

AUTOMATIC AIR FEEDER



ARIAMAT
type
AR 300E
AR 1000E
AR 2000E
 Complete with connections
 and 1 m polyethylene pipe

Materials

Component	Material
Upper elbow	Brass
Air valve	Brass
Feeder body	Polycarbonate
Ball valve	Rubber
Conical fittings	Polyethylene
Pipe	Polyethylene

Construction

The automatic air feeder ARIAMAT controls the air cushion in the pressure vessel by replacing the air dissolved in the water at every pump start. This device limits the number of pump starts and stops, allows a better use of the water reserve and improves the overall performance of the automatic pressure system.

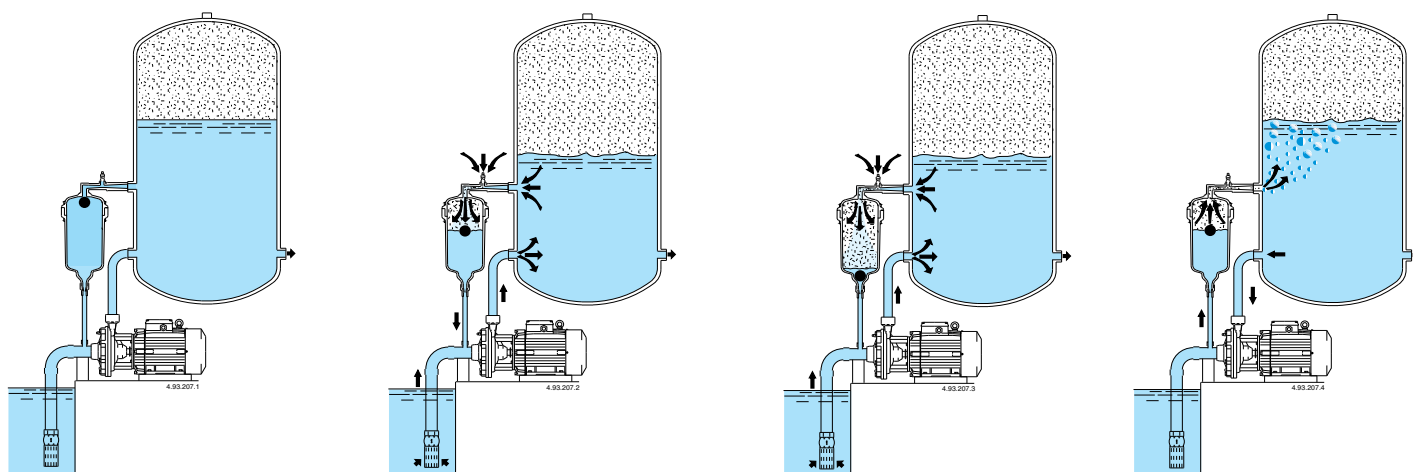
Operation

ARIAMAT operation is explained in pictures 1-2-3-4. At the end of every cycle, ARIAMAT AR 300E, AR 1000E and AR 2000E let in the vessel 300, 1000 and 2000 cm³ of air respectively. For a good operation of ARIAMAT it is necessary to have enough suction pressure in the pipe whilst the pumps are running. If the pumps work under positive suction head and water falls to the suction inlet, there will not be enough suction pressure in the suction pipe to allow a correct operation of ARIAMAT; in this case, it is necessary to create an artificial loss in the suction pipe, by closing gradually the gate valve when the pump is running until the water level in the ARIAMAT starts dropping. When a sufficient suction pressure to grant a safe ARIAMAT operation cannot be achieved, it is recommended to feed the vessel with a compressed air system and level probes.

Description of the supply

The ARIAMAT is normally fitted on our automatic water systems. The supply of ARIAMAT, as a spare part to be installed by the customer, includes:
 n° 1 ARIAMAT assembled with upper elbow and air valve;
 m 1 Polyethylene tube with ring nut and fitting for connection to the pump suction side.

Pressure in m	Pressure vessel capacity in litres											
	100	200	300	400	500	750	1000	1500	2000	3000	4000	5000
14/28	AR 300E						AR 1000E					AR 2000E
20/30	AR 300E				AR 1000E							AR 2000E
30/40	AR 300E			AR 1000E						AR 2000E		
35/55	AR 300E			AR 1000E						AR 2000E		
55/70	AR 300E		AR 1000E						AR 2000E			
75/95	AR 300E	AR 1000E				The use of an air compressor is recommended.						



- 1) When the pump is stopped, ARIAMAT is full of water.
- 2) When starting, the pumps creates a suction pressure which also takes the water from ARIAMAT, allowing some more water to come from the vessel. The water through the ARIAMAT venturi sucks air from the upper valve.
- 3) The water level in the ARIAMAT drops until the ball valve moves to the bottom of the ARIAMAT closing the hole of the pipe connected to the pump. ARIAMAT is now full of water.
- 4) When stopping, there is a back-flow of water from the vessel through the pump, to the ARIAMAT. Air is pushed inside the vessel.