

Gases and Equipment for Craft Beer Production



MATHESON

The Gas Professionals

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For more than 90 years (including more than 40 years serving breweries) MATHESON has provided gases, equipment, and expertise to a wide range of industries – including food/beverage, laboratory research, industrial production, medicine, and many others.

At MATHESON, we are a group that is dedicated to gases, chemicals, and equipment of special importance to craft beer producers. We offer many of these specialized products with off-the-shelf delivery, plus, our specialists can help you choose and use these tools for optimum results.

Count on **MATHESON** for **Quality, Purity, On-time Delivery,** and **Safety.**

Gases and Equipment for Craft Beer Making

Craft Beer Making Applications	Indirect Applications
Yeast Activation	Laboratory Instruments
Blanketing	Growing Yeast Cultures
Pressure Transfer	Pneumatic Valve Operation
Carbonation & Conditioning	Welding, Heating, Cutting & Brazing
Purging	Forklifts
Preservation	Propane Heaters

Different grades/purities of gases may be chosen, depending upon the application, such as Food Grade Gases, Beverage Gases, Specialty Gases, Industrial Gases, and Welding Gases (including our exclusive MATHESON *Select*® Welding Mixtures).

MATHESON’s full range of gas container types ensures that you will get exactly what you need for your application.



Cylinders



Liquid Cylinders



MicroBulk



Cryogenic Tanks



Gas Handling Equipment and Delivery Systems

MATHESON has 90 plus years of experience in gas handling and delivery systems and offers a complete line of products, including regulators and gas blending panels specifically designed for the craft beer production industry. Consult your MATHESON representative to determine the system best suited to your application.

Specialty Products for Craft Beer Production and Facility Maintenance

Beyond gases, specialty items of interest to the craft beer maker can be found in this catalog.

- **Specialty Gas Dispensing Tools**
- **Sanitary Fittings & Valves**
- **Sanitary Tools & Hoses**

Cleaning and Sanitizing Products

MATHESON offers a complete line of specialty cleaning and sanitizing products for use in your brewery, including FDA registered and food-grade products.

Safety Equipment and Supplies

MATHESON offers an extensive line of safety equipment from world class manufacturers, everything from basic personal protection to the most advanced programmable safety devices.

Welding Equipment & Supplies

MATHESON is your source for welding power sources, consumable products, equipment and supplies. Our MATHESON *Select*® premium brand of filler metals, welding accessories and safety supplies offers the highest quality and reliable consistent performance. At every MATHESON store you will find the brands you know and trust, and a professional MATHESON staff that's experienced, trained and committed to help with solutions for your requirements for gas, equipment and supplies.

Commitment to the Craft Beer Industry

- **R & D department in Santa Rosa, CA** for brewery gas applications, equipment, supplies and fittings



Gas Applications

Craft Beer Making

	Yeast Activation	Blanketing Tanks & Barrels	Pressure Transfer from Tanks & Barrels	Craft Beer Carbonation	Craft Beer Conditioning	Bottle Purging during the Filing Process	Pressure Transfer of Beer from Serving Tanks or Kegs to Taps	Empty Barrel Preservation
Carbon Dioxide - Gas		•	•	•		•	•	
Carbon Dioxide - Liquid		•	•	•		•	•	
Nitrogen - Gas			•		•		•*	
Nitrogen - Liquid			•		•		•*	
Beverage Gas 2 (75% N ₂ / 25% CO ₂)							•	
Beverage Gas 4 (50% N ₂ / 50% CO ₂)							•	
Beverage Gas O (Oxygen)	•							
Sulfur Dioxide - Gas								•

* N₂ is used with CO₂ when utilizing a gas blender

Craft Beer Lab

	Laboratory Instrument Support Gases	Growing Yeast Cultures
Carbon Dioxide	•	•
Helium UHP	•	
Nitrogen UHP	•	

Brewery Facility Operation and Maintenance

	Pneumatic Valve Operation	Welding	Heating & Cutting	Brazing	Forklifts	Propane Heaters
Acetylene		•	•	•		
Air, Compressed	•					
Argon		•				
Carbon Dioxide		•				
MATHESON Select® C-25		•				
MATHESON Select® He-25		•				
MATHESON Select® HC-925		•				
Oxygen		•	•	•		
Propane			•	•	•	•



Gas Specifications

Craft Beer Making

Product	Part Number	Container Size	Pressure psig @ 70°F	Container Type	Content ⁽¹⁾	Valve Outlet CGA No.
Carbon Dioxide	CD50	50	830	Cylinder	50 lb	320
	CD20	20	830	Cylinder	20 lb	320
	CD20A	20A*	830	Cylinder	20 lb	320
	CD180LHP	L180**	350	Liquid Container	180 lt	320

*Includes carrying handle

**160 and 200 liter liquid containers also available; consult your local MATHESON representative

Nitrogen	NI300	300	2400	Cylinder	300 cf	580
	NI250	250	2265	Cylinder	250 cf	580
	NI 180LMP	L180	350	Liquid Container	180 lt	580
	NI 200LMP	L200	350	Liquid Container	200 lt	580
	NI 230LMP	L230*	350	Liquid Container	230 lt	580

*On wheels

Sulfur Dioxide <i>(Supplied in California)</i>	SD GAS25CA	25 lb	34	Cylinder	25 lb	660
Sulfur Dioxide <i>(Supplied Outside of California)</i>	SD GAS25	25 lb	34	Cylinder	25 lb	660

Beverage Gas 2 <i>(75% Nitrogen / 25% Carbon Dioxide)</i>	BX BV02200	250	2265	Cylinder	200 cf	580
	BX BV0260	60	2015	Cylinder	60 cf	580
Beverage Gas 4 <i>(50% Nitrogen / 50% Carbon Dioxide)</i>	BX BV04200	250	2265	Cylinder	200 cf	580
	BX BV0460	60	2015	Cylinder	60 cf	580
Beverage Gas O (Oxygen)	BV OX200	200	2265	Cylinder	200 cf	540

Craft Beer Lab

Product	Part Number	Container Size	Pressure psig @ 70°F	Container Type	Content ⁽¹⁾	Valve Outlet CGA No.
Carbon Dioxide	CD50	50	830	Cylinder	50 lb	320
	CD20	20	830	Cylinder	20 lb	320
	CD20A	20A*	830	Cylinder	20 lb	320
Helium UHP	HE UHP1L	300	2400	Cylinder	288 cf	580
	HE UHP1A	200	2265	Cylinder	244 cf	580
Nitrogen UHP	NI UHP1L	300	2400	Cylinder	300 cf	580
	NI UHP1A	200	2265	Cylinder	255 cf	580

* Includes carrying handle

(1) Contents shown are approximate. Actual contents are based on temperature and pressure at time of fill. Except for Acetylene, Carbon Dioxide, Propane, and Sulfur Dioxide, which are filled by weight.



Brewery Facility Operation and Maintenance

Product	Part Number	Container Size	Pressure psig @ 70°F	Container Type	Content ⁽¹⁾	Valve Outlet CGA No.
Acetylene	AC LG310VL	LG310	250	Cylinder	300-340 cf	510
	AC SMVL	SM	250	Cylinder	110-140 cf	510
Air, Compressed	CA 200	200	2015	Cylinder	233 cf	590
Argon	AR 300	300	2400	Cylinder	300 cf	580
	AR 250	250	2265	Cylinder	250 cf	580
Carbon Dioxide	CD 50	50	830	Cylinder	50 lb	320
Oxygen	OX 250	250	2265	Cylinder	250 cf	540
	OX 125	125	2265	Cylinder	125 cf	540
Propane	FG PR100	100	240	Cylinder	95 lb	510
	FG PR60	60	240	Cylinder	57 lb	510
	FG PR33FL	33*	240	Cylinder	31 lb	510
	FG PR20	20	240	Cylinder	15 lb	510
MATHESON Select® C-25	MX AWSC25300	300	2400	Cylinder	300 cf	580
MATHESON Select® HC-925	MX AWSHC925300	300	2400	Cylinder	300 cf	580
MATHESON Select® He-25	MX AWSHE25300	300	2400	Cylinder	300 cf	580

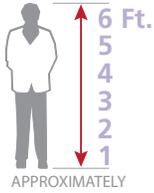
* Used with forklifts

(1) Contents shown are approximate. Actual contents are based on temperature and pressure at time of fill. Except for Propane, which is filled by weight.



