

## CHEM-FEED<sup>®</sup> 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



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

Dual pump model number CFPS-1AV-AAAC  
Shown with Flex-Pro pumps sold separately

Complete the system by ordering any of the following ProSeries<sup>®</sup> metering pumps:

- Flex-Pro<sup>®</sup> A2, A3 or A4 series Peristaltic Metering Pump with Integral Controller
- Chem-Pro<sup>®</sup> C2 or C3 series Diaphragm Metering Pump with Integral Controller



Optional chemical feed flowmeter

### Applications:

- Chemical metering
- Chlorination
- Fluoridation
- Potassium Permanganate
- Alum
- Sodium Bisulfite / Bisulfate
- Hydrochloric Acid
- 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.

**S6A Chemical Flowmeter** - Provides 4-20mA and pulse output data to SCADA and to the pump to verify chemical feed - see S6A data sheet for more details.

**Specifications:****Skid**

Chemically resistant polyethylene structure. Welded joint construction.

**Pump** (sold separately)

Flex-Pro model A2, A3 or A4 peristaltic pumps or Chem-Pro model C2 or C3 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, meets NSF std. 51. 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)

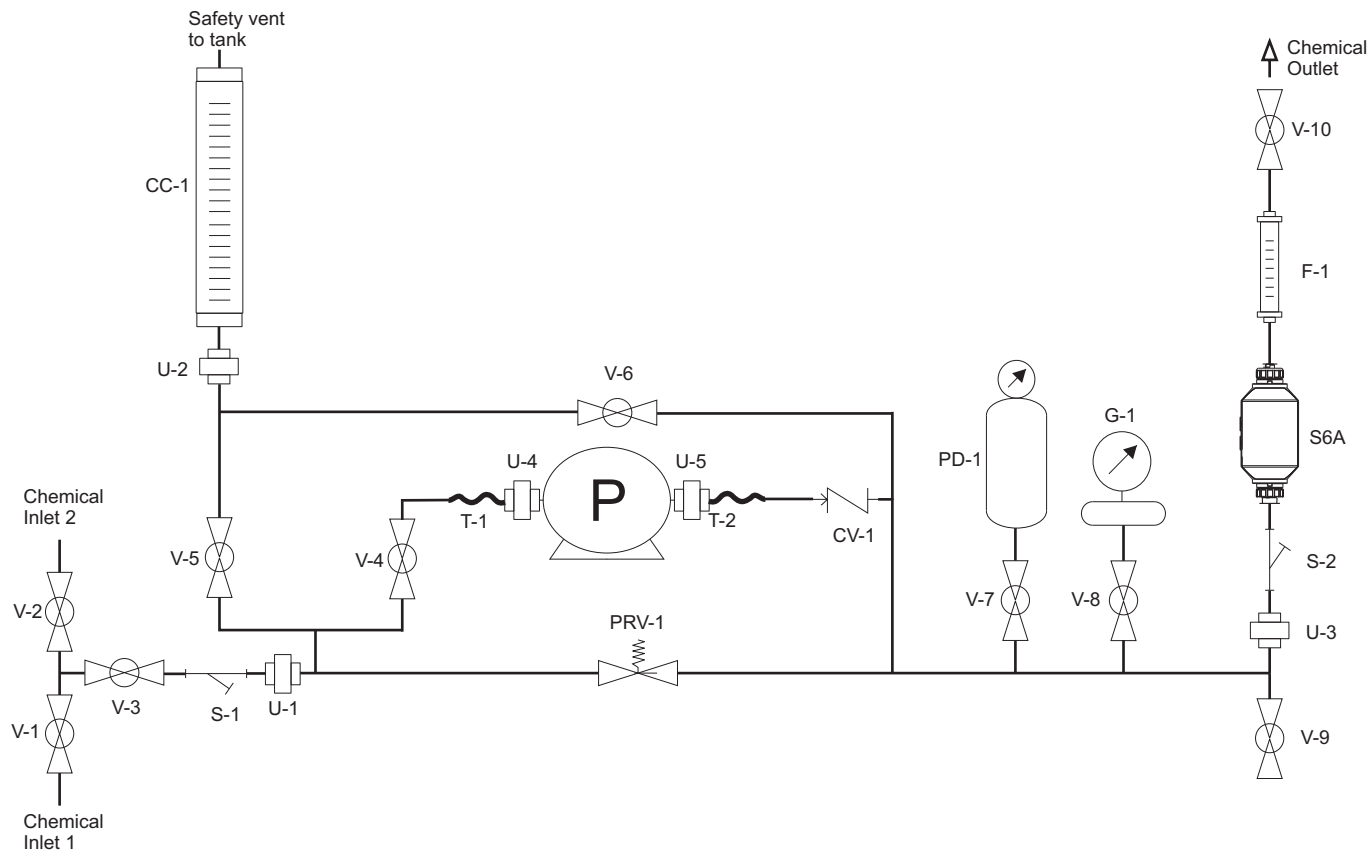
**Approximate Shipping Weight**

Single Pump System: 100 lb. (45 Kg)

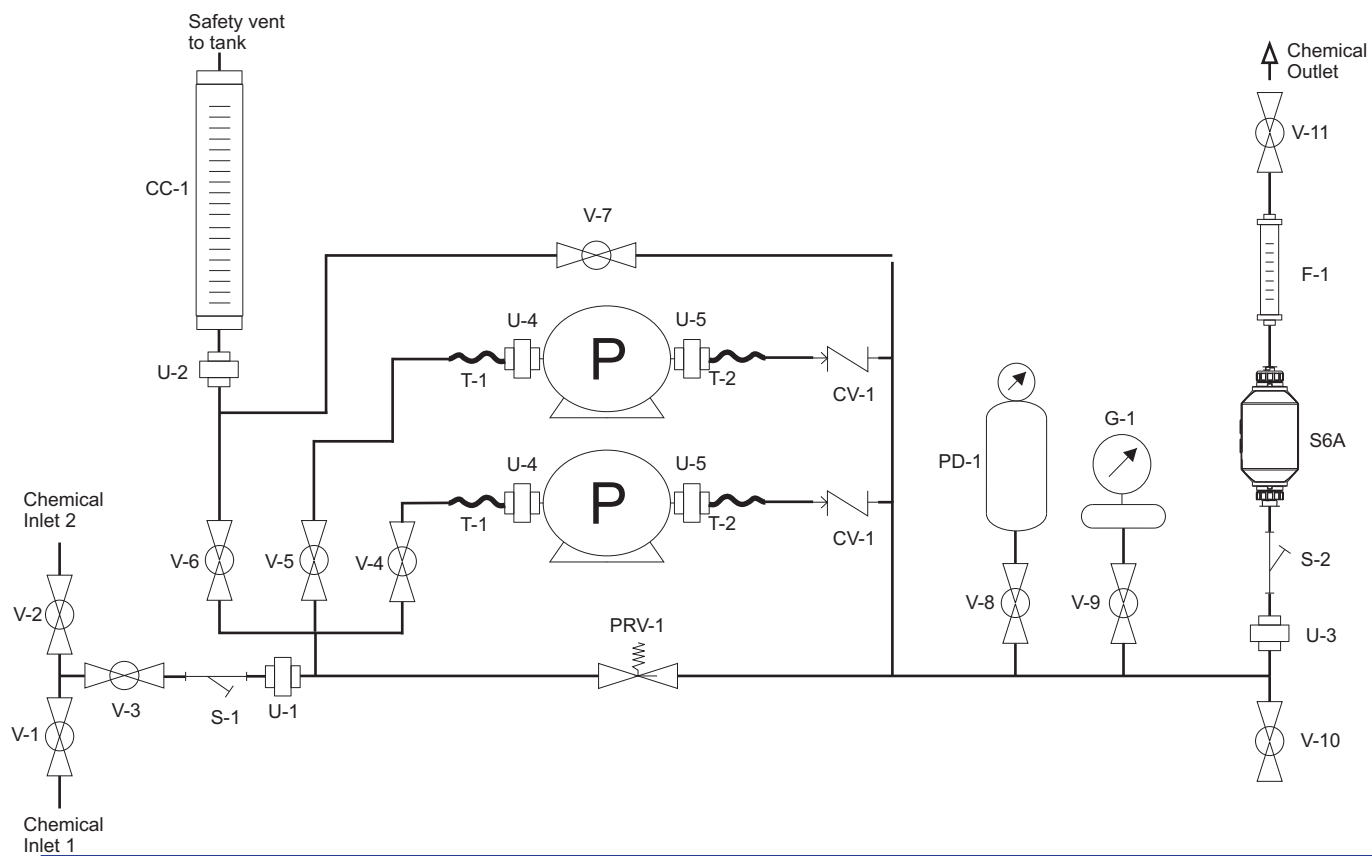
Dual Pump System: 150 lb. (68 Kg)

