

SELECTING A WATER PUMP





Basic question for selecting the correct pump

1. Type of pump required
2. Total pumping head
3. How much liquid is required
4. Power available at site
5. Additional question to apply



1. TYPE OF PUMP?

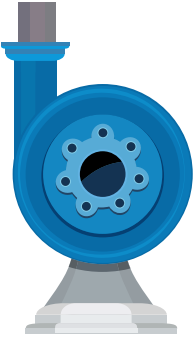


1 TYPE OF PUMP?

Surface pump or submersible pump and application

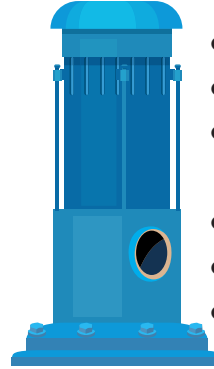
• Surface Pumps

Centrifugal Pumps



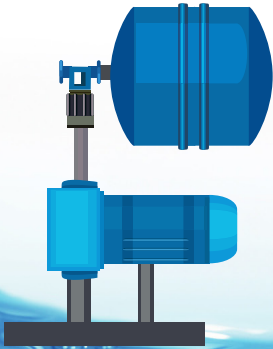
- Water supply
- Water treatment
- Irrigation
- Chemical movement
- Bulk water supply

Multistage Pumps



- Water supply
- Industrial boosting
- Industrial liquid conveying
- Water treatment
- Irrigation
- Chemical movement

Jet & Peripheral Pumps



- Water supply
- Water treatment
- Irrigation
- Air conditioning systems
- Refrigeration
- Chemical movements
- Domestic boosting

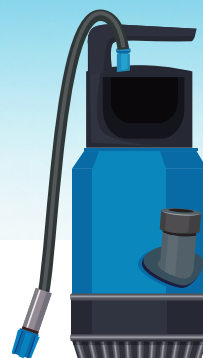
• Submersible Pumps

Borehole Pumps



- Drainage
- Irrigation
- Drinking water supply
- Lowering groundwater in mines and excavations in buildings

Drainage and Sewage Pumps



- Water removal
- Waste water drainage
- Water transfer
- Dewatering
- Fish pond & fountain circulation
- Sewage handling
- Factory water handling
- Storm water removal

2.TOTAL PUMPING HEAD?

