FLOJET®

CATALOG N0. 30

Industrial Pumps and Accessories

Flojet

ITT Industries

Engineered for life

FLOJET'S commitment to quality and customer support accounts for our exceptional success and growth from a two-man operation to a 300-person effort. Through years of experience in design and development, Flojet has established itself as a leader in the small pump industry. In addition to our global headquarters in Southern California, Flojet operates a large sales, assembly and distribution facility in the United Kingdom to serve the European community. A significant part of the company's sales are exports throughout Europe, Asia, Africa and Latin America. Flojet has continued to vertically integrate its manufacturing capabilities to the point where it now produces a majority of its own product components, injection molded parts, motors, and designs its own assembly equipment.

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This catalog shows only the standard models of Flojet's industrial line of pumps. Other models are available upon request.

ENGINEERING SUPPORT

FLOJET has a dedicated team of research and development engineers and designers assigned to work on application specific projects. This ensures a better understanding of the customer's application and development of the best suited pump to fit the application. The pumps represented in this catalog are the result of application-specific design and development effort.

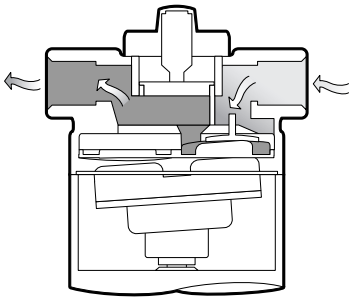
Our technical support, which includes professionals from our marketing and engineering departments, collaborates closely with you to design and apply the right pump for your application. Flojet also assists in performing qualification tests and establishing its criteria. We assure on-time delivery of quality tested products through stringent manufacturing process controls. You can count on the user friendly support literature for installation, service and trouble shooting to make the entire experience very simple and easy. Service, support and assistance from FLOJET are only a toll-free call away for all our customers.

PRODUCT VERSATILITY

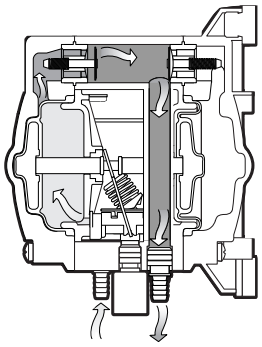
FLOJET CORPORATION makes a wide range of positive displacement diaphragm pumps that can be driven by air, electric motor or solenoid. Flojet becomes an obvious choice for pumps with flows up to 5 GPM and pressures up to 100 PSI, owing to diverse styles that suit most applications. These are available in different voltages in both AC and DC configurations. The selection of materials of construction make our pumps capable of handling a wide range of the industrial and other commonly used chemicals. The "sealless" design eliminates costly, difficult to service dynamic shaft seals.

The positive displacement diaphragm design of Flojet pumps makes them ideal for use in conditions that require self-priming and dry running capability for short periods of time. Additionally, the compact size of our pumps makes them very useful in tight spaces where you cannot ensure a flooded suction. Flojet pumps are the choice of OEMs where low power consumption is critical. That is because of our pumps' superior design and higher efficiency.

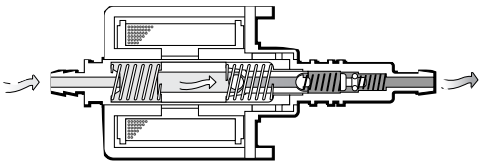
Our motor driven pumps use permanent magnet motors manufactured in-house by Flojet. We install a heavy duty ball bearing for the offset cam assembly that moves a reciprocating two, four or five-piston plate. A diaphragm, clamped between the inner and outer pistons, seals the pumping chamber and when actuated creates an alternating suction and pressure condition that opens and closes the inlet and outlet check valves. Flojet provides these pumps with no switch and no bypass for transfer or recirculating types of applications. Demand pumps are supplied with a pressure-actuated switch to provide on demand flow. Flojet provides pumps with an external bypass system for applications that are likely to see closed or partially closed discharge lines.



Our compact and lightweight air operated pumps can deliver up to 5 GPM of flow and 100 PSI pressure. Due to the self-priming capacity of these pumps, they can be located above the liquid level. Flojet designs these pumps for general, commercial and industrial markets. They have the ability for quick adaptation to a diverse array of applications. Our patented shuttle valve design virtually eliminates stalling. Finally, the availability of different port sizes eliminates the need for extra fittings and adapters.



The solenoid pumps are self-priming, double insulated and built to draw low amps for cool operation. These pumps deliver fluids from 0 to 0.4 GPM with pressures up to 230 PSI and are capable of handling a broad range of liquids. They are also available in various port sizes and elastomer options.



HOW TO SPECIFY A PUMP

The first step towards applying the right pump is to develop the specifications for the pump. It involves knowledge of the application and the chemical solution for pumping. The following tips will be helpful in collecting the required information to select the right pump for the application. Please refer to the Engineering Data and Tables at the end of this catalog to assist you in this process.

Flow
"Flow" is defined as the rate at which you want the liquid pumped. There are several factors that dictate the flow requirements in an application. Some of these are the size of the nozzle for spraying, cycle time for transferring and volume of the liquid per cycle for dispensing applications. In case you have a choice it is always advisable to choose a lower flow rate, which will increase the life and reliability of the pump.

Head/Pressure
Head or pressure in combination with the flow rate determine the size of a pump. This is a simple calculation in cases where the discharge is at a higher level than suction, and is determined by the differential height between the liquid level on the suction and discharge side. The flow required through a nozzle or an orifice determines the pressure required to deliver it. (Refer to page 17.) The same principle applies where there is a long narrow tube on the discharge. The frictional loss through the tube and the fitting dictates the pressure required at a certain flow. (Refer to page 17.) The required pressure also includes difference in the pressure of the suction and the discharge vessel when pumping into a higher-pressured vessel or from a vacuum. Here again the lower the pressure the better it will be for the life and reliability of the pump and the system. The chance of leakage also increases with the increase in pressure. Do not overlook the fact that high pressure requires pressure-rated tubing and fittings adding to the cost of your overall system.

Control
What turns the pump on and off is an important consideration since running the pump longer than required reduces pump life. For applications where there is a closed valve or a spray wand with a trigger, it is advisable to use a demand pump with a pressure switch to shut the pump off when the valve is closed. Running a positive displacement pump against a dead head could cause immediate failure. For other applications, it is useful to have a bypass system to prevent failure. More complicated pump controls may involve sensors and electronics.

Pump Driver
The decision to choose the right driving source is generally dictated by availability. If the pump is to be motor or solenoid driven, you will need to know the voltage and the frequency of the power source. AC or DC governs the kind of motor needed. The oscillating pumps that run on the cycling of the AC supply cannot work with DC voltages. If you have air available and choose an air driven pump, you need to know the pressure and means of regulating the incoming air to the pumps. In flammable atmospheres, Flojet recommends using an air driven pump properly grounded to prevent the potential of explosion.

Chemical Compatibility
It is essential to get all the details including the exact composition, temperatures and the concentration of the chemicals to be pumped. This information helps you choose the material of construction for the pumps for chemical compatibility. Corrosion causes leakage and failure. Refer to the chemical compatibility sheet in the back of the catalog as a guide. However, an actual soak test of the materials is strongly recommended before applying the pump. Flojet offers a free chemical compatibility test kit (F100-168) which will walk you through this process.

Priming
The pump needs to be primed when it is located above the level of the liquid or where a flooded suction can not be provided. Most positive displacement pumps can self prime as long as you stay within the limit of its priming capability. If that limit is exceeded, the pump will not prime and hence will not pump. This will lead to a condition where the pump runs without any liquid. This dry running will lead to early failure of the pump if it happens frequently and over extended periods of time.

Other important considerations, such as the duty cycle, plumbing and ambient temperature all have a direct bearing on the performance of a pump and need to be clearly understood and defined. The specification sheet at the back will help cover all the information needed for proper pump applications.

PUMP SELECTION

After establishing the specifications, you need to choose the right type of pump for your application. There are various styles of small pumps, i.e., pump flows under 20 GPM. These are broadly categorized as centrifugal, metering and positive displacement pumps.

Centrifugal

In small pumps, centrifugal is the predominant non-positive displacement pump. The principle used is to impart high velocity to the fluid with an impeller and convert the kinetic energy to head (or pressure). The head generated is directly proportional to the diameter of the impeller and hence the size of the pump. That means for a given pressure requirement, a centrifugal pump is more likely to be larger than a positive displacement pump. Centrifugal pumps need flooded suction as they cannot self-prime or tolerate dry running.

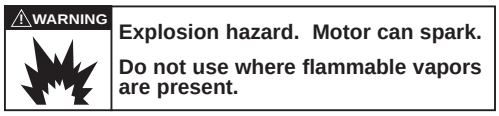
Metering pumps

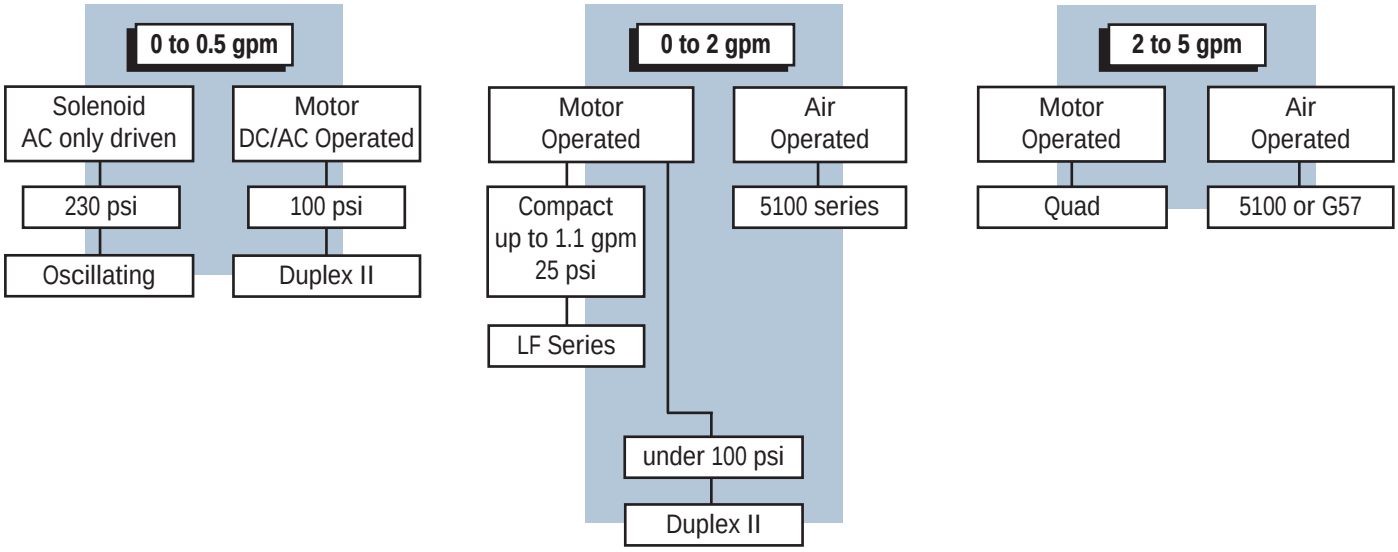
They pump precise volumes of liquid in a specified time period to give accuracy and repeatability of + or - 2% or better. These work on the principles of positive displacement and could be piston, bellows or diaphragm pumps.

Positive Displacement

In small pumps this is the most popular category, simply because of the advantages it offers with self-priming, dry run capacity, and compact size, among others. There are several styles of positive displacement pumps including air driven, bellows, diaphragm, flex vane, oscillating, and rotary vane. Diaphragm pumps are perhaps the most versatile of the positive displacement pumps as they offer more benefits than any other style. These pumps are also capable of being used in some metering applications where the repeatability is not very stringent.

Hence, after you have determined the specifications and decided that you do not need a centrifugal or metering pump, you can refer to the selection chart as follows to choose the right model of positive displacement pump.





DUPLEX II

DUPLEX II SERIES PUMPS

The Duplex II series of pumps incorporate the best technology and features developed by FLOJET. Everything from the back flow preventer, check valves, bearings and diaphragm assembly to the motor, have been designed to make this truly the most advanced and reliable diaphragm pump available. Higher efficiency of the pump is evident in the longer life of the motor pump unit. The new diaphragm design combined with the new valves makes the pump capable of pulling higher dry vacuum. Duplex II is available in various performance ranges, voltages and with a choice of elastomers, making it easily adaptable to a diverse range of applications.

