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Fairbank EQUIPMENT





Fairbank

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CUSTOMER POLICY

INDEX

A - REGULATORS & ACCESSORIES

B - VALVES & FITTINGS

C - PIPING, HOSE & ACCESSORIES

D - CYLINDERS, CABINETS & TOOLS

E - HEATERS, FIREPLACES, LOGS & GRILLS

F - PUMPS, METERS & DISPENSERS

G - CARBURETION EQUIPMENT

H - DECALS, SERVICE EQUIP. & SUPPLIES

I - REPAIR KITS

J - REPAIR PARTS SHEETS

K - TECHNICAL INFORMATION

FORMS

SALESMEN TERRITORIES

Delivery

Fairbank Equipment will make every attempt to ship out the same day all orders for stock items called in by 4:00. Special Orders are defined as "orders for parts and units not normally stocked by Fairbank Equipment Inc." Special Orders will be subject to approval by the purchaser prior to ordering and cannot be returned for credit.

Return Merchandise Procedures

1. Do not return merchandise to Fairbank without an authorization, as no credit will be issued.
2. Stock merchandise can be returned to us without restocking charges providing the following conditions are met:
 - a. Request for return is made within ten working days from receipt of order.
 - b. Merchandise is returned freight prepaid within fifteen working days from receipt of order.
 - c. Merchandise is in new condition
 - d. Value of merchandise is over \$10.00.
3. A 20% minimum restocking fee will be charged if the above conditions are not met.
4. Special order merchandise cannot be returned for credit.
5. No credit will be issued for under \$10.00.

Unauthorized Returns

Goods arriving at Fairbank Equipment Inc., without properly approved return authorization will be refused and returned to the sender. This does not include goods picked up by a Fairbank Equipment, Inc. representative.

Obsolete

Or non-current production goods will not be authorized for return.

Damaged

Or used goods authorized for return that are received in any condition other than "Like New" will have the cost of renewal deducted from the credit.

Payment

We expect all invoices to be paid within our terms. Those accounts that are past due are subject to a 1-1/2 percent a month service charge. Accounts over 45 days old may be placed on C.O.D.

Disposition

A Return Authorization number will be issued for all returns. This number must appear on the outside of the box. Goods should then be shipped, prepaid, to Fairbank Equipment Inc.

Pricing

Prices in this catalog have been removed. Please call or login to the website to see updated pricing.

Minimum Billing

Our minimum billing per invoice is \$5.00.

Freight

All shipments shipped out of Wichita are F.O.B. Fairbank Equipment Inc., Wichita Kansas, unless otherwise specified in writing.

Service Policy

The person or organization (herein called the customer) purchasing the unit from Fairbank Equipment Inc., will be responsible for the unit being installed properly in accordance with the manufacturer's instructions.

Warranty

New equipment and parts furnished to Fairbank Equipment Inc., by the manufacturer for resale or assembly by Fairbank Equipment Inc., are subject to the warranty program of that manufacturer. Warranty claims will be processed by Fairbank Equipment Inc., under each supplier's warranty policy when the goods are returned to Fairbank Equipment Inc. No Other Claims To Warranty Will Be Accepted. Goods returned to Fairbank Equipment Inc., for warranty processing will be returned freight prepaid.

Your order left Fairbank Equipment in good condition. Please carefully inspect it upon arrival. If the shipment is damaged, opened, or short, note it on the bill-of-lading. Do not dispose of the cartons or packing. Do not return the merchandise to us. Contact the delivering carrier.

ITEM	PAGE NO
Acme	
Adapters.....	B33-B35
Caps.....	B34
Couplings.....	B34
Gaskets.....	B36
Locking Caps.....	I35
O-Rings.....	B36
Plugs.....	B35
Wrench.....	B33
Adapters	
Acme.....	B33
Carburetor.....	G112-G115
Fill.....	B22
Flare.....	C42, C43
POL.....	A13, B35-B37, C57
Unloading.....	B21
Air Filters.....	G115, G119
Anode Bags.....	H137
Back Check Valves.....	B28
Ball Valves.....	B25
Base Engineering.....	F110, K119-K223
Boden Wire.....	G124
Brackets	
Cylinder.....	G121
Dash Control.....	G124
Regulator.....	A15
Vaporizer Mounting.....	G121
Brass Hammer.....	H134
Breakaway Couplings.....	B28
Bulkhead Fittings.....	G121
Cabinets-Cylinder.....	D63
Caps	
Acme.....	B34
Cylinder.....	D63
Flare.....	C42
Carburetors (Impco).....	G112 - G115
Carburetor Parts.....	J146 - J161
CGA555 Fittings.....	B18
Chek-Lok®	
Adapters.....	B21
Valves.....	B21
Chock Blocks.....	H137
Clamps	
Bandit.....	C57
Worm Gear.....	C58
Compressors.....	F108
Connectors	
CSST.....	C48-C49
Poly.....	C49
Control Valves.....	H131

ITEM	PAGE NO
Copper Tubing.....	C43
Couplings	
Acme.....	B34
Fill.....	B34
Forklift.....	B21
Pull Away.....	B28
Vapor.....	B34
Cover-Regulator.....	H137
Crankcase Vent Fittings.....	G123
CSST Fittings.....	C48-C49
Cutters	
CSST.....	C50
Poly.....	C45
Cylinder	
Adapters.....	D63
Brackets.....	G121
Cabinets.....	D63
Caps.....	D63
Decals.....	H128, H129
Plugs.....	B37
Stand.....	D61, H133
Valves.....	B17, B18
Wrench.....	D61
Cylinders	
DOT.....	D60
Forklift.....	D61
Dash Control Brackets.....	G124
Decals.....	H128, H129
Dials-Float Gauge.....	B38-B39
Dispensers.....	F101, F102
Elbows	
Carburetion Hose.....	G123
Flare.....	C42-C43
Pipe.....	C52-C53
Relief Valve.....	B30, B31
ESV Valves.....	B26
Excess Flow Valves.....	B29
Fill Adapters.....	B35, D63
Fill Couplings.....	B24, B34-B35
Fill Valves.....	B22
Filters	
Air.....	G115
Propane.....	G120
Filterlocks.....	G118
Fireboxes.....	E87, E89
Fireplace Logs.....	E86 - E90
Fireplaces.....	E82-E86
Fixed Liquid Level Gauges.....	B23
Flare Fittings.....	C42, C43

ITEM	PAGE NO	ITEM	PAGE NO
Flaring Tools	C44	J-Wrench	B33
Flexible Connectors	C51	Jack-Tank	D62
Float Gauges	B37-B39	Leak Detectors	H132-H133
Templates, Dials & Screws	B39, B40	Leak Detector Solution	H127
Flow Indicators	B29	Lift Truck	
Forklift Adapters	B21	Cylinders	D61
Forklift Cylinders	D61	Fill Adapters	B21
Fuel Filters	G120	Lighters	H136
Fuel Pump Plates	G123	Liquid Withdrawal Valves	B21
Gas Grills	E92-93	Locking Caps	H137
Gas Logs	E87-E90	Lockoffs	G119-G120
Gas Valve	B25	Electric	G120
Gaskets		Vacuum	G118
Acme	B36	Logs-Gas	E87-E90
Float Gauge	B40	Manifold Tees	A13, C50
Gasoline Solenoids	G119	Manometers	A14
Gauges		Match Holder	H136
Float	B38-B39	Metal Flex Hoses	C56
Parts	B39-B40	Meters	F102, F103
Pressure	B40	Meter Accessories	F103
Rotary	B37	Nipples-Pipe	C51
Test	A14	O-Rings-ACME	B36
Globe Valves	B25	Orifice Adapter	H133
Gloves	H136	Orifice Drill Set	H133
Goggles	H136	Paint	H126
Heaters	E66-E79	Pigtails	
Agricultural	E77- E78	Copper	A15, A13
Blue Flame	E65, E66, E69	Rubber	A15
Cast Iron	E80-E81	Pipe	
Forced Air	E77, E78	Heavy Duty	C51
Infra-Red	E67, E70, E73, E74-E77	Poly	C47
Overhead	E74-E79	Standard	C54
Portable	E74, E78	Pipe Fittings	C54
Room	E66-E69	Pipe Thread Compound	H127
Stock Tank	E91	Plugs	
Tube	E74	ACME	B35
Heavy Duty Fittings	C51-C54	Flare	C42
Hose		Pipe	C52-C53
Adapters	H134	POL	B37
Assemblies	C55	POL	
Ends	C57-C58	Adapters	A13, C62
Fittings	C57-C58	Fill Couplings	B35, D63
High Pressure	C55	Locks	H138
Low Pressure	C55	Plugs	B37
Metal Flex	C56	Poly Tubing	C47
Reels	F104		
Reel Parts	F105-F107		
Swivel	C58, F104		
Y's	G122		
Hydrostatic Relief Valves	B30, G123		

ITEM	PAGE NO
Poly Tube Adapters	C46
Pressure Gauges	B40
Primer	
Electric	G124
Switch.	G122
ProControl3.	F110
Propane Tank Stand.	H133
Pumps	
Bulk Plant	F96-F100
Cylinder Filling	F96, F99
Hand.	F108
Purging.	F108
Truck	F97, F100
Reamers-Orifice	H133
Reels-Hose	F104
Regulators	A9-A13
Fisher Commercial	A12
Marshall	A13
Maxitrol.	A13
RegO	A9-A12
Regulator Covers	H133
Relief Valves.	B31-B32
Relief Valve Caps	B30, B32
Relief Valve Pipeaway Adapters	B30, G121
Remote Fill Box	G122
Remote Receivers	G124
Remote Sending Unit	G124
Repair Kits	Section I
Repair Sheets.	Section J
Risers for Poly Tubing	C47, C48
Rotary Gauges	B37
Screws-Float Gauge.	B39
Signs.	D63, H128, H129
Stamp Set.	D62
Stainless Braid Hose	C55
Standard Black Fittings	C51-C52, C54
Start Assist Valve	G118
Stock Tank Heater	E91
Straps, Tank	D64
Strainers-Y	C54
Switches	G124
Swivels-Hose	F104, C58
Tanks Domestic	D64
Tank Paint.	H126
Tees Heavy Duty	C53
Standard Black	C52
Teflon Tape & Sealant	H127
Thermocouple	H131
Thermometer-Tank	B40

ITEM	PAGE NO
Thermostat	H130
Three Way Switches.	G125
Throttle Bodies	G121
Tools	
Bandit.	C57
Cylinder	D61-62
Flaring	C44, C45
Torches.	E72
Tracer Tape and Wire	C45
Tubing	
CSST	C49, C50
Poly.	C47
Unions	
Flare	C42
Heavy Duty.	C53
Standard Black	C52
Valves	
Angle	B20
Back Check	B28
Ball	B25
Chek Lok®.	B21
Cylinder	B17, B18
ESV.	B26
Excess Flow	B29
Fill.	B22
Fill Check	B22
Forklift.	B18
Gas Control	H131
Globe	B20, B25
Internal	B26, B27
Liquid Withdrawal	B20-B21
Multivalve	B17-B20
Needle	H132
Pullaway	B28
Quick Acting	B23, B24
Relief	B30-B32
Unloading.	B20-B21
Tank	B17-B20
Vapor Return	B24
Vapor Service.	B17
Vent	B23
Valve Grease	H130
Valve Lock Cap	H137
Vacuum Hose.	G124
Vapor Compressors	F108
Vapor Meters	F103
Vaporizers-Carburetion	G116
Vaporizers	F109
Vent Kit	A11
Vent Pipe	E91

