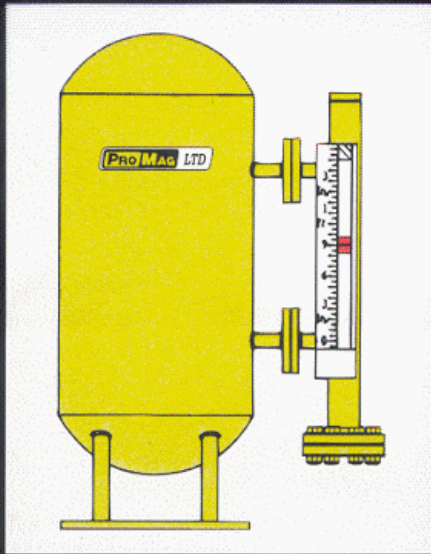
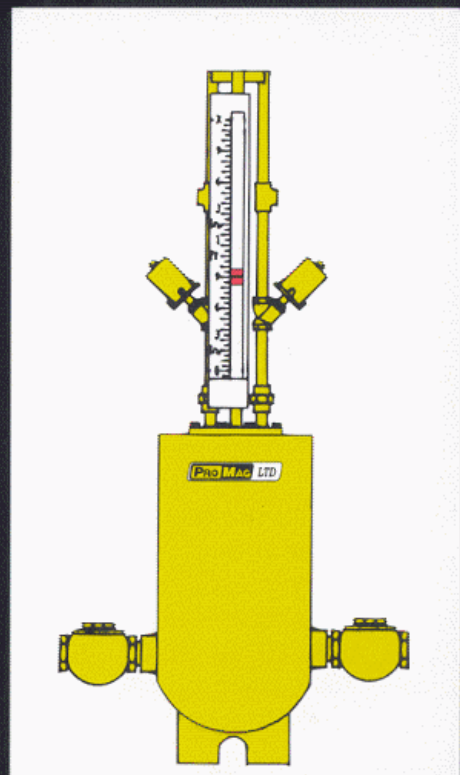
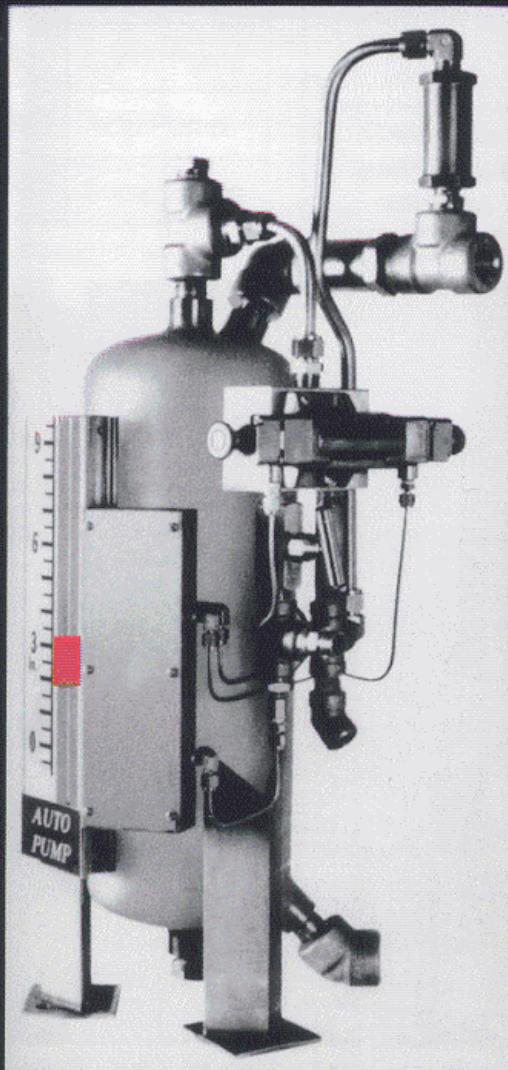


PRO MAG LTD



AUTO PUMP

**AUTOMATIC-PNEUMATIC
LIQUID PUMPING
SYSTEMS
FOR
CONDENSATE RECOVERY
LIQUID TRANSFER
LIQUID COLLECTION**



ULTRA SAFE

**SEAL-LESS
MOTOR-LESS
MAINTENANCE FREE**

ULTRA SAFE LIQUID PUMPING AND COLLECTION

Installing, using and maintaining collection and pumping equipment to collect and pump fluids of all kinds has never been EASIER, LESS COSTLY and SAFER than with the use of the (MOTOR-LESS, GLAND-LESS, SEAL-LESS, BEARING-LESS) PM MAG AUTO PUMP.