SPECIAL FEATURES

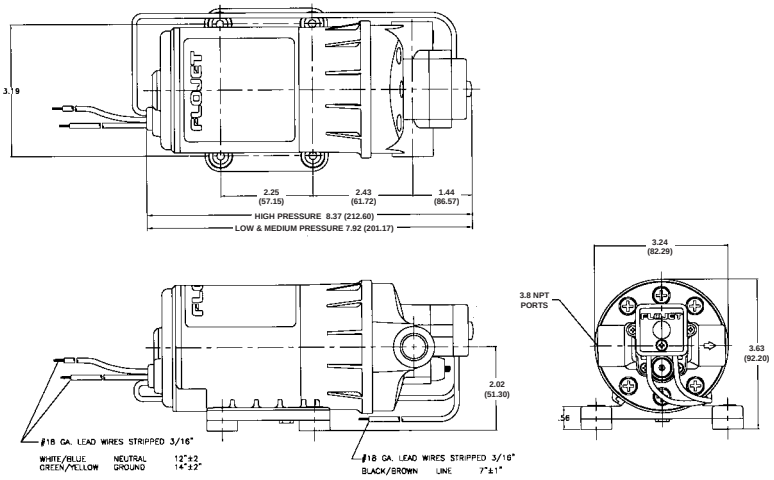
- Self priming up to 8 feet (2.4 m).
- Can run dry without damage.
- Chemical resistant material.
- Internal bypass standard.
- Built-in back flow preventer.
- Heavy duty ball bearing drive system.
- UL, CSA and CE models available.

SPECIFICATIONS

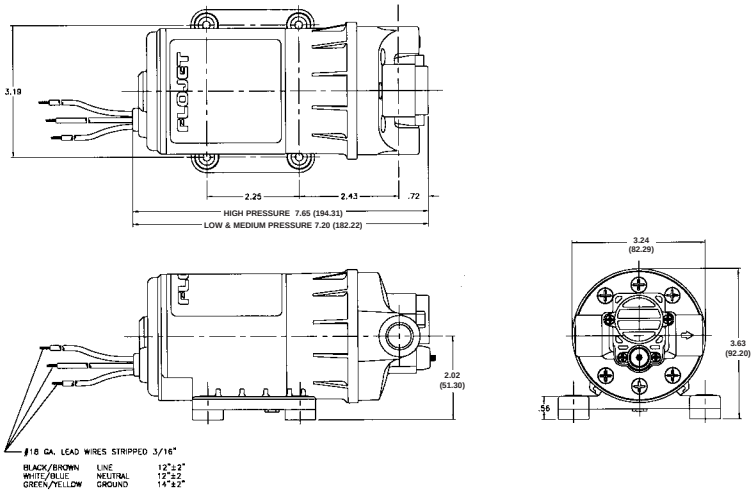
Pump: Positive Displacement two piston design
Flow Rate: 2.2 GPM (8.32 L/min) for high pressure models
1.6 GPM (6.05 L/min) for medium and low pressure models
Pressures: Up to 100 PSI (6.89 bar)
Ports: 3/8" NPT female
Motor: Permanent Magnet with solid state rectifier
Voltages: 12 & 24 V DC, 115 & 230 V AC
Cycle: 50/60 hertz for AC models
Dry Vacuum: Up to 8 feet (2.4 M)
Pressure Switch Setting: 15, 30, 45, 60, 80, and 100 PSI
Wetted Parts: Polypropylene, Viton®, Buna or EPDM
Net Weight: 4 to 5 lbs. (2.28 kgs)
Maximum Operating Pressure: 100 PSI (6.8 bar)

DIMENSIONS inches (mm)

Demand Pump



Bypass Pump



To choose a pump model number, fill in the desired voltage code for 'x' and the compatible elastomers code for 'y'. Hence, for a medium pressure demand pump where a 115 V AC motor is required and Viton is chosen, the model number becomes D3631V5011.

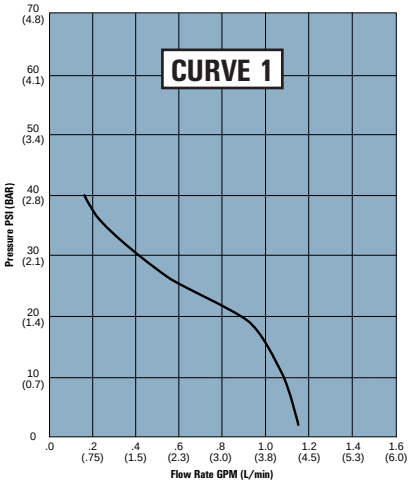
Duplex II Standard Models

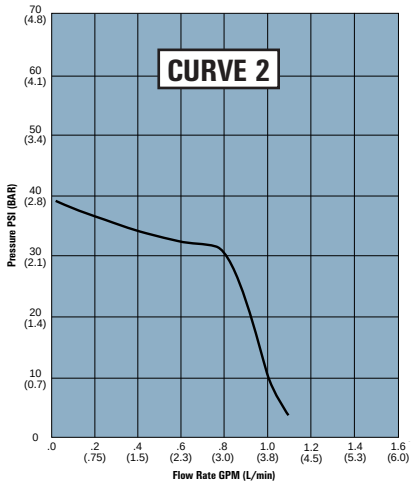
Low Pressure (Up to 40 psi)	Demand Pump	D3 _____ (x) 21* _____ (y) 3011	(Reference Curve #1)
	Bypass Pump	D3 _____ (x) 21* _____ (y) 1211	(Reference Curve #2)
Medium Pressure (Up to 60 psi)	Demand Pump	D3 _____ (x) 31* _____ (y) 5011	(Reference Curve #3)
	Bypass Pump	D3 _____ (x) 31* _____ (y) 1311	(Reference Curve #4)
High Pressure (Up to 100 psi)	Demand Pump	D3 _____ (x) 35 _____ (y) 7011	(Reference Curve #5)
	Bypass Pump	D3 _____ (x) 35 _____ (y) 1411	(Reference Curve #6)

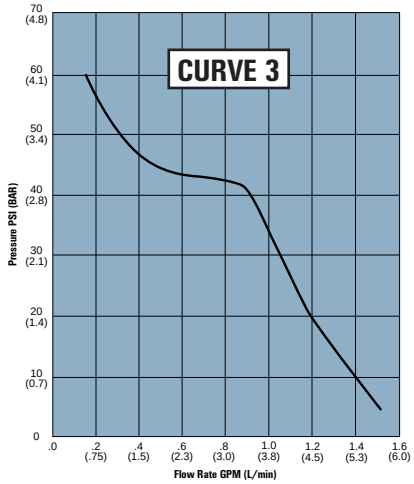
x _____ 1 for 12 VDC
6 for 115 VAC, 50/60 HZ
7 for 230 VAC, 50/60 HZ
(See 230 V Notes)

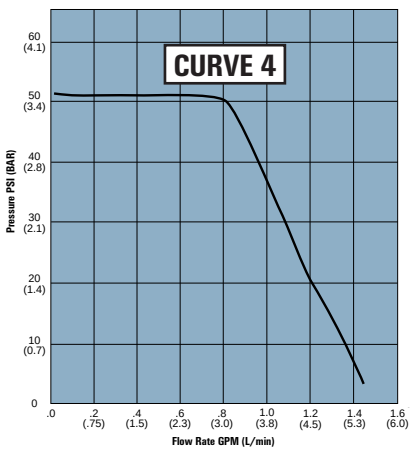
y _____ V for Viton® Check Valves and Viton® Diaphragm
(Viton not available in high pressure diaphragm pump)
B for Buna Check Valves and Buna Diaphragm
E for EPDM Check Valves and EPDM Diaphragm

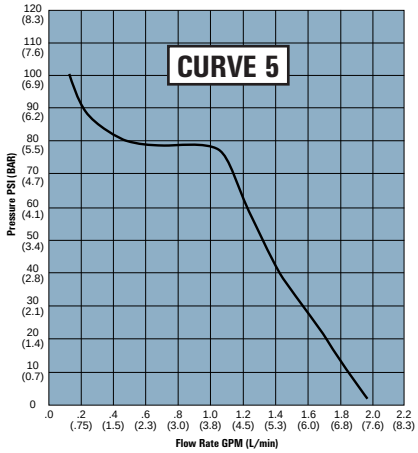
Note: All 230 V pumps have CE mark and full RFI suppression. This is denoted by the "RL" suffix in the model number.
Contact Flojet for 230 V pumps with partial and no suppression.
* Replace "1" with "2" for 230 V pumps.

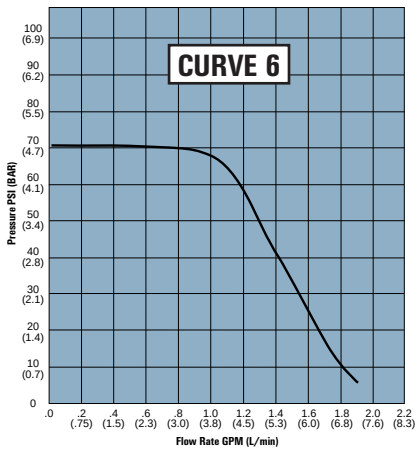












QUAD PUMPS

4000 SERIES PUMPS

Flojet developed the quad pumps to deliver higher flows up to 5 GPM using a four-piston design with excellent self-priming capability.

SPECIAL FEATURES

- Built-in pressure switch automatically starts and stops pump instantaneously when discharge valve opens and closes.
- Compact design and plug-in port fittings make installation easy.
- Can run dry without damage and handle liquids up to 130° F (54° C).
- No metal contact with liquid being pumped.
- Ball bearing drive throughout pump and motor assures longer pump life.
- Excellent self-priming capability. Pump may be located above the liquid level.
- Powerful, permanent magnet motor with low current draw and long life brushes.

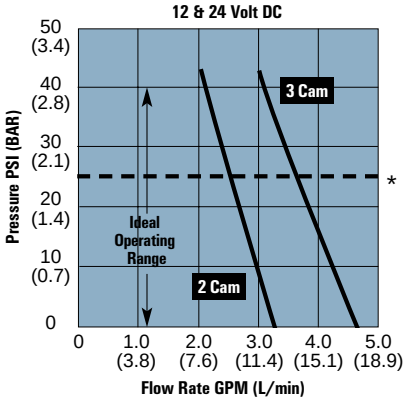
SPECIFICATIONS

Flow Rate: 3.5 to 5.0 GPM (13.2 and 18.9 L/min) Nominal	
Pump Design: Diaphragm	
Shaft Seal: None	
Motor: TEFC Permanent Magnet Motor	
Voltage: 12 & 24 Volt DC, 115 & 230 Volt AC	
Cycle: 50/60 hertz for AC Models	
Current: 1.5 amp max. (115 V)	
Pressure Switch Setting: 45 PSI (3.2 bar) cut out	
Maximum Operating Pressure: 40 PSI (2.8 bar)	
Self-Priming: Up to 8 ft. (2.4 m) Vertical Height	
Ports: Plug-In Ports 1/2" or 3/4" Hose Barb Standard (Consult Factory for other type of Port Fittings)	
Wetted Parts: Housing	Modified Polypropylene - Standard
Elastomers	Santoprene® and Buna - Standard
Net Weight: 4 lbs. (2 kg)	

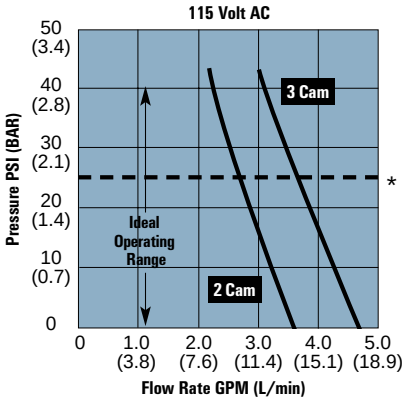
STANDARD MODELS		CAM NO.
115 VOLT 3.5 GPM 1/2" HOSE BARB		
4300-042	Santo/EPDM, Switch at 45 PSI (3.2 bar)	2
4100-500	Santo/EPDM, No Pressure Switch	2
115 VOLT 5.0 GPM 3/4" HOSE BARB		
4300-043	Santo/EPDM, Switch at 45 PSI (3.2 bar)	3
4100-512	Santo/Viton®, No Pressure Switch	3
12 VOLT 3.5 GPM 1/2" HOSE BARB		
4300-142	Santo/EPDM, Switch at 45 PSI (3.2 bar)	2
4100-505	Santo/EPDM, No Pressure Switch	2
12 VOLT 5.0 GPM 3/4" HOSE BARB		
4300-143	Santo/EPDM, Switch at 45 PSI (3.2 bar)	3
4100-143	Santo/EPDM, No Pressure Switch	3

Note: All Motors Are Fan Cooled With A Thermal Switch Used On All Non-Pressure Switch Models.