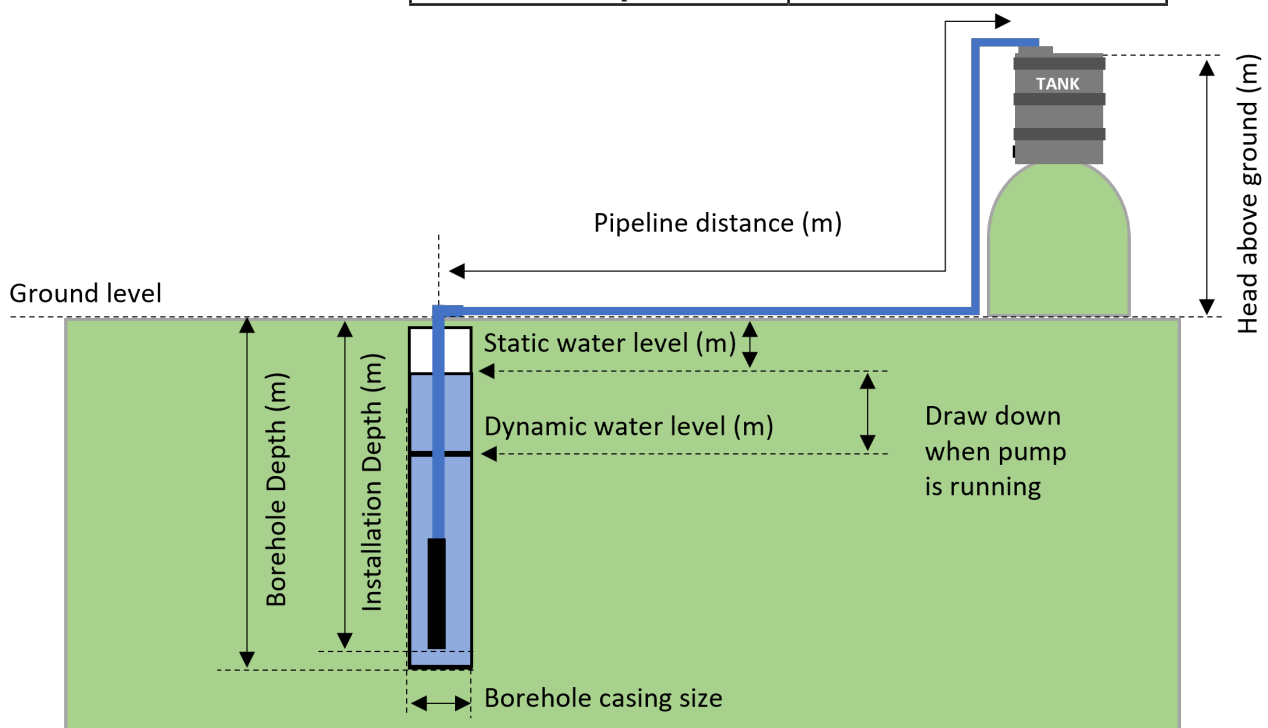


• Submersible Pump Diagram



Total Pumping Head (TPH) = Dynamic water level / installation depth + Static above ground + Friction in pipeline

Additional information	
1 Bar	10 m
Pressure of Sprinkler	+/- 3Bar/30m



Selection Criteria:

1. Borehole casing size
2. Borehole depth (m)
3. Installation depth (m)
4. Static water level (m)
5. Dynamic water level (m)
6. Static head (m) (head above ground)
7. Distance above ground (m) (Pipeline distance if applicable)
8. Current pipe size, and class (if applicable)
9. Other pressure required
10. Capacity / flow in liters per hour / minute
11. Voltage available (230V/380V/Solar)
12. Control box required (Standard / Protection / Float terminals)

2.TOTAL PUMPING HEAD?



• Surface Pump Diagram

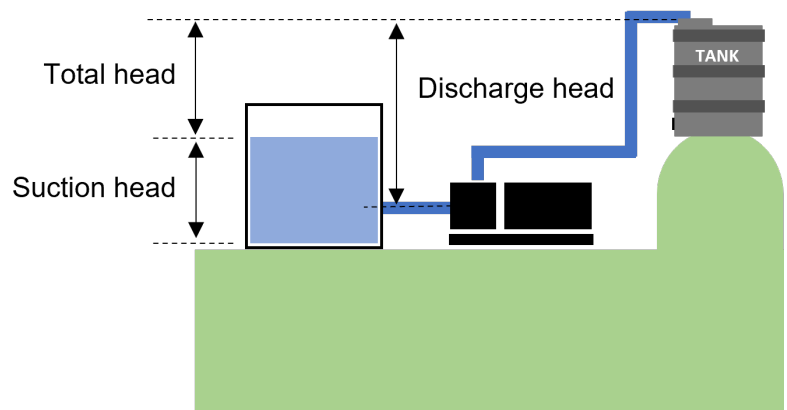


Total Pumping Head (TPH) = Suction + Static above ground + Friction in pipeline

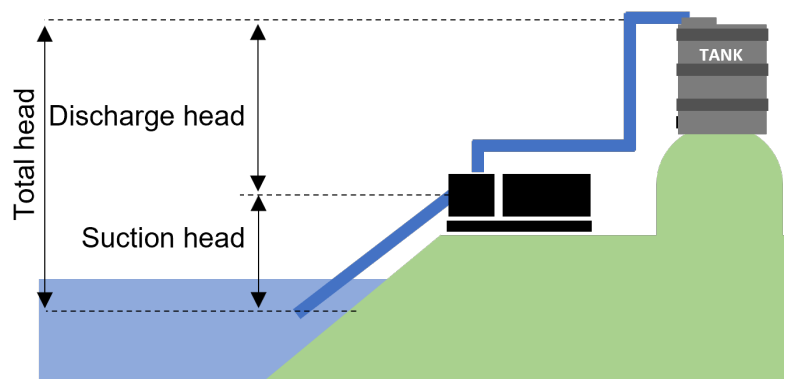
Selection Criteria:

1. Suction lift and distance (m)
2. Static head (m) (Discharge head)
3. Distance above ground (m) (Pipeline distance if applicable)
4. Current pipe size, and class (if applicable)
5. Other pressure required
6. Liquid / fluid to be pumped
7. Capacity / flow in liters per hour / minute
8. Voltage available (230V/380V/Solar/Diesel)
9. Control box required (Standard / Protection / Float terminals)

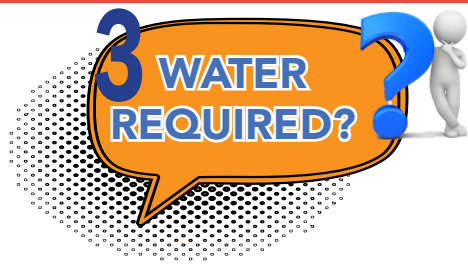
Flooded suction: This is when your water level is higher than where your pump is situated. With a flooded suction you will not have any suction lift.



