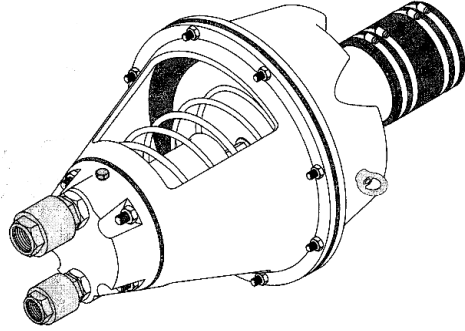


GLOCKEMANN PUMP

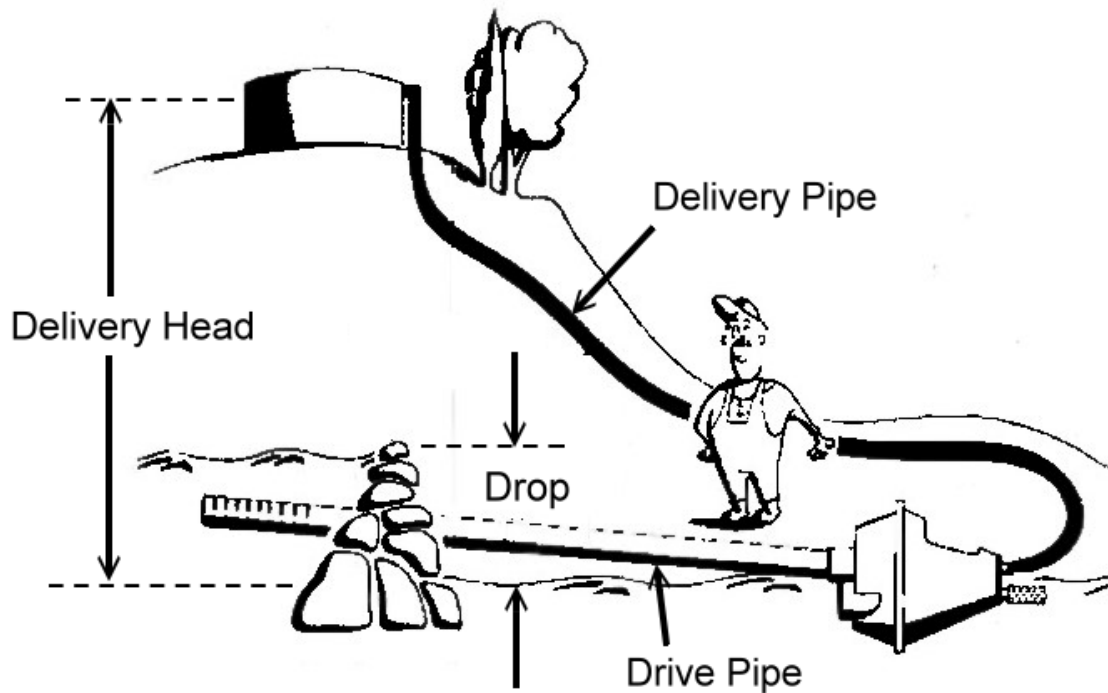


Site Assessment

What you need to know before doing ahead.

The Basics

The Glockemann is a water powered water pump.



It requires water flowing down the 'Drive Pipe' to power the pump so it can pump some of that water up the delivery pipe.

Important points:

1. 'Drop' from 0.6m to 1.8m
2. 'Flow' of water through pump 2 to 7Litres/sec
3. 'Delivery Head' max. 150m
4. Pump output in Litres/24hrs
5. Drive pipe length & diameter
6. Bore diameter

Site assessment

Have you got a suitable site?

You can find out by following steps below

For details see diagrams in the following pages.

Step 1. What steam FLOW rate do you have?

- a. The flow could be obviously plenty therefore go to next step.
- b. Often a visual picture is OK since the flow tends to vary anyway.
- c. Or you can measure it.

Step 2. What is your potential DROP?

- a. A drop can be a natural drop with small weir for the drive pipe.
- b. Or a weir only
- c. Or over a distance along you stream.
- d. Or a combination of the above.

Step 3. What is your delivery head?

