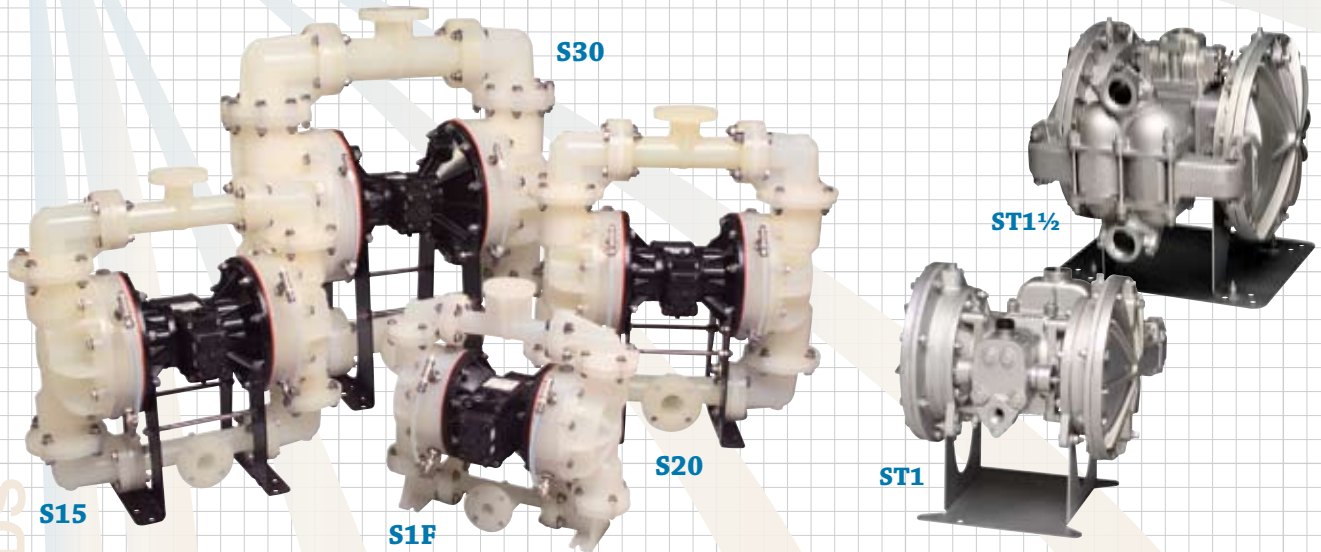


CONTAINMENT DUTY BALL



Containment Duty Metallic and Non-Metallic Pumps are ideal for highly corrosive and hazardous chemical fluid requirements. All CD duty pumps are exclusively designed with containment chambers, hydraulically balanced/coupled pumping diaphragm and driver diaphragm assemblies. All containment chambers are designed to accommodate visual, mechanical and low voltage leak detection devices. CD pumps are constructed of Aluminum, Cast Iron, Stainless Steel, Alloy C, Polypropylene and PVDF with TPE (thermal plastic elastomers), PTFE options in diaphragms and check valves.

Containment Duty Pumps additional FEATURES and BENEFITS

Spill Containment

- Safe pumping of aggressive, unpredictable, hazardous or toxic liquids.
- Chambers keep accidental spills from entering the air valve, protecting plant environment and personnel.
- Allows the pump to complete the batch or operation in progress, before repair has to be done.

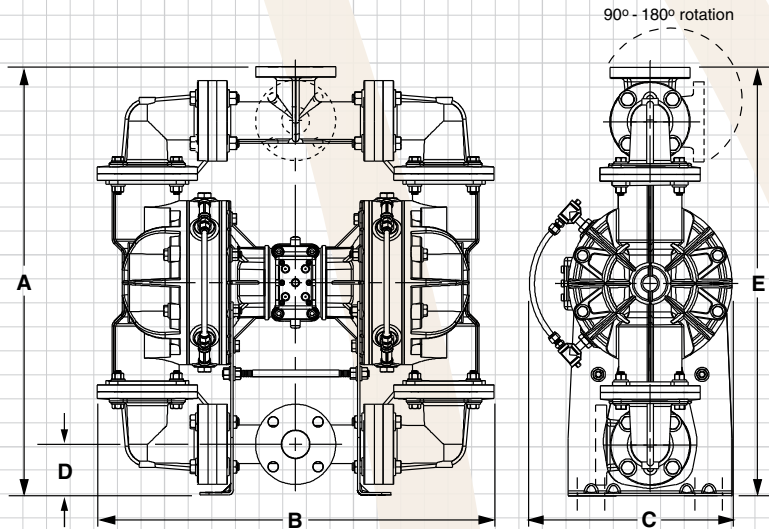
Hydraulically Balanced/Coupled Diaphragms

- Pumping diaphragms are balanced on suction and discharge stroke.
- Evenly distributed pressure over the surface of the diaphragm gives longer flex life.