ITEM	PAGE NO	ITEM	PAGE NO
Vise-Cylinder	D62	Parts	J182-H185
Water Heaters	E71	Regulators	A12
Water Hose Fittings	G120, G121	Repair Kits	I141
Weed Burner	E72		
Wire-Tracer	C45	Garretson Regulators	G117
Worm Gear Clamps	C58	Brackets	G124
Wrench-Bottle	D61	Fittings	G122
		Hose	G123
		Primer	G124
		Remote Fill	G122
		Throttle Body	G121
		Hannay Hose Reels	F104
		Hannay Hose Reel Parts	F104-F107, J198-J203
		HeatStar	E70, E73, E75-E77
		Honeywell	
		Thermocouples	H130
		Thermostat	H130
		Transformers	H130
		Impco	
		Adapters	G115, G118
		Carburetors	G112-G115
		Filters	G115, G119
		Mixers	G112-G115
		Parts	J145-J159
		Repair Kits	I142
		John Crane Pipe Sealant	H127
		Jomar Valves	B25
		Krug Compressors	F108
		LB White Heaters	E77-E78
		Manchester Cylinders	D60, D61
		Marshall Brass	
		Extend A Flow and Stay	H133
		QCC Adapters	B36
		Regulators	A9-A13
		Metal-Fab	E91
		Mr Heaters	E73, E74
		Neptune Meters	
		Meter Accessories	F102
		Parts	J178-J181
		Neptune Registers	F101
		Paint (Klinger and Accessories)	H126, H127
		Parker Hose & Ends	C55, C56
		Presto Tap Pigtails	A13

ITEM	PAGE NO
Index By Brand	
Algas Vaporizers	F109
American Vapor Meters	F103
Arcosa Tanks	D64
Banding Tools	C57
Base Engineering	F110, K119-K223
Baso Thermocouples	H129
Beam Regulator	G116
Beam Solenoid	G120
Best Gloves	H134
Blackmer	
ByPass Valves	F96
Parts Sheets	J177
Pumps	F96-F98
Repair Kits	J171-J178
Century	
Filters	G120
Lockoffs	G120
Parts	G116, G117
Repair Kits	G117
Vaporizers	G116-G117
Continental Coupling	C46
Continental Riser	C47
Corken	
Bypass Valves	F98
FloCheck Valve	B29
Parts	J163-J170
Pumps	F99-F100
Repair Kits	I142
Dormont Stainless Steel Connectors	C50
Edmont Gloves	H134
Empire	
Fireplaces	E82-E84
Gas Logs	E87-E90
Heaters	E66-E79
Enerco Heaters	E70, E73-E78
Fisher	
Internal Valves	J182-H184

ITEM	PAGE NO
Rectorseal	H127
Red Dragon Torches	E72
Rinnai Heaters	E71
Robertshaw Controls	H128
Robertshaw Thermocouples	H130
 Rochester	
Bottle Wrench.	D61
Gauges.	B38, B39
Gauge Dials & Parts	B38-B40
Rockwell Vapor Meters	F103
 Sherlock Leak Detector	H127
Sherwood Repair Parts	I139
Squibb	
Float Gauges	B38-B39
Flow Indicator.	B29
Gauges Dials	B38-B40
 Torrexx Vaporizers	F109
Trac Pipe Tubing & Fittings	C48-C50
Trojan Tank Heaters & Parts	E91
 White Heaters.	E77-E78
 X-Riser	C48

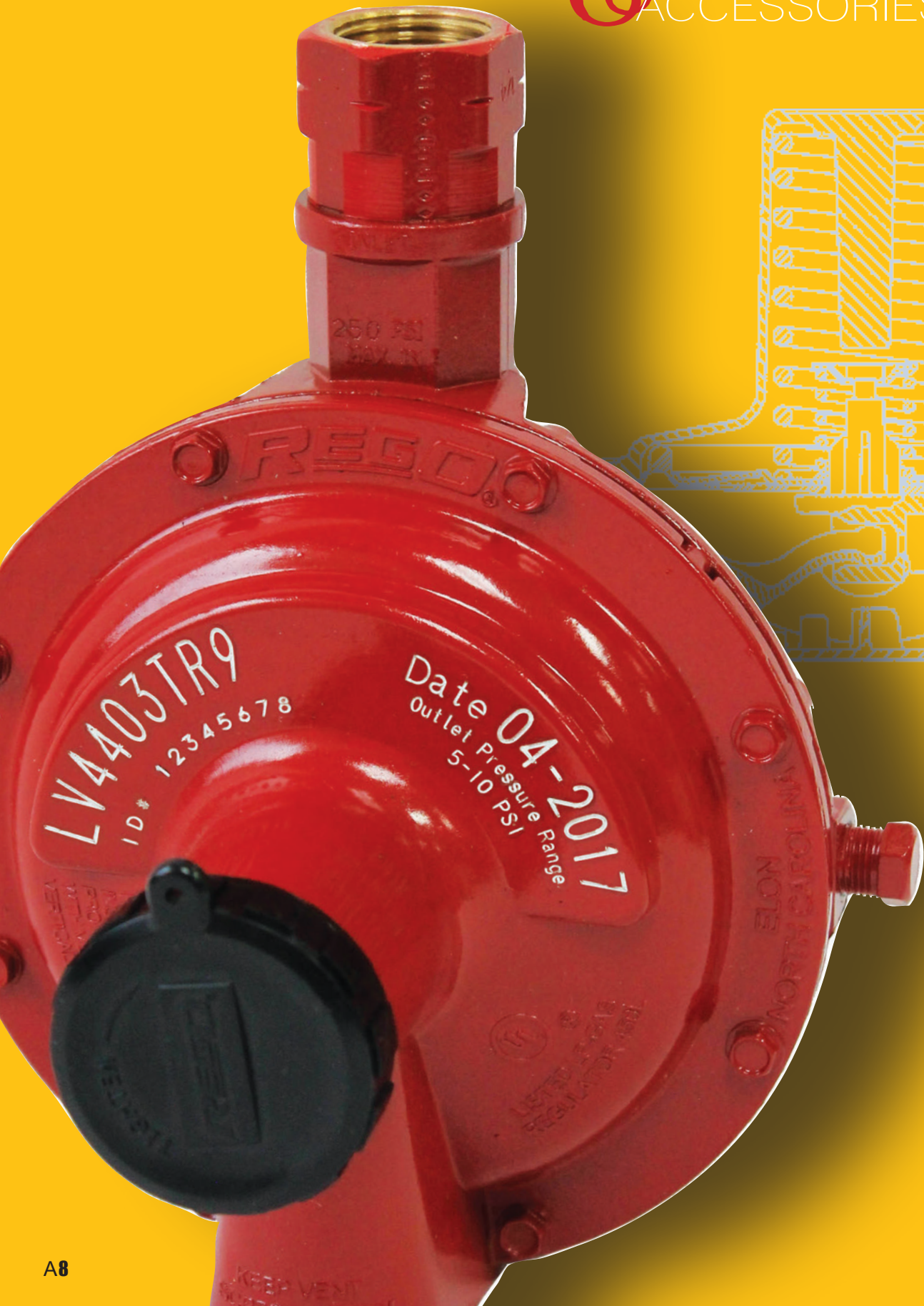


RegO Products

Acme	
Adapters.	B33
Caps.	B34
Couplings.	B34
Plugs	B35
Adapters	
Acme	B33
Chek-Lok®.	B21
Forklift.	B21
Hose End	B35
POL	B35-B37, C57
Couplings	
Fill.	B34, B35
Forklift.	B21
Vapor	B34
Parts	B33-B35, I137-I142
Repair Kits	I137-I142
Regulators	A9-A13
Regulator Bracket	A15
Valves	
Angle	B20, B25
Back Check	B28
Check Lock	B21
Cylinder	B17-B18
Excess Flow.	B29
Forklift.	B18
Globe	B20, B24
Hose End	B23
Internal	B26, B27
Liquid Transfer.	B20-B21
Multivalve	B18-B20
Quick Acting	B23
Relief	B30-B32
Repair Kits	I137-I142
Repair Parts	I137-I142, J145-J189
Test Equipment	A14
Vapor Service.	B17, B19-B20
Wrench.	D61
Vent Kits	A11

REGULATORS

& ACCESSORIES





Integral Twin Stage Regulator

This compact two-stage regulator is designed to reduce container pressure down to 11" w.c. delivery pressure. It is ideal for on-site cylinder applications, average domestic service and mobile homes including small ASME and 100-420# cylinders. 525,000 btu.



PART #	INLET	OUTLET
LV404B4	¼" FPT	½" FPT
LV404B4V9	¼" FPT	½" FPT
LV404H415	¼" FPT	½" FPT
LV404B46	¼" FPT	¾" FPT
LV404B46V9	¼" FPT	¾" FPT
LV404B9	POL	½" FPT
LV404B9V9	POL	½" FPT
LV404B96	POL	¾" FPT
LV404B96V9	POL	¾" FPT

Compact Integral Twin Stage

The LV404B34 AND LV404B39 Series Regulators are designed for small domestic applications with flow requirements up to 450,000 btu.

These regulators are ideal for homes, mobile homes and cottages for average domestic service.



PART #	INLET	OUTLET
LV404B34	¼" FPT	½" FPT
LV404B39	POL	½" FPT
LV404B34V9	¼" FPT	½" FPT
LV404B39V9	POL	½" FPT

First Stage Regulator

Provides accurate first stage regulation in two stage bulk tank systems. These regulators handle vaporization of tanks up to 1,200 gallons. They reduce tank pressure to an intermediate pressure of 5 to 10psig. Also used to supply high pressure burners for applications like industrial furnaces or boilers. All models have a capacity of 2,500,000 btu per hour at 20psig inlet pressure.



PART #	INLET	OUTLET	RANGE
LV4403SR9	Female POL	½" FPT	1-5psig
LV4403TR9	Female POL	½" FPT	5-10psig
LV4403SR96	Female POL	¾" FPT	1-5psig
LV4403TR96	Female POL	¾" FPT	5-10psig

Compact High Pressure First Stage

Ideal for small and medium size domestic LP-Gas installations requiring no more than 1,500,000btu. These regulators are factory set to reduce tank pressure to an intermediate pressure of approximately 10 psig. The compact, sturdy design incorporates many of the quality features found in larger domestic regulators.



PART #	INLET	OUTLET
LV3403TR	¼" FPT	½" FPT
LV3403TRV9	¼" FPT	½" FPT

Second Stage for 2psig

Designed to reduce first stage pressure of 10psig down to 2psig. Systems that utilize this regulator use smaller than normal piping inside of the building. A special final stage regulator, not the appliance regulator, is required to reduce the intermediate 2psig pressure down to 11" w.c.