Suction lift: This is when your water level is lower than where your pump is situated. With a suction lift you need to add the suction lift in meters to your TPH.



3.WATER REQUIREMENT?



Flow requirements in: Liters per second/min/
hour

Additional information	
1 m ³	1000 L
1 Gallon	4.5 L
1 L/Sec	3600 L/h
1 L/Min	60 L/h
Single Nozzle Sprinkler	1000 L/h
Double Nozze Sprinkler	1300 L/h

4.ELECTRICAL REQUIREMENTS?



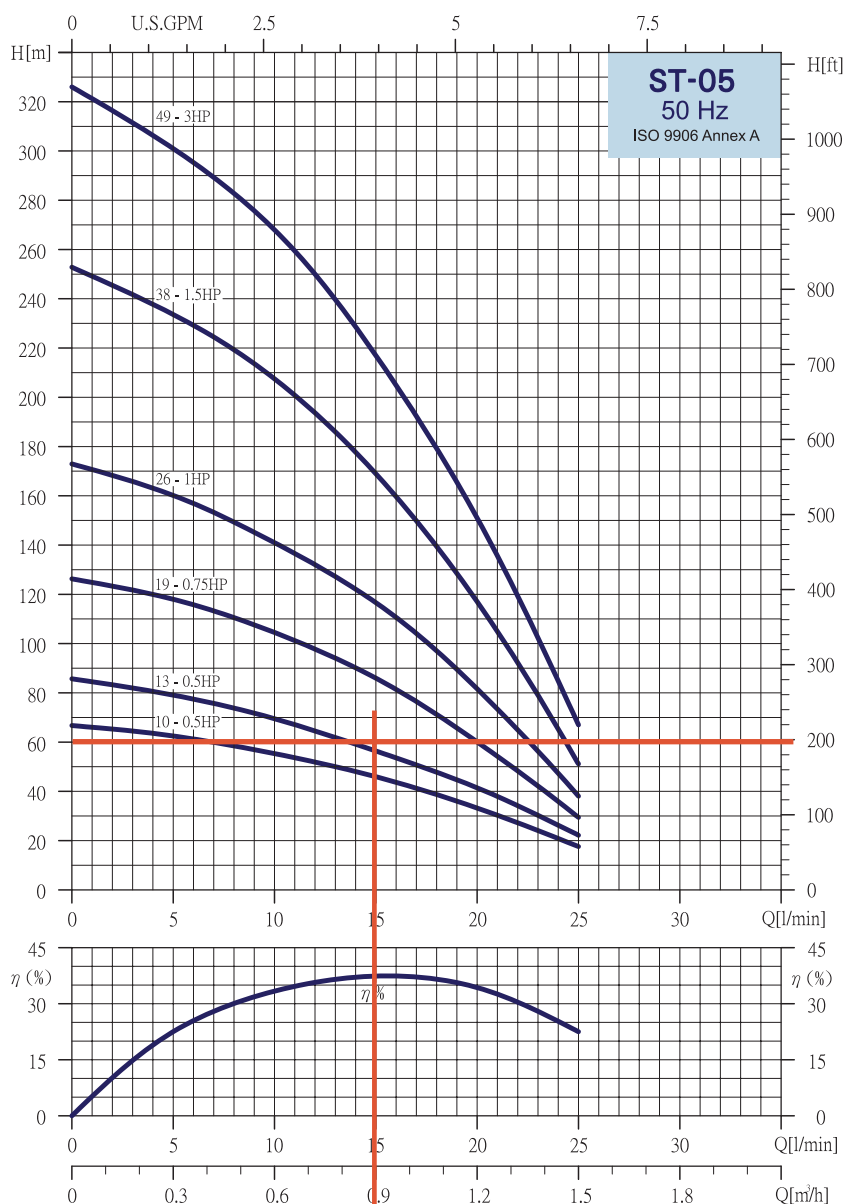
Electricity available at site

Additional information	
Single phase	up to 2.2kW 230V
Three phase	up to 200kW 400V
Solar 230V three phase	up to 2.2kW 230V
Solar three pahse	up to 200kW 400V

SELECTING PUMP OF CURVE



• Borehole performance curve



Basic question:

1. Type of pump required
2. Total pumping head
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5. Additional question to apply

Example answers:

1. Type of pump - borehole pump
2. Total pumping head - 60m
3. Water required - 900L/h
4. Electricity available - 230V

Duty Point: 900L/h @ 60m

Pump Selection:

Pump - ST 05-13
 Motor- 0.37kW 230V

2: Select head in (m) among Y Axis

1: Select Flow in (m³/h) among X axis

ABC PUMPS BRANCHES:

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