## Piping and Instrumentation Diagrams:

### Single Pump Skids:

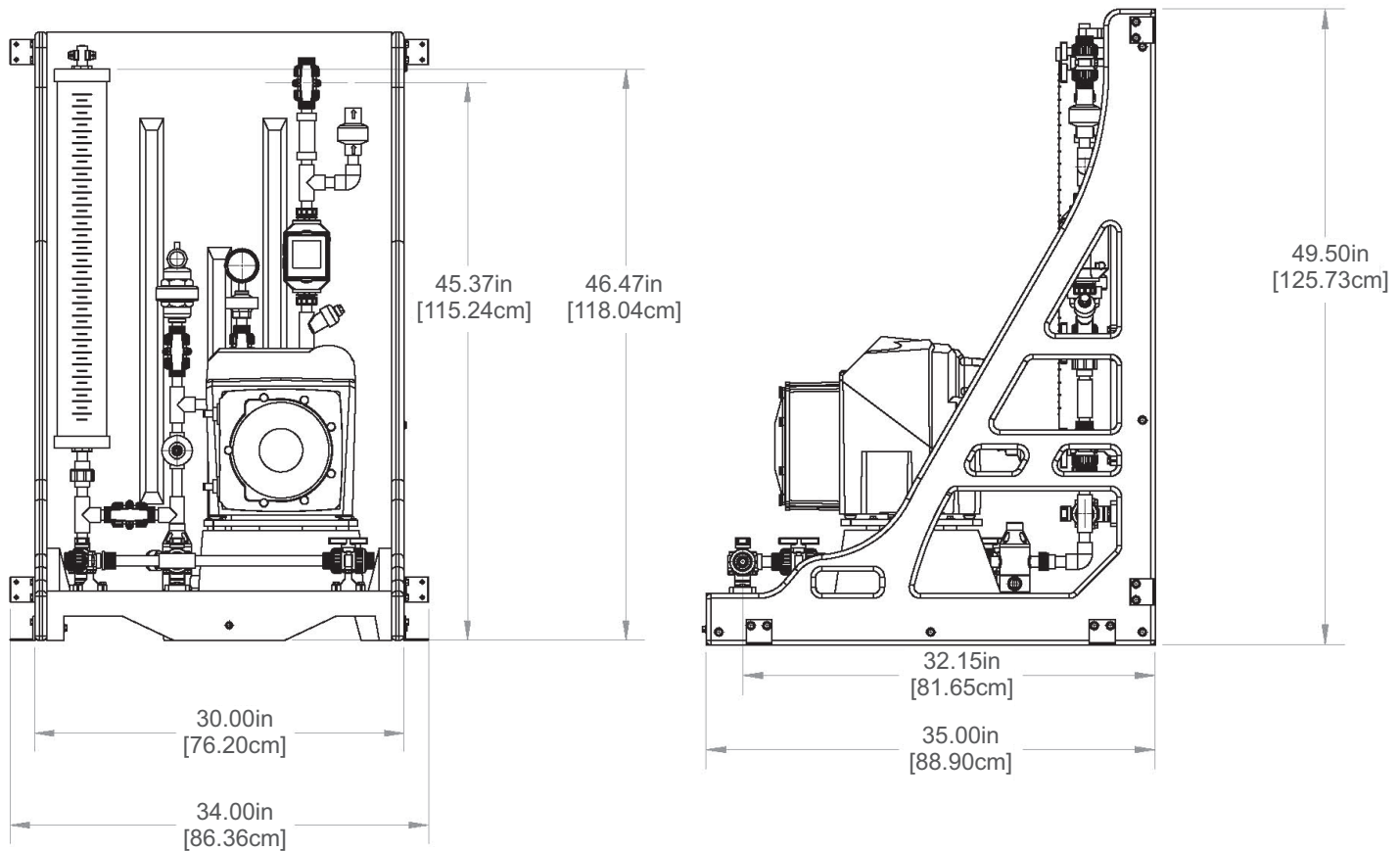


### Dual Pump Skids:

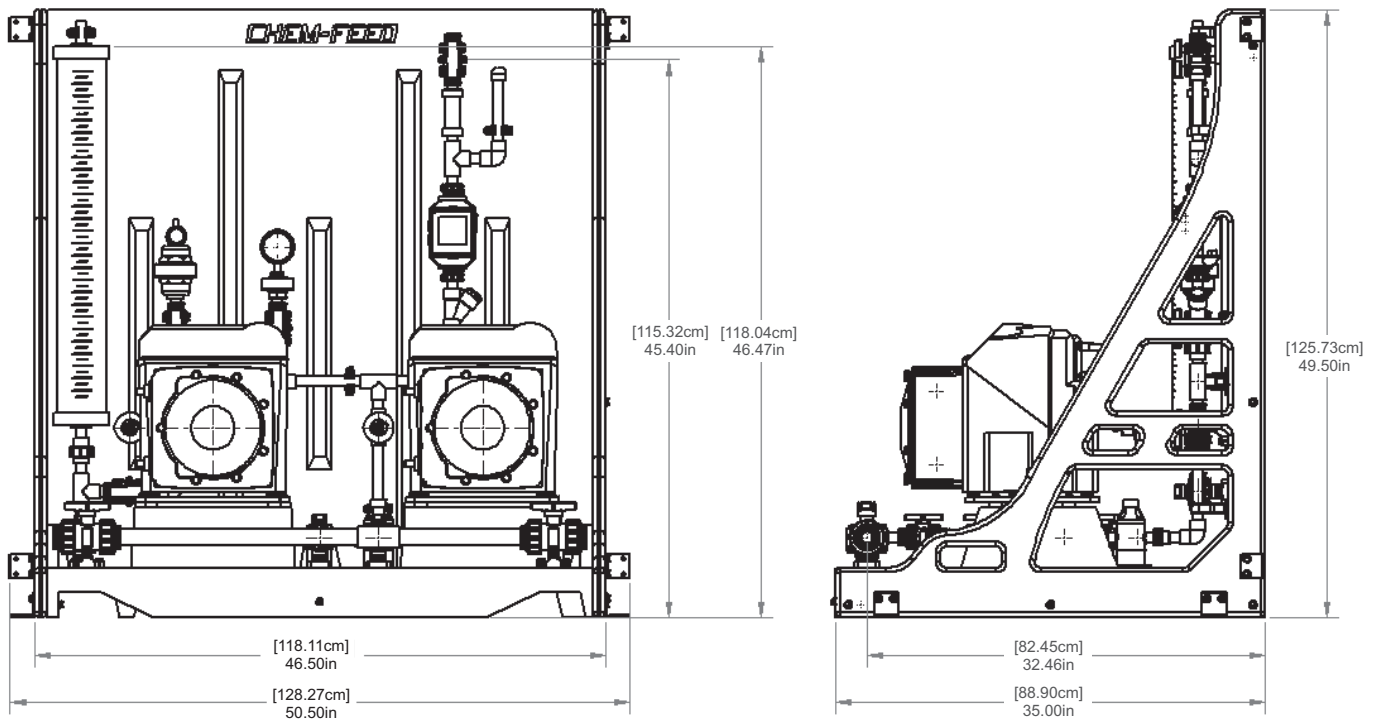


**Dimensions:**

**Single Pump Skids:**



**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" OD Polyethylene tubing connections							
	D	CPVC piping, 1/4" OD 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								
	C	Model S6A12 Chem-Feed Flowmeter, 10-5,000 ml/min (0.158 - 79.2 GPH)							
	D	Model S6A22 Chem-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							
CFPS-1	A	V	-	A	A	A	X	-	3
Sample Chem-Feed Engineered Skid System Part Number									

**Note:** All Chem-Feed Skid Systems come equipped with a pressure relief valve and check valve.

### ProSeries® 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. Linear output.		
Diaphragm technology for system pressures to 175 PSI. PVDF/Ceramic/TFEP 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		