Common Container Dimensions

Standard High Pressure Cylinders

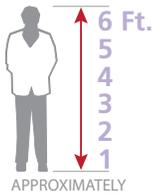


Size	60	125	200	250	300
Volume (cf)	60	125	200	250	300
Tare Weight (lbs)	29	58	117	117	139
Height (inches)	23	43	51	51	55
Diameter (inches)	7	7	9	9	9
Water Capacity (liters)	10.3	21.6	43.2	43.2	49
Material of Construction	Steel	Steel	Steel	Steel	Steel

All values are approximate

Tare weight includes valve but excludes cap. Standard cap is 5 inches in length and 2 pounds in weight

Carbon Dioxide Cylinders

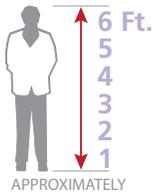


Size	20	20A	50
Volume (lbs)	20	20	50
Tare Weight (lbs)	48	24	104
Height (inches)	23	28	51
Diameter (inches)	7	7	9
Water Capacity (liters)	15.7	9.1	37.1
Material of Construction	Steel	Aluminum	Steel

All values are approximate

Tare weight includes valve but excludes cap. Standard cap is 5 inches in length and 2 pounds in weight

Sulfur Dioxide Cylinders



Size	25 lb
Volume (lbs)	25
Tare Weight (lbs)	34.5
Height (inches)	25
Diameter (inches)	12
Water Capacity (liters)	21.6
Material of Construction	Steel

All values are approximate

Tare weight includes valve but excludes cap. Standard cap is 5 inches in length and 2 pounds in weight



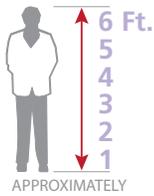
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Common Container Dimensions

Propane Cylinders

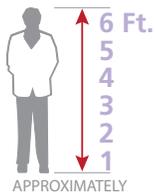


Size	20	33	60	100
Volume (lbs)	20	33	60	100
Tare Weight (lbs)	26	36	48	77
Height (inches)	19	27	44	49
Diameter (inches)	12	12	12	15
Water Capacity (liters)	21.6	36.3	64.8	108.4
Material of Construction	Steel	Steel	Steel	Steel

All values are approximate

Tare weight includes valve but excludes cap. Standard cap is 5 inches in length and 2 pounds in weight

Acetylene Cylinders

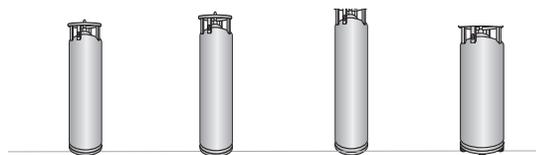
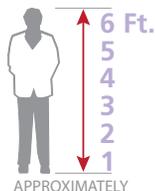


Size	SM	LG310
Volume (cf)	110-140	300-340
Tare Weight (lbs)	70	168
Height (inches)	34	41
Diameter (inches)	8	12
Water Capacity (liters)	25	53.3
Material of Construction	Steel	Steel

All values are approximate

Tare weight includes valve but excludes cap. Standard cap is 5 inches in length and 2 pounds in weight

Liquid Containers



Size	L160	L180	L200	L230
Volume (lt)	160	180	200	230
Tare Weight (lbs)	210-280	210-300	210-300	305-367
Height (inches)	60	64	67	57
Diameter (inches)	20	20	20	26
Water Capacity (liters)	169	180	200	230
Material of Construction	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel

All values are approximate



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Model 1250 Series Dual-Stage Brass Regulator

High purity regulators constructed for use with non-corrosive gases.

Applications:

- Supply of carrier gas/detector support gas for gas chromatography applications
- Calibration of pressure gauges, rotameters, and mass flow controllers
- Applications where a constant delivery pressure is required
- Applications with high duty cycle/demanding operating conditions

Design Features/Components:

- Forged brass body
- Stainless steel diaphragms (1st and 2nd stages)
- 2" inlet and delivery pressure gauges
- Equipped with outlet diaphragm valve
- 1/4" NPTF outlet connection
- One-piece encapsulated seat with (10 μ) internal filter to protect against contamination

Materials of Construction:

Gauges:	Chrome plated brass
Body:	Chrome plated forged brass
Bonnet:	Chrome plated zinc die cast (1st and 2nd stages)
Diaphragm:	First Stage – 302 stainless steel Second Stage – 302 stainless steel
Seats:	First Stage – PTFE Second Stage – PTFE
Seals:	PTFE

Specifications:

Maximum Inlet Pressure:	3000 psig (20,700 kPa)
Typical Max Flow (100 psi del. press.):	7 SCFM-N ₂
Flow Capacity (Cv):	0.15
Operating Temperature:	-20°F to 140°F (-29°C to 60°C)
Valve Outlet Connection:	1/4" NPTF
Porting (Regulator Body):	1/4" NPTF
Porting Configuration:	2 High, 2 Low, 1 Interstage
Shipping Weight:	6 lbs

Ordering Information

Part Number*	Delivery Pressure Range	Delivery Pressure Gauge	Cylinder Pressure Gauge
SEQ1251CGA	2-15 psig	-30" Hg - 0 - 30 psi	0-4000 psig
SEQ1252CGA	4-50 psig	-30" Hg - 0 - 100 psi	0-4000 psig
SEQ1253CGA	10-125 psig	-30" Hg - 0 - 200 psi	0-4000 psig
SEQ1254CGA	20-250 psig	0-400 psig	0-4000 psig

*Note: For ordering, replace letters "CGA" with the valve outlet CGA number for the gas cylinder you are using. Some CGA limitations may apply.

Options

Part Number	Description
SEQCON0213BO	1/4" Compression Tube Outlet Connection (Brass)





Model 18 Series Single-Stage General Purpose Brass Regulator

General purpose regulators with rugged construction for use with non-corrosive gases.

Applications:

- Use with gases that are 99.995% or lower purity
- Regulation of air supply to valves and actuators
- Inert gas supply for purging applications
- Calibration of pressure gauges, rotameters, and mass flowmeters
- Applications with high duty cycle/demanding operating conditions

Design Features/Components:

- Forged brass body
- Neoprene diaphragm
- 2" inlet and delivery pressure gauges
- Equipped with outlet needle valve
- 1/4" NPTM outlet connection with loose hose barb
- Porous metal filter to protect seat from contamination
- Model 18R uses Tee handle for pressure adjustment; all others use black knob shown

Materials of Construction:

Gauges: Brass, Painted steel covers
 Body: Forged brass
 Bonnet: Chrome plated brass
 Diaphragm: Neoprene
 Seat: PTFE Teflon
 Seals: Neoprene

Specifications:

Maximum Inlet Pressure: 3000 psig (20,700 kPa)
 Model 18A: 400 psig (2,760 kPa)
 Typical Max Flow
 (100 psi del. press.): 15 SCFM-N₂ (420 SLPM)
 Flow Capacity (Cv): 0.17
 Operating Temperature: -20°F to 140°F (-29°C to 60°C)
 Porting (Regulator Body): 1/4" NPT Female
 Porting Configuration: 2 High, 2 Low
 Shipping Weight: 4 lbs

Ordering Information

Part Number*	Delivery Pressure Range	Delivery Pressure Gauge	Cylinder Pressure Gauge
SEQ18A510**	0-15 psig	0-30 psig	0-400 psig
SEQ18BCGA	0-15 psig	0-30 psig	0-4000 psig
SEQ18CGA	2-50 psig	0-60 psig	0-4000 psig
SEQ18LCGA	4-100 psig	0-150 psig	0-4000 psig
SEQ18HCGA	10-200 psig	0-400 psig	0-4000 psig
SEQ18RCGA***	20-500 psig	0-1000 psig	0-4000 psig

*Note: For ordering, replace letters "CGA" with the valve outlet CGA number for the gas cylinder you are using.