The pump operates totally from pneumatic propulsion such as steam, compressed air or gas and therefore requires no electrical installation. There are no moving parts to wear out and no seals to leak. Local indication of the volume of fluid in the tank and the ultimate control of that fluid is all accomplished with the use of Magnetic Field Coupling.

Because of this unique design the users PUMP MAINTENANCE COST will be reduced essentially to ZERO. Costly parts inventory typically needed to maintain conventional pumps is ELIMINATED as well.

Also, the SAFETY aspect of this AUTO-PUMP cannot be overlooked. The possibility of leaks are eliminated because there are no moving parts such as rotating shafts or links and levers that will require seals. This LEAK FREE construction is of great importance in today's safety conscience industry. Being LEAK FREE means that the exposure of personnel to toxic and corrosive gases and fluids will be greatly reduced.

A LOWER UTILITY COST will be another benefit derived from the use of these pumps. Because no electrical motors are required, electrical consumption will, for all practical purposes, go to zero.

FEATURES

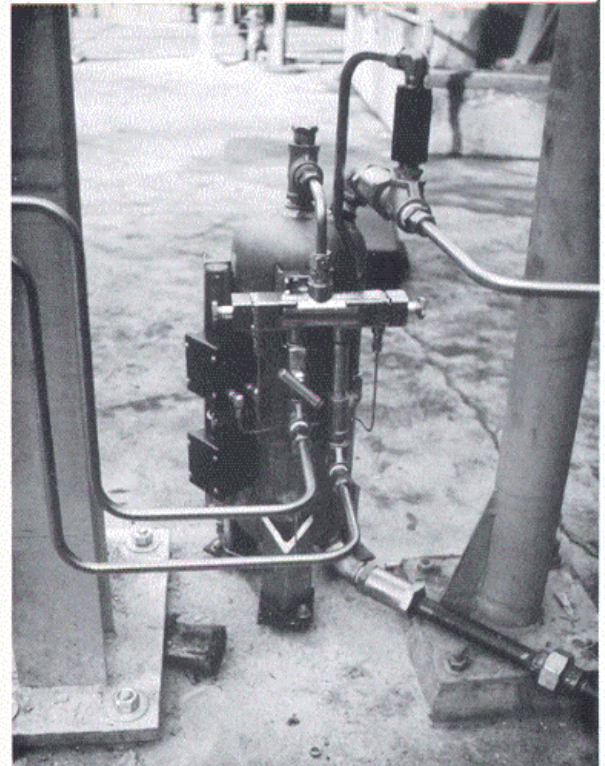
- ULTRA SAFE Local Indication
- No glass to leak
- Temperature ranges from -300 Deg F to 1000 Deg F
- Pressure capabilities from full vacuum to 10,000 psi
- Custom built from 3/4 Gal to 50 Gal
- Pump fluids to distance and heads equal to the pressurizing medium.

OPTIONS

- ▲ Batch and Continuous pumping modes
- ▲ Retrofit applications
- ▲ Coded welding: U-Stamp, X-Ray, and Stencil
- ▲ Special Materials: Halar coated, Hastelloy, Monel, Alloy 20, Stainless Steel
- ▲ Remote level transmission

BENEFITS

- Maintenance Free
- Reduces costly inventory
- Reduces costly down time
- Leak-Free
- Seal Free
- Safety Plus
- Built to ASME Code
- Lower utility cost



APPLICATIONS

CONDENSATE RECOVERY FROM

Steam Coil, Heat Exchangers, and Turbines

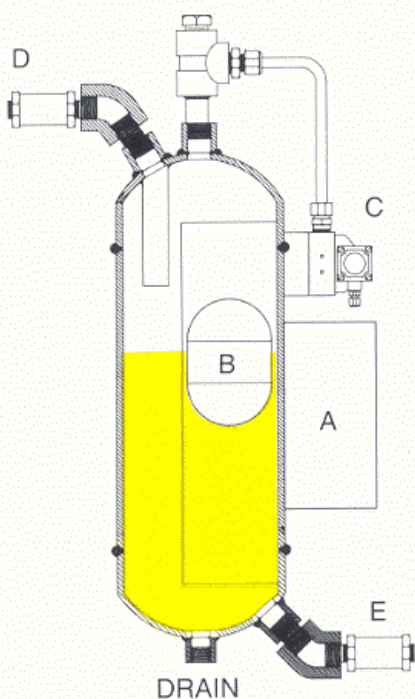
Because the AUTO-PUMP can be designed to move smaller volumes of condensate, as opposed to conventional pump recovery systems that require large storage vessels, the BTU's per pound of condensate returned to the Boiler will be significantly increased. This of course translates into more fuel savings.