### Chem-Pro® Diaphragm Pump Models:

See additional pump models and more information at [www.blue-white.com](http://www.blue-white.com)

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
.067 - 6.7	.254 - 25.4	4.23 - 423	175 (12.0)	166	PVDF/PTFE/Ceramic/TFEP	C2V243XVA	C2V253XVA
.10 - 10	.38 - 38	6.31 - 631	175 (12.0)	166	PVDF/PTFE/Ceramic/TFEP	C2V241XVA	C2V251XVA
.165 - 16.5	.625 - 62.5	10.41 - 1041	175 (12.0)	166	PVDF/PTFE/Ceramic/TFEP	C2V242XVA	C2V252XVA
.406 - 40.6	1.54 - 154	25.60 - 2560	100 (6.8)	130	PVDF/PTFE/Ceramic/TFEP	C3V242XVA	C3V252XVA

### Flex-Pro® Peristaltic Pump Models:

See additional pump models and more information at [www.blue-white.com](http://www.blue-white.com)

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
.001 - 2.10	.003 - 7.80	.053 - 133	Flex-A-Prene®	125 (8.6)	125	A3V24-MND	A3V25-MND
.013 - 33.3	.050 - 126	.840 - 2100	Flex-A-Prene®	125 (8.6)	125	A3V24-MNK	A3V25-MNK
.02 - 50.7	.08 - 192	1.28 - 3200	Flex-A-Prene®	80 (5.5)	125	A4V24-MNK	A4V25-MNK