Some CGA limitations may apply.

**For Acetylene Service Only

***Uses Tee handle. All other models use black knob as shown.

Options

Part Number	Description
SEQCON0208BO	1/4" Compression Tube Outlet Connection (Brass)
SEQ6103AF	Flash Arrestor for Flammable Gases





CO₂ Secondary Regulator In-line Brass Regulator

In-line regulator for use with carbon dioxide or mixed gas.

Applications:

- Regulates the pressure from the primary gas supply regulator to the beer taps

Design Features/Components:

- Forged brass body
- Chrome plated finish
- Nickel-plated valve seats for high corrosion resistance
- Constant pressure supply at high output flow rates
- Easy to use dial knob for pressure adjustment

Specifications:

Type:	Secondary Regulator - CO ₂ or Mixed Gas
Installation:	Wall mount bracket
Dimensions:	4-3/4" wide x 6-7/8" high x 4-3/4" deep
Performance:	1 Pressure / 1 Keg
Capacity:	SCFM 3.5 Max
Outlet Barb:	3/8" O.D. (to fit 5/16" I.D. Gas Hose)

Ordering Information

Part Number	Outlet Pressure Gauge
MIC 1161	0-60 psig

Model M1-540-15FM Single-Stage Flowmeter Regulator

Applications:

- Flowmeter Regulator used for micro-oxygenation applications

Design Features/Components:

- Chrome-plated brass body with all brass high-pressure chamber
- Maximum rated inlet pressure 3000 psi
- Durable neoprene diaphragm
- Internal reseating relief valve protects against over-pressurization
- Sintered filter for additional safety and extended regulator life
- 2" diameter gauge
- Polycarbonate inner and outer tubes provide greater accuracy and durability

Ordering Information

Part Number	Model Number	Stage	Gauge	Gas	Inlet	Flow Range
WES M1-540-15FM	M1-540-15FM	Single	2" Chrome-plated Brass	Oxygen	CGA 540	1/2 - 15 LPM



Trumix Blending Panels

The Trumix Blending Panel was designed for the beer dispensing market. It is a small wall-mounted unit that tucks neatly and safely out of the way. It is easy to install and extremely dependable. The Trumix requires no electricity, on-going maintenance or adjustment. It can be used with carbon dioxide and nitrogen high pressure cylinders and bulk tanks.



Trumix Single

Applications:

- Used for single blend long draw beer systems
- Best for dispensing one style of beer
- Blends carbon dioxide and nitrogen to the required specification

Specifications:

Hook-Up: Two inlet lines and one outlet line
 Fittings: Panel comes with standard 1/4" FNPT fittings; hose barbs available (specify size: 1/4", 5/16" or 3/8")
 Accuracy and Flow Range: Maintains accuracy of +/- 2% of full scale or better within the flow range of 0.4 to 40 liters per minute (0.85 to 85 cubic feet per hour)
 Standard Blender: Up to 15 kegs/hour dispensed

Ordering Information

Part Number	Dimensions	Fittings	Inlet Pressure	Outlet Pressure
MCD TM1	9.5" W* x 10" H x 4.5" D	1/4" FNPT	55-150 psi	0-60 psi

* Includes mounting flanges
 High flow and custom blenders also available



Trumix Double

Applications:

- Used for systems that dispense more than one type of beer requiring two separate blends of carbon dioxide and nitrogen

Specifications:

Hook-Up: Two inlet lines and one outlet line
 Fittings: Panel comes with standard 1/4" FNPT fittings; hose barbs available (specify size: 1/4", 5/16" or 3/8")
 Accuracy and Flow Range: Maintains accuracy of +/- 2% of full scale or better within the flow range of 0.4 to 40 liters per minute (0.85 to 85 cubic feet per hour)
 Standard Blender: Up to 15 kegs/hour dispensed

Ordering Information

Part Number	Dimensions	Fittings	Inlet Pressure	Outlet Pressure
MCD TM2	9.5" W* x 10" H x 4.5" D	1/4" FNPT	55-150 psi	0-60 psi

* Includes mounting flanges
 High flow and custom blenders also available





Tri-Action Tank Safety Vent

The Tri-Action Tank Safety Vent is used as a pressure relief device to avoid vacuum or over pressurization inside a tank or piping system.

- Standard 2" Tri-clamp connection
- Large 1/4" FNPT gas port
- Stainless steel construction
- Can be used with positive pressure system
- Other sizes and connections available

Sealer

Through the unique design of the Tri-Action Tank Safety Vent, the tank is automatically sealed from ambient air once blanketing, bottling, or pumping operations have ceased.

Pressure Relief

The Tri-Action Tank Safety Vent is designed to relieve pressure within the tank at 1 psi.

Vacuum Breaker

The Tri-Action Tank Safety Vent drops to a safe working vacuum of 0.09 psi.

Ordering Information

Part Number	Pressure Rating @ 70°F	Flow	Ship Weight
DIX TVPC200300	3 psi	250 GPM	2.6 lb



Long Radius Racking Arm

- Used to transfer beer from barrels in place
- Stainless steel construction
- Shown with 1-1/2" Tri-clamp connection
- Custom lengths and sizes available

Ordering Information

Part Number	Length	Diameter	Width	Ship Weight
MWB RACKARMLONG	36"	1"	18"	6 lb



Standard Racking Arm

- Used to transfer beer from barrels or kegs
- Easy to use with a single level of barrels
- Stainless steel construction
- Shown with 1-1/2" Tri-clamp connection
- Custom lengths and sizes available

Ordering Information

Part Number	Length	Diameter	Width	Ship Weight
MWB RACKINGARM	34"	1"	3"	8 lb



Deluxe Racking Arm

- Used to transfer beer from barrels or kegs
- Site glass
- Adjustable foot
- Stainless steel construction
- Shown with 1" full port stainless steel ball valve
- Custom lengths and sizes available

Ordering Information

Part Number	Length	Diameter	Width	Ship Weight
MWB DLXRACKNGARM	36"	1"	7"	8 lb





Shown with SO₂ Wrench and SO₂ Hose

SO₂ Barrel Gassing Unit

Prepare barrels for storage quickly and easily by controlling the bacteria and mold. The SO₂ Barrel Gassing Unit is designed to put measured amounts of SO₂ into empty barrels prior to storage.

Ordering Information

Part Number	Height	Width	Hose Length	Ship Weight
MWB SO2BGU25	5"	12"	25'	8 lb
MWB SO2BGU50	5"	12"	50'	10 lb
MWB SO2BGU75	5"	12"	75'	14 lb

Gentle Giant

The Gentle Giant uses gas pressure to transfer beer allowing easily controlled, gentle flow without agitation or oxidation.

Features:

- Adjustable foot and bung for use with various sizes of barrels and kegs
- Stainless steel construction
- Built-in 15 psi stainless steel safety relief valve to prevent over pressurization
- 1-1/2" Tri-clamp connection
- Used with Carbon Dioxide or Nitrogen
- Shown with short Sight Glass
- Custom lengths available

Ordering Information

Part Number	Length	Diameter	Width	Ship Weight
MWB BARRELMASTER	36"	1"	12"	10 lb
MWB BRLMASTER114	36"	1-1/4"	12"	10 lb



Barrel Cleaning Wand with Foot

- Used with a 7" barrel rack
- Stainless steel construction
- Shown with rotating spray head and 3/4" full port stainless steel ball valve

Ordering Information

Part Number	Height	Diameter	Length	Ship Weight
MWB BCWANDFOOT	19"	1"	19"	8 lb



Spring Loaded Barrel Cleaning Wand

- Used with any barrel rack
- Spring loaded for hands free operation
- Stainless steel construction
- Shown with rotating spray head and 3/4" full port stainless steel ball valve

Ordering Information

Part Number	Length	Diameter	Width	Ship Weight
MWB WASHWANDSPR	28"	1"	5"	8 lb





Spray Balls

Spray balls are the most widely used tank and barrel cleaning method for sanitary applications.