HAZARDOUS LIQUID AND GAS RECOVERY

Because of the clean air act, all compressors pumping toxic gases and liquids must have their crank case vents routed to flares. Therefore any escaping process vapors from around the shaft seals will be safely disposed of. However these process vapors will entrap oil as they pass through the crankcase and out the vent. This undesirable condition can be eliminated with the use of the AUTO-PUMP. A clean gas can then be continuously routed to the flare and the oil which has been extracted can be routed back to an oil holding tank.

GROUND SUMPS

Ground sump storage will be eliminated by use of the AUTO-PUMP as it can store and then pump fluids to other areas.

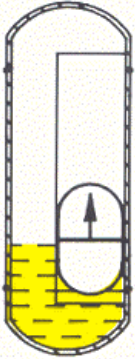


AUTO PUMP
Control Components

- A) Pneumatic Controller
- B) Magnetic Float
- C) Control Relay
- D) Inlet Check Valve
- E) Outlet Check Valve

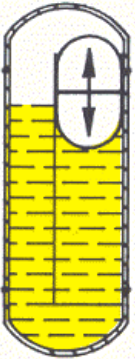


HOW IT WORKS



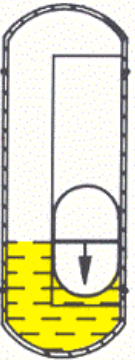
Step: 1

The float will rise as the liquid begins to fill the Auto-Pump. The vapor recovery line is open during this liquid extraction process.



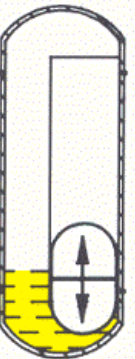
Step: 2

When the Auto-Pump level reaches a preset height the magnetic field of the float will trip the Top Level Switch actuating the control relay. The control relay closes the vapor recovery line and applies supply air to the pump sufficient to overcome the output check valve. The liquid is then driven from the pump to its next destination.



Step: 3

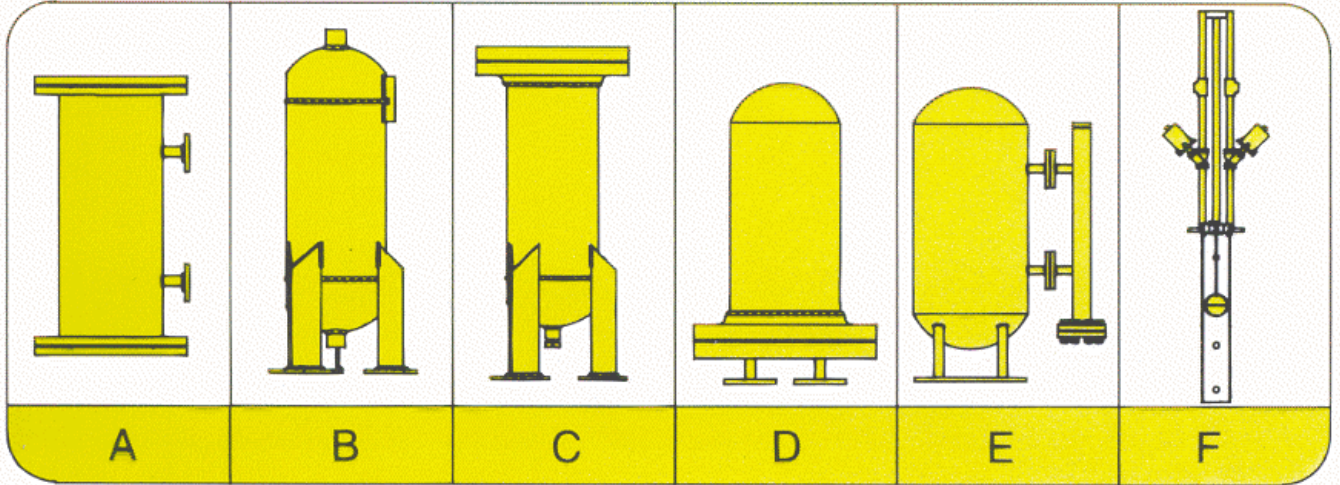
As the pump is Discharged the float will fall with the level of the liquid. The magnetic field of the float the trips the Bottom Level Switch which in turn causes the control relay to stop pressurizing and again open the recovery port. The supply pressure will exhaust through the VR port allowing the output check valve to seat shutting off the flow from the pump.



