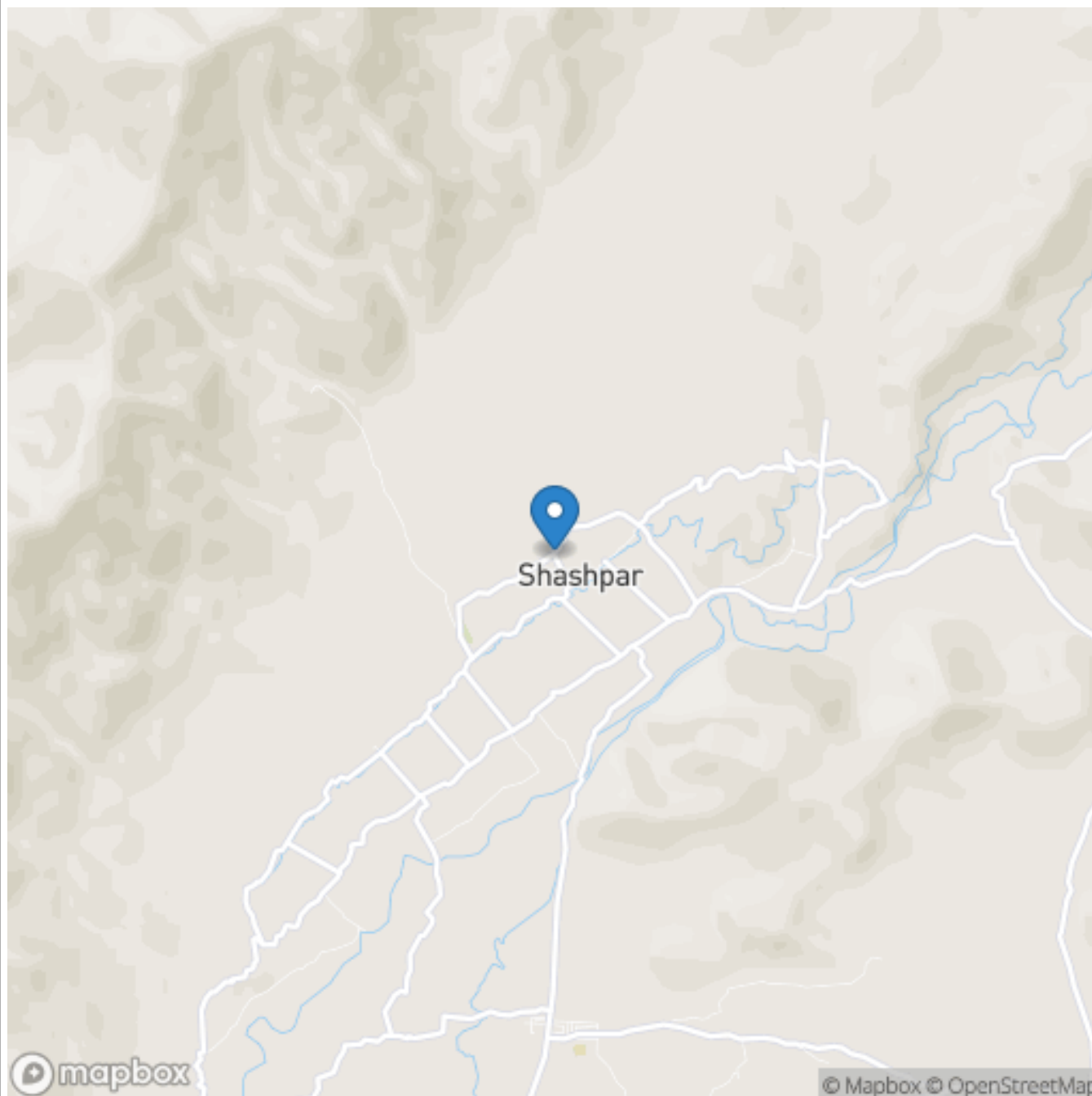
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## On request SQF 1-70 N