Features:

- Durable stainless steel construction
- Stationary and rotating
- 3/4" FNPT and pinned connections
- Easy mounting
- Photo shows sizes and styles available
- Rebuild kit available*

Ordering Information

Part Number	Height	Diameter	Ship Weight
SSP 2	3"	1-1/4"	2 lb

* Rebuild Kit (p/n SSP REBUILDKIT)



Stainless Steel Pails

- Available in 3.5 and 5 gallon sizes

Ordering Information

Part Number	Description	Height	Diameter	Ship Weight
TWM 5055PAIL09HL	3.5 Gallon	14"	12"	5 lb
TWM 5055PAIL18H	5 Gallon	14"	16"	10 lb



A Frame Parts Board

Used to store and clean brewery parts.

Features:

- Perforated stainless steel allows for various layout of parts
- Stainless steel construction
- Two lockable swivel stainless steel casters for easy maneuverability
- Open center allows for multiple storage
- Designed to fit through 36" doorways
- Custom configurations available
- Stainless steel pegs sold separately

Ordering Information

Part Number	Height	Width	Length	Ship Weight
MWB PARTSBOARD	52"	34"	52"	175 lb



Quick-Connect Couplers

These Quick-Connect couplers are ideal for compressed gas applications due to their unique eight stainless steel ball bearing seal system, which prevents leaks. They are machined components that are manufactured using brass and stainless steel bar stock. They also have stainless steel ball retaining rings and springs, which maximize corrosion resistance and extend the service life.

Features:

- EPDM seals provide a temperature range of -40°F to 250°F
- Valve seals are crimped in place to ensure integrity during excessive flow and pressurized conditions
- Check valves are standard and built-in
- 1/4" stainless steel couplers have a PTFE anti-extrusion ring
- 1/4" brass couplers have a redundant O-ring sealing system (dual O-rings; no PTFE back-up ring)
- Other body sizes available with or without check valves

Male Quick-Connect Couplers

Ordering Information

Part Number	Body Size	Material	Threads	Length	Maximum OD	Hex Inch
DIX PH2F2B	1/4"	Brass	1/4" - 18 FNPT	1.55"	0.83"	3/4"
DIX PH2F2S	1/4"	Stainless Steel	1/4" - 18 FNPT	1.55"	0.83"	3/4"
DIX H6F6B	3/4"	Brass	3/4" - 14 FNPT	3.55"	1.12"	2.22"
DIX H6F6S	3/4"	Stainless Steel	3/4" - 18 FNPT	3.55"	1.12"	2.22"



Female Quick-Connect Couplers

Ordering Information

Part Number	Body Size	Material	Threads	Length	Maximum OD	Hex Inch
DIX P2HF2B	1/4"	Brass	1/4" - 18 FNPT	2.26"	1.12"	7/8"
DIX P2HF2S	1/4"	Stainless Steel	1/4" - 18 FNPT	2.26"	1.12"	7/8"
DIX 6HF6B	3/4"	Brass	3/4" - 14 FNPT	3.55"	1.12"	2.22"
DIX 6HF6S	3/4"	Stainless Steel	3/4" - 18 FNPT	3.55"	1.12"	2.22"



Clamp Ferrules

Short Weld Ferrules - 14WMP

Ordering Information

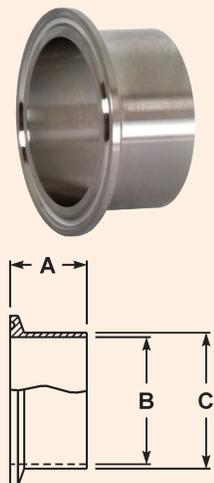
304 Stainless Steel Part Number	Tube OD	A	B	C
BRA 14WMPG100	1"	.500	.870	1.000
BRA 14WMPG150	1½"	.500	1.370	1.500
BRA 14WMPG200	2"	.500	1.870	2.000
BRA 14WMPG250	2½"	.500	2.370	2.500
BRA 14WMPG300	3"	.500	2.870	3.000
BRA 14WMPG400	4"	.625	3.834	4.000



Long Weld Ferrules - L14AM7

Ordering Information

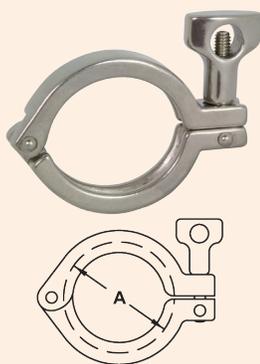
304 Stainless Steel Part Number	Tube OD	A	B	C
BRA L14AM7G100	1"	1.125	.870	1.000
BRA L14AM7G150	1½"	1.125	1.370	1.500
BRA L14AM7G200	2"	1.125	1.870	2.000
BRA L14AM7G250	2½"	1.125	2.370	2.500
BRA L14AM7G300	3"	1.125	2.870	3.000
BRA L14AM7G400	4"	1.125	3.834	4.000



Single Pin Heavy Duty Clamps with Cross Hole Wing Nut - 13MHMM

Ordering Information

Part Number	Tube OD	Service Pressure Rating @ 70°F	Service Pressure Rating @ 250°F	A
BRA 13MHMM100150	1" - 1½"	500	300	2.122
BRA 13MHMM200	2"	450	250	2.654
BRA 13MHMM250	2½"	400	200	3.185
BRA 13MHMM300	3"	350	175	3.717
BRA 13MHMM400	4"	300	150	4.820

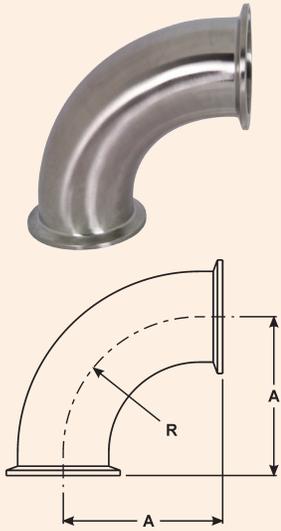


Clamp Elbows

90° Clamp Elbows - B2CMP

Ordering Information

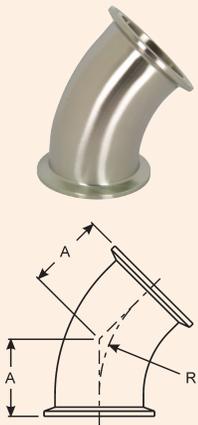
304 Stainless Steel Part Number	Tube OD	A	R
BRA B2CMPG100	1"	2.000	1.500
BRA B2CMPG150	1½"	2.750	2.250
BRA B2CMPG200	2"	3.500	3.000
BRA B2CMPG250	2½"	4.250	3.750
BRA B2CMPG300	3"	5.000	4.500
BRA B2CMPG400	4"	6.625	6.000



45° Clamp Elbows - B2KMP

Ordering Information

304 Stainless Steel Part Number	Tube OD	A	R
BRA B2KMPG150	1½"	1.437	2.250
BRA B2KMPG200	2"	1.750	3.000

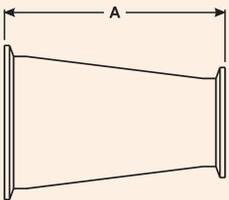




Type 1 - Standard
1/2" - 3/4"



Type 1 - Standard
1" and larger



Clamp Gaskets

Buna-N Clamp Gaskets - Black

Features:

- Color code: red dot
- Meets 21CFR 177.2600

Ordering Information

Part Number	Size
BRA 40MPU100	1"
BRA 40MPU150	1½"
BRA 40MPU200	2"
BRA 40MPU250	2½"
BRA 40MPU300	3"
BRA 40MPU400	4"

Clamp Reducers

Clamp Concentric Reducers - B3114MP

Ordering Information

304 Stainless Steel Part Number	Tube OD	A
BRA B3114MPG2015	2" x 1½"	3.000
BRA B3114MPG2502	2½" x 2"	3.000
BRA B3114MPG3015	3" x 1½"	7.000
BRA B3114MPG3020	3" x 2"	5.000
BRA B3114MPG3025	3" x 2½"	3.000
BRA B3114MPG4020	4" x 2"	9.125
BRA B3114MPG4030	4" x 3"	5.125