Save Money and Downtime

- Protects air valve parts from contamination, meaning fewer service parts and less maintenance time.
- Longer flex life of the diaphragm means less frequent routine servicing.

Leak Detection - See page 41



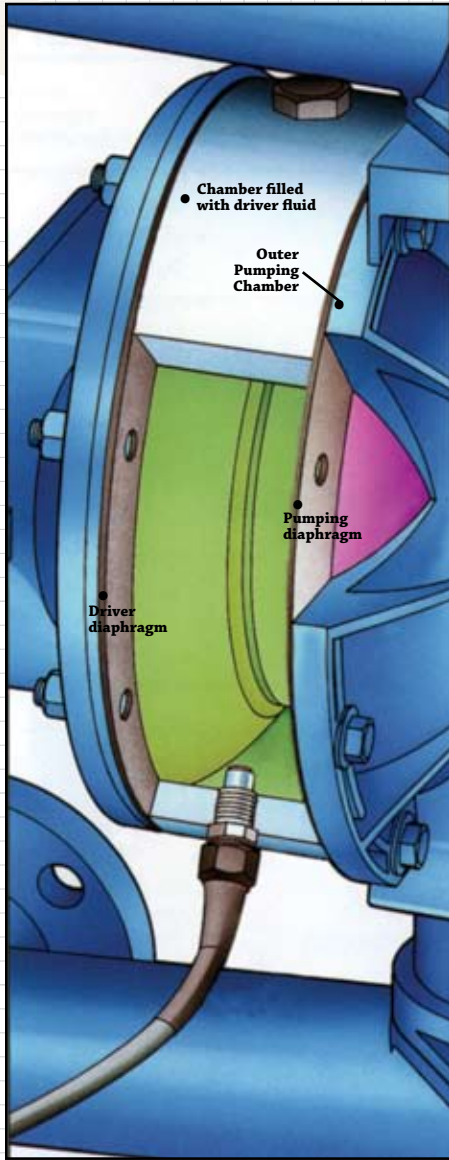
PUMP MODELS	A	B	C	D		Connection Style	Pipe Size	Displacement Per Stroke	Max Flow Per Minute	Max Solids Handling	Max Discharge Pressure
	Height	Width	Depth	Bottom of Base to Center Line of:							
	inches (mm)	inches (mm)	inches (mm)	Suction	Discharge						
ST1-A/ST25A	14 13/32 (366)	14 17/32 (369)	14 9/32 (363)	5 1/4 (133)	13 (330)	1" NPT/BSP	1 (25)	.09 (.34)	42 (159)	.25 (6)	125 (8.6)
ST1½-A/ST40A	17 1/2 (445)	16 1/2 (419)	18 5/8 (473)	5 9/32 (134)	15 15/64 (387)	1½" NPT/BSP	1.5 (40)	.30 (1.14)	90 (340)	.25 (6)	125 (8.6)
S1F	20 3/4 (527)	21 3/4 (553)	12 1/16 (306)	2 1/2 (64)	20 3/4 (527)	1" 125# ANSI	1 (25)	.17 (64)	45 (170)	.25 (6)	100 (6.9)
S15	28 11/16 (729)	28 5/8 (728)	15 1/4 (387)	3 1/2 (89)	28 11/16 (729)	1½" 125# ANSI	1.5 (40)	.36 (1.36)	100 (378)	.47 (12)	100 (6.9)
S20	32 1/16 (814)	29 3/8 (746)	15 1/4 (387)	3 13/16 (96)	32 1/16 (814)	2" 125# ANSI	2 (50)	.36 (1.36)	160 (605)	.66 (17)	100 (6.9)
S30	40 5/8 (1032)	37 15/16 (964)	19 5/8 (498)	4 7/8 (124)	40 5/8 (1032)	3" 125# ANSI	3 (80)	.9 (3.41)	238 (901)	.71 (18)	100 (6.9)

All Dimensions ±.1/8 (3)

Leak Detection Operating Principle

with more ways than one!