Step:4

The pump is now ready to repeat the cycle. The delay between cycles can be anywhere from 10 seconds to 2 weeks, depending upon your needs. The pump will automatically collect the liquids and pneumatically pump them when needed.

PART NUMBER KEY



P M 80 B / 4 S - C S / F W R 1 A / 15 gal.

80	Auto Pump
85	Cond. Pump
86	Acid Pump
87	Sump Pump

Connection and Closure Material

Reservoir Material

Specify Capacity
.75 to 50 gal.

CONNECTION STYLE/SIZE/RATING			
TYPE			
C	THREADED COUPLING	N	NIPPLE
SC	SOCKET WELD COUPLING		
SO	SOCK-O-LET		
T	THREAD-O-LET		
WO	WELD-O-LET		
F	FLANGE		
FB	FULL BORE FLANGE (USED FOR 1 1/2" AND LARGER FLANGES WHEN 1" BORE IS NOT DESIRED).		

FLANGE STYLE			
SF	FIXED SLIP-ON FLAT FACE	WT	WELDNECK TONGUE & GROOVE
SJ	FIXED SLIP-ON RING-JOINT	LS	LOOSE FLANGE & STUB END
SM	FIXED SLIP-ON MALE/FEMALE		
SR	FIXED SLIP-ON RAISED FACE		
ST	FIXED SLIP-ON TONGUE & GROOVE		
WF	WELDNECK FLAT FACE		
WJ	WELDNECK RING-JOINT		
WM	WELDNECK MALE/FEMALE		
WR	WELDNECK RAISED FACE		

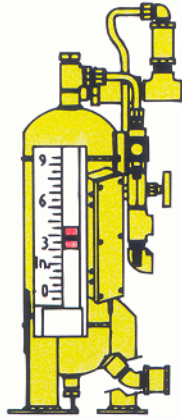
SIZE	
5	1/2"
7	3/4"
1	1"
15	1 1/2"
2	2"
25	2 1/2"
3	3"
4	4"
6	6"
8	8"
10	10"

CLASS	
A	150 LBS.
B	300 LBS.
C	600 LBS.
D	1500 LBS.
E	2500 LBS.
F	3000 LBS.
G	SCHEDULE 80
H	SCHEDULE 160

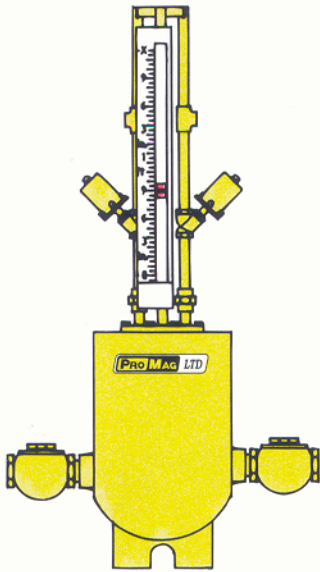
CODES DESCRIPTIONS	
4S	304SS
4LS	304LSS
6S	316SS
6LS	316LSS
1S	321SS
HC	HASTELLOY C276
HB	HASTELLOY B2
M	MONEL
A20	ALLOY 20
CS	CARBON STEEL

EXAMPLE F WR 1 A

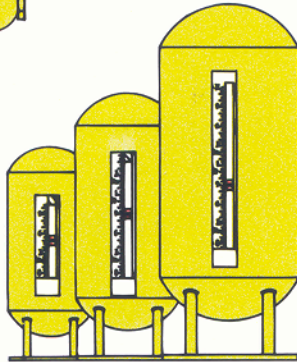
CUSTOMIZED DESIGNS



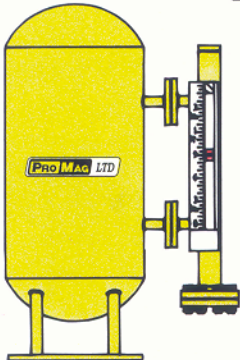
INTEGRAL AUTO-PUMP



Top Mount CONVERSION PUMP used to convert existing, less reliable Condensate Pumps.



Capacities designed to your specifications
3/4 gal - 50 gal ASME and non-code
versions available.



Conversion of Knock-Out Pots to Auto-Pump is available with
little or no piping modifications.



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