PART #	INLET	OUTLET	BTU
LV4403Y4VI	½"	½"	1,000,000
LV4403Y46R	½"	¾"	1,000,000
LV5503Y6	¾"	¾"	2,200,000
LV5503Y8	¾"	1"	2,200,000



High Capacity Second Stage Regulators

Large capacity second stage regulators designed to reduce first stage regulator pressure of 5 to 20psig down to burner pressure, normally 11" w.c. Ideal for normal domestic loads, commercial installations and multiple cylinder installations.

PART #	INLET	OUTLET	BTU	RANGE
LV5503B4	1/2" FPT	3/4" FPT	1,600,000	9-13" wc
LV5503B6	3/4" FPT	3/4" FPT	1,600,000	9-13" wc
LV5503B8	3/4" FPT	1" FPT	2,300,000	9-13" wc



Low Pressure Second Stage

Designed to reduce first stage regulator pressure of 5 to 20psig down to burner pressure, normally 11" w.c. Ideal for normal domestic loads, commercial installations and multiple cylinder installations.



PART #	INLET	OUTLET	BTU
LV4403B4	1/2" FPT	1/2" FPT	935,000
LV4403B46	1/2" FPT	3/4" FPT	935,000
LV4403B46R	1/2" FPT	3/4" FPT	935,000
LV4403B66	3/4" FPT	3/4" FPT	935,000
LV4403B66R	3/4" FPT	3/4" FPT	935,000

Backmount Design ("R" suffix)
Mounts directly to house line piping. Eliminates need for union joints, elbows and mounting brackets. Quick and easy to install.



Twin Changeover

These regulators are most suitable for mobile homes, homes, cottages, construction and other portable two cylinder installations. Empty containers can be replaced without interrupting customer's gas service.

Features:

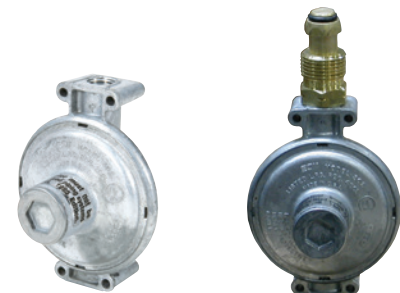
- Change over knob and indicator are integral to the first stage
- Incorporates wide bonnet drip lip vent to guard against freeze-up when properly installed
- Automatic changeover switches from "service" to "reserve" cylinder automatically without interrupting service



PART #	INLET	OUTLET	BRACKET	BTU/HR.
7525B34	1/4" Inverted Flare	1/2" F. NPT	2302-31	400,000
7525B4	1/4" Inverted Flare	1/2" F. NPT	2503-22	450,000

RegO Compact Regulator

This small single stage regulator is designed for smaller outdoor grills and fish cookers. It is intended for use on small portable appliances that use 125,000btu or less. It may not be used on fixed pipe systems.



PART #	INLET	OUTLET
302V9LS	POL	3/8" F. NPT
302V9	1/4"	3/8"

2 PSI Twin Stage Regulator

Special 2psi delivery pressure twin stage regulator is designed to reduce container pressure down to 2psi. A line pressure regulator is required downstream to reduce the 2psi to a nominal 11" wc.

Features:

- Incorporates integral relief valve in the 2psi stage portion of the regulator
- Designed to pass not more than 5psi with the seat disc removed
- Large vent helps prevent blockage and has 3/4"ft for vent piping
- Select blue finish to designate 2psi



PART #	INLET	OUTLET	ORIFICE	PRESSURE	RANGE	CAPACITY
LV404Y9	F POL	1/2" FT	.219	2 PSI	1.8 - 2.5	800,000btu

High Pressure Adjustable

Designed to reduce container pressure down to between 3 and 100psig. Ideal for liquid or vapor service with tar pot heaters, fish cookers, salamander heaters and weed burner torches.

PART #	PIPE	RANGE	BTU
597FA	1/4"	1-15	1,750,000
597FB	1/4"	10-30	3,000,000
597FC	1/4"	20-45	3,500,000
597FD	1/4"	40-100	4,500,000



Large High Pressure Adjustable Regulators

Designed to reduce LP-Gas container pressures to between 3 and 125psig. Precision built with a multimillion BTU Capacity, the 1580 series is perfect for such big, tough jobs as crop dryers, asphalt mixing plants and other large commercial loads. It's also ideal as a first stage regulator in large multiple installations.

X Series are high temperature for atmospheric conditions up to 300° Relief Valve must be used in vapor systems.



PART #	PIPE	RANGE	BTU
1584VN	1/2" FPT	3-25	7,000,000
1584VL	1/2" FPT	20-50	10,000,000
1584VH	1/2" FPT	45-125	10,000,000
1586VN	3/4" FPT	3-30	7,500,000
1586VL	3/4" FPT	25-50	14,000,000
1586VH	3/4" FPT	45-125	14,000,000
1588VN	1" FPT	3-30	7,500,000
1588VL	1" FPT	25-50	14,000,000
1588VH	1" FPT	45-125	14,000,000
X1584VN	1/2" FPT	3-30	7,000,000
X1584VL	1/2" FPT	25-50	10,000,000

Vapor Relief Valves 3139 Series

Designed for use as a relief valve on first stage regulators that comply with the NFPA 58 5.8.1.9 High-pressure regulators with a rated capacity of more than 500,000 BTU/hr where permitted to be used in two-stage systems shall incorporate an integral pressure relief valve or shall have a separate relief valve.

Features:

Pop-action design keeps product loss to a minimum.

Suitable for use downstream of 597 & 1580 series regulators on vapor systems to comply with NFPA 58.

Full relief valve capacity when installed in a tee downstream from the regulator outlet.

Constructed of noncorrosive brass.

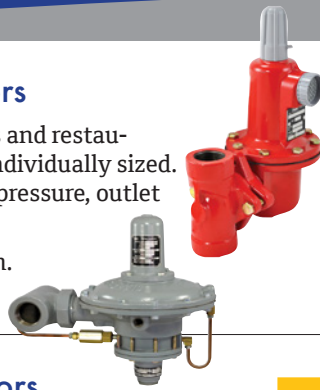


PART #	SET PRESSURE	CONNECTION SIZE
3139-18	18 PSIG	
3139-26	26 PSIG	1/4" M. NPT
3139-38	38 PSIG	

Commercial First Stage Regulators

For large loads like factories, office buildings and restaurants. All commercial regulators should be individually sized. Please tell us your maximum Btu load, inlet pressure, outlet pressure and preferred pipe size.

1805 relief valve should be used downstream.



PART #	PIPE	RANGE	BTU/HR
627R-653	1"	5 - 20psig	7,434,000*
630-104/78	2"	8 - 20psig	14,225,000*
99-513P	2"	2 - 10psig	36,225,000*
1805-19P	1"	10-60psig	Relief Valve

*Based on 20 psi inlet pressure and 20% droop

Commercial Second Stage Regulators

For large loads like factories, office buildings and restaurants. These large capacity regulators are for use in conjunction with 627 and 630 first stage regulators.

All commercial regulators should be individually sized. Please tell us your maximum Btu load, inlet pressure, outlet pressure and preferred pipe size.



PART #	PIPE	RANGE	BTU
HSRL-CFC	1"	9 -13" wc	2,600,000*
CS400IR-8EC6	1¼"	10 -14" wc	6,800,000*
CS400IR-8EC7	1½"	10 -14" wc	7,600,000*
CS400IR-8EC8	2"	6 -14" wc	7,600,000*
CS800IR-8CC8	2"	8 -12" wc	21,809,000*

*Based on 10 psi inlet pressure and 2" WC droop

Compact Second Stage Regulator

The LV3403B4 is designed to reduce first stage pressure of 5-20 PSIG down to burner pressure normally 11" w.c. Designed as a second stage regulator for smaller applications with flow requirements up to 450,000 BTU's/hr, they are ideal for homes, mobile homes, and cottages.



PART #	INLET & OUTLET	ORIFICE SIZE	FACTORY PRESSURE	VENT POSITION	ADJUSTMENT PRESSURE
LV3403B4	½"	¼"	11" at 10 PSIG	Inlet	—
LV3403B4V9	F.NPT	¼"	11" at 10 PSIG	9:00	9" to 13" w.c.
LV3403B44R Back Mount	½" x ½"	⅞ ₃₂ "	Inlet	Inlet	—
LV3403B46R Back Mount	½" x ¾"	⅞ ₃₂ "	Inlet	Inlet	—

Low Pressure Second Stage Right Angle

These regulators are designed to reduce the pressure from the first stage regulator down to appliance pressure of 11" wc.

Features

- 90° right angle inlet to outlet connection
- ¾" pipe thread inlet and outlet
- Built in pressure tap
- Full Capacity relief w ¾" FPT
- Available with mounting bracket "RAB" series
- RAB model shown with mounting bracket



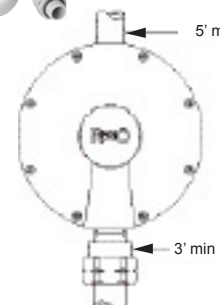
PART #	INLET	OUTLET	ORIFICE
LV4403B66RA	¾"	⅜"	1,000,000
LV4403B66RAB	¾"	⅜"	1,000,000

Right Angle Design ("RA" suffix)
90° degree right angle inlet to outlet connection for meter or standard installations.
(RAB includes mounting bracket)

Adjustable Flexible Vent Kit

This kit series is designed to assist in meeting the point of discharge requirements for regulators in NFPA 58; it does this by diverting the LP-Gas vapor away from sources of ignition, openings into direct vent appliances or mechanical air intakes.

PART #	TUBE LENGTH	End Connectors	BRACKETS
LV960-48	48" (4 feet)	2	3
LV960-72	72" (6 feet)	2	4
LV960-120	120" (10 feet)	2	5



Five foot minimum from relief discharge to a source of ignition or mechanical air intake.

The tubing is adjustable and can be cut as required.

Three foot minimum from relief discharge to any building opening.

RV Regulators

Twin Stage Regulator

This 2900 twin stage RV Regulator is commonly used as the main regulator in RV systems. The first stage features a new lever arm design that improves both the efficiency and regulation. Combined with the second stage regulator, the overall performance assures even smoother and more continuous flow of gas to all appliances.

GR-9950 - 225,000 btu

Auto Changeover Regulator

The MEGR-9984 automatic changeover regulator features a one piece body that is compact and streamlined. The sliding face plate indicator incorporates bright colors for easy status recognition. The changeover feature gives the users the benefit of a continuous gas supply by automatically changing to a reserve cylinder when the cylinder is empty. The MEGR-9984 is a two stage regulator and meets all the requirements for use on recreational vehicles.

GR-9984 - 262,500 btu



Maxitrol Regulators

The L series Maxitrol Regulators are pounds to inches regulators and are designed specifically for 2psig systems.

As optional accessories, the 325-3L and 325-5AL offer an automatic vent limiting device. The 12A09 or 12A39 vent limiter eliminates the need to run vent piping outside.

PART #	SIZE	MAX. BTU OF SINGLE	TOTAL BTU OF ALL
325-3L-W12A09	1/2"	140,000	250,000
325-5L-3/4-12A39	3/4"	425,000	600,000



Note: When using a vent limiting device, the regulator must be mounted in a horizontal upright position.



