

CHEM-FEED[®] CFPS

- Single pump and dual pump systems
- Chemically resistant polyethylene structure
- Leak free, threadless connections
- Flow indicator
- Optional Chemical Feed Flowmeter
- Built-in spill containment
- Ships fully assembled
- Comes equipped with a pressure relief valve and check valve



CFPS-2 Dual pump system



CFPS-1 Single pump system

Sold and serviced exclusively by highly skilled, factory authorized technicians.

Complete the system by ordering any of the following ProSeries-M[®] metering pumps:

- Flex-Pro[®] M-2, M-3 or M-4 series Peristaltic Metering Pump with Integral Controller
- Chem-Pro[®] MD-3, MC-2 or MC-3 series Diaphragm Metering Pump with Integral Controller



Optional chemical feed flowmeter

Applications:

- Chemical metering
- Chlorination
- Fluoridation
- Potassium Permanganate
- Alum
- Sodium Bisulfite / Bisulfate
- Polymers
- Caustics
- Flocculants

Chem-Feed Skid System Features:

Chem-Feed Engineered Skid Systems were designed and engineered using solid modeling tools for superior piping installation and easy component maintenance. Custom engineered universal mounting blocks provide for easy component servicing and replacement. Lightweight for wall of floor mounting. Each factory built and tested system includes the following standard components:

Pressure Relief Valve - Protects the system from over-pressurization, 10-150 psi setting range, 150 psi maximum system pressure.

Check Valve - Protects the user from back-flow during pump maintenance.

Flow Indicator - Provides a visual indication of chemical movement through the system.

Inlet Y Strainer - Recommended for Diaphragm Pump systems.

The following optional components are available for specification (see the ordering matrix):

Calibration Cylinder - Confirm pump output under system conditions. Specify cylinder volumes from 1.6 GPH to 64 GPH.

Pulsation Dampener - Protect the system components from pulsation. Recommended for diaphragm pump systems.

Pressure Gauge with Guard - Isolate and protect the system pressure gauge. Specify pressure ranges from 0-30 psi, 0-100psi, or 0-200 psi.

MS-6 Chemical Flowmeter- Provides 4-20mA and pulse output data to SCADA and to the pump to verify chemical feed - see MS-6 data sheet for more details.

Specifications:**Skid**

Chemically resistant polyethylene structure.

Pump (sold separately)

Flex-Pro model M-2, M-3 or M-4 peristaltic pumps or Chem-Pro model MC-2 or MC-3 diaphragm pump. See page 6 for metering pump data.

Piping

PVC Schedule 80 (optional CPVC).

Seals

FKM seals (optional EPDM).

Tubing (T)

Reinforced braided PVC, 200 psi max, NSF listed. The pump inlet and outlet flexible tubing connections are terminated to half unions and secured to the barbed fitting with stainless steel clamps.

Tubing clamps

300 series SS band, 400 series SS screw

Unions (U)

PVC body, schedule 80

Ball valves (V)

True unions, PVC body, PTFE shaft bearings and seats

Pressure Relief Valve (PRV)

PVC body, PTFE primary diaphragm seal. Non-wetted components: EPDM secondary seal, zinc plated steel spring, stainless steel external hardware, HDPE pressure adjustment screw. Infinite adjustment from 10-150 psi.

Calibration Cylinder (CC)

PVC body, PVC end caps, 1/2" PVC pipe outlet vent.

Available volumes: 1.6 GPH (100ml), 4 GPH (250ml), 8 GPH (500ml), 16 GPH (1000ml), 32 GPH (2000ml), and 64 GPH (4000mL).

Pulsation Dampener (PD)

CPVC body, 10 cubic inch volume

Gauge w/guard (G)

Gauge: liquid filled stainless steel with blowout plug, bottom mount, 1/4" NPT threads. Available pressure ranges: 0-30 psi, 0-100, psi, 0-200 psi. Guard: PVC body, temperature compensated oil filled.

Check Valve (CV)

PVC body. Cracking pressure: 1.0-1.5 psi. Maximum working pressure: inlet = 150 psi, back = 100 psi.

Flow Indicator (F)

Machined cast acrylic, PVC connections, ceramic ball, PVDF ball stop, PVC half unions.