PUMP PERFORMANCE

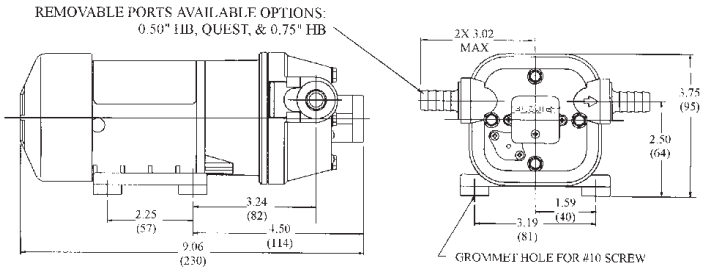


*** Continuous Duty Max Pressure For No Switch 3 Cam Models.**



*** Continuous Duty Max Pressure For No Switch 3 Cam Models.**

DIMENSIONS inches (mm)



LF SERIES

This ultra compact pump uses the duplex diaphragm design to deliver flow and pressure comparable to much larger pumps.

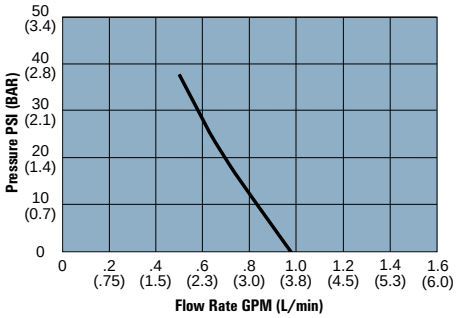
SPECIAL FEATURES

- Sealed pressure switch automatically starts and stops pump when discharge valve opens and closes.
- Self-priming so pump can be located above supply tank.
- Can run dry for extended periods of time without damage.
- Built-in thermal protector.
- Low amp draw for battery powered applications.

OPTIONAL FEATURES

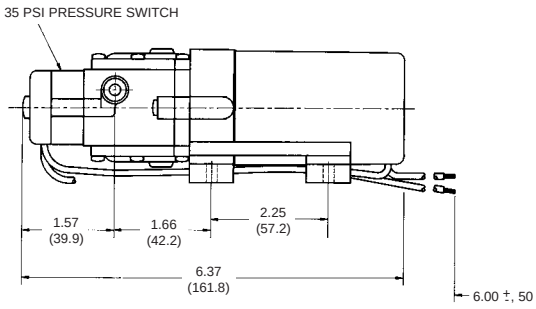
- Sealed motor with protective metal cooling finned cover.
- Integral 5 amp in-line fuse with cover.
- Manual on/off switch with protective cap to turn off pump when supply tank is empty.

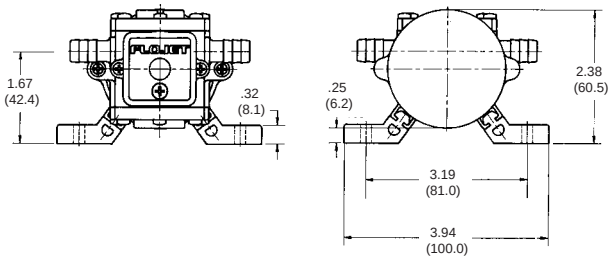
PERFORMANCE - LF12 AND LF11 SERIES



DIMENSIONS inches (mm)

LF12





Specifications - LF12 and LF11 Series

Pump Design: Reciprocating Diaphragm
Flow Rate: 1.0 GPM (3.8 L/min) Nominal @ Open Flow
Duty Cycle: Intermittent
Wetted Parts Housing: Polypropylene
Diaphragm: Santoprene®
Check Valve: Viton® or EPDM
Check Valve Spring: 316 Stainless Steel
Minimum Tip Size: #8 Tip, .072" (1.83 mm) Diameter
Port Type: 3/8" (9.5 mm) Hose Barb
Operating Pressure: 25 PSI (1.7 bar) Maximum
Pressure Switch Setting: 35 PSI (2.4 bar) Off
25 PSI (1.7 bar) On
Self-Priming: Up to 2.5 ft (.76 m) Vertically
Liquid Temperature: 110˚ F (43° C) Maximum
Motor Type: Permanent Magnet Motor
Motor Voltage: 12 V DC
Current: 2.5 Amp Nominal @ 25 PSI (1.7 bar)

Model No.	Diaphragm	Check Valve	Pressure Switch Setting PSI (bar)	Manual On/Off Housing	Motor	Protection
LF112201	Santoprene	Viton®	35 (2.4 bar)	Yes	Metal Finned	Fuse
LF122201	Santoprene	Viton®	35 (2.4 bar)	No	Plastic	Thermal
LF122202	Santoprene	EPDM	35 (2.4 bar)	No	Plastic	Thermal
LF122002	Santoprene	EPDM	No Switch	No	Plastic	Thermal

OSCILLATING PUMPS

OSCILLATING PUMPS

Flojet oscillating pumps are designed for general consumer, commercial and industrial applications. All models are self-priming double insulated and built to draw low amps for cool operation and can run dry for extended periods of time without damage.

SPECIFICATIONS

Technical Data

Type of Pump	ET508-LP	ET508-HP	ET500	ET200
Temperature	Max. 160° F/71° C	Max. 160° F/71° C	Max. 160° F/71° C	Max. 176° F/80° C
Open Flow Rate	.32 GPM/73 LPH	.40 GPM/90 LPH	.18 GPM/40 LPH	3.8 GPH/240 cc/min.
Maximum Pressure	38 PSI/2.6 Bar	55 PSI/3.8 Bar	230 PSI/16 Bar	20 PSI/1.4 Bar
Self-Priming (up to)	6 (inHg)	6 (inHg)	2.6 (inHg)	1.3 (inHg)
Standard Voltage	115V/60Hz and 230V/50Hz, other voltages available upon request.			
Power Consumption (nominal)	37 Watts	46 Watts	53 Watts	18.5 Watts
Insulation Class	F (155° C)	F (155° C)	F (155° C)	H (180° C)
Elastomers	EPDM, Viton and Buna			
Piston and Spring	Stainless Steel for all models			
Filtering	4/1000 Mesh			
Approvals	U.L. and CSA Recognized, CE Certified*			

* Approvals vary within the Product Line. Contact a Flojet Representative for specific model listings, recognitions and certifications.

Includes internal diode (except ET200 which requires an external diode).

Standard Model Numbering System

ET508

ET508-ABC		
A Model Type	B Voltage	C Port - Elastomer
1=LP Low Pressure	2=115/60Hz	1=Std. Port - EPDM
2=HP High Pressure	4=230/50Hz	2=Std. Port - Viton
3=HF High Flow		3=Threaded Port 1/8" F - EPDM
		4=Threaded Port 1/8" F - Viton

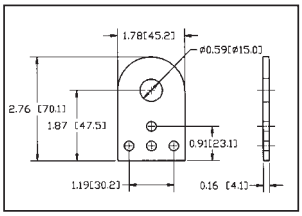
ET500

ET500-ABC		
A Model Type	B Voltage	C Port - Elastomer
2=HP High Pressure	2=115/60Hz	3=Threaded Port 1/8" F - EPDM
	4=230/50Hz	4=Threaded Port 1/8" F - Viton

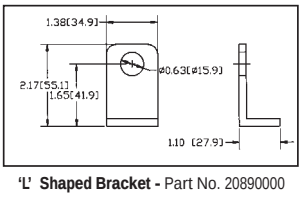
ET 200

ET200-ABC		
A Model Type	B Voltage	C Port - Elastomer
0=LF Low Flow	2=115/60Hz	1=Std. Port - EPDM
	4=230/50Hz	

Mounting Brackets

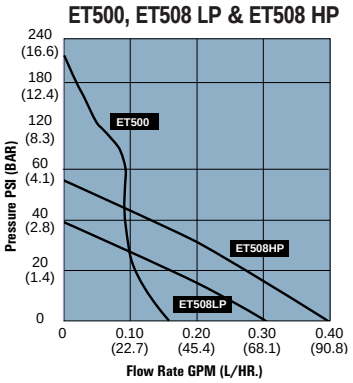


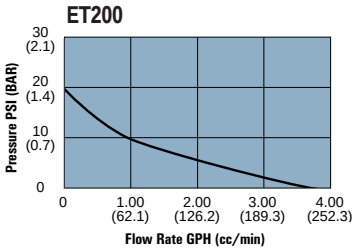
Straight Bracket - Part No. 20900000
• For ET508, ET500



'L' Shaped Bracket - Part No. 20890000
• For ET508, ET500

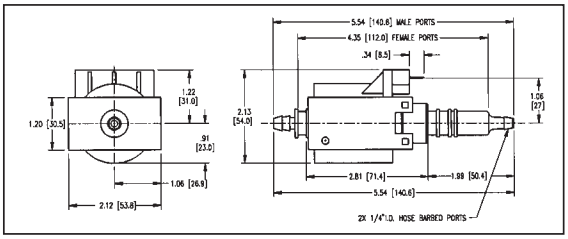
PERFORMANCE



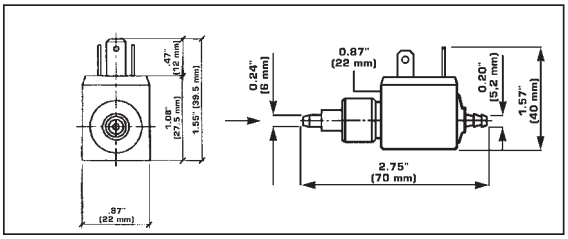


DIMENSIONS inches (mm) & MOUNTING BRACKETS

508/500 Series



200 Series



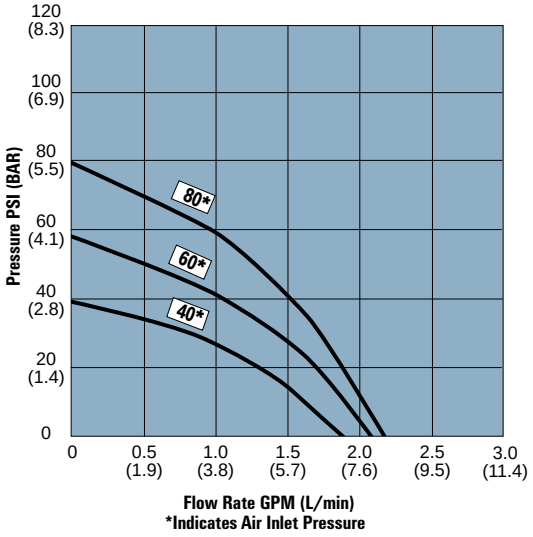
AIR OPERATED PUMPS

5100 SERIES

SPECIAL FEATURES

- Compact design with plug-in hose connections for quick installation.
- Variety of elastomers to ensure chemical compatibility.
- Variable capacity from zero to the maximum flow.
- No pressure relief or bypass plumbing required.
- Excellent self-priming. Pump may be located above the liquid level.

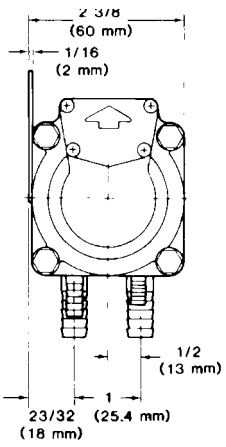
PUMP PERFORMANCE

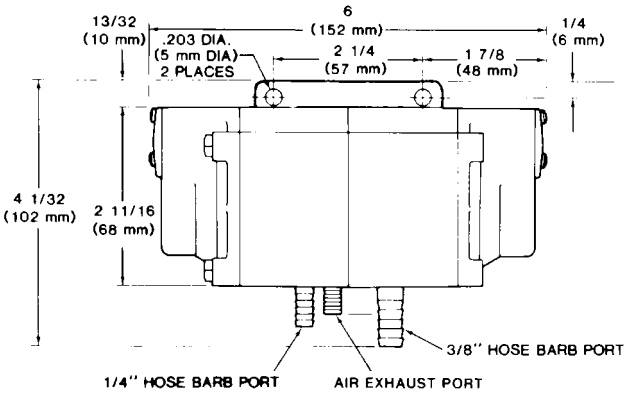


SPECIFICATIONS

Pump: Air-operated positive displacement double diaphragm pump
Flow Rate: Up to 2.0 GPM (7.57 L/min)
Pressure: 20 to 75 PSI (1.38 to 5.51 bar)
Ports: Liquid 3/8"
Air 1/4"
Wetted Parts: Buna, Santoprene®, Geolast® or Viton® for diaphragms and valves
Acetal copolymer for housing
Self-Priming: 28 ft. (8.5 mm) Dry, 32 ft. (9.8 mm) Wet
Gas/Air Consumption: Air Supply must be oil-free and dry
40 PSI at 1 GPM - 0.45 C.F.M.
60 PSI at 1 GPM - 0.58 C.F.M.
80 PSI at 1 GPM - 0.77 C.F.M.

