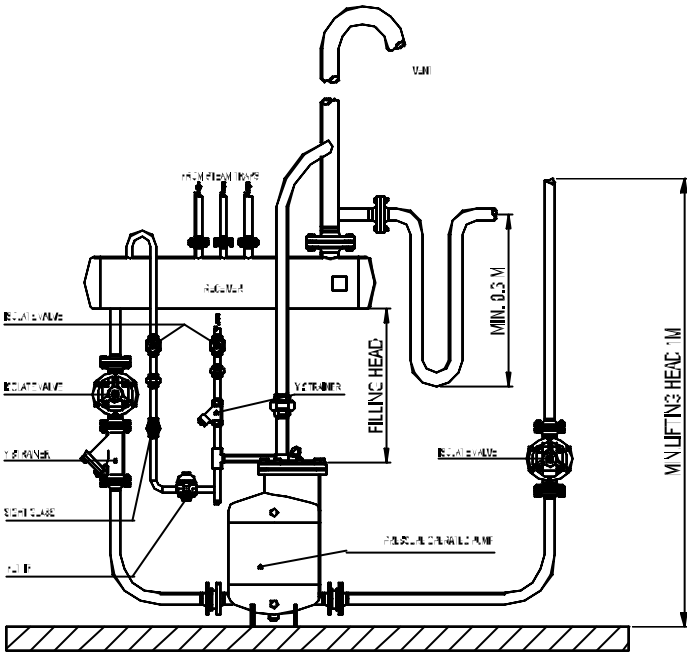
STEAM EQUIPMENT

ADCAMAT
How to select and size

SIZING OF THE SYSTEM

The discharge capacity of the pump is a function of:

1. Condensate load.....Kg/h
2. The pressure of operating medium (steam, compressed air or gas).
3. The total lift or back pressure* the pump will have to exhaust against.This includes the change in fluid level elevation after the pump (0.0981bar/m of lift),plus pressure in the return piping,plus the pressure drop in bar caused by pipe friction,plus any other system component pressure drop the pump exhaust will have to overcome.
4. Filling head available (0.3m is recommended).



FLOW RATE CAPACITY IN Kg/h

Installed with recommended filling head above cover of pump of 0.3m

(LIQUID SPECIFIC GRAVITY 0.9 - 1.0)

OPERATING INLET PRESSURE bar	TOTAL LIFT OR BACK PRESSURE* bar	CAPACITY Kg/h PUMP SIZE DN 1"	11/2"	2"	3"x2"
0.34	0.14	725	1225	1725	2810
0.69	0.34	815	1315	1860	3170
0.69	0.14	905	1495	2315	3945
1.7	1.0	905	1495	2315	3945
1.7	0.69	950	1770	2540	4550
1.7	0.34	1040	1905	2765	4715
3.4	2.8	905	1450	2175	3720
3.4	1.7	1040	1680	2630	4440
3.4	0.69	1090	1815	2905	4900
5.2	4.1	905	1540	2270	3855
5.2	2.8	1090	1725	2630	4440
5.2	1.0	1135	1905	2995	5080
6.9	4.1	1000	1630	2630	4490
6.9	2.8	1090	1905	2765	4715
6.9	1.0	1180	2085	2995	5080
8.6	4.1	1040	1765	2720	4625
8.6	2.8	1090	2040	2860	4805
8.6	1.0	1180	2130	3040	5130

CHART 1

CAPACITY CORRECTION FACTOR FOR GASES OTHER THAN STEAM					
% BACK PRESS. VS. MOTIVE PRESS. (BP/MP)	10%	30%	50%	70%	90%
CORRECTION FACTOR	1.04	1.08	1.12	1.18	1.28

CHART 2

CAPACITY MULTIPLYING FACTORS FOR OTHER FILLING HEADS				
FILLING HEAD m	PUMP SIZE 1"	1 1/2"	2"	3" X 2"
0.15	0.7	0.7	0.7	0.9
0.3	1.0	1.0	1.0	1.0
0.6	1.2	1.2	1.2	1.08
0.9	1.35	1.35	1.35	1.2

CHART 3

INSTALLATION

Fig.1 shows a typical example of installation of ADCAMAT automatic pump.For further details and instructions please contact the distributer.

RECEIVER

A receiver is recommended to temporarily hold the liquid and prevent any flooding of the equipment, while the pump is in the pumping cycle.A length of pipe of large diameter or a tank can also be used.