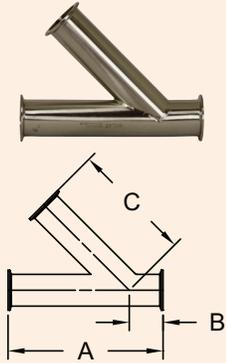


Miscellaneous Clamp Configurations

Clamp Laterals - B28AMP

Ordering Information

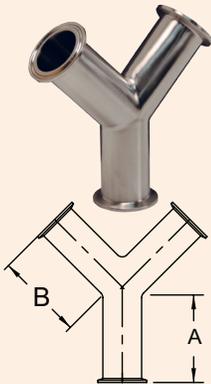
316L Stainless Steel Part Number	Tube OD	A	B	C
BRA B28AMP100	1"	7.000	1.500	5.500
BRA B28AMP150	1½"	8.375	1.688	6.688
BRA B28AMP200	2"	9.750	2.125	7.625
BRA B28AMP300	3"	11.750	2.375	9.375
BRA B28AMP400	4"	14.062	2.640	11.312



Clamp True Wyes - B28BMP

Ordering Information

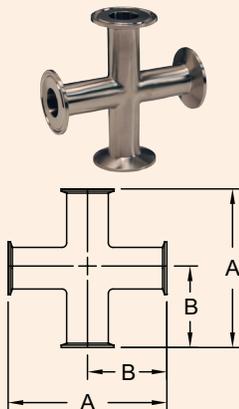
316L Stainless Steel Part Number	Tube OD	A	B
BRA B28BMP100	1"	2.500	2.938
BRA B28BMP150	1½"	2.500	2.938
BRA B28BMP200	2"	3.125	3.750
BRA B28BMP300	3"	4.500	5.375
BRA B28BMP400	4"	6.000	6.000



Clamp Crosses - B9MP

Ordering Information

304 Stainless Steel Part Number	Tube OD	A	B
BRA B9MPG100	1"	4.750	2.375
BRA B9MPG150	1½"	5.500	2.750
BRA B9MPG200	2"	7.000	3.500
BRA B9MPG300	3"	7.500	3.750
BRA B9MPG400	4"	9.000	4.500

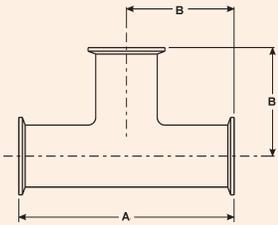


Miscellaneous Clamp Configurations

Clamp Tees - B7MP

Ordering Information

304 Stainless Steel Part Number	Tube OD	A	B
BRA B7MPG100	1"	4.750	2.375
BRA B7MPG150	1½"	5.500	2.750
BRA B7MPG200	2"	7.000	3.500
BRA B7MPG300	3"	7.500	3.750
BRA B7MPG400	4"	9.000	4.500



Clamp Adapters

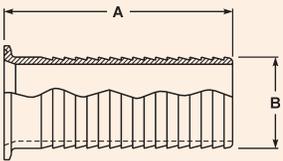
Hose Barb Adapters - 14MPHRL

Features:

- Suitable for use with band clamps

Ordering Information

304 Stainless Steel Part Number	Size	A	B
BRA 14MPHRL100	1"	3.500	1.045
BRA 14MPHRL150	1½"	5.000	1.545
BRA 14MPHRL200	2"	5.000	2.045
BRA 14MPHRL300	3"	5.500	3.045
BRA 14MPHRL400	4"	5.500	4.045

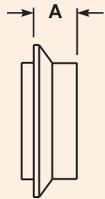


I-line/Q-line Ferrules

Male I-Line Short Weld Ferrules - 14WI

Ordering Information

304 Stainless Steel Part Number	Tube OD	A
BRA 14WIG100	1"	.600
BRA 14WIG150	1½"	.765
BRA 14WIG200	2"	.790
BRA 14WIG300	3"	.906
BRA 14WIG400	4"	1.031



Female I-Line Short Weld Ferrules - 15WI

Ordering Information

304 Stainless Steel Part Number	Tube OD	A
BRA 15WIG100	1"	.785
BRA 15WIG150	1½"	.950
BRA 15WIG200	2"	1.040
BRA 15WIG300	3"	1.220
BRA 15WIG400	4"	1.350



I-line/Q-line Clamps

Heavy Duty Clamps - 13ILH

- Q-line service pressure rating for all sizes:
150 PSI @ 70°F and 125 PSI @ 250°F

Ordering Information

Part Number	Tube OD	Service Pressure Rating @ 70°F ¹	Service Pressure Rating @ 250°F ¹	A
BRA 13ILH100150	1" - 1½"	700	250	2.122
BRA 13ILH200	2"	450	250	2.654
BRA 13ILH300	3"	350	150	3.717
BRA 13ILH400	4"	200	125	4.820

¹ wing nut tightened to 25 in. lb. of torque

I-Line Gaskets

Buna-N I-Line Gaskets - Black 3/32"

Features:

- Color code: red dot
- Meets 21CFR 177.2600

Ordering Information

Part Number	Size
BRA 40IH100	1"
BRA 40IH150	1½"
BRA 40IH200	2"
BRA 40IH300	3"
BRA 40IH400	4"

Compact Sight Glass

Compact Sight Glass

Features:

- Used to view products and fluids, perfect for hoses
- Easier to clean than bolted styles
- Clamp connections standard
- Body: 316L stainless steel
- Sight Glass: Borosilicate glass
- Gasket: Buna

Ordering Information

Part Number	Tube OD
DIX B54BMPS-R100	1"
DIX B54BMPS-R150	1-1/2"
DIX B54BMPS-R200	2"
DIX B54BMPS-R300	3"
DIX B54BMPS-R400	4"



Washdown Accessories



Spray Nozzle - Aluminum

Features:

- For low pressure cleaning and sanitation applications
- Rear mounted levers - reduce hand fatigue and offer smooth lever action
- Variable spray patterns; adjustable from fan spray to solid stream
- Water conservation is assured upon release of lever by the drip-free automatic shutoff feature
- ½" FNPT inlet
- Rating: 150 PSI / 200°F (93°C)
- **Do not use with steam lines** ⚠️

Ordering Information

Part Number	Cover Color
SWP 150ALB	Light Blue



Ball Valve Hot & Cold Water Mixer

Features:

- Hot & cold water wall mounted mixer-hose station
- Ball valves for easier shutoff
- Includes mounting plate, hose rack, and optional temperature gauge

Ordering Information

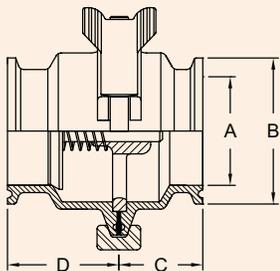
Part Number	Inlet/Outlet
SWP 3600BMB	3/4" NPT



Spring Check Valves

Features:

- 3A Standards 58-00, Check Valves and Vacuum Breakers
- Full size flow plate
- Long stem bushing for increased cycle life
- Suitable for low and medium viscosity fluids
- Field serviceable (no special tools required) various end connections available
- Sizes from ½" thru 4"
- Operating temperature range: 15°F to 200°F
- Maximum operating pressure: 145 PSI



Ordering Information

316L Stainless Steel Part Number	Size	A	B	C	D
BRA B46MPR100	1"	0.87	1.99	1.37	1.92
BRA B46MPR150	1½"	1.37	1.99	1.44	1.92
BRA B46MPR200	2"	1.87	2.52	1.44	1.92





Vikan Hygienic Rake Head

Features:

- The Hygienic rake is used for various brewery applications
- It requires a European-thread handle

Ordering Information

Part Number	Length	FDA Compliant Raw Material	Material	Weight	Color
REM 56915	8"	Yes	Polypropylene	1 lb	White



Vikan Handle for Hygienic Rake Head

Ordering Information

Part Number	Length	Handle Diameter	FDA Compliant Raw Material	Material	Other Material	Weight	Color
REM 29595	57.48"	0.98"	Yes	Aluminum	Polypropylene	0.57 lb	White

This standard handle can be used with the Hygienic Rake Head



Vikan Small Utility Brush-Stiff

Features:

- This small, light-weight brush has a broad head and an ergonomically angled handle
- Used for cleaning small surface areas on production equipment, tables, etc