Y Strainer (S)

PVC body, 1/32" Mesh

Universal mounting blocks

PA 12

Pump extended mounting brackets

316 Stainless Steel

Skid mounting foot pads

316 Stainless Steel

Mounting hardware

18-8 Stainless Steel

Maximum working pressure

150 psig (10.3 bar)

Operating Temperature

14°F to 115°F (-10°C to 46°C)

Approximate Shipping Weight:

Single Pump System

- Standard: 150 lb. (68 Kg)

- With Mounted Pump: 175 lb. (79 Kg)

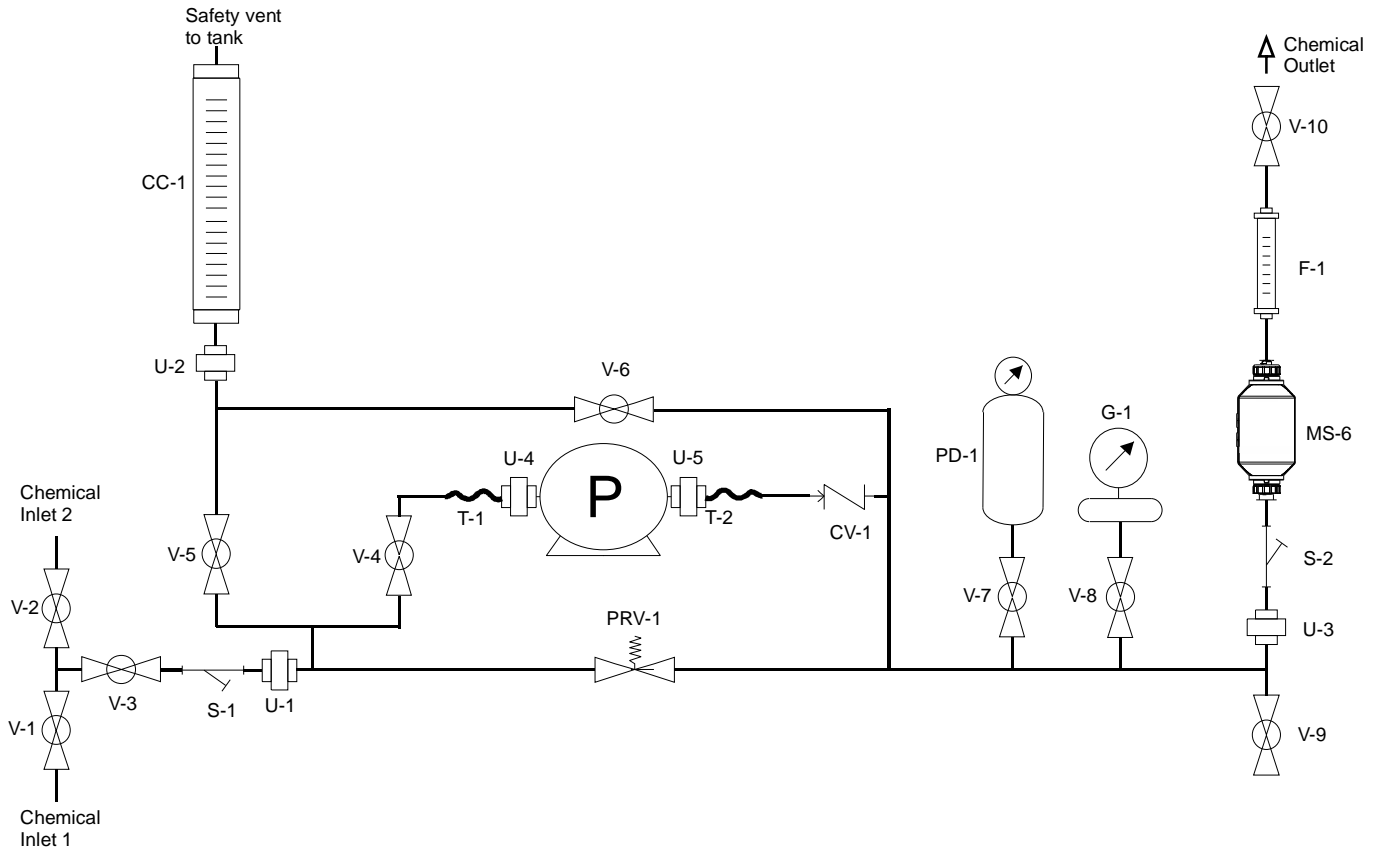
Dual Pump System

- Standard: 200 lb. (90 Kg)