DIMENSIONS inches (mm)





AIR OPERATED PUMPS

G57 SERIES

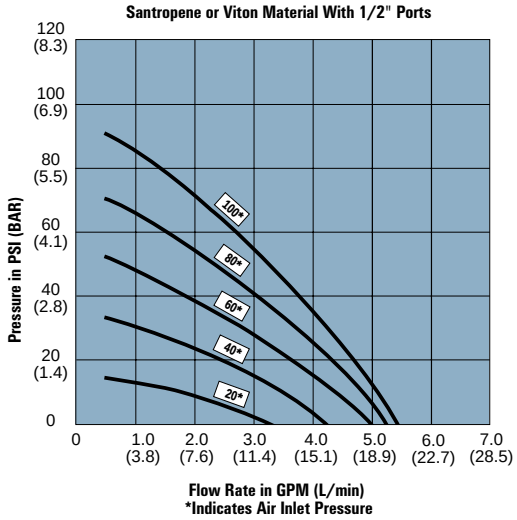
SPECIAL FEATURES

- Highest flow rate for any air pump of comparable size.
- Stall proof design with patented shuttle valve.
- Easy installation with all quick disconnect ports.
- Robust design with durable integral mounting.
- Sanitary design with inset molded diaphragm.
- Leak resistant radial seals, no critical O-ring seals.
- Quiet operation with large exhaust muffler.

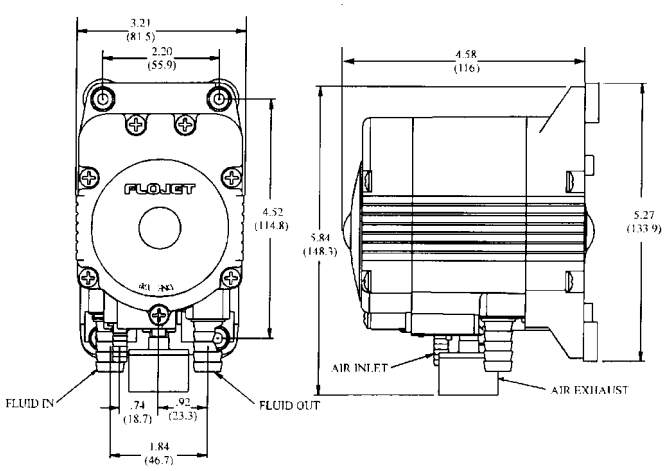
SPECIFICATIONS

Pump: Air operated positive displacement double diaphragm pump
Flow Rate: Up to 5 GPM (26.49 L/min)
Pressure: 20 to 100 PSI (1.38 to 8.27 bar) (Same as inlet air pressure)
Ports: Liquid 3/8", 1/2" and 3/4"
Air 1/4"
Barb Port Fittings of 3/8" and 1/2" NPT
Wetted Parts:
Body: Polypropylene
Diaphragm: Santoprene® or Viton®
Check Valves: Santoprene® or Viton®
Springs: Hasteloy C
Net Weight: 1.2 pounds (0.54 kg.)

PUMP PERFORMANCE



DIMENSIONS inches (mm)

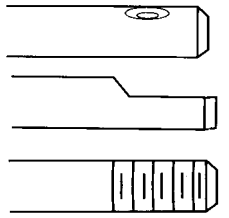


PERMANENT MAGNET MOTORS

FLOJET MOTOR SERIES

Flojet manufactures a wide range of 3" diameter permanent magnet motors. These are designed as a more cost-effective alternative to larger series wound or induction type motors. They also offer flexibility of speed in the range of 1000 to 5000 rpm. Low heat rise and high efficiency ensures long and reliable service life. The ease with which these motors can be adapted to any application is enhanced by the availability of various motor lengths and shaft configurations. The fact that the motors are bi-directional increases their versatility. Most of our motors have the appropriate agency approvals including UL, CSA and CE.

Motor Shaft Configurations

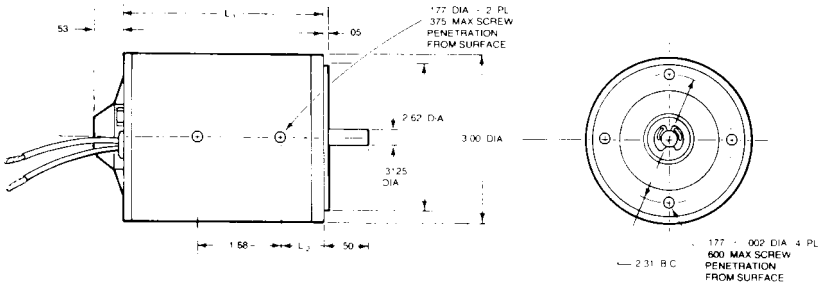


SPECIAL FEATURES

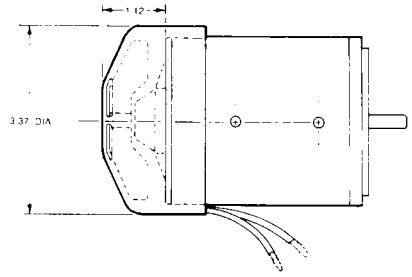
- Highly efficient permanent magnet design.
- Combines advantages of low amp draw heat rise with high torque and low speed.
- Diamond-turned commutator.
- Delivers up to 1/8 H.P. in compact 3-inch diameter.
- 6, 12, 24, 32, 36, 115, 230 and 240 volt AC or DC.
- Lightweight double insulated armatures.
- High starting torque - up to 600% of rated torque.
- Speed control capability.
- Available with internal solid state rectifier (AC models only).
- Instant reversibility (DC voltages).
- Thermo protection available.
- Dynamic braking capability.
- UL recognized (115 Volt AC models only).
- Partial or full suppression available with CE certification.

DIMENSIONS inches (mm)

Totally Enclosed (TENV)



Fan-Cooled (TEFC)



STACK Lg (Approx.)	L_1	L_2	M.H.P.
.500	2.87	.56	20
.875	3.25	.56	50
1.250	3.70	.81	75
1.875	4.40	.81	100

⚠WARNING

Explosion hazard. Motor can spark.

Do not use where flammable vapors are present.

SPECIFICATIONS

Motor Design: Permanent Magnet
Size: 3 in. (76.1 mm) Diameter
Stack Length: 1/2 in. - 2 in. (12.7 - 50.8 mm)
Horsepower: Up to 1/40 - 1/8 H.P.
Duty: Continuous or Intermittent
Speed: 1100-5000 R.P.M.
Voltage: 6-230 Volt DC or Rectified AC
Insulation: Class B Standard
Bearings: Sleeve or Ball Bearing
Enclosure: Totally Enclosed / Totally Enclosed Fan-Cooled

ACCESSORIES & FITTINGS

1720/1740 SERIES

Inlet Strainers

- Low profile design for space saving installation.
- Very strong reinforced plastic base with clear cover.
- Wide variety of port configurations from 3/4" to 3/8."

SPECIFICATIONS

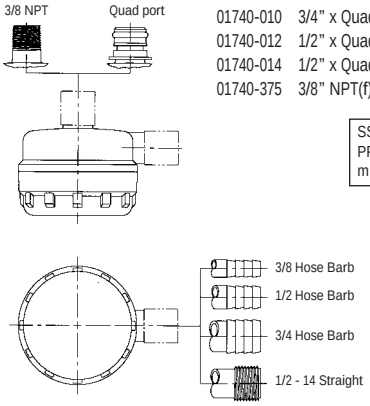
Materials	Base	Polypropylene, black
	Cover	Polysulfane, smoke tinted
	Screen	Stainless Steel, 20 and 40 mesh Polypropylene Screen, 20 mesh
	O-rings	Buna-N FDA Compound
Temperature: 160˚F (70˚C) max.		
Dimensions:	2.75" (70 mm) diameter x 2.25" (57 mm) high 4.75" (121 mm) max. port to port (3/4" hose barb) Plug-in style, 3.75" (96 mm) max. length	

Styles Available

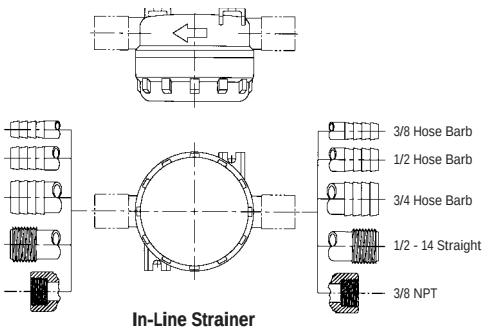
Model No.	Description
01720-000	3/4" x 3/4" hose barb SS 20m
01720-002	1/2" x 1/2" hose barb SS 20m
01720-023	3/8" hb x 3/8" NPT (m) 90˚ SS 20m
01720-102	1/2" x 1/2" hose barb PP 20m
01720-103	3/8" x 3/8" hose barb PP 20m

Model No.	Description
01720-112	1/2" x Quad port 90° PP 20m
01720-123	3/8" hb x 3/8" NPT (m) 90˚ PP 20m
01720-375	3/8" NPT(f) x 3/8" NPT(f) SS 20m
01740-000	3/4" x 3/4" hose barb SS 40m
01740-002	1/2" x 1/2" hose barb SS 40m
01740-003	3/8" x 3/8" hose barb SS 40m
01740-004	1/2"x 1/2" SS 40m
01740-010	3/4" x Quad port 90° SS 40m
01740-012	1/2" x Quad port 90° SS 40m
01740-014	1/2" x Quad port 90° SS 40m
01740-375	3/8" NPT(f) x 3/8" NPT(f) SS 40m

SS - Stainless Steel
PP - Polypropylene
m - Mesh



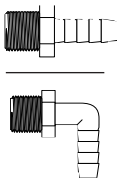
Inlet Strainer
(Plugs into Quad pump port)



In-Line Strainer

ELECTRIC PUMP FITTINGS

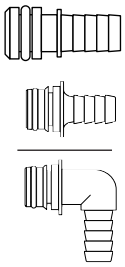
Nylon Barbed Straight/Elbow



- For use with all Duplex II Series Pumps (3/8" NPT only).

Part Number Straight	Part Number Elbow	Description
91010-032	91010-033	3/8" NPT Male x 1/4" Barb
91010-004	91010-003	1/4" NPT Male x 3/8" Barb
91010-002	91010-001	3/8" NPT Male x 3/8" Barb
91010-034	91010-025	1/4" NPT Male x 3/8" Barb
91010-006	91010-005	3/8" NPT Male x 1/2" Barb
91010-053	91010-052	1/4" NPT Male x 1/4" Barb

Plastic (Polypropylene, EPDM)* Inlets & Outlets



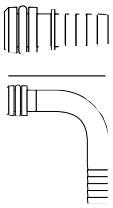
- For use with all 5100 Series Pumps

Part Number Straight	Part Number Elbow	Description
20381-000	20381-008	Quad Port x 1/2"-14 Male Straight
20381-002	20381-009	Quad Port x 1/2" Hose Barb
20381-006	20381-010	Quad Port x 3/4" Hose Barb
20381-007		Quad Port x Garden Hose Adapter

* Other Elastomers Available
* * Packaged 2 per bag.

GAS PUMP FITTINGS

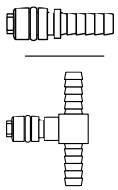
Stainless Steel Inlets & Outlets (Liquid Fittings)



- For use with all Quad Series Pumps.

Part Number Straight	Part Number Elbow	Description
20324-030	20607-100	1/4" Hose Barb
20325-030	20608-100	3/8" Hose Barb
20606-100		1/2" Hose Barb

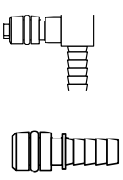
Brass CO_2/Air Inlets with Shutoff Valve (Air Fittings)



- For use with all 5100 and G Series Pumps.

Part Number	Description
1510-000	1/4" Hose Barb, Straight
1520-000	1/4" Hose Barb, Tee
1521-000	1/4" Hose Barb, Elbow

Plastic (Celcon) CO_2/Air Inlets



- For use with all 5100 and G Series Pumps.