Ordering Information

Part Number	Length	FDA Compliant Raw Material	Block Material	Bristle Material	Weight	Color
REM 30895	10.5"	Yes	Polypropylene	Polyester	2 lb	White





Vikan Shovel

Features:

- This one-piece, heavy duty polypropylene shovel is tough, lightweight, and hygienic
- Used for various brewery applications

Ordering Information

Part Number	Length	Width	FDA Compliant Raw Material	Material	Weight	Color
REM 69825	42"	14"	Yes	Polypropylene	4 lb	White



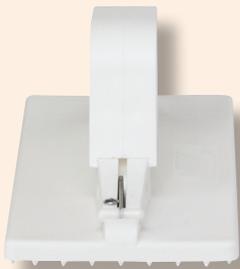
Vikan Handheld Pad Holder

Features:

- This hand-held pad holder is an excellent tool for cleaning walls and tanks
- The clip mechanism is stainless steel, which prevents the pad from falling off once heavy with water

Ordering Information

Part Number	Length	FDA Compliant Raw Material	Material	Weight	Color
REM 55105	9"	Yes	Polypropylene	5 lb	White



Vikan Pad

Features:

- This soft pad is gentle enough to clean stainless steel tanks

Ordering Information

Part Number	Length	Weight	Color
REM 5525	10"	1 lb	White



Hoses



Continental Vintner™ Reserve Hose

Primarily used for liquid transfer in breweries.

- **Construction Tube:** White Chlorobutyl tube won't impart rubbery tastes or smells
- **Cover:** Gray EPDM synthetic rubber (wrapped)
- **Reinforcement:** Spiral-plyed synthetic fabric with monofilament helix
- **Working/Burst Pressure:** 250 PSI/1000 PSI
- **Temperature Range:** -30°F to 220°F
- **Packaging:** Sold per foot; maximum 100' length

Ordering Information

Part Number	Inside Diameter	Outside Diameter	Working Pressure	Bend Radius	Vacuum HG	Weight
CTT 20943391	1"	1.56"	250 psi	3"	27"	0.60 lb/ft
CTT 20943392	1-1/2"	2.06"	250 psi	4"	27"	0.83 lb/ft
CTT 20943393	2"	2.61"	250 psi	7"	27"	1.18 lb/ft



Continental Pliovic® Plus Hose

Lightweight, economical general purpose hose for carrying air, water and many spray solutions.

- **Construction Tube:** Pliovic®, ARPM Class B (Medium Oil Resistance)
- **Cover:** Blue, Pliovic®, ARPM Class B (Medium Oil Resistance)
- **Reinforcement:** Spiral synthetic yarn
- **Working/Burst Pressure:** 250 PSI/1000 PSI
- **Temperature Range:** -10°F to 158°F
- **Packaging:** Sold per foot; maximum 450' length

Ordering Information

Part Number	Inside Diameter	Outside Diameter	Working Pressure	Bend Radius	Vacuum HG	Weight
GDY 20012678	3/4"	1.11"	250 psi	3"	27"	0.28 lb/ft



Continental Horizon Wash Down Hose

A multi-purpose industrial hose for medium pressure wash down.

- **Construction Tube:** Versigard synthetic rubber, RMA class C (Limited Resistance)
- **Cover:** Red Versigard synthetic rubber
- **Reinforcement:** Spiral synthetic yarn
- **Temperature Range:** -40°F to 190°F
- **Packaging:** Sold per foot; maximum 500' length

Ordering Information

Part Number	Inside Diameter	Nominal Outside Diameter	Maximum Working Pressure	Weight
GDY 20026290	3/4"	1.12"	200 psi	0.34 lb/ft



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Kanaflex 210 HFG Suction Hose

Heavy-duty food grade suction hose for bottling and pressure transfer.

- **Construction:** Produced entirely of compounds in compliance with FDA and 3-A nontoxic specifications, flexible PVC, rigid PVC helix, smooth bore, and smooth O.D.
- **Temperature Range:** -13°F to 140°F
- **Packaging:** Sold per foot; maximum 100' length

Ordering Information

Part Number	Inside Diameter	Nominal Outside Diameter	Pitch	Minimum Bend Radius (72° F)	Working Pressure (72° F)	Vacuum Rating (72° F, in HG)	Weight
KAN 210HFG1	1"	1.25"	0.22"	1.9"	86 psi	29.8	0.26 lb/ft
KAN 210HFG112	1-1/2"	1.82"	0.30"	2.8"	72 psi	29.8	0.44 lb/ft
KAN 210HFG2	2"	2.39"	0.33"	3.9"	72 psi	29.8	0.74 lb/ft
KAN 210HFG4	4"	4.53"	0.43"	9.1"	55 psi	29.8	2.01 lb/ft



Kanaflex Kanaline FW Suction and Discharge Hose

Heavy-duty food grade suction and discharge hose for bottling and pressure transfer.

- **Construction:** Produced entirely of compounds in compliance with FDA and 3-A nontoxic specifications, flexible PVC, rigid PVC helix, synthetic braiding, smooth bore, and corrugated O.D.
- **Temperature Range:** -13°F to 140°F
- **Packaging:** Sold per foot; maximum 100' length

Ordering Information

Part Number	Inside Diameter	Nominal Outside Diameter	Pitch	Minimum Bend Radius (72° F)	Working Pressure (72° F)	Vacuum Rating (72° F, in HG)	Weight
KAN FW11/2	1-1/2"	2.03"	0.39"	2.5"	110 psi	28.0	0.56 lb/ft
KAN FW2	2"	2.60"	0.41"	4.0"	100 psi	28.0	0.75 lb/ft
KAN FW3	3"	3.70"	0.59"	6.3"	100 psi	28.0	1.20 lb/ft
KAN FW4	4"	4.78"	0.65"	7.1"	75 psi	28.0	1.74 lb/ft



Kanaflex Banding Coil

Food grade PVC banding coil designed to fit the corrugation of the Kanaline FW suction and discharge hose. Provides a smooth surface for banding. Sold per foot.

Ordering Information

Part Number	Nominal Outside Diameter
KAN BANCOIL11/2	1-1/2"
KAN BANCOIL2	2"
KAN BANCOIL3	3"
KAN BANCOIL4	4"





Unisource Series 2700 Suction and Discharge Hose

Multi-purpose suction and discharge hose designed to handle a variety of transfer applications.

- **Construction Tube:** White Nitrile (FDA, 3-A, USDA compliant)
- **Cover:** Gray Nitrile / PVC Cover
- **Reinforcement:** Multiple textile plies with dual wire helix
- **Temperature Range:** -25°F to +230°F
- **Packaging:** Sold per foot; maximum 100' length

Ordering Information

Part Number	Inside Diameter	Outside Diameter	Working Pressure	Bend Radius	Weight
UNS 2720100	1"	1.46"	150 psi	3"	0.58 lb/ft
UNS 2720150	1-1/2"	1.97"	150 psi	4"	0.85 lb/ft
UNS 2720200	2"	2.48"	150 psi	4.5"	1.22 lb/ft



Unisource Series 2179 Washdown Hose

Multi-purpose white hose for cold and hot water washing.

- **Construction Tube:** Black EPDM (ARPM Class C ORS)
- **Cover:** White EPDM (ARPM Class C ORS)
- **Reinforcement:** Multiple polyester spirals
- **Temperature Range:** -40°F to +200°F
- **Packaging:** Sold per foot; maximum 500' length

Ordering Information

Part Number	Inside Diameter	Outside Diameter	Working Pressure	Weight
UNS 217934	3/4"	1.17"	300 psi	0.42 lb/ft



Unisource Series 1100 Clear Braided Tubing

Used as sight tubing.