SUGGESTED RECEIVER

PUMP SIZE	1"	11/2"	2"	3"X2"
PIPE SIZE WITH 1m LENGTH	6"	8"	10"	12"

EXAMPLE

CONDITIONS:

Condensate load	1900 Kg/h
Filling head	0.15 m
Motive gas	Air
Pressure avaible	6.9 bar
Vertical lift after pump	6 m
Return piping pressure	1.5 bar
Piping friction pressure drop	negligible

STROKE COUNTER

Avaible on request, it can be screwed directly into the top cover of the pump or above the pump through a 1/2" size pipe for easier reading (max. 1m).

Each stroke 25 liters of liquid are pumped. The counter has 7 digits.

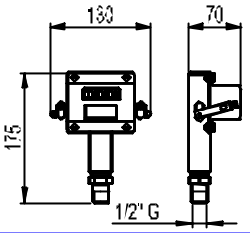


FIG.2

CALCULATIONS

Total back pressure: 1.5bar + (6m x 0.0981) = 2.09 bar

Pump choice,assuming steam for motive pressure of 6.9bar and a back pressure of 2.8bar, the 2" pump has a capacity from flow rate capacity chart 1, of 2765 Kg/h.

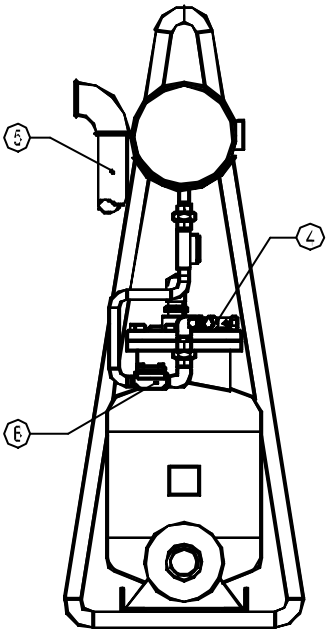
CORRECTION FOR FILLING HEAD:

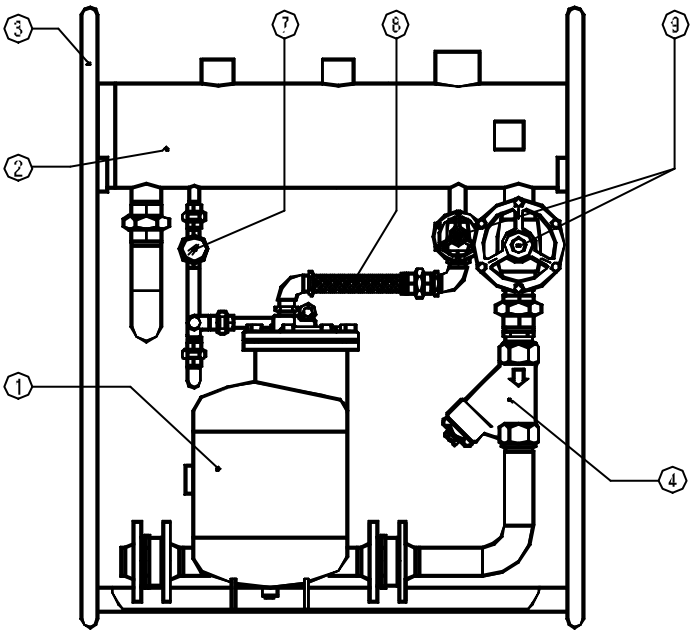
With 0.15m filling head the correction factor from chart 3, is 0.7.The corrected capacity is , 2765 Kg/h x 0.7 = 1935 Kg/h.

CORRECTION FOR AIR AS MOTIVE GAS:

The % back pressure 2.09bar/6.9bar = 30%
The correction factor from chart 2, is 1.08.
The corrected capacity is, 1935Kg/h x 1.08 = 2090 Kg/h.

PACKAGED AUTOMATIC PUMP UNIT
(SUITABLE FOR STEAM SUPPLY)





The ADCAMAT Packaged unit comprises an Adcamat Pop pump, a vented receiver and all auxiliary items, compactly mounted on a metal frame piped and ready for connection.
Packaged units save time,work and site costs.In addition they ensure that installation of the pump is correct in every detail.
Two or more units can be connected in parallel to cope with flow rates beyond the capacity of a single pump.A DUPLEX PACKAGED assembly is also available,consisting of two pumps installed in the same packaged.
Units operating with compressed air are also available.

ACESSORIES:

1. ADCAMAT automatic pump.
2. ADCA FLT series ball float steam trap.
3. ADCA SW sight glass.
4. Globe valve.
5. Y strainer
6. Stroke counter.
7. Level gauge.
8. Receiver.
9. Overflow.
10. Metal frame.