12A09 Vent limiter for 325-3AL
12A39 Vent limiter for 325-5AL

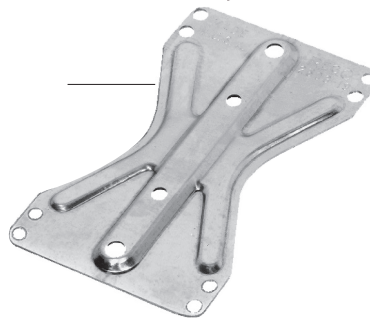


Maxitrol Outdoor Vent Protectors

Use on vent openings to protect breather holes from rain, snow, foreign particles and insects. **For outside use ONLY.**



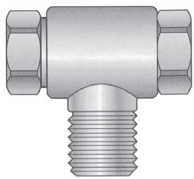
13A15 1/8" Vent Protector for 325-3/325-3L
13A15-5 3/8" Vent Protector for 325-3/325-3L



Regulator Bracket

The 2503-19 Bracket is constructed of aluminum and is for use with LV404, LV4403 and 2503 series regulators.

2503-19



Tee Check Manifold

For use in systems that require uninterrupted gas service during cylinder exchange.

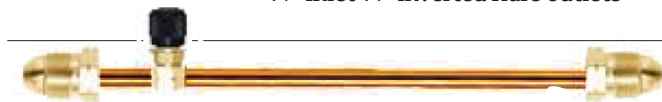
G-1700
 1/4" Inlet 1/4" inverted flare outlets



POL Manifold Tee

For use in manifolding multiple cylinders together.

1350E
 Male POL x Female POL



Prestotap Pigtail

PART #	SIZE	CONNECTIONS	LENGTH
PT912PS12	1/4"	M. POL x M. POL	—
PT912JS12	1/4"	M. POL x 1/4" MPT	12"
PT913PS12	3/8"	M. POL x M. POL	—
PT912PS20	1/4"	M. POL x M. POL	20"

Straight and 90° Adapter

Straight and 90° adapter, to adapt Pressure gauge and other device to Presto-tap adapter.

RV/QA Straight Adapter
RV/QA-90 90° Adapter



Pressure Test Kits

2434A (Low Pressure) This kit provides the necessary equipment for checking regulator delivery pressure at the appliances. The basic set contains:

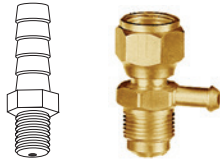
- low pressure gauge
- 3ft 3/16" OD flexible synthetic rubber tube.

42160 (Robinair Test Kit) Use this kit to measure Natural Gas or LP Gas pressure across appliance manifolds

- Test gas stoves, furnaces, dryers and other gas appliances
- Economical and accurate, easier to use than a manometer

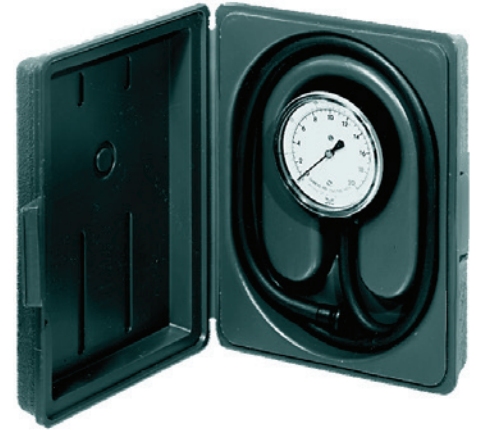
PART #	SIZE
BN151	1/8" NPTF x 3/16" Hose ID
BN21	1/8" NPTF x 1/4" Hose ID

Adapts 2434A hose to regulator test port.



PART #	SIZE
1328	3/8" flare
1331	1/2" flare
1332	5/8" flare

Adapts the 2434A gauge set for copper tubing lines.



Pressure Test Tool

Leak Test Kit requires installation of a 1/4" flare access valve into the pressure tap of the systems first stage regulator. Remove the pressure tap plug and install the access valve. Comes unassembled

LTK-1



High Pressure Gauge Adapter

Designed for testing high pressure lines. Adapter has 0 to 300psig gauge. A bleeder valve allows you to bleed down to correct pressure during pressure tests.

2962



Low Pressure Test Tee

30 PSI gauge with special tee that has 3/4" FPT on one side and an air fitting on the other.

GT30



Water Manometer Kit

The water manometer kit is especially suited for use with low pressure LP-Gas Systems. It is ideal for pressure checks downstream of the low pressure regulator and at the appliances.

1212KIT

Regulator Valve Pressure Taps

Model LDS 2000/RV Regulator Valve Pressure Taps. Designed to be installed into regulator pressure taps, into a tank pressure tap between the tank service valve and the regulator, or downstream from the second-stage regulator (appliance valve pressure tap or service-line tap or service line shut-off valve pressure tap) for reading purposes without breaking the system.

LDS2000/RVL Low Pressure

LDS2000/RV High Pressure

Ambient Pressure Gauge

PT30LP-B90 Presto-Tap 30 psi liquid glycerin filled ambient temperature gauge w/bleeder valve, and 90° quick adapter. Designed to be carried by drivers and service personnel with an included belt loop holster to perform NFPA leak testing and determining true out-of gas situations.

PT6800-B90 - Presto-Tap 300 psi liquid glycerin filled ambient temperature gauge w/bleeder valve with 90° quick connector and belt loop holster

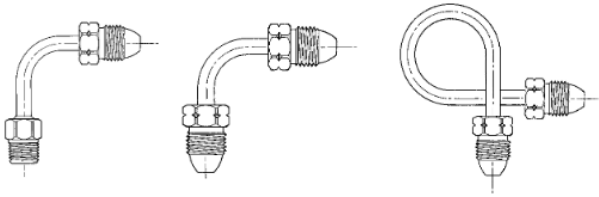


PT30LP-B90

Copper Pigtails

Pigtails are available in a variety of connections, sizes and styles. RegO Pigtails are high quality and dependable.

Note: RegO recommends a new pigtail be installed with every new and replaced regulator.



Bent Pigtails

PART #	LENGTH	DEGREE	CONNECTION
913JS05A	5"	90°	1/4" M. NPT X M. POL
913PS05A	5"	90°	
913PS12G	12"	270° Right Hand	M. POL X M. POL
913PS12H	12"	270° Left Hand	
913PS12S	12"	360°	



Straight Pigtails

CONNECTIONS	LENGTH	1/4" TUBE	3/8" TUBE
M. POL X M. POL	5"		913PS05
	12"	912PS12	913PS12
	20"	912PS20	913PS20
	30"	912PS30	913PS30
	36"	912PS36	913PS36
1/4" Inverted Flare X M. POL	12"	912FS12	
	20"	912FS20	
	30"	912FS30	
1/4" MPT X M. POL	5"		913JS05
	12"	912JS12	
	20"	912JS20	
	36"	912JS36	
1/2" M. NPT	12"		913LS12

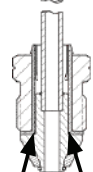
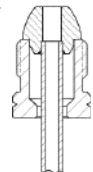
Electrically Isolated Pigtails

These Pigtails are designed specifically for use on underground LP-Gas Containers where dielectric isolation is necessary to protect the container.

Features:

- Electrically insulated POL connection
- Heavy duty construction
- Individually soldered connection to copper tubing

PART #	LENGTH	CONNECTIONS
D912P12	12"	M.POLxM.POL
D912P20	20"	M.POLxM.POL
D912P30	30"	M.POLxM.POL
D912J12	12"	1/4"M.NPTxM.POL
D912J20	20"	1/4"M.NPTxM.POL
D912J30	30"	1/4"M.NPTxM.POL
D913P12	12"	M.POLxM.POL



Electrically Insulated Connection

Rubber Hose Pigtails

These pigtails are used to connect two cylinders to a common regulator or tee manifold. They have an excess flow POL inlet and a 1/4" inverted flare outlet fitting.



Brass Fitting

240-36 - Female Inverted Flare x 1/4" Pipe

PART #	LENGTH
I4C15MI4POL	15"
I4C20MI4POL	20"
I4C30MI4POL	30"
I4C60MI4POL	60"
I4C72MI4POL	72"
I4C120MI4POL	120"
I4C240MI4POL	240"



QCC x 1/4" Inv Flare Pigtail

PART #	LENGTH
I4C15MI4QC	15"
I4C20MI4QC	20"
I4C30MI4QC	30"
I4C60MI4QC	60"

VALVES & FITTINGS



PT9102 PRESTOTAP Service Valves

Designed for vapor or liquid withdrawal service on DOT or ASME containers. Since none of these valves have an integral pressure relief valve, they may only be used as an accessory valve on containers that have an independent pressure relief valve sufficient for that container's capacity. They have a Multibonnet style with a 3/4" M.NGT container connection.



Part #	Fixed Vent	Service Connection	Approximate Filling Rate Liquid Flow, GPM			
			10 PSIG	25 PSIG	50 PSIG	100 PSIG
PT9102R1	No	F.POL CGA 510	7.6	11.7	15.2	20.6

Service Valves for ASME Tanks

Designed especially for vapor withdrawal service on ASME and DOT containers. None of these valves incorporate a pressure relief valve and must be used as an accessory valve on containers that have an independent pressure relief valve.



Part #	Style	Inlet	Outlet
9101R1	Multibonnet	3/4" mpt	POL

100# Cylinder Valve for Vapor Withdrawal

This heavy duty cylinder valve is designed for vapor withdrawal of 100# DOT Cylinders. It is used for domestic hookups and temporary installations. Valve has POL Outlet, 375psig relief valve and outage valve bleeder knob.



9103D10.6 100# Valve
9103-54 Cap for relief valve

100# Cylinder Multivalves

These multivalves permit vapor withdrawal from DOT cylinders with up to 200lbs propane capacity. They allow on-site cylinder filling without interrupting gas service. The Multibonnet® allows quick and easy repair of bonnet.

The 8555R is equipped with a fill valve, vapor service valve and fixed liquid level valve.

8555R11.6 3/4" Multivalve



OPD Cylinder Valves

Part #	Cylinder	Tube
V-21113	5# & 11#	3.0
V-21130	10#	3.6
V-21109	20#	4.0
V-21464L	20# w/ gauge	4.0
V20691	30#	4.7
OPD30-GAUGE	30# w/ gauge	4.7
V21110	40#	6.5



Cylinder Valve for RV and Small ASME Vapor Tanks

Designed especially for vapor withdrawal service on small ASME containers with surface area up to 23.8 sq ft. UL flow capacity is 645 SCFM/Air.

Valve has Female POL Outlet and 312psi relief valve setting.

9106C0 RV Valve

Service Valves for ASME Motor Fuel Containers

Designed specifically for vapor or liquid withdrawal on ASME Motor Fuel Containers. The integral excess flow valve found in all these service valves helps prevent excessive product loss in the event of a fuel line rupture.



When installed for liquid withdrawal, the 9101H6 has provisions for attachment of a liquid withdrawal tube. All other valves must be installed in containers that have provisions for a separate withdrawal tube.