Part Number	Description
20325-033	1/4" Hose Barb, Straight

PRODUCT SPECIFICATION FORM

CUSTOMER DATA

Company:			Date:
Address:			
City:		State:	Country:
Phone:	Fax:		E-mail:
Contact:		Title:	Annual Unit Sales:
Samples Requested:	Agency Approvals Required:		

APPLICATION DATA

Flow Rate:	Point (A)	Operating Pressure:	Point (A)
	Point (B)		Point (B)
	Point (C)		Point (C)
Fluid Being Pumped:			Concentration:
PH Rating:	Temperature Range:		Viscosity:
Specify Gravity:	Suspended Solids:		Size:
Horizontal Mounting Position:		Vertical, Pump Head Down:	
Suction Plumbing Type:		Size:	Length:
Vertical Distance:		Horizontal Distance:	
Fittings/Elbows:		Quick Disconnects:	Size:
Discharge Plumbing Type:		Size:	Length:
Vertical Distance:		Horizontal Distance:	
Fittings/Elbows:		Quick Disconnects:	Size:
Nozzle/Orifice Qty:		Size:	
Solenoid Controlled:		Manual Controlled:	
Intermittent Duty:		Continuous Duty:	
Time On:	Time Off:	Hrs./Day:	Days/Week:
Environmental Conditions:	Temperature Range:		Humidity Range:
	Noise Limitations:		Exposure To Sun:

PRODUCT DATA MOTOR INFORMATION

Voltage:	Minimum:	Maximum:
AC:	DC:	Source:
Torque Required:*	Speed Required:*	Max Amps:
Cord:	Special Leads:	Length:
Thermal Protection:	Temperature Range:	
RFI Suppression:	Full:	Partial:
Base Plate:	Sealed Housing:	
Other:		

PUMP INFORMATION

Housing Materials:		Polypropylene:	Nylon:
Diaphragm Elastomers:		Santoprene®:	EPDM:
		Buna:	Viton®:
Check Valve Elastomers:		Santoprene:	EPDM:
		Buna:	Viton:
Vented Body:		Vented Check Valve:	Anti-Drip Valve:
Screen:	S.S. Screws:	Bypass Required:	Max. PSI:
Automatic Control:		PSI On:	PSI Off:

Completed By

*To be completed when specifying/buying motor only.

Date

COMMON VISCOSITIES

MATERIAL	TEMPERATURE (F°)	VISCOSITY (cp)
Water	70	1
Gasoline	70	8
Sulfuric Acid	70	10
Kerosene	70	12
Phenol	70	16
Diethylene Glycol	70	30
Corn Oil	130	34
Water glass	100	60
Water Soluble Oil	70	60
Oil SAE 10	70	110
SAE 20	70	150
SAE 40	70	260
SAE 60	70	740
SAE 70	70	1050
Asphalt	300	1000
Tomato Catsup	70	3000
Butter	70	10,000
Mayonnaise	70	40,000
Molasses	70	100,000
Confectionary Glucose	70	1,000,000
Asphalt	100	3,000,000

NOMINAL DIMENSIONS OF STD SIEVES

Sieve Opening (mm)	USA std ASTM E 11-61	Sieve Opening (mm)	USA std ASTM E 11-61
0.037	400	0.250	60
0.044	325	0.297	50
0.045	-	0.300	-
0.053	270	0.354	45
0.063	230	0.355	-
0.074	200	0.420	40
0.075	-	0.500	35
0.088	170	0.595	30
0.090	-	0.600	-
0.105	140	0.707	25
0.125	120	0.710	-
0.149	100	0.841	20
0.150	-	1.00	18
0.177	80	1.19	16
0.180	-	1.20	-
0.210	70	1.41	14

TEMPERATURE LIMITATIONS

PLASTICS	MIN.	MAX.
Polypropylene	45˚F (7˚C)	160˚F (71˚C)
Nylon	45˚F (7˚C)	200˚F (93˚C)
Celcon	40˚F (5˚C)	200˚F (60˚C)
ELASTOMERS	**MIN.**	**MAX.**
Viton®	50˚F (13˚C)	200˚F (93˚C)
Buna-N	45˚F (7˚C)	200˚F (93˚C)
EPDM	40˚F (5˚C)	200˚F (93˚C)
Santoprene®	40˚F (5˚C)	180˚F (82˚C)

FLOW DATA - NOZZLES

DISCHARGE HEAD				APPROXIMATE FLOW THROUGH NOZZLES IN GPM (L/M) diameter of nozzles in inches (mm)									
				.072 (1.8)		.078 (2.0)		.094 (2.4)		.140 (3.6)		.156 (4.0)	
PSI	(BAR)	FEET	METERS										
10	(0.7)	23.1	(.7)	.40	(1.5)	.50	(1.9)	.75	(2.8)	1.5	(5.7)	2.0	(7.6)
20	(1.4)	46.2	(14)	.56	(2.1)	.71	(2.7)	1.1	(4.2)	2.1	(8.0)	2.8	(10.6)
30	(2.1)	69.3	(21)	.69	(2.6)	.86	(3.3)	1.3	(4.9)	2.6	(9.8)	3.5	(13.3)
40	(2.8)	92.4	(28)	.80	(3.0)	1.0	(3.8)	1.5	(5.7)	3.0	(11.4)	4.0	(15.1)
50	(3.5)	115.5	(35)	.90	(3.4)	1.1	(4.2)	1.7	(6.4)	3.4	(12.9)	4.5	(17.0)
60	(4.2)	138.6	(42)	.98	(3.7)	1.2	(4.5)	1.8	(6.8)	3.7	(14.3)	4.9	(18.6)
80	(5.6)	184.8	(56)	1.1	(4.2)	1.4	(5.3)	2.1	(8.0)	4.2	(15.9)	5.7	(21.6)
100	(7.0)	230.9	(70)	1.3	(4.9)	1.6	(6.1)	2.4	(9.1)	4.7	(17.8)	6.3	(23.9)

TEMPERATURE CONVERSION FOR FAHRENHEIT AND CENTIGRADE SCALES

DEGREES FAHRENHEIT	DEGREES CENTIGRADE
+212˚F	+100˚C
+203	+95
+194˚F	+90˚C
+185	+85
+176˚F	+80˚C
+167	+75
+158˚F	+70˚C
+149	+65
+140˚F	+60˚C
+95	+35
+122˚F	+50˚C
+113	+45
+104˚F	+40˚C
+95	+35
+86˚F	+30˚C
+77	+25
+68˚F	+20˚C
+59	+15
+50˚F	+10˚C
+41	+5
+32˚F	0˚C
+23	-5
+14˚F	-10˚C
+5	-15
-4˚F	-20˚C
-13	-25
-22˚F	-30˚C
-31	-35
-40˚F	-40˚C

When sizing a pump, be sure to account not only for the desired outlet pressure but also for a pressure drop due to friction losses. The table at right gives pressure drops in psi per **100 feet** of pipe and tube. Use pipe friction losses when calculating discharge pressures. Pipe sizes shown apply to standard weight, Schedule 40 pipe. Tube is based on standard copper tubing.

PIPE FRICTION LOSSES (WATER)

GPM	Nominal sizes (inside diameters)									
	1/4"OD tube (0.21)	1/8" pipe (0.27)	3/8"OD tube (0.36)	1/4" pipe (0.36)	1/2" pipe (0.43)	3/8" pipe (0.49)	1/2" pipe (0.62)	3/4" pipe (0.82)	1" pipe (1.05)	1 1/2" pipe (1.61)
0.2	4.28	1.86	0.591	0.359	0.134	0.042				
0.5	26.7	10.5	3.92	2.39	0.853	0.539	0.167	0.033		
1	107	37.2	14.8	8.28	3.38	1.85	0.602	0.155	0.050	
2		134	50.1	30.1	11.5	6.58	2.10	0.526	0.164	
3			102	64.1	23.2	13.9	4.33	1.09	0.336	0.043
4	2" pipe (2.067)		169	111	38.5	23.9	7.42	1.83	0.565	0.071
5					56.9	36.7	11.2	2.75	0.835	0.104
6		2 1/2" pipe (2.469)			78.4	51.9	15.8	3.84	1.17	0.145
8	0.073				130	91.1	27.7	6.60	1.99	0.241
10	0.108		3" pipe (3.068)				42.4	9.99	2.99	0.361
15	0.224	0.094					93.2	21.6	6.36	0.755
20	0.375	0.158		4" pipe (4.026)				37.8	10.9	1.28
25	0.561	0.234	0.083		5" pipe (5.047)			58.1	16.7	1.93
30	0.786	0.327	0.114					86.3	23.8	2.72
40	1.35	0.556	0.192	0.052					41.5	4.65
50	2.03	0.839	0.288	0.076					66.4	7.15
60	2.87	1.18	0.406	0.107	0.035				92.8	10.2
70	3.84	1.59	0.540	0.143	0.047					13.7
80	4.97	2.03	0.687	0.180	0.060					17.6
90	6.20	2.53	0.861	0.224	0.072					22.0
100	7.59	3.09	1.05	0.272	0.090					26.9

T0 CONVERT	TO	MULTIPLY BY
BAR	PSI	14.5
CENTIMETERS	Inches	0.3937
Centimeters	Feet	0.03280
Centimeters	Meters	0.01
Centimeters	Millimeters	10
CUBIC CENTIMETERS	Cubic feet	3.53×10^{-5}
Cubic Centimeters	Cubic inches	6.102×10^{-2}
Cubic Centimeters	Cubic meters	10-6
Cubic Centimeters	Cubic yards	1.308×10^{-6}
Cubic Centimeters	Gallons	2.642×10^{-4}
Cubic Centimeters	Liters	10-3
Cubic Centimeters	Pints (liq.)	2.113×10^{-3}
Cubic Centimeters	Quarts (liq.)	1.057×10^{-3}
CUBIC FEET	Cubic centimeters	2.832×10^{4}
Cubic Feet	Cubic inches	1728
Cubic Feet	Cubic meters	0.02832
Cubic Feet	Cubic yards	0.03704
Cubic Feet	Gallons U.S.	7.48052
Cubic Feet	Imperial gallons	6.23
Cubic Feet	Liters	28.32
Cubic Feet	Pints (liq.)	59.84
Cubic Feet	Quarts (liq.)	29.92
CUBIC FOOT WATER	Pounds	62.4
Cubic Foot Water	Ounces	998.8
Cubic Foot Water	Kilograms	28.315
CUBIC INCHES	Cubic centimeters	16.39
Cubic inches	Cubic feet	5.787×10^{-4}
Cubic inches	Cubic meters	1.639×10^{-5}
Cubic inches	Cubic yards	2.143×10^{-5}
Cubic inches	Gallons	4.329×10^{-3}
Cubic inches	Liters	1.639×10^{-2}
Cubic inches	Pints (liq.)	0.03463
Cubic inches	Quarts (liq.)	0.01732
FEET	Centimeters	30.48
Feet	Inches	12
Feet	Meters	0.3048
Feet	Yards	1/3
FEET OF WATER	Atmospheres	0.02950
Feet of Water	Inches of Mercury	0.8826
Feet of Water	Kgs. sq. cm.	0.03048
Feet of Water	Lbs. sq. ft.	62.43
Feet of Water	Lbs. sq. inch	0.4335
GALLONS, U.S.	Cubic centimeters	3785
Gallons, U.S.	Cubic feet	0.1337
Gallons, U.S.	Cubic inches	231
Gallons, U.S.	Cubic meters	3.785×10^{-3}
Gallons, U.S.	Cubic yards	4.951×10^{-3}
Gallons, U.S.	Fluid ounces	128
Gallons, U.S.	Liters	3.785
Gallons, U.S.	Pints (liq.)	8
Gallons, U.S.	Quarts (liq.)	4
Gallons, U.S.	Imperial gallons	0.83267
GALLONS (IMP)	U.S. gallons	1.20095
GALLONS, U.S.	Pounds of water	8.3453
Gallons, U.S.	Kilograms	3.785
GALLONS/MIN	Cubic feet/sec.	2.228×10^{-3}
Gallons/Min.	Liters/sec.	0.06308
Gallons/Min.	Liters/Min.	3.785
Gallons/Min.	Cu. ft. hr.	8.0208
GRAMS	Dynes	980.7
Grams	Grains	15.43
Grams	Kilograms	10^{-3}
Grams	Milligrams	10^{3}
Grams	Ounces	0.03527
Grams	Ounces (troy)	0.03215
Grams	Pounds	2.205×10^{-3}
HORSE-POWER	B.T. Units/min.	42.44
Horse-power	Foot-lbs./min.	33.000
Horse-power	Foot-lbs./sec.	550
Horse-power	Horse-power (metric)	1.014
Horse-power	Kg-calories min.	10.70
Horse-power	Kilowatts	0.7457
Horse-power	Watts	745.7
INCHES	Centimeters	2.540
Inches	Millimeters	25.4
Inches	Meters	0.0254
Inches	Feet	0.0833
INCHES OF MERCURY	Kgs./sq. cm.	0.03453
Inches of Mercury	Lbs./sq. ft.	70.73
Inches of Mercury	Lbs./sq. inch	0.4912
INCHES OF WATER	Atmosphere	0.002458
Inches of Water	Inches of Mercury	0.07355
Inches of Water	Kgs./sq. cm.	0.002450
Inches of Water	Ounces/sq. inch	0.5781
Inches of Water	Lbs./sq. ft.	5.202
Inches of Water	Lbs./sq. inch	0.03613
KILOGRAMS	Pounds	2.205
Kilograms	Tons (short)	1.102×10^{-3}
Kilograms	Grams	10^{3}
LITERS	Cubic centimeters	10^{3}
Liters	Cubic feet	0.03531
Liters	Cubic inches	61.02
Liters	Cubic meters	10-2
Liters	Cubic yards	1.308×10^{-3}
Liters	Gallons	0.2642
Liters/min.	Gallons/mins.	0.264
Liters	Pints (liq.)	2.113
Liters	Quarts (liq.)	1.057
METERS	Centimeters	100
Meters	Feet	3.281
Meters	Inches	39.37
Meters	Kilometers	10^{-3}
Meters	Millimeters	10^{3}
Meters	Yards	1.094
MILLIMETERS	Centimeters	0.1
Millimeters	Inches	0.03937
POUNDS (AVOIR.)	Ounces	16
Pounds (avoir.)	Drams	256
Pounds (avoir.)	Grains	7000
Pounds (avoir.)	Tons (short)	0.0005
Pounds (avoir.)	Grams	453.5924
Pounds (avoir.)	Pounds (troy)	1.21528
Pounds (avoir.)	Ounces (troy)	14.5833
Pounds (avoir.)	Kilograms	0.454
POUNDS OF WATER	Cubic feet	0.01602
Pounds of Water	Cubic inches	27.68
Pounds of Water	Gallons	0.1198
Pounds of Water	Imperial gallon	0.10
POUNDS/SQ. INCH	Atmospheres	0.06804
Pounds/Sq. Inch	Feet of Water	2.307
Pounds/Sq. Inch	Inches of Mercury	2.036
Pounds/Sq. Inch	Kgs. sq. cm.	0.07031
Pounds/Sq. Inch	Bars	0.06895

CHEMICAL RESISTANCE GUIDE

This Chemical Resistance Guide is offered to assist in selecting pump materials that are most resistant to the chemicals that may be used with a FLOJET pump.