### Location Map

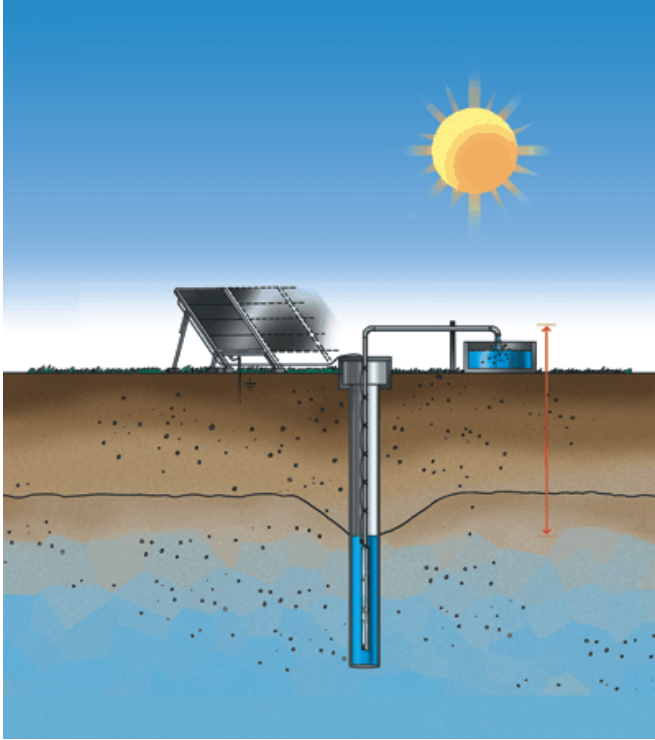


Location: Khas Urozgan District, Urozgan, Afghanistan  
Latitude: 32.9721 DD, Longitude: 66.6387 DD

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## Installation and Input



## Sizing Results

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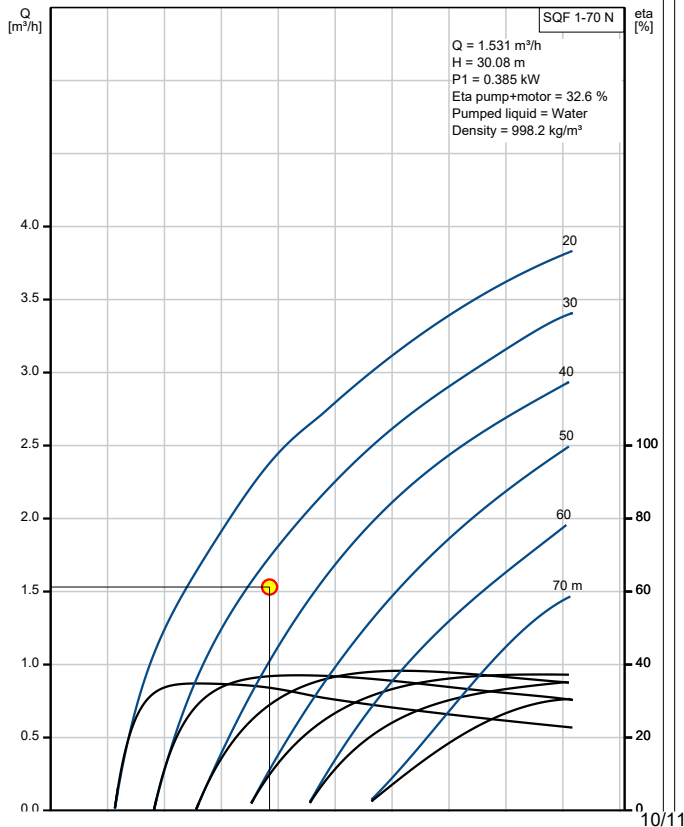
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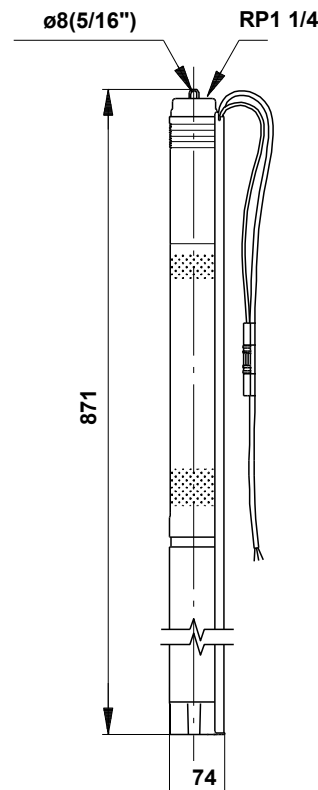
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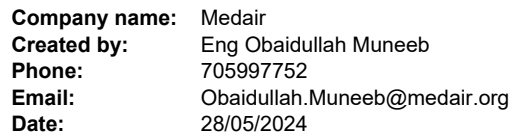
Location: Khas Urozgan District, Urozgan, Afghanistan  
Latitude: 32.9721 DD, Longitude: 66.6387 DD

## Pump Curve



## Dimensional Drawing





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