Part #	Container Connection	Service Connection	Liquid Withdrawal
9101H5	3/4" mpt	3/8" flare	NO
9101H6	3/4" mpt	3/8" flare	Yes-1/4"fpt
9101Y5H	3/4" mpt	60° 3/8" flare	NO

Service Valves for DOT Forklift Cylinder Containers

Designed specifically for vapor or liquid withdrawal on DOT Fork Lift Containers. The integral excess flow valve found in all these service valves helps prevent excessive product loss in the event of a fuel line rupture. When installed for liquid withdrawal, the 9101P6 has provisions for attachment of a liquid withdrawal tube. All other valves must be installed in containers that have provisions for a separate withdrawal tube. The valves with 1.5gpm closing flow are for use in small and medium fork lift trucks and the valves with 2.6gpm are for large fork trucks.

Part #	Container Connection	Service Connection	Liquid Withdrawal Connection	Liquid GPM
9101P5	3/4" mpt	3/8" mpt	NO	1.5
9101P5H	3/4" mpt	3/8" mpt	NO	2.6
9101P6	3/4" mpt	3/8" mpt	Yes-1/4"fpt	1.5
9101P6H	3/4" mpt	3/8" mpt	Yes-1/4"fpt	2.6



100# Cylinder Valve for Liquid Withdrawal

Equipped with excess flow valves and liquid withdrawal tube, this valve is designed for liquid withdrawal of DOT cylinders up to 100lbs propane capacity. They are most often used with heavy BTU loads found in industrial uses.

The 9107K8A has a 3/4" inlet connection and a CGA555 outlet connection. It is equipped with an 80% fixed liquid level that is controlled with a knurled knob. The 80% dip tube is 11.6" and the liquid withdrawal tube is 44" in length.

9107K8A 100# Cylinder Liquid Valve

IMPORTANT: 1/4" OD pigtails or POL connections for 1/4" OD pigtails should not be used with these valves. To insure proper functioning and maximum protection from excess flow valves, the cylinder valve should be fully opened and back-seated when in use.



DOT Multivalve for Liquid Withdrawal

These multivalves permit liquid withdrawal from DOT cylinders with up to 100lbs propane capacity. They eliminate unnecessary cylinder handling when servicing high volume loads and allow on-site filling into the vapor space of the container without interrupting gas service.

The 8555DL11.6 has a 3/4" Inlet and a CGA 555 Outlet with a 1 3/4" M. Acme filling connection. The fixed liquid level tube is 11.6" long and the liquid withdrawal tube is 44" long.

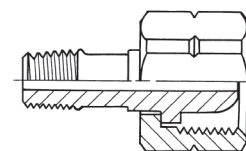
8555DL11.6 Liquid Multivalve



CGA555 Stem and Nut

The CGA 555 Stem and nut allow you to adapt the liquid cylinder valve outlet to 1/4" mpt.

Part #	12982	#72	#76
Description	Both Nut & Nipple	CGA555 Nut	CGA555 Nipple



DOT and ASME Multivalves for Vapor Withdrawal

These multivalves permit vapor withdrawal from ASME containers up to 50sq ft surface area and DOT containers up to 420 lbs propane capacity. They allow on-site cylinder filling without interrupting gas service. The multibonnet® allows quick and easy repair of bonnet.

The 6532R12.0 is equipped with a relief valve that is for use in containers up to 43sq ft surface area. It also has a fill valve, vapor service valve and a fixed liquid level gauge. It has ¾" mpt inlet threads.

The 6542R12.0 has 1"mpt and is equipped with a relief valve for use in containers up to 50sq ft surface area.

6532R12.0 ¾" Multivalve



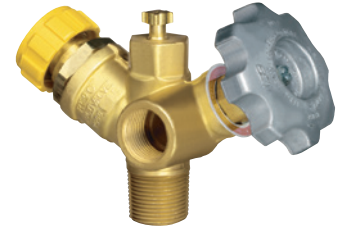
¾" Vapor Multivalve

These compact Multivalves are especially suited for vapor withdrawal of ASME Containers where compact groupings of components are necessary. Separate filler valves and pressure relief valves are required. The Multibonnet® allows quick and easy repair of the bonnet.

The 7556R12.0 has a ¾"mpt inlet and is equipped with a vapor service, vapor return, fixed liquid level and a 1/8" opening for a pressure test gauge.

7556R12.0 ¾" vapor multivalve

7556ZT12.0 ¾" vapor multivalve - Straight threads (not tapered)



PT7556 R Multivalve® with Prestotap

Especially suited for vapor withdrawal of ASME containers where compact groups of components are necessary. Separate filler valves and pressure relief valves are required. Knurled level vent valve style.



Part #	Container Connection	Service Connection	Vapor Equalization Connection		UL Listed Closing Flow	Tube Length
			Connection Size			
PT7556R12.0	¾"M. NGT	F.POL (CGA 510)	1¼"M. ACME		4200 CFH at 100 PSIG	12"

These MultiValves® have no integral pressure relief valves - they can be used on any ASME containers with an independent relief device sufficient for the tanks capacity.

Prestotap Multivalves

Designed for use in single opening ASME containers equipped with a 2½" M. NPT riser. They can be used with underground ASME containers up to 639 sq. ft. surface area, and above ground ASME containers up to 192 sq. ft. surface area. A separate opening is required for liquid withdrawal. The float gauge flange opening fits "Junior" size. It comes with a fixed liquid level vent valve and the dip tube length is 30".



Part #	Container Conn.	Service Conn.	Filling Conn.	Relief Valve Height	Vapor Equalizing Connection		Pressure Relief Valve				
					Size	UL Listed Closing Flow	Setting	Part Number	Flow Capacity		Rego Ready to Go
									UL	ASME	
PG8475RL	2½" F. NPT	F.POL (CGA 510)	1¾" M. ACME	6¾"	1¼" M ACME	4200 CFH @ 100 PSIG	250 PSIG	M3131G	2020 SCFM air	1939 SCFM air	Yes
*G8475RLW				8½"					MV3132G	3995 SCFM air	n/a



ASME Multivalves for Vapor Withdrawal

These multivalves provide vapor withdrawal and filling of ASME containers. A separate pressure relief valve is required in addition to this valve. The MultiBonnet® allows quick and easy repair of bonnet.

The 8593A series is equipped with 1½" inlet threads, and a fill valve, vapor return, vapor service, and a fixed liquid level gauge.

8593AL16.0 1½" Multivalve

2½" Multivalve

These multivalves are designed for single opening ASME Containers equipped with a 2½" mpt riser. They can be used with underground ASME containers up to 639 sq ft surface area and above ground ASME containers up to 192sq ft surface area. A separate opening is required for liquid withdrawal. The MultiBonnet® is standard on this valve and allows quick and easy repair of bonnet. The G8475RW is equipped with 2 ½" fpt inlet and a fill valve, vapor return valve, vapor service valve, relief valve, fixed liquid level and pressure gauge port.

G8475RW 2½" Multivalve



Liquid Transfer Angle Valves

Designed especially for liquid transfer of LP-Gas from consumer bulk storage containers when used with a Chek-Lok® or equipped with an integral excess flow valve. May also be used for vapor LP-Gas service.

These liquid transfer valves are equipped with an integral excess flow valve for liquid LP-Gas transfer directly from the tank fitting, or without an integral excess flow for LP-Gas transfer through a Chek-Lok®.

When equipped with an integral excess flow valve (7550PX), the valve should be mounted in a forged steel 3000 lb half coupling. When mounted in a 1¼" x ¾" reducing coupling, the ¾" female thread in the coupling must be full length—equivalent to a forged steel 3000lb half coupling.

Part #	Inlet	Outlet	Excess Flow
7551P	¾"	½"	NO
A7551P	¾"	½"	NO
7550P	¾"	¾"	NO
7550PX	¾"	¾"	YES
A7550P	¾"	¾"	NO
A7550PX	¾"	¾"	YES

Small Globe and Angle Valves

Designed to assure positive shut-off and long maintenance-free service life in liquid or vapor service. Ideally suited for use on cylinder filling, truck filling hoses, bulk storage containers and plant piping.

Part #	Valve Type	Size
7704P	Globe	½"
7704LP	Angle	½"
7705P	Globe	¾"
7706P	Angle	¾"



Chek-Lok® Valves

Designed with unique 1" NPS threads on both Chek-Lok® outlet and adapter inlet. This helps prevent activation of the Chek-Lok® without use of the 7590U-10 adapter. Extra strength connection between body and adapter provides increased strength. An o-ring seal on adapter provides a gas tight seal before the adapter opens the equalizer stem.

Part #	Inlet	Outlet	GPM
7590U	¾" MPT	1½"	20
7591U	1¼" MPT	UNF	35
8594-1A	Replacement	Gasket	
7590U-6	Replacement	O-ring	

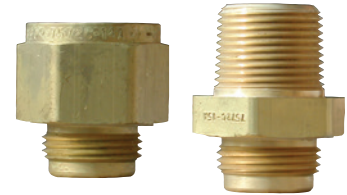


7590U-10 Adapter that must be used to connect to the 7590U and 7591U Chek-Lok®. This insures a proper connection to open the check mechanism. A built in nylon gasket provides a gas tight seal.

Chek-Lok® Adapters (old style)

These adapters must be used to connect to the obsolete 7572FC and 7580FC Chek-Loks® to properly open the check mechanism. A built-in nylon gasket provides a gas tight seal.

Part #	Inlet	Outlet
7572C-14A	¾"	¾" FPT
7572C-15A	MPT	¾" MPT

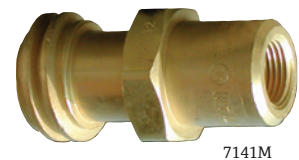


8594-1A Replacement Gasket
8594-2A Replacement Cap

Acme Check Connectors for Forklifts

These brass connectors are especially designed to join the container fuel line to the service valve on the lift truck cylinders. Sturdy, long lasting ACME threads allow quick, hand-tight assembly that provides for quick and easy cylinder replacement. Back checks automatically close when disconnected.

Part #	Use	Inlet	Outlet	Dust Cap	O-Ring	Washer
7141M	Valve	¾" FPT	1¼" Acme	7141M-40	7513-25	MSW-4
7141F	Hose	1¼" Acme	¼" FPT			



7141M



7141F

7141M threads directly to the service valve. An integral o-ring is designed to seal before the internal check opens, aiding in product loss prevention. A gasket at the ACME thread acts as a secondary seal when the connectors are tightened together.

7141F accepts fuel line adapter and couples directly to 7141M. The o-ring seal in the 7141M is designed to seal before the internal check opens to allow product to pass through the connection. The knurled coupling makes it easy to thread and tighten coupling.

7141FP Brass Cap for 7141M

Unloading Valves

Designed to provide an efficient means of evacuating an LP-Gas container for relocation or repair. They thread directly onto the 1¾" ACME Male connection of RegO Fill Valves.

The unloading adapter can be used to withdraw liquid provided the container is equipped with a dip tube extending from the fill valve to the bottom of tank.

3120 Angle valve
3119A Inline valve



This adapter is designed to provide an efficient means of evacuation of LP-Gas liquid from older containers (built before 1961) through a 1¾" ACME filler valve. It can also be used on new containers as a convenient and fast method to purge air from the container prior to filling.