Ways to measure this Head in metres

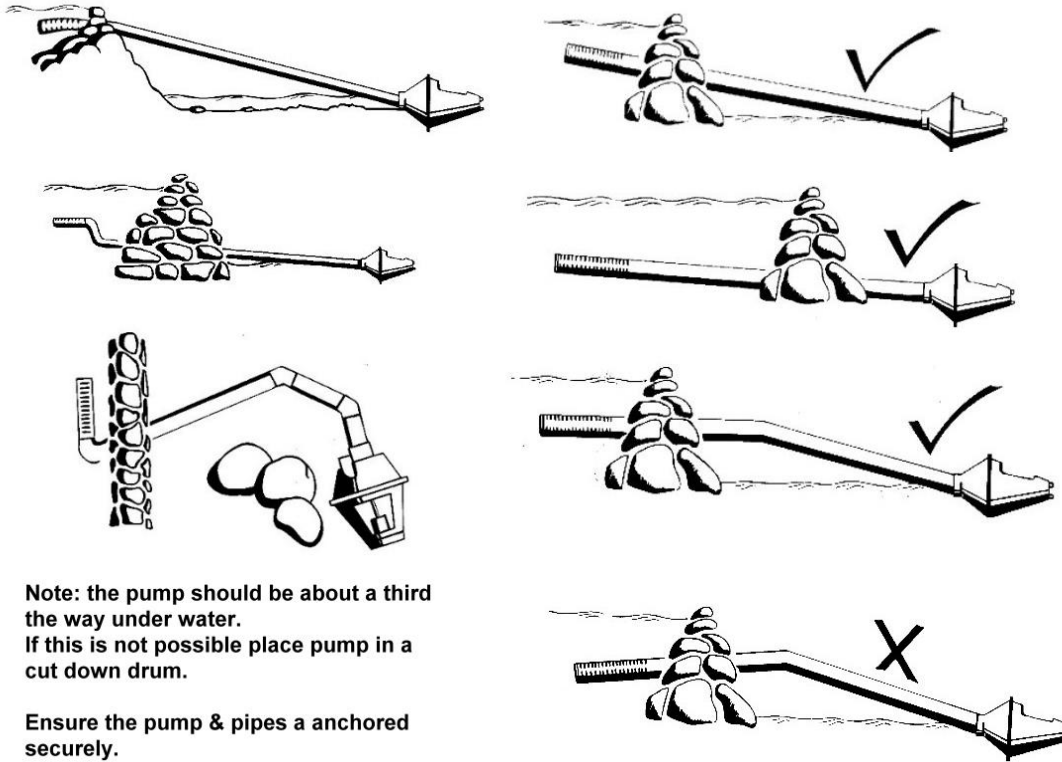
- a. An altimeter is first choice if available.
- b. Using a topographical map by counting the contour lines is often accurate enough for heads above 30m.
- c. For these lower heads use a spirt level to measure.

Step 4. What will your pump output be?

From the above you now know the Flow, Drop & Delivery Head. These values allow you to determine the pump output & appropriate cylinder bore diameter using the Pump output table.

After following these steps you will be able to decide whether to go ahead.

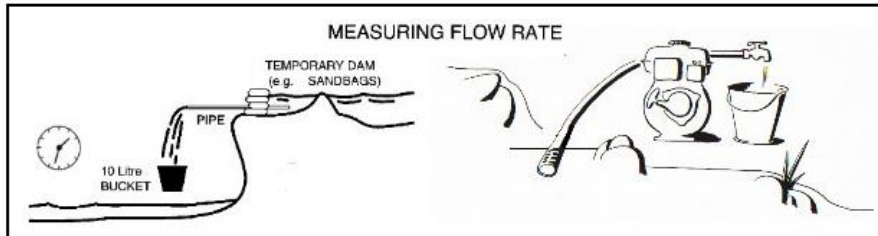
PUMP & DRIVE PIPE CONFIGERATIONS



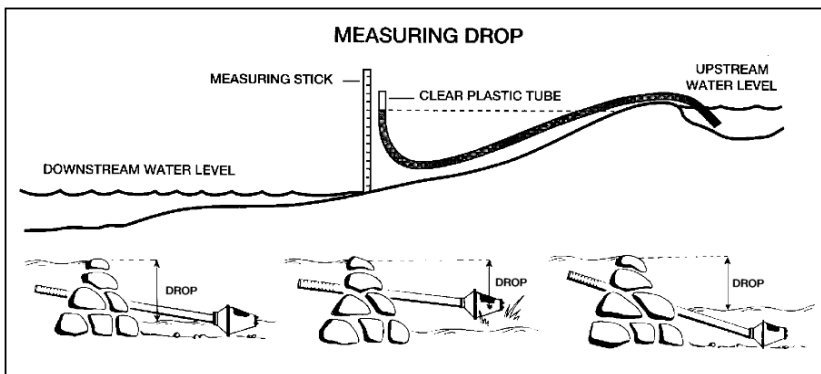
Note: the pump should be about a third the way under water.
If this is not possible place pump in a cut down drum.