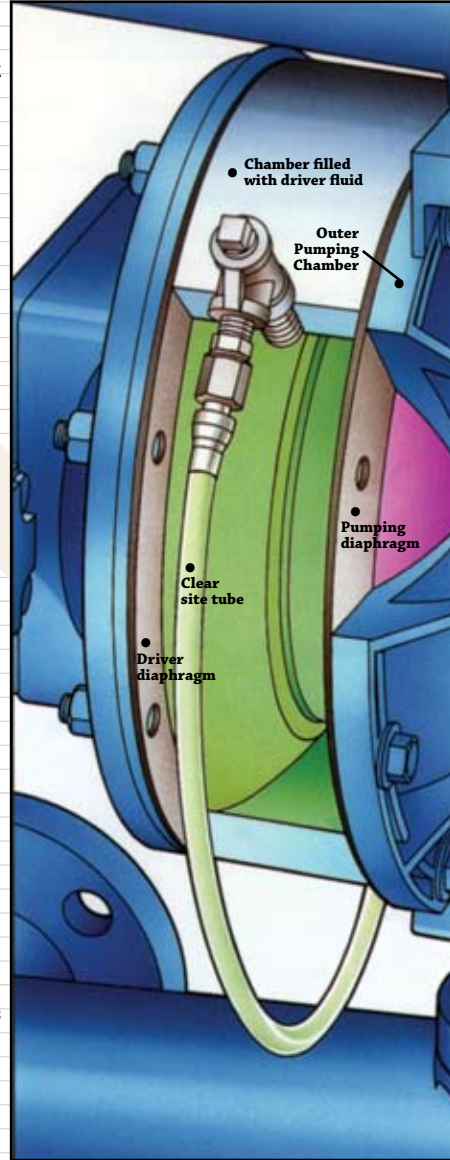
Electronic Leak Detection



How electronic leak detection works.

At a point the pumping diaphragm fails, pumped liquid enters the spill chamber displacing driver fluid. The leak detector, working on the principle of conductance, senses the conductivity change. This activates a warning light on the control box. The device can also be wired into the pump user's existing system, for an audible or visual alarm, or pump shut-down response. It is important to specify an appropriate drive fluid which is both chemically compatible with the pumped fluid and displays the opposite conductance properties. Polarity of the leak detector can be set to sense conductive or non-conductive fluid. If a leak occurs, pumpage is contained in the spill chamber. The pump will continue to work, and in many cases, repairs can be done when the batch is completed. The air valve and work environment are protected.

Visual Leak Detection

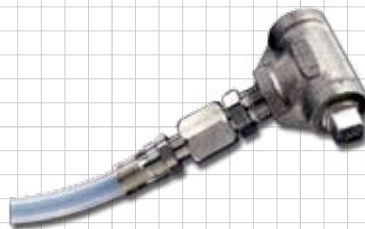


How visual leak detection works.

At a point the pumping diaphragm fails, pumped liquid enters the spill chamber, displacing driver fluid. The exchange of pumpage and driver fluid displays a color change in the sight tube, giving a visible signal. Driver fluid should be chemically compatible with the pumped fluid, with an obvious difference in color. In the event a leak occurs, pumpage is contained in the spill chamber. The pump will continue to work, and in many cases, repairs can be done when the batch is completed. The air valve and work environment are protected.



ELECTRONIC LEAK DETECTOR: Working on the principle of conductance, this monitor can be wired for visual, audible or pump shut-down response. The electronic leak detector is an optional accessory which can be installed on all models.



VISUAL LEAK DETECTOR: A sight tube style leak detector is installed on each driver chamber. If a pumping diaphragm break occurs, liquid in the sight tube changes color.



MECHANICAL LEAK DETECTOR: When a leak chemically attacks an internal o-ring on this detector, it actuates a plunger. This opens an air valve, which in turn activates a customer-supplied solenoid (or similar device) to trigger a signal.