- **Construction Tube:** Clear non-toxic PVC (FDA Approved)
- **Reinforcement:** Multiple textile braid
- **Temperature Range:** -25°F to 150°F
- **Packaging:** Sold per foot; maximum 100' length

Ordering Information

Part Number	Inside Diameter	Outside Diameter	Working Pressure	Weight
UNS 1100-25-100	1/4"	.468"	250 PSI	.05 lb/ft
UNS 1100-38-100	3/8"	.595"	225 PSI	.10 lb/ft
UNS 1100-50-100	1/2"	0.75	200 PSI	.13 lb/ft
UNS 1100-750	3/4"	1.030"	150 PSI	.19 lb/ft



Cleaning and Sanitizing Products

BRU-R-EZ

Clean your mash tun, brew kettle, fermenters, heat exchanger, lines, kegs, etc. more quickly and effectively than the routine caustic products with BRU-R-EZ.

Ultra rinsability leaves a perfect shine on any metal. BRU-R-EZ CIP and hand scrub applications can remove protein and oil and grease without the use of searing caustic strength.

Features:

- A powerful detergent blend
- Compatible with aluminum, iron, copper and or steel
- General purpose cleaner
- Nonsolvent, noncaustic and non-phenol

Properties

Part Number	Form	Color	Odor	pH	Foam	Biodegradable	Phosphates	Size	Shipping Weight
CHE I0012245	Powder	Light Tan	Detergent	11.7	Minimal	Yes	Yes	5 Gallon Bucket	50 lb

CELL-R-MASTR

Clean your beer tanks, fermenters, lines, etc. more quickly and effectively than the routine caustic products with CELL-R-MASTR. Ultra rinsability leaves a perfect shine on any metal. CELL-R-MASTR CIP and hand scrub applications can remove protein without the use of caustic or TSP and Citric Acid. Your operation will be safer, quicker and more reliable.

Features:

- A powerful detergent blend
- Compatible with stainless steel, aluminum, iron, copper and or steel
- General purpose cleaner
- Nonsolvent and noncaustic



Properties

Part Number	Form	Color	Odor	pH	Foam	Biodegradable	Phosphates	Size	Shipping Weight
CHE I0014845	Powder	White/Tan	Detergent	11.6	Minimal	Yes	Yes	5 Gallon Bucket	50 lb

BIRK-OX

BIRK-OX is an EPA registered (No. 63838-1-10147) 5.6% active peracetic acid (PAA or peroxyacetic acid) liquid sanitizer. BIRK-OX is an excellent post-rinse sanitizer for all previously cleaned surfaces.

Features:

- Reverse osmosis and ultra filtration membrane cleaning and sanitizing
- Sulfide oxidation and odor elimination
- As a sanitizer/disinfectant for use on conveyors, pipelines, equipment, floors, and walls
- As a fog adjunct for high-level microbial control

Properties

Part Number	Form	Color	Odor	pH @ 1%	Foam	Biodegradable	Phosphates	Density	Size	Shipping Weight
CHE I024705	Liquid	Clear	Pungent	2.5	None	Yes	No	1.121	5 Gallon Bucket	50 lb

Note: Cleaning and sanitizing products are available in other sizes; consult your local MATHESON representative.



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Cleaning and Sanitizing Products

DIACTOLATE

DIACTOLATE is an FDA Generally Recognized As Safe (G.R.A.S) food grade acid. DIACTOLATE is also effective in neutralizing and reducing pH in water and/or finished product and removing or preventing scale formation.

Features:

- Food grade acid
- Chloride dioxide generator
- Alkaline pH neutralizer
- Scale preventative

Properties

Part Number	Form	Color	Odor	pH @ 1%	Foam	Biodegradable	Phosphates	Size	Shipping Weight
CHE I0020245	Powder	White	None	3.0-3.5	None	Yes	No	5 Gallon Bucket	50 lb

PRONTO

PRONTO is a premium, non-caustic, multi-metal safe alkaline powder that is appropriate nearly everywhere in the facility. PRONTO is used for food process CIP, and is especially effective against oily and proteinaceous buildups on metals, and is excellent on concrete floors. PRONTO is USDA approved for all surfaces in the facility.

Features:

- Widely versatile
- Noncaustic and nonsolvent
- Mild on materials
- Multi-metal safe
- Safer to handle than caustic products

Properties

Part Number	Form	Color	Odor	pH	Foam	Biodegradable	Phosphates	Size	Shipping Weight
CHE I0023045	Powder	Light Brown	Soapy	11.3	High (unstable)	Yes	Yes	5 Gallon Bucket	50 lb

ACID BRITE #2

ACID BRITE #2 is an effective acid cleaner designed especially to enhance the mineralization (scale) removal in facilities that use hard water. Many alkaline products promote the formation of hardness salts and soaps. Use ACID BRITE #2 safely on your equipment or in CIP to remove protein, simple scale and other soils. Properly conditions stainless steel.

Features:

- A powerful acid and detergent blend
- Compatible with multiple metals, aluminum, galvanized
- Removes protein and beerstone

Properties

Part Number	Form	Color	Odor	pH @ 1%	Foam	Biodegradable	Phosphates	Density	Size	Shipping Weight
CHE I000395	Liquid	Clear/Amber	Sharp Detergent	1.9	None	Yes	Yes	1.1	5 Gallon Bucket	50 lb

Note: Cleaning and sanitizing products are available in other sizes; consult your local MATHESON representative.



Cleaning and Sanitizing Products

ACID-KLEEN

ACID-KLEEN is a self-foaming, general purpose, acid/anionic surfactant cleaner. Many alkaline products promote formation of hardness salts and soaps. Acid-Kleen helps remove or prevent scaling problems when used as a rinse acid. Use ACID-KLEEN for fermentors, tanks, vats, kegs, lines, walls, and floors. Acid-Kleen can be dispensed through foaming or spray equipment.

Features:

- Self-foaming acid for product contact surfaces, floors, walls, and stainless steel
- Used for foam or CIP applications

Properties

Part Number	Form	Color	Odor	pH @1%	Foam	Biodegradable	Phosphates	Size	Shipping Weight
CHE I001735	Liquid	Yellow	Sweet	1.9	High	Yes	Yes	1 Gallon	12 lb

ANTIFOAM 100

ANTIFOAM 100 is ideally suited for use in the brewery. It is a proprietary blend of antifoam compounds with the capacity to immediately prevent foam.

ANTIFOAM 100 is unlike similar products because it works equally well in both oil-based and water-based systems. ANTIFOAM 100 is USDA approved for food processing.

Features:

- An all-purpose antifoam for brew kettle, fermenter, yeast propagation, blow-off buckets

Properties

Part Number	Form	Color	Odor	pH @ 1%	Foam	Biodegradable	Phosphates	Density	Size	Shipping Weight
CHE I00058	Liquid	Opaque Yellow	Slight Oil	Not Applicable	None	Yes	No	1.01	1 Gallon	8 lb

CIR-Q-LATE

CIR-Q-LATE is a strongly alkaline, liquid blend of caustic detergents, dispersants, and chelating agents appropriate for use in craft breweries as a heavy-duty CIP cleaner. CIR-Q-LATE features outstanding cleaning performance on protein soils. CIR-Q-LATE leaves stainless steel looking great when followed by a potable water rinse.

Features:

- High alkaline cleaner for CIP Systems and Soak Tanks

Properties

Part Number	Form	Color	Odor	pH (1% Solution)	Foam	Biodegradable	Phosphates	Size	Shipping Weight
CHE I001125	Liquid	Amber	Detergent	12.8	Minimal	Yes	No	5 Gallon Bucket	60 lb

Note: Cleaning and sanitizing products are available in other sizes; consult your local MATHESON representative.



Cleaning and Sanitizing Products

DIOXY-CHLOR

DIOXY-CHLOR is a 7.5% active solution of Sodium Chlorite (NaClO_2). DIOXY-CHLOR, when properly acidified, forms Chlorine Dioxide (ClO_2). Chlorine Dioxide is a very potent oxidizer and odor control agent. DIOXY-CHLOR is an effective bleach and deodorizer for a variety of applications. Unlike chlorine bleach, DIOXY-CHLOR offers unbeatable performance and offers far less corrosion at low active ppm levels.