3121 Angle valve

Small Double Check Filler Valves

RegO® Double-Check Filler Valves incorporate a resilient upper check valve, normally designated as a filler valve, and a lower check valve, commonly called a back pressure check valve. Available in a range of sizes to cover virtually all LP-Gas storage containers.

The double back check construction allows emergency inspection, repair, or replacement of the upper fill assembly without removing product from the container. When the upper filler valve body is removed, the lower back check provides a seal, permitting only some leakage, allowing a new upper filler valve body to be installed.



MSW-2 1 3/4" Acme Gasket
7647B-80 Repair Kit

Part #	Tank	Outlet
7647H	3/4"	1/2" fpt
7647DC	3/4"	1 3/4" Acme x F. Pol
7647SC	3/4"	1 3/4" Acme
V13414	3/4"	RV Stop Fill Valve

Large Double Check Filler Valves

Designed to provide fast filling of large motor fuel and ASME domestic tanks. The 6579 Series incorporates a swing-away lower check which greatly reduces pressure drop across the valve. The lower pressure drop promotes faster filling rates and greater efficiency resulting in more profitable operations.

*7579P incorporates 3/4" FPT dip pipe connection.

MSW-2 1 3/4" Acme Gasket
7579-80 Repair Kit

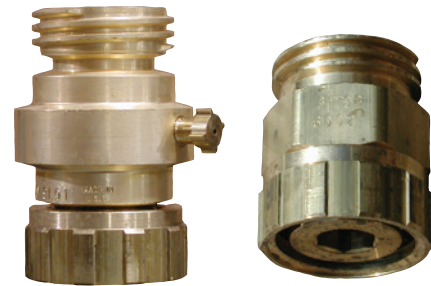


Part #	Tank	Outlet	Repair Kit
L7579	1 1/4"		
7579P	1 1/4"	1 3/4"	7579-80
7579S	1 1/2"	Acme	
6579	1 1/4"		

Fill Hose Adapters

These adapters are designed with minimal flow restriction and recommended for use on the outlet of the LP-Gas delivery truck hose. If the controlled bleed off of the connection indicates the filler valve has failed to close, the hose adapter should be left in place on the filler valve and disconnection should be made at the regular filler hose coupling. An integral check on these adapters help prevent further loss of product.

Part #	Vent Valve	Fill Connection	Hose Connection	Swivel
3179A	No	F. Acme	M. Acme	No
3179B	No	F. Acme	M. Acme	Yes
7577V	Yes	F. Acme	M. Acme	Yes



High Capacity Fill Hose Adapter

Rego's new hose end adapter has a wide easy to grip handle for use on the end of your bobtail delivery hose. Upper body is brass and lower body swivels. This easy to use adapter also includes a bleeder.

7576 57 GPM

Double Check Vapor Equalizing Valves for ASME and DOT Containers

7573D Vapor Return Valve

Designed to facilitate loading operations by providing equalization of pressures in the supply and storage containers. The supplementary excess flow valve closes when the flow from the container being filled exceeds a predetermined rate.

The 7573 Series is designed for use in bulk delivery systems and motor fuel containers. It has a 3/4" inlet and 1 1/4" Male Acme Connection.

7573A-81 Repair Kit for 7573A

MSW-3 1 1/4" Acme Gasket



Quick Acting Valves for Filling Hoses

7554S provides instant shut off and fast operating control on LP-Gas crop driers, charging manifold systems and other applications requiring quick, positive shut-off. They are not for delivery truck hoses because they are not locking and the handle could snag the ground and open the valve.

7554L valves feature a locking handle device to help prevent accidental opening of the valve.

Part #	Size	Locking Handle
7554SAV	1/2"	No
7554LAV	1/2"	Yes
7554SV	3/4"	No
7554LV	3/4"	Yes



Quick Acting Valve for Flomatic Valve

This valve controls the pump pressure to RegO Flomatic Valve which is used on Bobtails.

A7853A RegO Valve for Flomatic

A7853A-50 Repair Kit

A7853PAF RegO Pneumatic Actuator



Quick Acting Valves for Cylinder Charging Hoses

Designed primarily for use on cylinder charging hoses to provide fast, convenient shut-off and fast opening.

Part #	Inlet	Outlet	Locking Handle
7901T	1/4"	1/4"	N
7901TA	3/8"	3/8"	N
7901TB	1/2"	1/4"	N
7901TC	1/2"	1/2"	N
7901TLB	1/2"	1/4"	Y
7901TLC	1/2"	1/2"	Y



Quick Acting Minimum Loss Hose End Valves

Designed to vastly reduce the amount of product vented when disconnecting bobtail delivery trucks and dispensing systems. These valves provide instant, full on flow at the flip of a handle. Shut-off is instant and the handle locks for added protection. This top of the line hose end valve is a fully contained unit that does not require additional filling adapters or connectors.



Part #	Inlet	Outlet
A7797A	1"	ACME

A7797-75 Replacement Bonnet for A7797 series

A7797A-75 Replacement Bonnet for A7797A series

A7797-50 Repair Kit

Quick Acting Hose End

Designed especially for safe operator handling of LP-Gas in bobtail delivery truck and dispensing systems. These valves provide instant, full on flow at the flip of a handle and provide instant positive shut-off with a handle lock for added protection.



Part #	Inlet	Outlet
A7707L	1"	1"
A7708L	1"	1"
A7575L4	1"	1 3/4"

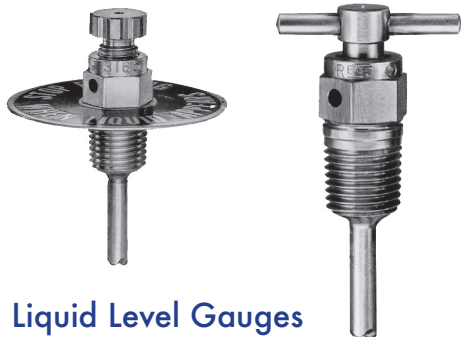
A7707-75 Replacement Bonnet Assy

Quick Jaw Valve

Jaws Open with Collar Pulled Up

Part #	Size
AL363	1"





Fixed Liquid Level Gauges

Especially designed to provide a visible warning when containers are filled to the maximum permitted filling level. At the start of the filling operation, with the vent valve opened, the valve discharges vapor. When the maximum permitted filling level is reached, the valve discharges liquid. These valves are equipped with a 12", 316" OD dip tube and incorporates a No. 54 drill size orifice.

3165CF12.0 Brass Liquid Level Gauge



Vent Valves

Especially designed to bleed off liquid or vapor pressures trapped in transfer lines. When installed in the 1/4" boss of globe and angle valves used on the end of a liquid transfer valve, the bleeder valve allows for the controlled venting of the product and indicates to the operator that the valve is closed and the coupling may be disconnected. They may also be used as a fixed liquid level gauge where the dip tube is part of the container.

3165C Brass valve with knurled knob

3162-6 Plug Only

TSS3169 Stainless Steel Valve with T-Handle

3165CP Brass Valve with Plate



Heavy Duty Globe Valves

Specifically designed to assure positive shut-off and long, maintenance free service life in liquid or vapor service on bulk plant storage containers, transports, bobtails, cylinder filling plants and plant piping. The high quality construction and unique "V"-Ring Stem Seal ensure trouble free operation. RegO globe and angle valves are designed for working pressures up to 400PSIG WOG.

Pipe Size	Globe Valve	Angle Valve	Repair Kit
3/4"	A7505AP	A7506AP	A7505-50
1"	A7507AP	A7508AP	A7507-50
1 1/4"	A7509BP	A7510BP	A7509-50
1 1/2"	A7511AP	A7512AP	A7511-50
2"	A7513AP	A7514AP	A7513-50
3"	A7517AP	A7518AP	A7515-50



Multipurpose Withdrawal Valve

Designed especially as a high capacity liquid withdrawal valve on LP-Gas Containers. These valves incorporate an integral excess flow valve. The valve must be completely open and backseated to allow the excess flow valve to function properly.

A8017DP withdrawal valve has 1 1/4" inlet threads, 1" outlet and a 3/4" plugged opening for hydrostat installation.

A8017DH incorporates an internal bypass seat disc assembly to bypass excessive pressure in the discharge line back into container.

Repair Kits

Valve #	Repair Kit
A7505AP	A7505-50
A7506AP	A7505-50
A7507AP	A7507-50
A7508AP	A7507-50
A7509BP	A7509-50
A7510BP	A7509-50
A7511AP	A7511-50
A7512AP	A7511-50
A7513AP	A7513-50
A7514AP	A7513-50
A7515BP	A7515-50
A7517AP	A7515-50
A7707L	A7707-50
A7708L	A7707-50
A7797	A7797-50
A8017DP	A8016B-50

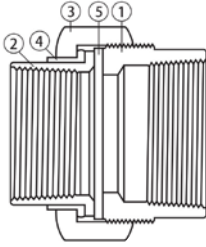


Multipurpose Filler Valve

Designed primarily for use as a Multipurpose valve with combination filler valve and manual shutoff valve for the outlet connection of the valve for use on LP-Gas containers.

This valve incorporates an integral excess flow valve, has a 1.25" inlet, 1" outlet, 3/4" plugged opening, and 1-3/4" acme fill valve.

8118P Multipurpose Filler Valve



Jomar Dielectric Union

Black Iron FIP x FIP • 250 PSI

- Prevents accelerated corrosion
- For use on black pipe
- -20°F to 180°F - Buna seats

Valve #	Size
701-403	1/2"
701-404	3/4"
701-405	1"

No.	Part	Material Specifications
1	Body	Steel - Black Finish
2	Tail Piece	Steel - Black Finish
3	Union Nut	Steel - Black Finish
4	Dielectric Ring	Nylon 66
5	Gasket*	Buna-N

*Teflon available if specified



Male Flare Mini Valves

Valve #	Size
101-602	3/8"
101-603	1/2"
101-604	5/8"



Female Pipe Mini Valves

These compact valves are perfect for use in plumbing systems. Also available with pressure tap.

Valve #	Size
101-401	1/4"
101-402	3/8"
101-403	1/2"
101-404	3/4"

with Pressure Tap

Valve #	Size
102-302	3/8"
102-303	1/2"
102-304	3/4"



Female Pipe Ball Valves

Stainless Steel

Valve #	Size
500-304	3/4"
500-305	1"
500-306	1 1/4"
500-307	1 1/2"
500-308	2"
500-310	3"

Carbon Steel

Valve #	Size
500-408	2"

899-918 Repair Kit For 500-308 and 500-408

899-920 Repair Kit For 500-310



Dielectric Union Valves

Valve #	Size
101-403DU	1/2"
101-404DU	3/4"



Jomar Ball Valves

These Full Port Ball Valves are durable and have a chrome plated ball with teflon seats. Rated at 600#WOG and are complete with operating lever.

Brass

Valve #	Size
100-701	1/4"
100-702	3/8"
100-703	1/2"
100-704	3/4"
100-705	1"
100-706	1 1/4"
100-707	1 1/2"
100-708	2"

Carbon Steel

Valve #	Size
100-971	1/4"
100-972	3/8"
100-973	1/2"
100-974	3/4"
100-975	1"
100-976	1 1/4"
100-977	1 1/2"
100-978	2"

4" Flanged Internal Valve

Designed primarily for LP-Gas and anhydrous ammonia service on MC331 transport pressure vessels and large stationary storage tanks. Installation is quick and easy, and it fits in most existing tank flanges. The valve may be actuated manually or pneumatically.

