




Submersible Pump



TBP – Series

TBP 9300

max. Lift up to 70 m



The 9300 series Series Pumps is rugged, durable and built to last. The TBP delivers a steady 440 ltr./h at its maximum depth of 70 meters when supplied with 24 VDC. Its unique watertight power connector stops water wicking and prevents potential condensation problems. Great for livestock watering, irrigation, pond aeration, remote homes and cabins.

This submersible DC pump was designed for use in wells, ponds, cisterns and streams. All components excepts the diaphragm and case are constructed of stainless steel and brass. The model 9300 can be easily rebuilt in the field without special tools. The newly improved diaphragm is now rated at 2500 to 4000 operating hours. Designed for flow rates from 12 to 440 ltr./h (or up to 4000 ltr. per day), it will deliver water from up to 70 meters. The TBP 9300 will operate directly from one or two 50 watt or larger PV modules, or can be run off a 12 or 24 volt battery. If operated in PV direct mode, be sure to use the LCB-O pump controller. For twice the water, they can be installed in pairs.

Submersible Pump Applications

- Irrigation
- Livestock Watering
- Remote Homes & Cabins
- Ponds
- Islands

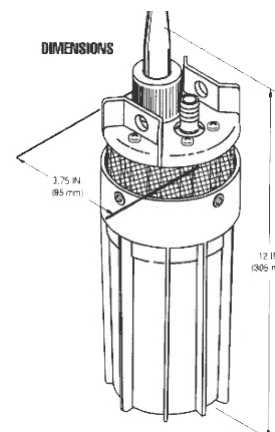
Features

- Strong Construction, yet lightweight (2.7 kg)
- Corrosion-proof housing with stainless-steel fasteners
- Dry Running capability without pump damage
- Internal Bypass Feature for pump protection
- Long-life, 24 VDC Operation
- Easily repaired in the field
- 25 years of manufacturing experience
- State of the art solid diaphragm

Connector Features

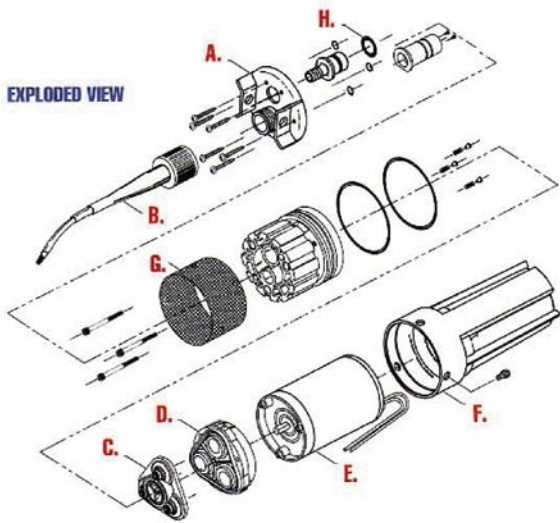
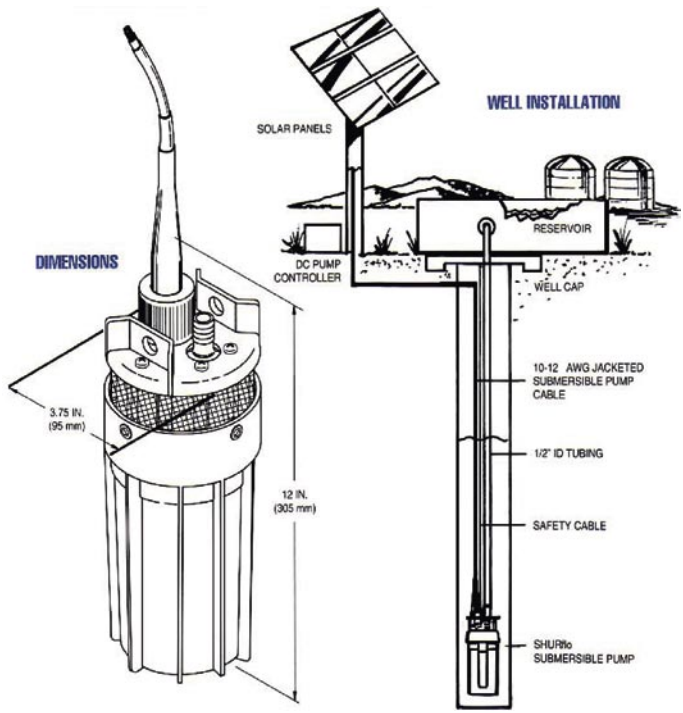
- Waterblocked Electrical Connector
- Impervious gland connection design prevents waterwicking
- Quick Disconnect – No splicing necessary
- Accepts a variety of jacketed cables

SH-No.:	160100
Submersible Pump	TBP 9300
pump design	Positive displacement 3-chamber diaphragm pump
cam	3.0 degree
motor	Permanent magnet, thermally protected
outlet port	1/2" (12.7 mm) barbed fitting for 1/2"
nominal voltage	max. 24 VDC
current	max. 4.1 A
flow rates	max. 440 ltr./h
max. lift	70 meters
max. submersion	30 meters
internal bypass	105 - 110 psi
weight	2.7 kg
dimensions	98 x 305 mm



9300 Submersible Pump Flow Chart					
Total Vertical Lift		Flow Rate per Hour		Solar Array Size min. Total Power Rating	Current
Feet	Meters	Gal.	Ltr.	Watts	Amps
20	6.1	111	420	58	1.7
40	12.2	109	413	65	2.0
60	18.3	105	398	78	2.3
80	24.4	103	390	89	2.6
100	30.5	100	379	99	2.9
120	36.6	95	360	104	3.2
140	42.7	93	352	115	3.5
160	48.8	89	337	123	3.8
180	54.9	87	329	135	4.0
200	61.0	84	318	141	4.3
230	70.1	79	300	155	4.6

Note: Use of an LCB (Linear Booster) Unit is required for optimum performance. Minimum total power rating shows minimum array watts required to perform as shown.



Replacement Part Kits			
A	Lift Plate	F	Canister Kit
B	Cable Plug Kit	G	Filter Screen Kit
C	Valve Kit	H	O-Ring Kit
D	Lower Housing Assembly Kit	I	Tool Kit (not shown)
E	Motor Kit		

Options: Pump Controller

It acts as a kind of a 'transmission' between the solar panels and the pump, matching the output of the panels to what is required by the pump. These type controllers are usually called „LCB's“, or linear current boosters. An LCB is a DC to DC converter, and is a form of maximum power point tracking (MPPT).

LCB's essentially trade voltage for current, providing more current, especially at lower light levels, to the pump. LCB's will typically give you about 25-30% more water pumping per day than with a direct PV panel to pump connection.

LCB-O Booster



- Operates on 24 VDC
- Increases daily water output up to 30%
- System starts pumping earlier in the morning
- System stops pumping water later in the evening
- Protects pump from high or low voltage conditions
- Terminals for float switch

LCB-G Booster



- Operates on 24 VDC
- Increases daily water output up to 30%
- System starts pumping earlier in the morning
- System stops pumping water later in the evening
- Protects pump from high or low voltage conditions
- Terminals for float switch
- Switch selectable for 12 VDC or 24 VDC operation
- Pump on/off switch
- Water tight enclosure and cable inlets
- Include water level monitor with probes and cable