Ensure the pump & pipes are anchored securely.

MEASURING FLOW RATE

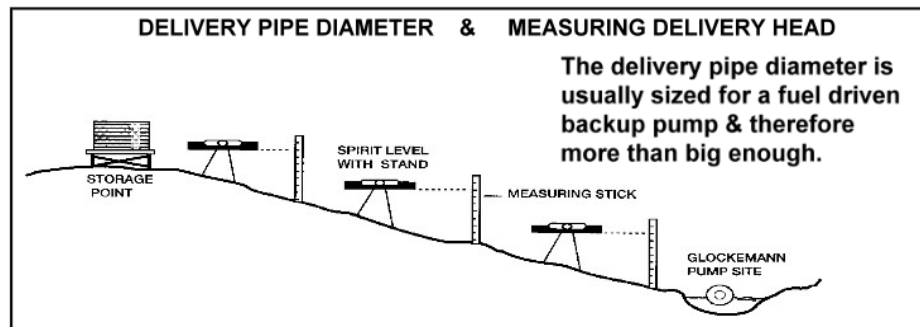


MEASURING DROP

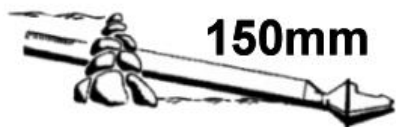


DELIVERY PIPE DIAMETER & MEASURING DELIVERY HEAD

The delivery pipe diameter is usually sized for a fuel driven backup pump & therefore more than big enough.



| OUTPUTS IN LITRES/DAY WITH 150MM DRIVE PIPE | | | | | | | | | |
|---------------------------------------------|---------|---------|---------|---------|--------|--------|--------|--------|---------|
| DELIVERY HEADS & OUTPUTS IN LITRES / DAY | | | | | | | | | |
| DROP | 5M | 10M | 20M | 35M | 50M | 75M | 100M | 150M | FLOW |
| 1.4M | | | g 17000 | e 10000 | d 7500 | c 5200 | c 3900 | b 2600 | 7.5 L/S |
| 1.2M | | g 23000 | f 14500 | e 8600 | d 6700 | c 4500 | b 3350 | b 2250 | 7.0 L/S |
| 1.0M | g 23000 | g 19000 | e 11200 | d 7100 | c 4950 | b 3350 | b 2500 | a 1600 | 7.0 L/S |
| 0.8M | g 18900 | f 13000 | d 7200 | c 4150 | b 2900 | b 1900 | a 1450 | a 1000 | 6.0 L/S |
| 0.6M | f 13950 | d 7800 | c 4150 | b 2350 | a 1600 | a 1100 | a 800 | a 550 | 5.5 L/S |
| 0.4M | d 6480 | c 3400 | a 1700 | a 1000 | a 650 | | | | 5.0 L/S |



CYLINDER BORE DIAMETER SELECTION

| | | | | | |
|---|------|---|------|---|-------|
| a | 35mm | d | 73mm | g | 124mm |
| b | 48mm | e | 86mm | | |
| c | 60mm | f | 98mm | | |

| OUTPUTS IN LITRES/DAY WITH 100MM DRIVE PIPE | | | | | | | | | |
|---------------------------------------------|---------|---------|---------|---------|--------|--------|--------|--------|--------|
| DELIVERY HEAD | | | | | | | | | |
| DROP | 5M | 10M | 20M | 35M | 50M | 75M | 100M | 150M | FLOW |
| 1.8M | | | g 17000 | e 10300 | d 7450 | c 4950 | c 3750 | b 2500 | 5.5L/S |
| 1.6M | | g 25000 | f 14400 | e 9100 | d 6400 | c 4300 | b 3200 | b 2100 | 5.0L/S |
| 1.4M | | g 21000 | f 12200 | d 7650 | c 5350 | c 3650 | b 2650 | a 1700 | 5.0L/S |
| 1.2M | | g 19200 | e 10300 | d 6350 | c 4450 | b 2300 | b 2300 | a 1450 | 4.5L/S |
| 1.0M | g 21000 | f 15200 | d 8500 | c 4800 | b 3400 | b 2200 | a 1700 | a 1150 | 4.5L/S |
| 0.8M | g 16500 | e 9300 | c 5400 | b 3350 | b 2150 | a 1400 | a 1100 | a 650 | 4.0L/S |
| 0.6M | f 12400 | d 6450 | b 3250 | a 1800 | a 1300 | a 850 | a 600 | | 4.0L/S |