.04 - 100.0	.15 - 378	2.5 - 6300	Flex-A-Prene®	50 (3.4)	125	A4V24-MNL	A4V25-MNL
.06 - 158.5	.24 - 600	4.0 - 10000	Flex-A-Prene®	30 (2.1)	125	A4V24-MNP	A4V25-MNP
.006 - 15.06	.022 - 57.0	.4 - 950	Flex-A-Chem®	50 (3.4)	125	A3V24-MTH	A3V25-MTH
.014 - 35.1	.053 - 133.2	.9 - 2220	Flex-A-Chem®	50 (3.4)	125	A3V24-MTK	A3V25-MTK
.02 - 54.0	.08 - 204	1.36 - 3400	Flex-A-Chem®	30 (201)	125	A4V24-MTK	A4V25-MTK
.002 - 4.6	.007 - 17.4	.116 - 290	Flex-A-Thane®	65 (4.5)	125	A3V24-MGE	A3V25-MGE
.004 - 10.1	.015 - 38.4	.255 - 637	Flex-A-Thane®	65 (4.5)	125	A3V24-MGG	A3V25-MGG
.011 - 28.5	.04 - 108	.72 - 1800	Flex-A-Thane®	65 (4.5)	125	A3V24-MGK	A3V25-MGK
.02 - 55.5	.09 - 210	1.4 - 3500	Flex-A-Thane®	65 (4.5)	125	A4V24-MGK	A4V25-MGK
.04 - 100.0	.2 - 378	2.5 - 6300	Flex-A-Thane®	65 (4.5)	125	A4V24-MGKK	A4V25-MGKK

#### Tubing chemical resistance data

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

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