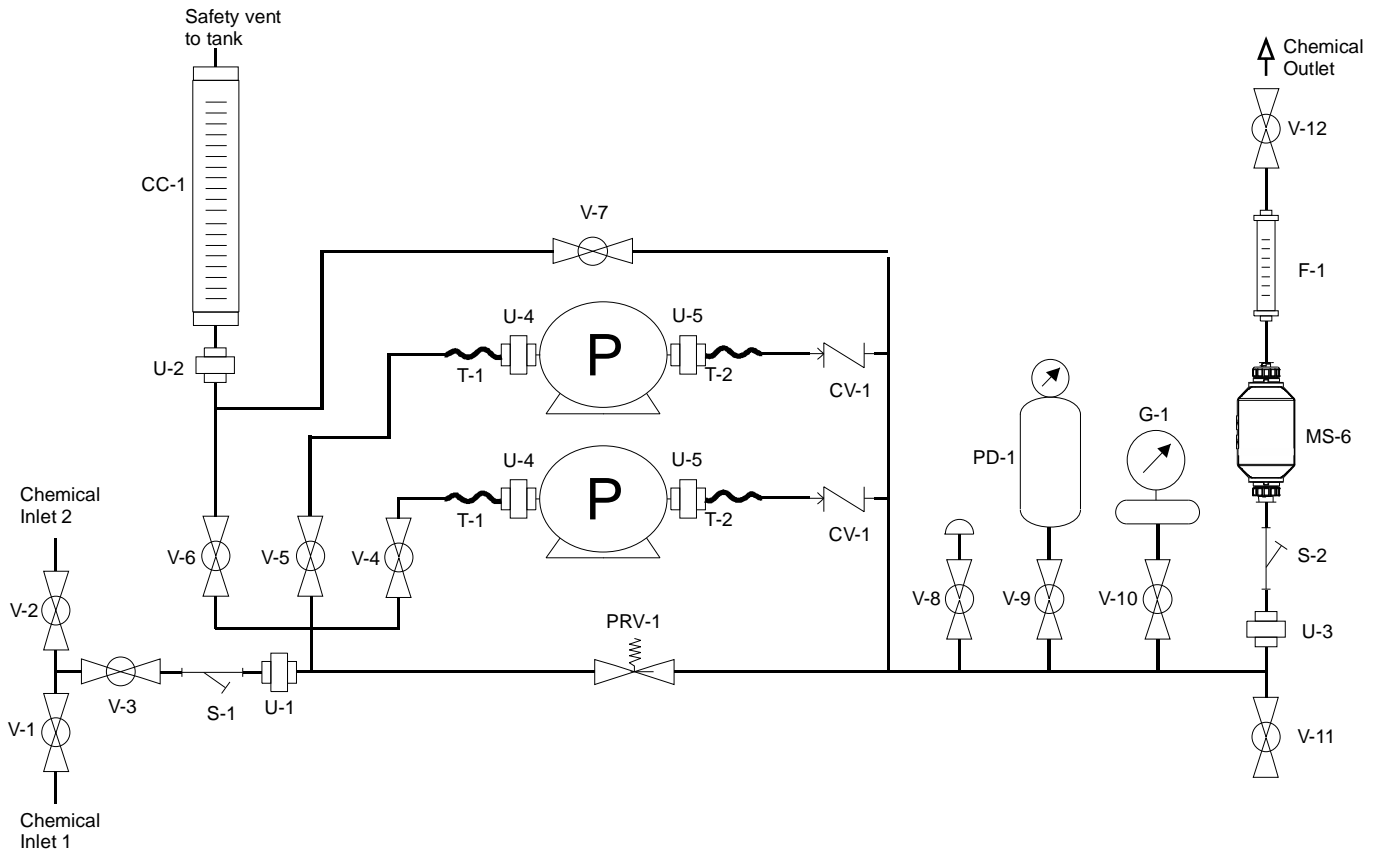
- With Mounted Pumps: 265 lbs (120 Kg)

Piping and Instrumentation Diagrams:

Single Pump Skids:



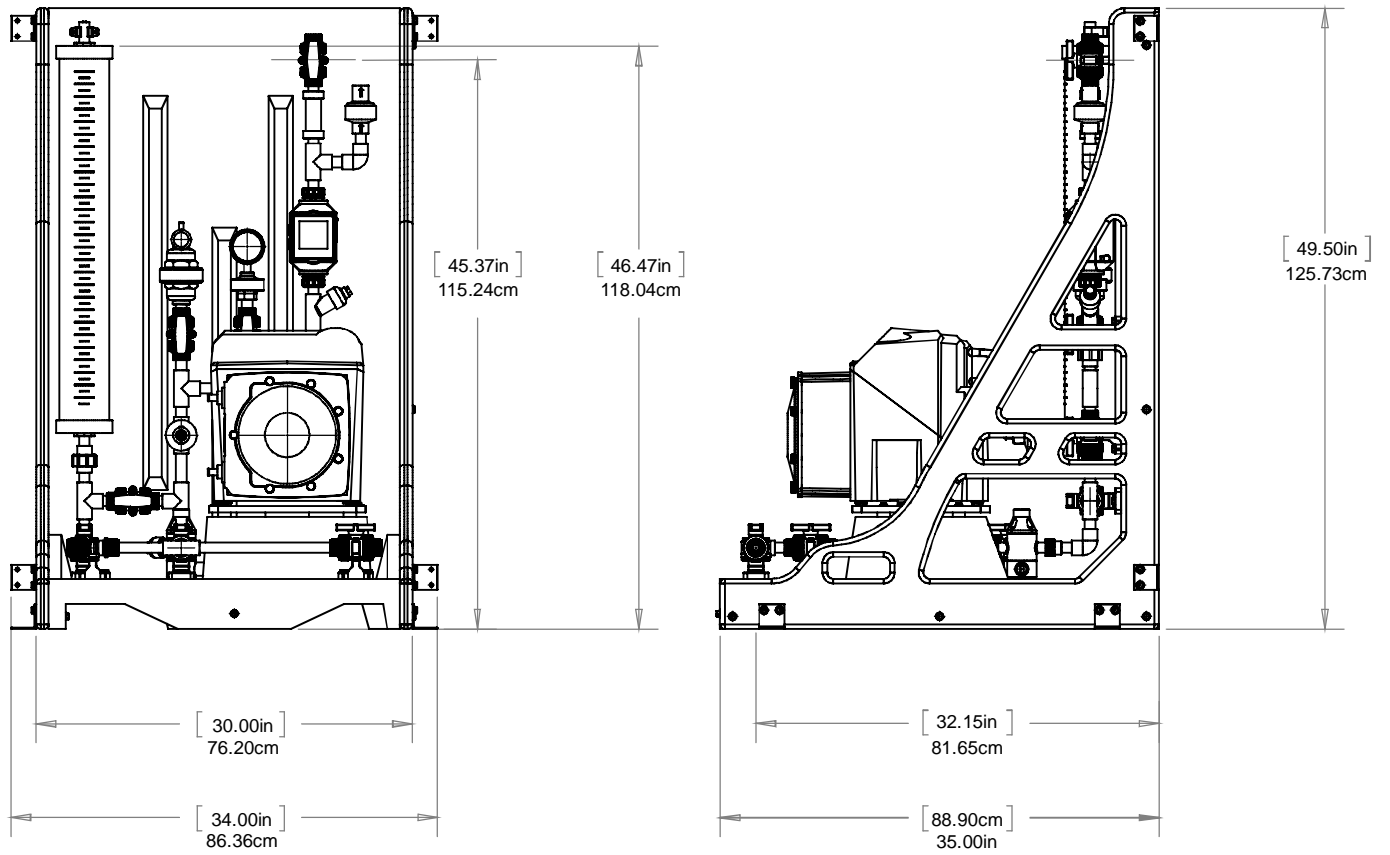
Dual Pump Skids:



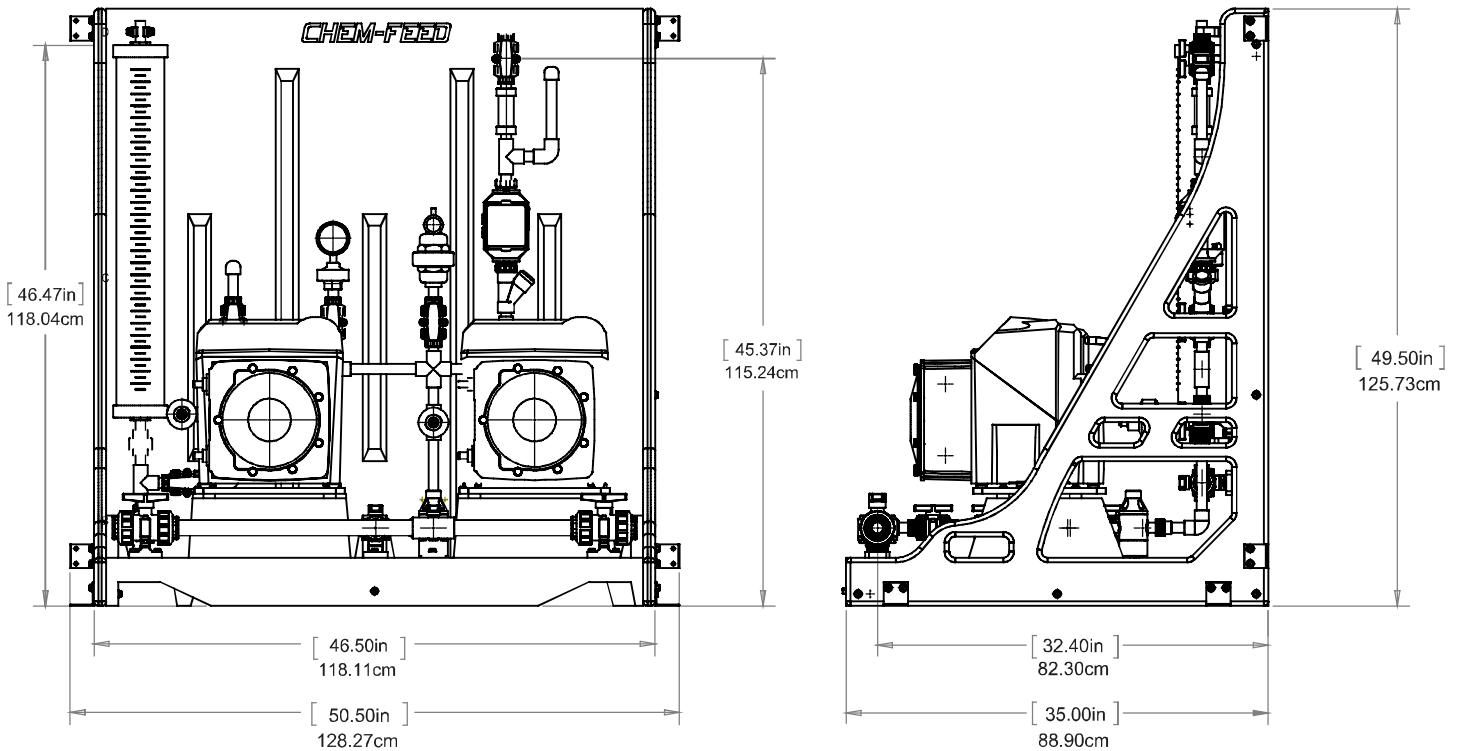
Engineering and Technical Data

Dimensions:

Single Pump System:



Dual Pump System:



Chem-Feed® Engineered Plastic Skid System Matrix

System type	
CFPS-1	Single pump system - single chemical / single outlet, PE structure
CFPS-2	Dual pump system - single chemical / single outlet, PE structure
Piping / Valves / Unions / Seal Materials	
A	PVC piping, 1/2" OD PVC braided tubing connections
B	CPVC piping, 1/2" OD PVC braided tubing connections
C	PVC piping, 1/4" ID Polyethylene tubing connections
D	CPVC piping, 1/4" ID Polyethylene tubing connections
X	Skid Frame only without piping
Seal Material	
V	FKM
E	EPDM
Calibration Cylinder	
A	64 GPH (4000 ml)
B	32 GPH (2000 ml)
C	16 GPH (1000 ml)
D	8 GPH (500 ml)
E	4 GPH (250 ml)
F	1.6 GPH (100 ml)
X	None
Pulsation Dampener	
A	10 cubic inch, CPVC body, PTFE diaphragm
X	None
Pressure Gauge w/Guard	
A	200 PSI gauge with guard, PTFE diaphragm
B	100 PSI gauge with guard, PTFE diaphragm
C	30 PSI gauge with guard, PTFE diaphragm
X	None
Flowmeter and Strainer	
G	Model MS-612 Chemical Feed Flowmeter, 10-5,000 ml/min (0.158 - 79.2 GPH)
H	Model MS-622 Chemical Feed Flowmeter, 100-10,000 ml/min (1.58 - 158 GPH)
X	Inlet Strainer only
Miscellaneous Options - (leave blank if not specified)	
1	Install with and ship with a specific pump model
2	Perform pressure and fluid testing with a specific pump model
3	Perform pressure, fluid testing, and ship with pump model installed
5	1/2" Intake manifold plumbing (Available on dual pump system only)

Note: When ordering pumps for single or dual skids, pump head orientation is standard LEFT facing only.

CFPS-1 A V - A A A X - 3 **Sample Chem-Feed Engineered Skid System Part Number**

CHEM-FEED® ProSeries-M® Engineered Skid System

Engineering and Technical Data

ProSeries-M® Pumps:

ProSeries Pump Features (see the specific technical data sheets for additional pump features)	Flex-Pro Peristaltic	Chem-Pro Diaphragm
Valveless peristaltic technology self primes against maximum back pressure. Cannot Vapor lock.	•	
Diaphragm technology for system pressures to 175 PSI. PVDF/Ceramic/TFE head resists most chemicals.		•
SCADA Input: Remote speed control via 4-20mA, 0-10VDC, high speed digital pulse, contact closure pulse	•	•
SCADA Input: One, contact closure (remote start / stop)	•	
Remote/Local control lockout settings	•	
SCADA Output: One, high switching current alarm relay	•	•
SCADA Output: Three, dry contact or maximum 30VDC/115VAC 1 amp contact closures	•	
SCADA Output: Programmable 4-20mA signal or high speed pulse, proportional to pump output	•	•
TFD (Tube Failure Detection) or DFD (Tube Failure Detection) System Alarm	•	•
FVS (Flow Verification System) Alarm *	•	•
NEMA 4X (IP66) wash-down rating	•	•
Variable speed motor	•	•
Variable speed brush-less DC motor	•	

ProSeries-M® Diaphragm Pump Models:

For additional pump models and more information visit our website at www.ProSeries-M.com or call Blue-White Industries at 714-893-8529

Feed Rate Operating Range			Maximum Pressure	Maximum Speed	Pumphead Materials	Chem-Pro Model Numbers	
GPH	LPH	ML/Min	PSI (bar)	Strokes per Minute		115V AC	230V AC
.04 - 8.2	.16 - 31	2.6 - 520	175 (12.0)	166	PVDF/PTFE/Ceramic/TFE	MC-2243XV1	MC-2253XV1
.06 - 12	.23 - 45	3.8 - 750	175 (12.0)	166	PVDF/PTFE/Ceramic/TFE	MC-2241XV1	MC-2251XV1
.11 - 21	.40 - 78	6.5 - 1300	175 (12.0)	166	PVDF/PTFE/Ceramic/TFE	MC-2242XV1	MC-2252XV1
.20 - 40	.77 - 153	12.8 - 2550	100 (6.8)	130	PVDF/PTFE/Ceramic/TFE	MC-3142XV1	MC-3152XV1
.03 - 53	.10 - 200	1.66 - 3320	145 (10)	190	PVDF/PTFE/Ceramic/TFE	MD-3244XVX	MD-3252XVX

ProSeries-M® Peristaltic Pump Models:

For additional pump models and more information visit our website at www.ProSeries-M.com or call Blue-White Industries at 714-893-8529