The information is based on FLOJET laboratory tests, field testing programs and general data from industry sources. It should be used only as a guide in the selection of pump materials. Suitability for the application should be determined by actual use and is the full responsibility of the customer. No warranty, expressed or implied, can be extended by FLOJET where failure is caused by chemical attack on pump materials. Temperature, aeration, concentration and other factors may change the effect of the specific fluid on the pump materials. Data shown is based on results at ambient temperatures, unless otherwise noted. Flojet recommends the use of our Soak Test kit number F100-168, available for free upon your request.

RATING SYSTEM

The "A" rating indicates little effect on the physical properties of the material (Generally Satisfactory).

The "B" rating indicates minor to moderate effect (Generally Satisfactory But Should Be Qualified By Testing).

The "C" rating indicates a change in the physical properties in excess of acceptable tolerances could occur (Generally Not Satisfactory, Must Be Qualified By Testing).

The "D" rating indicates rapid physical deterioration, swelling of check valves, diaphragm or chemical attack on the pump housing material (Not Satisfactory).

Where no rating is shown data is not currently available, pump materials should be qualified by testing.

It is recommended that the pump be thoroughly flushed with water or other neutralizing agent after each use whenever possible.

	PLASTICS				ELASTOMERS					ALLOYS	
	POLYPROPYLENE	NYLON	POLYETHYLENE	ACETAL COPOLYMER	VITON	BUNA	SILICONE	EPDM	SANTOPRENE	316 STAINLESS STEEL	HASTELLOY
Acetaldehyde	A	A	D		C	D	A	B		A	A
Acetamide	A	A	A		B	A	B	A		A	
Acetate Solvents (crude)	D	A	A		D	D	C	V		A	
Acetate Solvents (pure)	D	A	B		D	D	C	B		A	
Acetic Acid, Glacial	A	D	A		D	C	B	B		A	A
Acetic Acid, 10%	A	C	A		C	B		B		A	
Acetic Acid, 20%	A	B	A		C	B	B	B		A	
Acetic Acid, 50%	A	D	A		C	A		B		A	
Acetic Acid, 80%	B	D	A		C	C	B	A		A	
Acetic Acid, pure	A	D	A		D	C	V	V	A	A	A
Acetic Anhydride	C	A	C		D	D	C	C		A	A
Acetone	A	A	C	A	D	D	B	A		A	
Acetophenone	C				D	C		A		B	
Acetyl Chloride	D	D	D		A	D	C	D		B	
Acetylene	A	A	A		A	B	B	A		A	
Acetylene Tetrabromide	A		A		A	D				A	
Acetylesalicylic Acid	A	A								A	
Acrylonitrile	A	A	A		D	D	D	D	A	B	
Adipic Acid						A					
Aero Lubriplate					A	A	B				
Aero Safe 2300					D	D	C				
Alcohol - Amyl	A	A	B		C	B	D	A			
Alcohol - Benzyl	A	D	D		A	D		B		A	A
Alcohol - Butyl	A	A	A		A	A	B	B		A	A
Alcohol - Diacetone	A	A	B		C	D	D	A		A	A
Alcohol - Ethyl	A	A	B		B	C	B	A		A	A
Alcohol - Hexyl		A	A		B	A	B			A	A
Alcohol - Isobutyl	A	A	A		A	B	A	A		A	A
Alcohol - Isopropyl	A	B	A		A	B	A	A		A	A
Alcohol - Methyl	A	A	A		C	A	A	A		A	A
Alcohol - Octyl	A	A	A		B	B	B	A		A	A
Alcohol - Propyl	A	B	A		A	A	A	A		A	A
Aluminum Chloride, 20%	A	C	B		A	A	B	A		C	A
Aluminum Chloride	A	D	B		A	A	B	A		C	B
Aluminum Citrate											
Aluminum Flouride	A	A	A		C	A	B	A		C	
Aluminum Formate					D	D					
Aluminum Hydroxide	A	A	A		B	A		A		A	
Aluminum Nitrate	A		A		B	A					
Aluminum Oxychloride	A				D						
Aluminum Phosphate					A	A					
Aluminum Potassium Sulfate 10%	A	D	A		A	A	A	A		B	C
Aluminum Potassium Sulfate	A	D	A		A	A	A	A		A	
Aluminum Sulfate	A	A	A		A	A	A	A		B	B
Amines	B	D			D	D	B	B			
Ammonia, 10%	A	A	C		C	D			A		
Ammonia, anhydrous	A	A	A		D	C	D	A		A	B
Ammonia, liquid	A	B			D	C		A		A	
Ammonia Nitrate	A	D			D	C		A		A	
Ammonium Acetate					A	A		A			
Ammonium Alum						B					
Ammonium Bichromate						A		A			
Ammonium Biflouride	A		A		A	B		A			
Ammonium Bisulfide	A										
Ammonium Carbonate	A	A	B		A	C	A			B	B
Ammonium Casenite										A	
Ammonium Chloride	A	C	A		A	B		A		C	B
Ammonium Dichromate						A					
Ammonium Flouride						B					
Ammonium Flouride, 10%	A				A	A					

	PLASTICS				ELASTOMERS					ALLOYS	
	POLYPROPYLENE	NYLON	POLYETHYLENE	ACETAL COPOLYMER	VITON	BUNA	SILICONE	EPDM	SANTOPRENE	316 STAINLESS STEEL	HASTELLOY
Ammonium Flouride, 25%	A										
Ammonium Hydroxide	A	A	A	C	B	C	A	A		A	B
Ammonium Metaphosphate	A		A		A	A		A			
Ammonium Nitrate	A	B	A		A	A		A		A	D
Ammonium Oxalate		B				A				A	
Ammonium Persulfate	A	C	A		B	C		B		A	D
Ammonium Phosphate, Dibasic	A	C	A		A	A	A	A		C	
Ammonium Phosphate, Monobasic	A	B	A		A	A	A	A		C	
Ammonium Phosphate, Tribasic	A	B	A		A	A	A	A		B	
Ammonium Sulfate	A	A	A		A	A	A	A		B	B
Ammonium Thiosulfate			A			A				A	
Amyl Acetate	C	A	A		D	D	D	A		A	A
Amyl Alcohol	B	A	B		B	B	D	A		A	
Amyl Chloride	D	C	D		B	D	D				A
Anniline	C	C	B	B	D	D	D	B	A	B	B
Anti-Freeze	D	D		A	A	A			A	A	
Aqua Regia	B	D	C		B	D	D			D	D
Arochlor	D	A	B		A	C	B	B		B	A
Aromatic Hydrocarbons	D		D		A	C	D	D		B	
Arsenic Acid	A		B		A	A	A	A		B	B
Asphalt	B	A	C		A	B	D	D		A	
Barium Carbonate	A	A	B		A	A		A		B	B
Barium Chloride	A	A	A		A	A	A	A		B	A
Barium Cyanide	D		B		A	C		A		B	
Barium Hydroxide	B	A	B		A	B	A	A		B	B
Barium Nitrate	A	A	B		A	A		A		B	B
Barium Sulfate	A	A	A		A	A	A	A		A	C
Barium Sulfide	B	A	A		A	A	A	A			
Beer	A	A	A	A	A	A	A	A		A	A
Beer Sugar Liquid	B	A			A	A	A	A		A	
Benzaldehyde	C	C	D		D	D	D	C		A	A
Benzalkonium Chloride											
Benzene	C	A	D	A	A	D	D	D		B	B
Benzoic Acid	B	C	C		A	D	B	C		B	B
Benzol	A	D	C		A	D		B		A	
Benzyl Benzonte					A	D		C			
Benzyl Chloride					D	D	D	D			
Black Liquor	A	A		A	A	A	B	B			
Bleach	A	C	A		A	D	B	A			
Borax	A	A	A		A	C	B	A		A	A
Boric Acid	A	B	A		A	A	A	A		B	A
Brake Fluid				A	D	C	C	A	A		
Brewery Slop					A	A				A	
Brine	A				A	A					
Brine Acid	A		A		A	A		A			
Bromic Acid	D				A			B			
Bromine Dry		D			A	D	D	D			A
Bromine Gas		D			A	D	D	D			A
Bromine Liquid	D	D	D		A	D	D	D		D	A
Bromine Water	C	D	D		A	C	D	D			A
Bromobenzene							D				
Bromotoluene	D										
Butadiene	C	A	D		A	C	D	C		A	
Butane	A	A	C		A	A	D	C		A	B
Butanediol			A		A			D			
Butter			A		A	A	B	A		A	
Buttermilk	A	B	A		A	A				A	A
Butylene		B	C		A	B	D	D		A	
Butyl Acetate	B	A	C		D	D	D	B	A	B	A

	PLASTICS				ELASTOMERS					ALLOYS	
	POLYPROPYLENE	NYLON	POLYETHYLENE	ACETAL COPOLYMER	VITON	BUNA	SILICONE	EPDM	SANTOPRENE	316 STAINLESS STEEL	HASTELLOY
Butyl Acrylate Pure	D				D			A			
Butyl Acrylate Saturated	D				D	C		D			
Butyl Amine	D				D	C	B	D			B
Butylebenzine					A	D					
Butyl Benzorte					A	D		A			
Butyric Acid	C	B	C		C	D		B		B	B
Calcium Bisulfate							A			A	
Calcium Bisulfide	A	A			A	A		C		B	
Calcium Bisulfite	B	A	A		A	A	A	D		A	B
Calcium Carbonate	A	A	B		A	A	A	A		B	B
Calcium Chlorate					A	C		A			
Calcium Chloride	A	A	B		A	A	A	A		B	B
Calcium Hydroxide	A	A	B		A	B	A	A		B	A
Calcium Hyprochloride	A	C	B		A	B	B	B		C	B
Calcium Sulfate	A	D	B		A	A		A		B	B
Calgon	A	A		B	A	A		A		A	
Cane Juice	C	A			A	A	A	A		A	
Carbolic Acid	B	D	B		A	C	D	B		B	
Carbon Bisulfide	C	A	D		A	C		D		B	
Carbon Dioxide (wet or dry)	A	A	B		A	C	B	B		A	A
Carbon Monoxide	A	A	A		A	A	A	A		A	A
Carbon Tetrachloride	D	C	D		B	C	D	D		B	B
Carbonated Water	B	A	A		A	A				A	
Carbonic Acid	A	A	A		A	B	A	A		B	A
Casein					A	A		A			
Castor Oil	A		C		A	A	A	B			
Catsup	A	A			A	A			C		A
Caustic Lime					B	A		A			
Caustic Potash	A				D	A		A			B
Caustic Soda	A				B	C		A			A
Chloral Hydrate	A	D			A	C					
Chloracetic Acid	C	D	C		D	C		B		C	A
Chloric Acid		D				D				C	
Chloric Acid, 20%	D										
Chlorinated Glue					A	C		B		A	
Chlorine Dioxide	C				D						
Chlorine Dry	C	D	B		C	D	D	B		B	B
Chlorine Gas Dry	D				B	C		D			
Chlorine Gas Wet	D				C	C		D			
Chlorine Liquid	C	D	C		A	C				D	A
Chlorine Water	C		A		A	C		B		C	B
Chlorobenzene (Mono)	C	B	C		A	D	D	D		B	B
Chloroform	C	D	C		A	D	D	D		A	A
Chlorosulfonic Acid	D	D	D		D	D	D	D		D	A
Chlorox Bleach	D	A	B		A	B		B		A	
Chocolate Syrup	A	A			A	A				A	
Chresylic Acid, 50%			D		A	D					
Chrome Alum			A		A	A	A				
Chromic Acid, 05%	C	D	B		A	D	C	A		A	A
Chromic Acid, 10%	B	D	A		B	D	C	B		B	A
Chromic Acid, 20%	C	D	A		B	C	C	B			
Chromic Acid, 30%	C	D	A		A	D	C	B		B	
Chromic Acid, 50%	C	D	C		A	D	C	B		B	D
Chromium Alum	A				A			A			
Cider	A		B		A	A				A	
Citric Acid	A	A	A	A	A	A	A	A		A	A
Citric Oils	A				A	A		B		A	
Cobalt Chloride					A	A	B	A			
Coconut Oil	A		A		A	A	A	A		A	
Coffee	A	A			A	A	A	A		A	