Use of the **A3219RT** Remote Thermal Release with this valve is suggested to provide a remote means of mechanical closure as required by DOT MC331.

A3219F600L 4" Internal Valve



Part #	Inlet	Outlet	Closing Flow-LP	Closing Flow-NH ₃	Pneumatic Actuator	Thermal Release
A3219FA600L	4"-300# ANSI RF Modified	4"-300# ANSI RF	600gpm	544gpm	A3219FPA	A3219RT

3" Flanged Internal Valve

Designed primarily for LP-Gas use on MC331 bobtail delivery trucks, transports and stationary storage tanks with flanged pumps. Installation is quick and easy, and the valve may be operated manually by cable or pneumatically.

Lever available on right or left side to allow for easy installation. Valve supplied with 16 nuts and 8 studs for mounting.

Part #	Flange Size	Operating Lever	Closing Flow-LP	Pneumatic Actuator
A3217AL260		Left Side		A3217FPA
A3217DAL260	3"-300#	Left Side	260gpm	A3217FLPA
A3217AR260		Right Side		A3217FPA
A3217DAR260		Right Side		A3217FLPA



REGO®



A6016



A6024

1 1/4" Swing Check ESV for Bulk Plants

Designed for the installation in liquid or vapor transfer lines at LP-Gas bulk plants to provide for quick and easy shut off of product flow in the event of an accidental pull-away, line break or hose rupture. Valve can be closed by remote cable or pneumatic actuator.

A6010 1 1/4" ESV Valve

2" and 3" Swing Check ESV for Bulk Plants

Designed for the installation in liquid or vapor transfer lines at LP-Gas bulk plants to provide for quick and easy shut off of product flow in the event of an accidental pull-away, line break or hose rupture. Valve can be closed by remote cable or pneumatic actuator.

A6016 2" ESV Valve

A6024 3" ESV Valve

6016-60C Pneumatic Cylinder

6016TFA Replacement Cable Plunger Assy

6016-60D Pneumatic Actuator Kit

6016RA Rotary Actuator

1 1/4" Threaded Internal Valve

Designed primarily for use with LP-Gas on small capacity pumping systems, these threaded internal valves are perfect for dispensers. The valve may be operated by hand, cable and pneumatically.

Part #	Inlet	Outlet	Closing Flow		LP-Gas Vapor Capacity (SCFH/Propane)		Accessories	
			LP-Gas	NH ₃	25 PSIG	100 PSIG	Latch	Actuator
A3209D050	1 1/4"	1 1/4"	50	45	13,300	22,900		
A3209D080	1 1/4"	1 1/4"	80	72	15,700	26,700	A3209TL	A3209PA



2" and 3" Threaded Internal Valves

Designed primarily for use with LP-Gas for liquid withdrawal, vapor transfer or equalization of stationary storage containers, bobtails and transport. The valve may be operated by hand, cable and pneumatically.

Part #	Inlet	Outlet	Closing Flow (Half Coupling)		Closing Flow (Full Coupling)		Accessories		
			LP-Gas	NH ₃	LP-Gas	NH ₃	Thermal Latch	Pneumatic Actuator	Rotary Actuator
A3212R105	2"	2"	105	95	65	59	A3213TL	A3213PA	A3212RA
A3212R250			250	225	130	117			
A3213D150	3"	3"	150	135	125	113			A3213RA
A3213D300			300	270	250	225			
A3213D400			400	360	325	293			



T Style 2" and 3" Threaded Internal Valve

Designed primarily for use with LP-Gas for liquid withdrawal, vapor transfer or equalization of stationary storage containers, bobtails and transport. The valve may be operated by hand, cable and pneumatically.

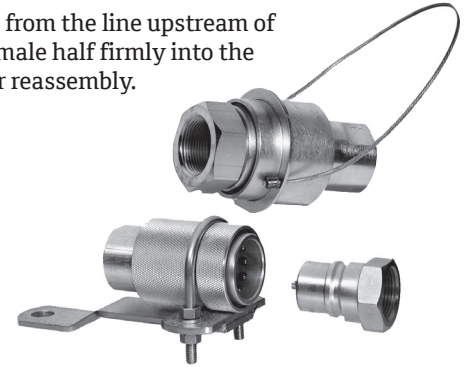
Part #	Inlet	Outlet	Closing Flow (Half Coupling)		Closing Flow (Full Coupling)		Accessories		
			LP-Gas	NH ₃	LP-Gas	NH ₃	Thermal Latch	Pneumatic Actuator	Rotary Actuator
A3212RT250	2"	T-body	250	225	130	117	A3213TL	A3213PA	A3212RA
A3213RD300	3"	3"	300	270	250	225			
A3213RD400			400	360	325	293			

Pull-Away Valves for Transfer Operations

Designed especially to provide pull-away protection for LP-Gas and ammonia transfer operations including transport delivery truck loading and unloading, engine filling and cylinder filling operations. When properly fastened to the inlet end of the discharge hose, the valve is designed to stop gas escape from both upstream and downstream lines in the event of a pull-away. An excessive tension pull causes the valve to automatically separate, closing two internal back pressure checks. Only a few cubic centimeters of gas escape at the instant of separation.

It is recommended that a convenient means be provided to safely remove the pressure from the line upstream of each coupling half to enable reassembly of the valve. To reassemble, simply push the male half firmly into the female half until the retaining balls slip into the retaining groove. Check for leaks after reassembly.

Part #	Inlet/Outlet	Disconnect Force	Valve Length	5 psig	10 psig	25 psig	50 psig
A2141A6	¾"	130 lbs	3⅞"	11	16	25	36
A2141A8	1"	75 lbs	4⅞"	21	30	47	67
A2141A10	1¼"	160 lbs	5⅝"	52	75	120	170
A2141A16	2"	300 lbs	14⅜"	250	350	550	750



Back Pressure Valves

Designed to provide protection of a container opening when desired flow is always into the vessel. May be used in line applications where flow must be limited to one direction.

When used with the appropriate single check filler valve, the combination forms a double check filler valve suitable for use in filling of bulk storage tanks.



* Soft Seat

Part #	Material	Inlet	Outlet
3146S*	Brass	¾"	¾"
A3146	Steel	¾"	¾"
3176	Brass	1¼"	1¼"
A3176	Steel	1¼"	1¼"
A3186	Steel	2"	2"
A3196	Steel	3"	3"

Swing-Away Back Pressure Check Valves

Designed to provide protection of a container opening when desired flow is always into the vessel. May also be used in the line applications where flow must be limited to one direction. The swing-away check valve offers more efficient flow rates than conventional designs. It swivels vertically to reduce pressure drop across the valve and improve flow rates.

- 6586D** 2" Brass Swing Check Valve
- A6586D** 2" Steel Swing Check Valve



Heavy Duty Swing Check with Flow Indicator

The back check valve is designed to provide required back flow protection for the unloading riser in the bulk plant's transfer area. It is designed specifically for pipeline installation and is suitable for LP-Gas and Anhydrous Ammonia service. Product flow moves the swing check to the open position, when flow stops the spring loaded swing check closes.

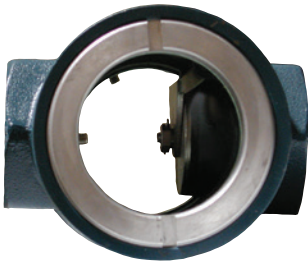
- A7616** 2" Flow Indicator
- A7624** 3" Flow Indicator

Features:

- Easy to read flow indicator
- Resilient synthetic rubber seat disc
- High flow rates with low pressure drop
- ¼" F-NPT plugged boss on top of body
- Heavy duty spring loaded swing check design
- Can be installed either horizontally or vertically

Large flow indicator mounted on the valve shows the position of the swing check.





Rego Flo-Check Indicator

Designed to promote maximum pumping efficiency, these indicators enable bulk plant operators to visually inspect liquid flow conditions. With glass on both sides of the indicator, flow can be observed from either side. The integral swing check also serves as a back check valve to prevent reverse flow and product loss if the loading hose fails.

- A7794** 2" Sight Flow Indicator
- A7796** 3" Sight Flow Indicator



Squibb Flow Indicator

This flow indicator uses a flapper assembly that installs in either a 2" or 3" tee in the loading system. It allows the operator to detect flow of product in the system. It does not incorporate a back check.

- 5520-2** 2" Flow Indicator
- 5520-3** 3" Flow Indicator



Excess Flow Valves for Container Service

Designed for mounting in threaded full or half couplings in container installations. They may be used for filling, withdrawal or vapor equalizing applications. The exceptionally low pressure drop makes them ideal for pump suction lines.



Part #	Coupling	Inlet	Outlet	GPM
A7537N4	Half	2"	2mx1¼f	125
A7537P4	Half	2"	2mx1¼f	150
A7537P4F	Full	2"	2mx1¼f	150
A7539T6F	Full	3"	3mx2f	200
A7539V6	Half	3"	3mx2f	250
A7539V6F	Full	3"	3mx2f	250

Excess Flow Valves (Liquid or Vapor)

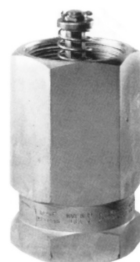
Designed for liquid or vapor use for filling, withdrawal and vapor equalizing in container or line applications. They are intended for long lines or branch piping where tank mounted excess flow valves are inadequate.



Part #	Material	Inlet	Outlet	GPM
3272F	Brass	¾"	¾"	14
3272G	Brass	¾"	¾"	20
A3272G	Steel	¾"	¾"	20
3282C	Brass	1¼"	1¼"	50
A3282C	Steel	1¼"	1¼"	50
3292B	Brass	2"	2"	100
A3292C	Steel	2"	2"	122

Excess Flow (Vapor or Liquid)

Designed especially for filling, withdrawing or vapor equalizing in half and full coupling installations. Ideal for container service when welded-in dip pipes are not provided.



Part #	Inlet	Outlet	GPM
A2137A	2"	2mx1¼f	70
2139A	3"	3mx2f	160

External Relief Valves for ASME Containers and Bulk Plants

Designed for use as a primary relief valve on ASME above ground and underground containers, bulk plant installations and skid tanks. The 3131 Series may also be used as a primary or secondary relief valve on DOT cylinders. All working components of these valves are outside the container connection, so the valves must be protected from physical damage.