Feed Rate Operating Range			Pump Tube Material	Maximum Pressure	Maximum Speed	Flex-Pro Model Numbers	
GPH	LPH	ML/Min		PSI (bar)	RPM	115V AC	230V AC
.0002 - 2.10	.0007 - 7.92	.0132 - 132	Flex-A-Prene®	125 (8.6)	125	M-324-MND	M-325-MND
.0019 - 19.0	.0072 - 72.0	.1200 - 1200	Flex-A-Prene®	110 (7.6)	125	M-324-MNGG	M-325-MNGG
.0033 - 33.3	.0126 - 126	.2100 - 2100	Flex-A-Prene®	125 (8.6)	125	M-324-MNK	M-325-MNK
.0050 - 50.7	.0192 - 192	.3200 - 3200	Flex-A-Prene®	80 (5.5)	125	M-424-MNK	M-424-MNK
.0100 - 100.0	.0378 - 378	.6300 - 6300	Flex-A-Prene®	50 (3.4)	125	M-424-MNL	M-425-MNL
.0158 - 158.5	.0600 - 600	1.000 - 10000	Flex-A-Prene®	30 (2.1)	125	M-424-MNP	M-425-MNP
.0015 - 14.5	.0055 - 54.9	.0915 - 915	Flex-A-Chem®	50 (3.4)	125	M-324-MTH	M-325-MTH
.0029 - 28.5	.0108 - 107.9	.1800 - 1800	Flex-A-Chem®	50 (3.4)	125	M-324-MTK	M-325-MTK
.0050 - 50.7	.0192 - 192	.3200 - 3200	Flex-A-Chem®	30 (201)	125	M-424-MTHH	M-425-MTHH
.0004 - 4.60	.0017 - 17.4	.0290 - 290	Flex-A-Thane®	65 (4.5)	125	M-324-MGE	M-325-MGE
.0010 - 10.1	.0038 - 38.4	.0637 - 637	Flex-A-Thane®	65 (4.5)	125	M-324-MGG	M-325-MGG
.0028 - 28.5	.0108 - 108	.1800 - 1800	Flex-A-Thane®	65 (4.5)	125	M-324-MGK	M-325-MGK
.0055 - 55.5	.0210 - 210	.3500 - 3500	Flex-A-Thane®	65 (4.5)	125	M-424-MGK	M-425-MGK
.0100 - 100.0	.0378 - 378	.6300 - 6300	Flex-A-Thane®	65 (4.5)	125	M-424-MGKK	M-425-MGKK

Tubing chemical resistance data

Note: M-2 models also available.

Flex-A-Prene® Tubing Meets FDA criteria for food Excellent chemical resistance				
Alcohol general	Brine solutions	Ferrous sulfate	Iodine	Sodium hydroxide 50%
Aluminum sulfate	Calcium hypochlorite 20%	Formic acid	Magnesium chloride	Sodium Bisulfite
Ammonium chloride	Ethylene glycol	Glucose	Magnesium sulfate	Sodium Hypochlorite 12.5%
Ammonium hydroxide	Ferric chloride	Hydrochloric acid 33%	Phosphoric acid	Sodium sulfide
Ammonium Sulfate (LAS)	Ferric nitrate	Hydrocyanic acid	Plating solutions	Sulfuric acid up to 50%
Benzyl alcohol	Ferric sulfate	Hydrogen peroxide	Potassium hydroxide	Tannic acid
Bleach	Ferrous chloride - 43% in water	Hypochlorous acid	Propylene glycol	

Flex-A-Chem® Tubing - Ultra smooth plasticizer-free bore (inner liner) Meets FDA criteria for food Superior chemical resistance				
Ferrous Chloride (up to 40%)	Hydrofluoric Acid (up to 48%)	Potassium Hypochlorite (up to 70%)	Bases	Alcohols
Fluoboric Acid (up to 48%)	Nitric Acid (up to 71%)	Sodium Phosphate (up to 30%)	Salts	Isobutyl Alcohol
Fluosilicic Acid (up to 25%)	Phosphoric Acid (up to 85%)	Sulfuric Acid (up to 98%)	Ketones	

Flex-A-Thane® Tubing Meets FDA criteria for food Resistant to oils, greases and fuels				
Cyclohexane	Heptane	Mineral spirits	ASTM reference No.1,2,3	Oils:
Diesel Fuel	Hexane	Soap solutions	Castor	Linseed
Fatty acids	Kerosene	Turpentine	Coconut	Lubricating
Gasoline	Lard	Oils:	Fuel	Mineral

Note: Data shown at 72 degrees F.