Features:

- Chlorine Dioxide precursor, bleach, and odor control agent
- Used on equipment, walls, ceilings, and floors as well as porous and non-porous surfaces

Properties

Part Number	Form	Color	Odor	pH	Foam	Biodegradable	Phosphates	Size	Shipping Weight
CHE I000905	Liquid	Greenish Yellow	Chlorinous	12	None	Yes	No	5 Gallon Bucket	46 lb

DYNO-MITE

DYNO-MITE is a low foaming iodophor based sanitizer. DYNO-MITE can be used as a post rinse sanitizer up to 25 ppm. Its low foam makes DYNO-MITE an especially good sanitizer for CIP applications.

Features:

- An iodine based antimicrobial
- Post rinse sanitizing
- Disinfection

Properties

Part Number	Form	Color	Odor	pH	Denisty	Foam	Size	Shipping Weight
CHE I027165	Liquid	Dark Brown	Sharp	1.5	1.03	Low	5 Gallon Bucket	50 lb

PATCO 376

PATCO 376 is a 100% active non-silicone defoamer. Designed for use in beer processing operations and fermentation reactions. It's also used as a kettle defoamer. PATCO 376 complies with Section 173.340 Code of Federal Regulations Title 21, which covers defoaming agents used in food processing. PATCO 376 has Kosher approval.

Features:

- An all-purpose antifoam

Properties

Part Number	Form	Color	Odor	pH @ 1%	Foam	Biodegradable	Phosphates	Density	Size	Shipping Weight
CHE I00091	Liquid	Amber	Oily	Not Applicable	None	Yes	No	1.0	1 Gallon	8 lb

Note: Cleaning and sanitizing products are available in other sizes; consult your local MATHESON representative.



Cleaning and Sanitizing Products

PHOSPHORIC ACID 75% FOOD GRADE

PHOSPHORIC ACID 75% FOOD GRADE is used in the brewing industry to adjust the pH of the mash and to activate chlorine dioxide (sodium chlorite) sanitizers, such as DIOXY-CHLOR. PHOSPHORIC ACID 75% FOOD GRADE is widely used as an acidulant in the food industry and has a pleasing acid taste when suitably diluted.

Features:

- Used to adjust pH in the mash and activate sodium chlorite solutions

Properties

Part Number	Form	Color	Odor	pH @ 1%	Foam	Biodegradable	Phosphates	Size	Shipping Weight
CHE I001031	Liquid	Clear	Odorless	1.2	None	Yes	Yes	1 Gallon	14 lb

SHINE-A-LINE

SHINE-A-LINE is a phosphoric acid cleaner containing corrosion inhibitors, surfactants and rinse aids to neutralize soaps, remove hard water scale, and rust. This specialty chemical imparts a shine to CIP and other stainless steel equipment. It may be used alone, diluted with water or with a foam generator.

Features:

- Acid cleaner for CIP equipment, stainless steel, and walls

Properties

Part Number	Form	Color	Odor	pH (1% Solution)	Foam	Biodegradable	Phosphates	Size	Shipping Weight
CHE I000321	Liquid	Clear	None	2.0	Low	Yes	Yes	1 Gallon	11 lb

ULTRA NITER

ULTRA NITER is a non-foaming blend of water, nitric acid, phosphoric acid, and a surfactant for increased wetting and soil dispersion. The suggested use level for cleaning is 2 - 3% as supplied. ULTRA NITER cleaning solutions must be rinsed thoroughly with potable water after use.

Features:

- Low phosphate
- Acid blend
- Used for brewery CIP

Properties

Part Number	Form	Color	Odor	pH (neat)	Foam	Biodegradable	Phosphates	Size	Shipping Weight
CHE I001751	Liquid	Colorless	Sour	1.9	Low	Yes	Yes	1 Gallon	10 lb

Note: Cleaning and sanitizing products are available in other sizes; consult your local MATHESON representative.



Cleaning and Sanitizing Products

X-PUMA

X-PUMA is a non-foaming detergent for CIP and batch applications. X-PUMA is designed to work in conjunction with products such as ACID BRITE #2 or ULTRA NITER for a variety of applications such as keg cleaning, acid and detergent cleaning of serving tanks, and brite tanks under pressure. Helps remove beerstone much better than acid alone!

Features:

- Non-foaming detergent additive
- Assists beerstone removal; patented for keg cleaning when used with Ultra Niter or Acid Brite #2
- Assists protein wetting and dispersing

Properties

Part Number	Form	Color	Odor	pH (neat)	Foam	Biodegradable	Phosphates	Size	Shipping Weight
CHE I001805	Liquid	Clear	Detergent	3.5	Low	Yes	No	1 Gallon	9 lb

Note: Cleaning and sanitizing products are available in other sizes; consult your local MATHESON representative.



Conversion Data

Argon Conversion

	Weight		Gas		Liquid	
	pounds (lb)	kilograms (kg)	cubic feet (scf)	cubic meters (nm ³)	gallons (gal)	liters (lt)
1 pound	1.0	0.4536	9.671	0.2543	0.08600	0.3255
1 kilogram	2.205	1.0	21.32	0.5605	0.18957	0.7176
1 scf gas	0.1034	0.04690	1.0	0.02628	0.008893	0.03366
1 nm³ gas	3.933	1.7840	38.04	1.0	0.3382	1.2802
1 gallon liquid	11.630	5.276	112.5	2.957	1.0	3.785
1 liter liquid	3.072	1.3936	29.71	0.7812	0.2642	1.0

Carbon Dioxide Conversion

	Weight			Gas		Liquid	
	pounds (lb)	tons (t)	kilograms (kg)	cubic feet (scf)	cubic meters (nm ³)	gallons (gal)	liters (lt)
1 pound	1.0	0.0005	0.4536	8.741	0.2294	0.11806	0.4469
1 ton	2000.0	1.0	907.2	17,483	458.8	236.1	893.9
1 kilogram	2.205	0.0011023	1.0	19.253	0.5058	0.2603	0.9860
1 scf gas	0.1144	–	0.05189	1.0	0.02628	0.013508	0.05113
1 nm³ gas	4.359	0.00218	1.9772	38.04	1.0	0.5146	1.948
1 gallon liquid	8.470	0.004235	3.842	74.04	1.9431	1.0	3.785
1 liter liquid	2.238	0.0011185	1.0151	19.562	0.5134	0.2642	1.0
1 cu ft solid	97.56	0.0488	44.25	852.8	22.38	11.518	43.60

Nitrogen Conversion

	Weight		Gas		Liquid	
	pounds (lb)	kilograms (kg)	cubic feet (scf)	cubic meters (nm ³)	gallons (gal)	liters (lt)
1 pound	1.0	0.4536	13.803	0.3627	0.1481	0.5606
1 kilogram	2.205	1.0	30.42	0.7996	0.3262	1.2349
1 scf gas	0.07245	0.03286	1.0	0.02628	0.01074	0.04065
1 nm³ gas	2.757	1.2506	38.04	1.0	0.4080	1.5443
1 gallon liquid	6.745	3.060	93.11	2.447	1.0	3.785
1 liter liquid	1.782	0.8083	24.60	0.6464	0.2642	1.0

Scf (standard cubic feet) gas measured at 1 atmosphere and 70°F. Nm³ (normal cubic meter) gas measured at 1 atmosphere and 0°C. Liquid measured at 21.42 atmospheres and 1.7°F. Solid measured at –109.25°F. All values rounded to nearest 4/5 significant numbers.



Conversion Data

Volume Conversion

Volume	Multiply units in left column by proper factor below:							
	cu in	cu ft	cu yd	cu cm	cu meter	liter	US gallon	Imp gal
1 cu inch	1	–	–	16.387	–	0.0164	0.00433	–
1 cu foot	1728	1	0.0370	28,317	0.0283	28.32	7.481	6.229
1 cu yard	46,656	27	1	–	0.7646	764.6	202.0	168.2
1 cu centimeter	0.0610	–	–	1	–	0.001	–	–
1 cu meter	61,023	35.31	1.308	1,000,000	1	1,000	264.2	220.0
1 liter	61.023	0.0353	–	1,000	0.001	1	0.2642	0.2200
1 US gallon	231	0.1337	–	3785.4	–	3.785	1	0.8327
1 Imperial gallon	227.4	0.1605	–	4546.1	–	4.546	1.201	1



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