

EDUCTOR



Figure 1

For drawing water from wells with deep water level

If the water level is below 7 meters and a normal pump is not able to suck the water then an eductor is used. With the smallest eductor there is the possibility to draw water through a pipe of 75 mm diameter only.

As the eductor has no moving parts it lasts nearly unlimited time and there is great working reliability.

The eductor is fitted with a jet system. A high pressure-water-jet passes through a small nozzle into a bigger one and creates underpressure. The water to be conveyed will then be sucked and mixed with the high pressure water and conveyed to the required height.

For higher capacities up to 4,000 ltr./min. eductors in special construction can be supplied.

STANDARD ARRANGEMENT

The water flowing out of the pressure socket at the pump is divided into water for use and service water. The water for use will be collected in a tank and then the service water will be conveyed to the eductor.

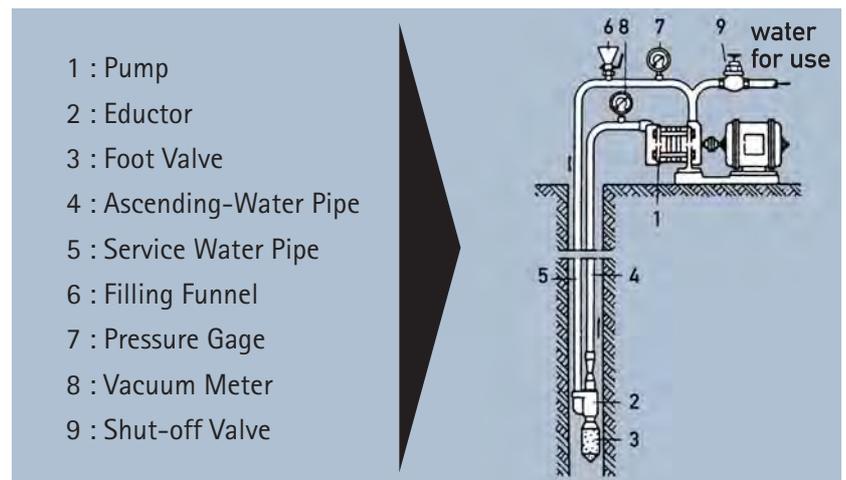


Figure 2

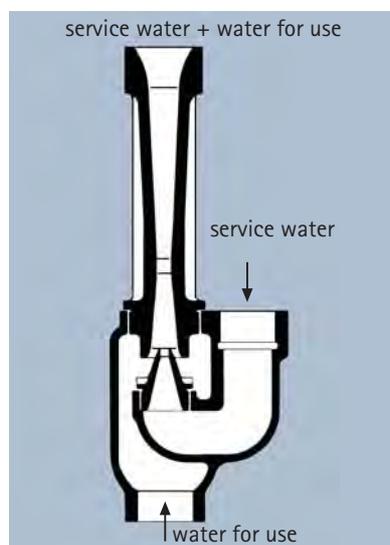


Figure 3

LOW-PRESSURE ARRANGEMENT

By a conveying height of 5 to 8 meters above the center of the pump the pump conveys the service water only to the eductor with a higher pressure (booster pump). The eductor itself conveys the total amount of water to the point of use. That means the pump takes only part of the water and presses it as service water to the eductor.

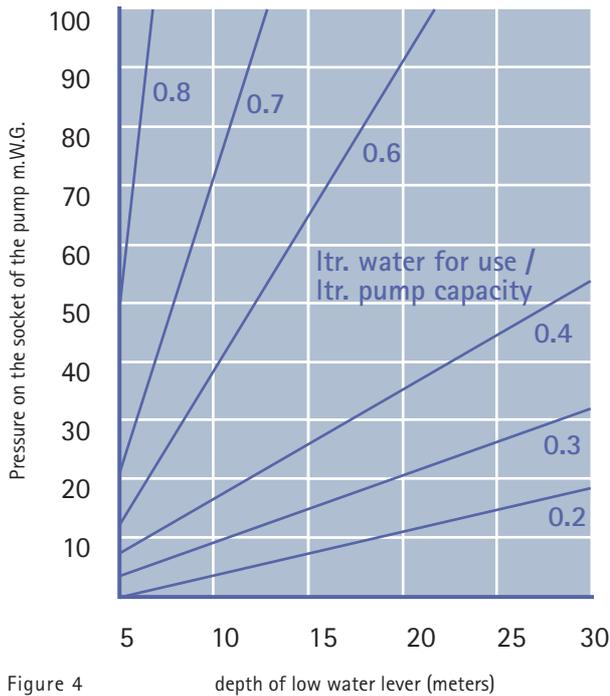


Figure 4

EFFECTIVE CAPACITY OF THE EDUCTOR

The diagram shows the specific useful capacity of the eductor (litr. useful water per litr. capacity of the pump) depending on the pressure at the pressure socket on the pump and on the lowest water level under normal conditions.

The curves are elaborated under the condition that the pump itself will suck the water about 5 meters. Therefore the total manometric conveying height of the pump must be 5 m.W.G. (0.5 atue) higher than the pressure at the pressure socket.

Best efficiency will be obtained by a specific effective capacity of 0.5 atue. Based on this figure the most favorable pressure of the pump can be chosen depending on the depth of the water to be drawn. Pump pressures leading to a specific effective capacity below 0.35 atue should be avoided.

Eductors can be built for depths more than 30 meters, however the losses and the wear and tear of the nozzles increase if the depth is more than 45 meters. Therefore the use of eductors under such conditions can be recommended in exceptional cases only.

Size	Capacity of Pump litr./min.	Rohrgewinde			Distance Between the Centres of the Pipe mm	Max. Outside Diameter mm	Length of Eductor mm	Smallest Well Diameter mm	Weight kg
		Ascending Pipe a	Connection to Service Pipe b	Suction Pipe c					
		Type A: tombac / Type B: housing: cast iron, nozzle: tombac Size 2: A only / Size 3-5: A or B / Size 6-10: B only							
2	40	1"	3/4"	3/4"	35	73	210	75	1.5
3	60	1 1/4"	1"	1"	45	96	260	100	2.7
4	100	1 1/2"	1 1/4"	1 1/4"	56	116	315	120	4
5	150	2"	1 1/2"	1 1/2"	66	135	385	150	6.5
6	250	2 1/2"	2"	2"	85	170	440	190	11
7	400	3"	2 1/2"	2 1/2"	105	210	520	230	15
9	1,000	4"	2 1/2"	4"	115	245	635	270	25
10	2,500	5"	4"	4"	140	290	950	300	

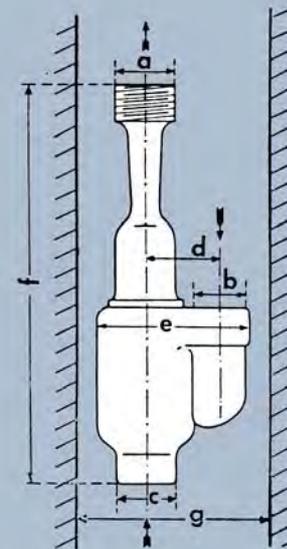


Figure 5

As each eductor must be calculated according to the conditions on the spot please provide the following information:

- 1: Required amount of water or the capacity and pressure of the provided pump.
- 2: Conveying height above the centre of the pump or pressure of the air vessel and the length of the pressure line.
- 3: Lowest water level below the centre of the pump and the length of the suction pipe.
- 4: Inside diameter of the well (check if eductor fits inside).