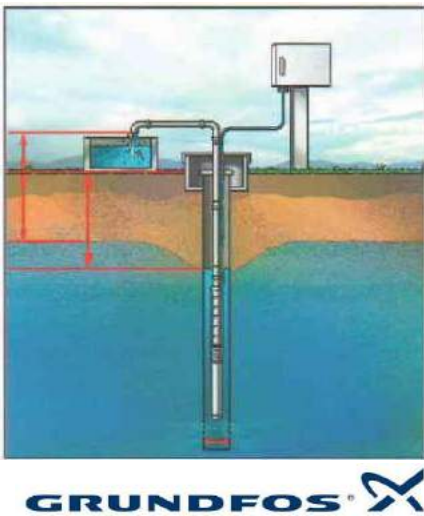


## BASIC HOW TO SELECT PUMP AND SOLAR PANELS

### Step 1 Determine required flow rate

#### Step 2: Calculate total head based on the following:

- Pumping Water level to ground level
- Friction loss in discharge pipe (Hydraulic gradient)
- Height from ground to discharge point i.e.: bore to top of tank
- Operating pressure if required



### Example Tank Fill

Recommended Pump Setting: 40mtrs

Required Flow: 3000l/hr (3m<sup>3</sup>) or 50L/min

Standing Water Level: 27 mtr

Pumping Water Level: 33mtrs

Height from ground to discharge point : 2mtrs

Discharge pipe: 35 mtr of 40mm pn 12.5 (Pipe ID 34mm) giving a friction loss of approx. 1mtr  
(see attached flow nomogram)

|                                       |              |
|---------------------------------------|--------------|
| Add together pumping water level      | 33mtr        |
| Height from ground to discharge point | 2mtr         |
| friction loss in discharge pipe       | 1 mtr        |
| <b>Total</b>                          | <b>36mtr</b> |

**Pump Duty**     [3000L/hr@ 36mtrs](#)

Looking at the pump curves there are two pumps to suit this duty SQF 3A-10N and SQF 5A-7N both of which require a minimum of 700 watts if you add some redundancy you arrive at 800 watts or 4 panels