	PLASTICS				ELASTOMERS					ALLOYS	
	POLYPROPYLENE	NYLON	POLYETHYLENE	ACETAL COPOLYMER	VITON	BUNA	SILICONE	EPDM	SANTOPRENE	316 STAINLESS STEEL	HASTELLOY
Copper Chloride	A	A	B		A	A	A	A		C	B
Copper Cyanide	A	A	A		A	A	A	A		A	B
Copper Fluoborate					A	B				D	B
Copper Nitrate	A	D	B		A	A				B	C
Copper Culfate	A	C	B		A	A	A	A		B	B
Cream	A	A			A	A				A	
Cresols	D	D	C		A	D	D	D		A	B
Cresylic Acid	D	D	B		A	D	D	D		A	B
Cyanic Acid					A	C					
Cyclohexane	C	A	B		A	B	D	D	D	A	B
Detergents	B	A	A	B	A	A	A	A		A	B
Diacetone Alcohol	A				D	D	D	A			
Diazo Salts	A		A								
Dibutyl Amine					C	C	C	D			
Dibutyl Ether					C	C	D	C			
Dibutyl Phthalate	B	A			B	D	B	A			B
Dibutyl Sebacate					C		B	B			
Dichlorethane	A	C	C		C					B	
Dichloromethane					B	D		D			
Diesel Fuel	B		C	A	A	A	D	D		A	B
Diethylamine	B	A	D		C	C	B	B		B	
Diethyl Ether	B			A	C	D	D	C	A		B
Diethyl Oxide					D	B		D			
Diethylene Glycol	A	A	B		A	A	D	A		A	
Diglycolic Acid	A				A			A			
Diisobutyl Ketone					D			D			
Diisobututylene					A		D	D			
Diisooctyl Phthalate					B			B			
Diisopropyl Ketone					D		D	B			
Dimethyl Amine	A				D	B		C			
Dimethyl Benzene					A	D		D			
Dimethyl Ether					B	B		B			
Dimethyl Formamide	A	A		A	C	B	B	B	A		
Dimethyl Ketone					D	D		A			
Dimethyl Phthalate					B	C		B			
Dimethylamine	A				D			D			
Dioctyl Phthalate	D		D		A	D	C	B			
Dioxane	B	A			D	D	D	B			
Diphenyl Oxide	D		D		A	D	C	D		B	
Dyes		A			A					A	
Epsom Salts	A	A	A		A	A	A	A		B	A
Ethane	C	D	D		A	A	D	D		A	A
Ethanolamine	B	A			D	B	B	B		A	B
Ether	D	A	C		C	D	D	C		B	B
Ethyl Acetate	B	A	B	A	D	D	B	B		B	A
Ethyl Chloride	C	A	B		A	A	D	A		A	B
Ethyl Sulfate					A	A				D	
Ethylene Chloride	C	B	C		B	D	D	D		A	B
Ethylene Dichloride	B	B	C	A	A	D	D	C		A	A
Ethylene Glycol	A	B	A	B	A	A	A	A		A	B
Ethylene Oxide	C	A	C		D	D	D	C		C	
Fatty Acids	B	A	B		D	D	D	C		A	A
Ferric Chloride	B	C	A		A	B	B	A		C	C
Ferric Nitrate	B	A	B		A	A	C	A		A	B
Ferric Sulfate	B	A	A		A	A	B	A		A	B
Ferrous Chloride	A	C	A		A	A				C	D
Ferrous Sulfate	A	C	A		A	A		A		B	B
Flouboric Acid	A	D	B		A	A		A		C	A
Fluorine	C	D	C		B	C	D	A		C	B
Fluosilic Acid	A	D	B		A	A	B	A		B	

	PLASTICS				ELASTOMERS					ALLOYS	
	POLYPROPYLENE	NYLON	POLYETHYLENE	ACETAL COPOLYMER	VITON	BUNA	SILICONE	EPDM	SANTOPRENE	316 STAINLESS STEEL	HASTELLOY
Formaldehyde	C	D	B		D	C	B	A		A	B
Formaldehyde, 40%	A	C	A		A	B		A		A	B
Formic Acid	A	C	B		C	B	B	A		C	B
Freon 11	D	D	C		A	B	D	D	C	A	
Freon 12	D	D	C		B	A	D	B		A	
Freon 22	A	B	A		D	D	D	A		A	
Freon 113	D		D		B	A	D	D		A	
Freon T.F.	D	D	D		B	A	D	D		A	
Fructose	A		A		A	A		A		A	
Fruit Juice	A	A	B		A	A				A	
Fruit Pulp	A		A		A					A	
Fuel Oils	B	A	D		A	A	C	D		A	B
Furan Resin	D		D		D	D	D	C		A	A
Furfural	C	B	D		D	D	D	B		A	B
Gallic Acid	A	B	D		A	A		A		B	B
Gasoline	D	A	D	A	B	A	D	D		A	A
Gelatin	A	A	A		A	A	A	A		A	B
Glucose	A	B	A		A	A	A	A		A	
Glue		A	A		A	A	A	A		A	
Glycerin	A	A	A		A	A	A	A	A	A	A
Glycerol	A	A	A		A	A	A	A	A	A	A
Glycolic Acid	A		A	C	A	A	A	A		A	B
Gold Monocyanide					A	A				A	
Grape Juice		A	B		A	A				A	
Grease					A	D				A	
Heptane	C	A	C	A	A	A	D	D		A	B
Hexane	C	A	C		A	A	D	D		A	B
Honey	A	A	B		A	A				A	
Hydraulic Oil (Petroleum)	D	A	D		C	A	C	D		A	
Hydraulic Oils (Synthetic)	D	A	A		A	C				A	
Hydrazine	C				A	B	C	A		A	
Hydrobromic Acid 20%	A	D	B		A		D	A		D	B
Hydrobromic Acid	A	D	A		A	D	D	A		D	B
Hydrochloric Acid dry gas	B	A	A					C		D	A
Hydrochloric Acid, 20%	B	D	A	D	A	C	C	A	A	D	B
Hydrochloric Acid, 37%	B	D	C		A	B	B	A		D	A
Hydrochloric Acid, 100%	D	B			A	D	D	C		D	A
Hydrocyanic Acid	A	C	A		A	B	C	A		B	A
Hydrocyanic Acid (Gas 10%)	A				A	B		A			
Hydrofluoric Acid, 20%	A	C	A		A	C	D	A		C	B
Hydrofluoric Acid, 50%	A	D	A		A	C	D	A		D	B
Hydrofluoric Acid, 75%	C	D	C		A	D	D	C		D	B
Hydrofluosilicic Acid	A	D	B		A	B	D	A		D	B
Hydrogen Gas	A	A	A		A	A	C	A		A	A
Hydrogen Peroxide, 10%	B	C	A	A	A		B			B	D
Hydrogen Peroxide, 30%	B	D	C		A		B			B	D
Hydrogen Peroxide, 50%	B	D	C		A		B			A	C
Hydrogen Peroxide, 100%	B	D	C		A	B	B	A		A	A
Hydrogen Sulfate (aqua)	A	C	A		D	D	C	A		C	A
Hydrogen Sulfide (dry)	A	C	A		D	A	C	A		B	B
Hydroxyacetic Acid			A		A	A		A			
Hydroxyacetic Acid (70%)			A		A	A		A			
Hydroxylamine Sulfate	A							A			
Hypochlorous Acid	A		A		B	D		B		D	
Ink	A	C	D		A	A				A	
Iodine	B	D	B		A	B		B		C	B
Isotane	D	D			A	A					
Isopropyl Acetate	B	B	B		D	D	D	B		B	B
Isopropyl Ether	C	A	C		D	B	D	D		A	
Jet Fuel JP-3	A	A	C		A	A	D	D		A	A

	PLASTICS				ELASTOMERS					ALLOYS	
	POLYPROPYLENE	NYLON	POLYETHYLENE	ACETAL COPOLYMER	VITON	BUNA	SILICONE	EPDM	SANTOPRENE	316 STAINLESS STEEL	HASTELLOY
Jet Fuel JP-4	B	A	C		A	B	D	D		A	A
Jet Fuel JP-5	B	A	C		A	A	D	D		A	A
Kerosene	A	A	C	A	A	A	D	D		A	A
Ketones	B	A	C		D	D		C		A	B
Laquer	B	A	C		D	D	D	D		A	
Laquer Thinner	B	A	B		D	D	D	A		A	
Lactic Acid	A	C	B		A	A	A	B		A	B
Lard	A	A	B		A	A	B	C		A	A
Latex	A	A	A		A	A		B		A	
Lead Acetate	A	B	B		D	B	D	A		B	B
Lead Chloride	A				A			A			
Lead Nitrate	A				A	A	B	A		B	B
Lead Sulfamate	A	B	A		A	B	B	A		B	
Ligroin	B	D	C		A	A	D	C		A	
Lime	A	A	B		A	A	B	C		A	
Linoleic Acid	A				B	B	B	D		A	
Linseed Oil	A	A	D	A	A	A	A	B		A	A
Lubricants	A	A	D		A	A	D	D		A	B
Magnesium Carbonate	A		A		A	A		A		A	B
Magnesium Chloride	A	A	A		A	A	A	A		A	A
Magnesium Hydroxide	A	B	A		A	A	A	A		A	B
Magnesium Nitrate	A	A	A		A	A		A		A	B
Magnesium Oxide						A				A	
Magnesium Sulfate	A	A	A		A	A	A	A		B	A
Maleic Acid	A	B	B		A	D	B	D		B	B
Maleic Anhydride	D				A	D		D			A
Mash		A			A	A		A		A	
Mayonnaise		A	B		A	A				A	
Melamine	A	A			A	C		A		D	
Mercuric Chloride	A	D	A		A	A				C	D
Mercuric Cyanide	A	A	A		A	A				B	D
Mercury	B	A	A		A	A		A		A	B
Methyl Acetate	D	A	B		D	D	D	B		A	B
Methyl Acrylate	D		B		D	D	D	B			
Methyl Acetone		A			A	D				A	
Methyl Bromide	C	C	D		A	D			D	A	
Methyl Butyl Ketone	D	D	A		D	D	D	A		A	B
Methyl Cellosolve	B	C	B		D	C	D	B		A	
Methyl Chloride	D	C	C		A	D	D	C		A	B
Methyl Dichloride	D	C			A	D	D	D			
Methyl Ethyl Ketone	A	A	B		D	D	D	A	A	A	B
Methyl Isobutyl Ketone	C	A	A		D	D	D	C		A	
Methyl Isopropyl Ketone	D	D	D		D	D	D	B		A	
Methyl Methacrylate	D				D	D	C	D			
Methylamine	D				D	D		A		A	
Methylene Chloride	B	C	C		B	D	D	D		B	A
Milk	B	A	A		A	A	A	A		A	A
Mineral Oil	A	A	D	A	A	A	B	D		A	
Molasses	A	A	A		A	A		C		A	A
Motor Oil	C			A	A	A		D			
Mustard	A	A	A		D	C	A	A		A	A
Naptha	C	A	A		A	C	D	D		A	B
Napthalene	B	A	A		A	D	D	D	A	B	
Natural Gas	A				A	A	A	D			
Neon					A	A	A	A			
Nickle Chloride	A	C	B		A	A	A	A		C	A
Nickle Sulfate	A	A	B		A	A	A	A		B	B
Nitric Acid (5-10%)	A	C	B	D	A	D	C	D		A	D
Nitric Acid (20%)	A	D	C		A	D	D	B		A	D
Nitric Acid (50%)	D	D	C		A	D	D	D		A	D