Drive Pipe Lengths

150mm Dia. Between 8 & 14 X the drop

100mm Dia. Between 5 & 9 X the drop

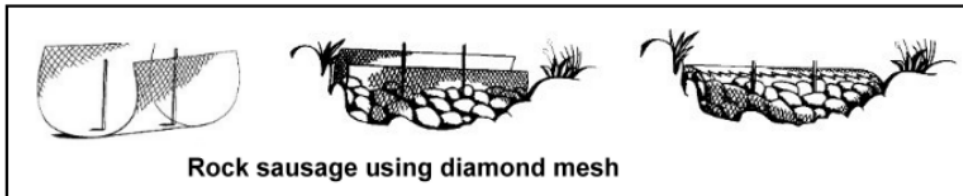
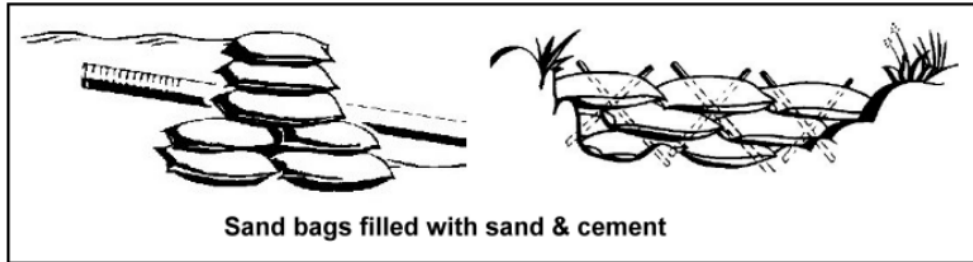
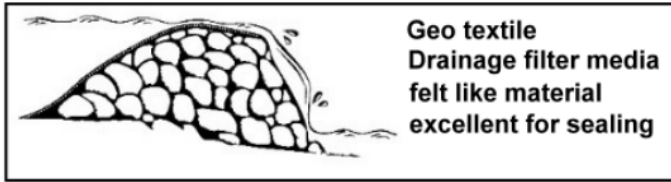
Example: if your drop = 1.5m

For 100mm pipe length can be between 7.5m (= 5 X 1.5m)

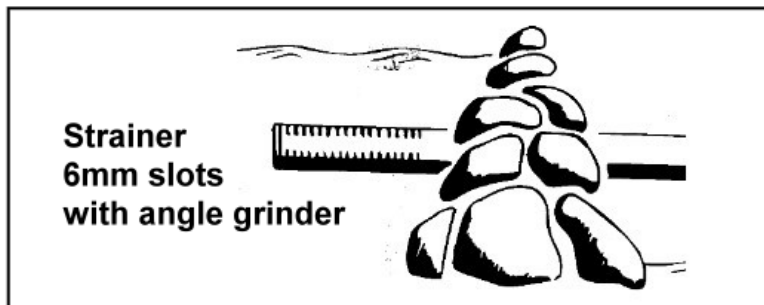
& 13.5m (= 9 X 1.5m)

Drive pipe material: PVC sewer pipe.

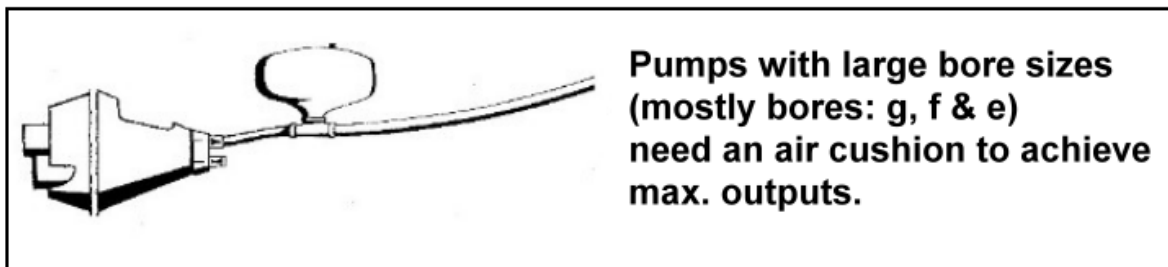
Making Weirs



Drive Pipe Strainer



Air cushions



Please contact Glockemann Water Pumps for more details as guidance is an important part of what you purchase.

www.glockemannwaterpumps.com

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