	PLASTICS				ELASTOMERS					ALLOYS	
	POLYPROPYLENE	NYLON	POLYETHYLENE	ACETAL COPOLYMER	VITON	BUNA	SILICONE	EPDM	SANTOPRENE	316 STAINLESS STEEL	HASTELLOY
Nitric Acid (Concentrated)	D	D	C		A	D	D	D		A	
Nitrobenzene	B	B	C		B	D	D	D	A	A	C
OILS											
Aniline	A	A			C	D	D	B		A	
Anise		A								A	
Bay					A					A	
Bone	A				A	A				A	
Castor	A	A			A	A	A	B		A	
Cinnamon		A			A					A	
Citric		A			A						
Clove		A			A	A				A	
Coconut	A	A			A	A	A	C		A	
Cod Liver	A				A	A	B	A		A	
Corn	A	A	C		A	A	A	C		A	
Cotton Seed	A	A	B		A	A	A	C		A	
Creosote	C	D	C		A	B	D	D		B	
Diesel Fuel	A	A	C		A	A	D	D		A	
Fuel	C	A	C		A	B	C	D		A	
Ginger		A			A	A		A		A	
Hydraulic	D	A	C		A	A	C	D		A	
Lemon		A			A			D		A	
Linseed	A	A	C		A	A	A	C		A	
Mineral	B	A	B		A	A	C	D		A	
Olive	A	A	A		A	A	D	B		A	
Orange		A			A	A	D			A	
Palm		A			A	A				A	
Peanut	D	A			A	A	A	C		A	
Peppermint		A			A	D				A	
Pine	D	A			A	B	D	A		A	
Rape Seed	D				A	B	D	A		A	
Rosin	A	A	B		A	A				A	
Sesame Seed		A			A	A				A	
Silicone	A	A	A		A	A	C	A		A	
Soybean	A	A	A		A	D	A	C		A	
Sperm					A	A				A	
Tanning					A	A				A	
Oil, Turbine	B		C		A	B	D	D		A	
Oleic Acid	A	B	D	A	B	B	D	C		B	B
Oleum	D	D	A		D	D	D			B	
Oxalic Acid	A	B	A		A	B	B	A		B	B
Oxygen Gas	A				A	C	B	A			
Ozone	C		C		A	D	A	A			
Palmitic Acid	A		B		A	A	D	B			
Paraffin	A	A	B		B	A		D		A	A
Pentane	D	A	D		A	A	D	D		C	
Perchloroethylene	C	C	D		A	D	D	D		A	B
Petrolatum	C	D	B		A	A	C	C		A	
Phenols 10%	B	D	A	B	B	D	D	C		B	
Phenols 100%	A	D	B			D	D	D		A	
Phosgene Gas	C				D	D		A			
Phosgene Liquid	D				D	D		A			
Phosphoric Acid < 40%	A	D	B		A	C	D	B		A	A
Phosphoric Acid > 40%	A	B	A		A	C	C	B		B	B
Phosphoric Acid (crude)	B	B	C		A	C	C	B		C	A
Phosporic Acid (molter)	D										C
Phosphoric Acid Anhydride	A										
Phosphorus Trichloride	C		A		C	D		C		A	D
Photographic Developer	A		B		A	A	A	B		A	
Phthalic Acid	D	B			A			A			B
Phthalic Anhydride	D				A	C		A		B	A

	PLASTICS				ELASTOMERS					ALLOYS	
	POLYPROPYLENE	NYLON	POLYETHYLENE	ACETAL COPOLYMER	VITON	BUNA	SILICONE	EPDM	SANTOPRENE	316 STAINLESS STEEL	HASTELLOY
Plating Solutions - Antimony	A				A	A				A	
Plating Solutions - Arsenic	A	A			A	A				A	
Plating Solutions - Brass	A	A	B		A	A				A	
Plating Solutions - Bronze	A	A			A	A		A		A	
Plating Solutions - Cadrium	A	C			A	A					A
Plating Solutions - Chrome	A	D			A		D				
Plating Solutions - Copper	A	C			A	A					A
Plating Solutions - Gold	A	A			A	A				A	
Plating Solutions - Indium	A	D			A	A				A	
Plating Solutions - Iron	A	D			A	A				A	A
Plating Solutions - Lead	A	D			A	A					A
Plating Solutions - Nickel	A	C			A	A					A
Plating Solutions - Silver	A	A			A	A		A		A	
Plating Solutions - Tin	A	D			A	A					A
Plating Solutions - Zinc	A	D			A	A					A
Potash	A	A	B		A	A				A	
Potassium Bicarbonate	A	A	A		A	A				B	B
Potassium Bromide	A	A	A		A	A				B	A
Potassium Carbonate	A	A	A		A	A				B	B
Potassium Chlorate	A		A		A					B	B
Potassium Chloride	A	B	A		A	A	A	A		B	B
Potassium Chromate	A	A	A		A	A				B	A
Potassium Cyanide Solutions	A	A	A		A	A	A	A		B	B
Potassium Dichromate	A	D	A		A	A	A	A		B	B
Potassium Ferrocyanide	A	B	A		A	A				B	B
Potassium Hydroxide	A	C	A		B	B	C		A	B	B
Potassium Iodide	A				A	A		A			A
Potassium Nitrate	A	B	B		B	A	A	A		B	D
Potassium Perborate	A		A								
Potassium Perchlorate	A		A			A		A			
Potassium Permanganate	A	D	A		B	A		A		B	B
Potassium Persulfate	A		A			A		A			
Potassium Sulfate	A	A	A		A	A	A	A		B	
Potassium Sulfide	A	A	A		A	A	A	A		A	
Potassium Thiosulfate					A	A					
Propane	B	A			A	A	D	D		A	
Propanol					A	A		A	A		
Propargyl Alcohol	A		A								
Propyl Acetate					D	D	D	B			
Propylene					A	D	D	D			
Propylene Dichloride	C		C		D	D		D			
Propylene Glycol	A		B		A	A		A		A	B
Pyridine	A	A	B		D	D	D	B	A	A	A
Pyrogalic Acid	A				A					B	B
Rosins	A	A	B		A	A				A	A
Rum	A	A			A	A		A		A	
Rust Inhibitors	A				A	A				A	
Salad Dressing	A	A			A	A				A	
Sea Water	A	A	A		A	A	A	A	A	A	A
Sewage	A				A	A	B	B		A	
Shellac (Bleached)	A	A	A			A				A	
Shellac (Orange)	A	A	A			A				A	
Silicic Acid	A		A		A	A					
Silicone	A	A			A	A	C	A		A	
Silver Bromide										B	B
Silver Cyanide	A				A			A			
Silver Nitrate	A	A	B		A	B	A	A		B	B
Silver Salts	A		A		A	A				A	
Silver Sulfate	A				A	C		A			
Soap Solutions	A	A	B		A	A	A	A		B	B

	PLASTICS				ELASTOMERS					ALLOYS	
	POLYPROPYLENE	NYLON	POLYETHYLENE	ACETAL COPOLYMER	VITON	BUNA	SILICONE	EPDM	SANTOPRENE	316 STAINLESS STEEL	HASTELLOY
Sodium Acetate	A	B	B		D	B	D	A		B	
Sodium Aluminate	A	A	A		A	A		A		A	B
Sodium Bicarbonate	A	A	A		A	B	D	A		B	B
Sodium Bisulfate	A	A	A		A	B		A		B	B
Sodium Bisulfide	A	A	A		A	A	A	A		B	
Sodium Borate	A	A	A		A	A	A	A		B	
Sodium Carbonate	A	B	B	A	A	A	A	A		A	B
Sodium Chlorate	A	D	B		A			A		B	
Sodium Chloride	A	A	A	B	A	A	A	A	A	B	A
Sodium Chromate		D			A	A				B	
Sodium Cyanide	A	A	A		A	A	A	A		A	
Sodium Hydroxide 20%	A	A	A	A	B	B	B	A		A	A
Sodium Hydroxide 50%	A	A	A	B	B	B	B	A	A	B	A
Sodium Hydroxide 80%	A		B	C	B	B		A			B
Sodium Hypochlorite < 20%	B	D	A	D	A	B	B	B		C	
Sodium Hypochlorite 100%	B	D	B		A	B	B	B	D		
Sodium Hyposulfate									A	A	
Sodium Metaphosphate	A	A	A		A	A		A		A	
Sodium Metasilicate	A				A	A		A		A	A
Sodium Nitrate	A	A	A		A	B	D	A		B	B
Sodium Perborate	A	B	A		A	B	B	A		B	B
Sodium Peroxide	B	A	A		A	B	D	A		A	C
Sodium Phosphate Alkaline	A	A			A	A		A			B
Sodium Phosphate Neutral	A	A			A	A		A			B
Sodium Polyphosphate	A	A	A		A	A	D	A		B	
Sodium Silicate	A	A	A		A	A		A		A	C
Sodium Sulfate	A	A	A		A	A	A	A		B	B
Sodium Sulfide	A	A	A		A	A	A	A		B	B
Sodium Sulfite	A	D	B		A	A	A	A		B	D
Sodium Tetraborate		A	A		A	A				A	
Sodium Thiocyanate			A		A		A	D			
Sodium Thiosulfate	A	B	A	A	A	B		A		A	
Sorghum		A			A	A				A	
Soy Sauce		A			A	A				A	
Soybean Oil			A		A			A		A	
Stannic Chloride	A	B	A		A	A	B	A		D	B
Stannic Fluoborate					A	A				A	
Stannous Chloride	A	C	B		A	A	B	B		A	B
Starch	A	A	B		A	C		A		A	
Stearic Acid	A	A	B		A	B	B	C		A	C
Stoddard Solvent	C	A	C		A	A	D	D		A	
Styrene		A			C	D	D	D		A	
Sugar (liquids)	A	A			A	A	A	A		A	B
Sulfate Liquors	A	B	A		A	A		A		B	B
Sulfur	D	A	B		A	C		C			
Sulfur Chloride	C	A	C		A	D	C	D		D	A
Sulfur Dioxide Dry	A	B	A		A	D	B	A		A	B
Sulfur Dioxide Wet	A	C	B		A	D	B	A		A	D
Sulfur Trioxide	D	A	C		A	D	B	C		A	
Sulfuric Acid (to 10%)	A	C	A	C	A	D	D	B		B	C
Sulfuric Acid (10-75%)	A	D	A	D	A	D	D	B		D	C
Sulfuric Acid (75-95%)	C	D	B	D	A	D	D	A		D	C
Sulfuric Acid (95-100%)	C	D	B	D	A	D	D	D	A	D	A
Sulfurous Acid	A	D	B		A	B	D	B		C	C
Syrup	A				A	A				A	
Tallow	A	A	C		A	A				A	
Tannic Acid	A	C	B		A	A	B	A		A	B
Tanning Liquors	A	A	A		A	A		B		A	B
Tartaric Acid	A	B	A		A	A	A	B		C	B
Tetrachlorethane	C	C			A	D	D			A	

	PLASTICS				ELASTOMERS					ALLOYS	
	POLYPROPYLENE	NYLON	POLYETHYLENE	ACETAL COPOLYMER	VITON	BUNA	SILICONE	EPDM	SANTOPRENE	316 STAINLESS STEEL	HASTELLOY
Tetrahydrofuran	C	A	C		D	D	B	D		A	B
Toluene, Tuluol	C	A	C	A	A	D	D	B		A	A
Tomato Juice	A	A	A			A		D		A	A
Trichloroethane	C	C			A	D	D	D		A	
Trichloroethylene	C	C	C		A	C	D	D	D	B	B
Trichloropropane					A	A				A	A
Tricresylphosphate	A	A	B		B	D	C	A		A	
Triethylamine	D	A			A	A		A		A	
Turpentine	B	A	C		A	A	D	D	C	A	B
Urine	A	A	A		A	A		A		A	
Varnish	A	C	C		A	B	D	D		A	A
Vegetable Juice		A			A	C				C	
Vinegar	A	C	B		A	B	A	A		A	B
Vinyl Acetate					D	D		B			
Vinyl Chloride		A			A	D		C			A
Water Acid Mine	A	B	A		A	A	B	A		A	A
Water Deionized	A		A		A	A		A		A	B
Water Distilled	A	A	A	B	A	A		A		A	A
Water, Fresh	A	A	A		A	A	B	A	A	A	A
Water, Salt	A	A	A		A	A		A	A	A	A
Weed Killers		A			A	B				A	
Whey					A	A		A		A	
Whiskey & Wines	A	A				A	A	A		A	
Xylene	C	A	C		B	D	D	D	C	A	B
Xylol	D				A	C	D	D			
Yeast	A		A		A	A					
Zeolite					A	A		B			
Zinc Acetate	A				C	B		A		B	
Zinc Chloride	A	C	A		A	A	D	A	A	C	B
Zinc Hydrosulphite		A				A		A		A	
Zinc Sulfate	A	C	B		A	A	A	A		A	B
Zirlite	A		B		C	B		A			

Santoprene is a trademark of Monsanto.

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