Part #	Container Connection	UL Capacity SCFM/Air	ASME Capacity	Tank Size Square Ft.	Cap Part Number	Pipeaway Part No.
3131G	¾" MPT	2060	1939	84	8684-40	-
W3132G	1" MPT	3340	-	154	3132-54	3132-10
3132G	1¼" MPT	4130	-	200	3132-54	3132-10
3135G	1¼" MPT	5770	-	190	3135-54	3135-10
3133G	1½" MPT	6080	-	320	3133-40	3133-10
A3149MG	2½" MPT	10390	9153	613	3149-40	Included



External Hydrostatic Relief Valves

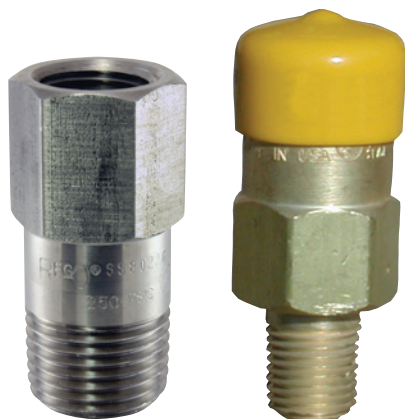
Designed especially for the protection of piping and shut-off valves where there is a possibility of trapping liquid LP-Gas in the piping. They may be installed in pipelines and hoses located between shut-off valves or in the side boss of RegO shut off valves.



Part#	Discharge Pressure	Pipe Size	Cap Part#	Pipeaway Part#
3127L	400	¼"	7545-40	-
3127U	450	¼"	7545-40	-
3129K	375	½"	3129-40P	3129-10
3129L	400	½"	3129-40P	3129-10
3129U	450	½"	3129-40P	3129-10
SS8022U	450	½"	3129-40P	Included
3129G	250	½"	7545-40	3129-10

Hydrostatic Relief Valves

Designed especially for the protection of piping and shut off valves where there is a possibility of trapping liquid LP-Gas between two shut off valves. They may be installed in piping and hoses located between shut-off valves or in the boss of RegO shut-off valves. NFPA 58 states that hydrostatic relief valves must be set at 400-500psig.



Part #	Pipe Size	Discharge Pressure	Body Material	Cap Part No.
SS8001G	¼"	250	Stainless	-
SS8021G	½"	250	Stainless	-
SS8022G	½"	250	Stainless	-
SS8001J	¼"	350	Stainless	-
SS8021J	½"	350	Stainless	-
SS8022J	½"	350	Stainless	-
3125L	¼"	400	Brass	7545-40
3127L	¼"	400	Brass	7545-40
3129L	½"	400	Brass	7545-40
SS8001L	¼"	400	Stainless	-
SS8002L	½"	400	Stainless	-
SS8021L	½"	400	Stainless	-
SS8022L	½"	400	Stainless	-
3127U	¼"	450	Brass	7545-40
3129U	½"	450	Brass	7545-40
SS8001U	¼"	450	Stainless	-
SS8021U	½"	450	Stainless	-
SS8022U	½"	450	Stainless	-



Semi-Internal "Pop-Action" Pressure Relief Valves for ASME Containers

Designed for use as a primary relief valve on ASME containers such as 250, 500 and 1,000 gallon tanks. Underwriters' Laboratories lists container systems on which these types of valves are mounted outside the hood without additional protection, if mounted near the hood and fitted with a protective cap.

Part #	Inlet Size	Discharge Pressure	UL Capacity	ASME SCFM Air	Flow Capacity	Surface Part No.
7583G	¾"	250	1980	1806	80	7583-40X
8684G	1"	250	2620	2565	113	8684-40
8685G	1¼"	250	4385	4035	212	7585-40X



Semi-Internal "Pop-Action" Pressure Relief Valves for Large Storage Containers

7534G 2" Internal Relief Valve

Designed especially for use as a primary relief valve on large stationary storage tanks. They have a start to discharge pressure of 250PSIG and are suitable for tanks with a surface area of 708 sq ft. The UL Flow Capacity is 11,675SCFM/Air and the ASME rated capacity is 10,422 SCFM/Air.

Accessories:
7534-20 Pipeaway Adapter
7534-40X Protective Cap
3X84N-AL 7ft. Relief Stack
AN10 Rain Flapper Cover



Fully Internal Relief Valve for DOT Fork Lift Cylinder

8545AK ¾" Fork Lift Relief Valve

11557-19 Relief Valve Plug
VTC-1062-8 Relief Valve Cap

Designed specifically for use as a primary relief valve on forklift cylinders, the 8545AK reduces the possibility of improper functioning of the relief mechanism due to foreign material build up. The 8545AK is set at 375PSIG and has a ¾"mpt connection.

Accessories:
7545-14 45° Elbow
7545-12 90° Elbow
7545-40 Protective Cap for 45° and 90° Elbow

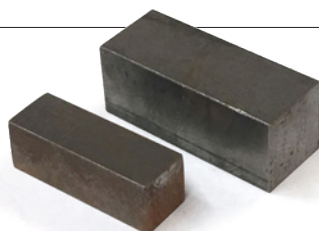
All forklift container relief valves shall have the relief valve replaced by a new valve within 12 years of the date of manufacturer and each 10 years thereafter.



Internal "Pop-Action" Relief Valves for Transports and Delivery Trucks

Designed specifically for use as a primary relief valve in ASME transports and delivery truck with 2" and 3" couplings. All stainless steel construction.

Part #	Inlet Size	Discharge Pressure	UL Flow Capacity	ASME Capacity	Surface Area	Cap Part No.
A8434N	2"	265	3700SCFM	3659SCFM	175 sq.ft.	A8434-11
A8434G	2"	250	3700SCFM	3456SCFM	175 sq.ft.	A8434-11
A8436N	3"	265	10210SCF	9839SCFM	602 sq.ft.	A8436-11
A8436G	3"	250	10210SCF	9598SCFM	602 sq.ft.	A8436-11



Relief Valve Removal Tool

A8434-40 2"
A8436-40 3"



Motor Fuel Internal "Pop-Action" Relief Valves for Motor Fuel

8543 Series relief valves are designed for use as a primary relief valve in larger ASME motor fuel containers such as on buses, trucks and construction equipment.

8544 Series relief valves are designed for use as primary relief valves in smaller DOT motor fuel containers such as tractors, lift trucks and cars.

Part#	Inlet Size	Discharge Pressure	Capacity UL SCFM	ASME Capacity	Container Type	Pipeaway Adapter	Cap Number
8544G	1"	250	1020	936	ASME	7544-11A	7544-41
8543G	1¼"	250	1465	1400	ASME	7543-10	
8544T	1"	312	1282	1158	ASME	7544-11A	7544-41
8544K	1"	375	1545	-	DOT	7544-11A	7544-41

DuoPort Relief Valve Manifolds for Small Storage Containers

Designed especially for use as a primary relief device on smaller stationary containers, with 2" NPT threaded couplings. These manifolds allow servicing or replacement of either of the two relief valves without evacuating the container or loss of service. The operating lever selectively closes off the entrance port to the relief valve being removed while the remaining valve provides protection for the container and its contents. The rating of each manifold is based on actual flow through the manifold and a single pressure relief valve, taking friction loss into account. It is not merely the rating of the relief valve alone.





Part#	Discharge Pressure	Application	Container Connection	Relief Valve	Pipeaway Adapter	UL Capacity
8542G	250	Propane	2"	3135G	3135-10	5250SCFM

Multiport® Pressure Relief Manifolds for Large Storage Containers

Designed especially for use as a primary relief device on large stationary pressurized storage containers with flanged openings. These manifolds incorporate an additional relief valve, not included in the flow rating, allowing for servicing or replacement of any one of the relief valves without evacuating the container. The handwheel on the manifold selectively closes off the entrance port to the relief valve while the remaining relief valves provide protection for the container and its contents.

All manifold flow ratings are based on flow through the relief valves after one has been removed for service or replacement.

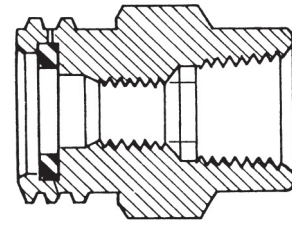
Part#	Relief Setting	Application	Container Flange Size	Relief Valve	ASME Capacity	UL Capacity
A8563G	250	LP & NH3	3"-300#	3	16,292	18,500
A8564G	250		3"-300#	4	24,438	27,750
A8573G	250		4"-300#	3	16,292	18,500
A8574G	250		4"-300#	4	24,438	27,750

Manifold Series	Flange Size	Flange Drilling	Port Diameter	Flange Gasket
A8563G	Modified 3" 300# (4" Port Dia)	 (8) 7/8" Bolt Holes on a 6 5/8" Bolt Circle Diameter Flat Faced.	4"	3" 7564-48
A8574G	4" ASA 300#	 (8) 7/8" Bolt Holes on a 7 7/8" Bolt Circle Diameter 1/16" Raised Faced	4"	4" 7565-48



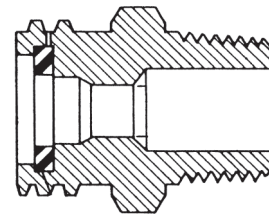
Male Acme x Female Pipe Thread

Part #	Material	A M Acme	B F NPT	C Hex	D OAL	E Dia
5764A	Brass	1 ³ / ₄ "	1/4"	1 ³ / ₄ "	1 ¹ / ₄ "	3/4"
5764B	Brass	1 ³ / ₄ "	3/8"	1 ³ / ₄ "	1 ⁷ / ₈ "	3/4"
5764C	Brass	1 ³ / ₄ "	1/2"	1 ³ / ₄ "	1 ⁷ / ₈ "	3/4"
5764D	Brass	1 ³ / ₄ "	3/4"	1 ³ / ₄ "	1 ⁷ / ₈ "	3/4"
5764E	Brass	1 ³ / ₄ "	1"	1 ³ / ₄ "	1 ⁷ / ₈ "	3/4"
5768H	Brass	3 ¹ / ₄ "	2"	3 ¹ / ₂ "	3 ⁵ / ₈ "	2 ¹ / ₈ "
A5768H	Steel	3 ¹ / ₄ "	2"	3 ¹ / ₄ "	3 ¹ / ₄ "	1 ¹³ / ₁₆ "



Male Acme x Male Pipe Thread

Part #	Material	A M Acme	B M NPT	C Hex	D OAL	E Dia
5763D	Brass	1 ¹ / ₄ "	3/4"	1 ¹ / ₄ "	1 ³ / ₄ "	1/2"
5765D	Brass	1 ³ / ₄ "	3/4"	1 ³ / ₄ "	1 ²³ / ₃₂ "	2 ⁹ / ₃₂ "
5765E	Brass	1 ³ / ₄ "	1"	1 ³ / ₄ "	2 ³ / ₃₂ "	2 ⁹ / ₃₂ "
5765F	Brass	1 ³ / ₄ "	1 ¹ / ₄ "	1 ³ / ₄ "	2 ¹ / ₈ "	2 ⁹ / ₃₂ "
5769H	Brass	3 ¹ / ₄ "	2"	3 ³ / ₈ "	2 ⁷ / ₈ "	1 ⁷ / ₈ "
A5769H	Steel	3 ¹ / ₄ "	2"	2 ⁷ / ₈ "	1 ⁷ / ₈ "	1 ⁷ / ₈ "
5769K	Brass	3 ¹ / ₄ "	3"	3 ¹ / ₂ "	3 ⁵ / ₈ "	2 ¹ / ₈ "
A5769K	Steel	3 ¹ / ₄ "	3"	4"	3 ¹³ / ₁₆ "	1 ¹⁵ / ₁₆ "
5769HVB*	Brass	3 ¹ / ₄ "	2"	2 ⁷ / ₈ "	1 ⁷ / ₈ "	1 ⁷ / ₈ "

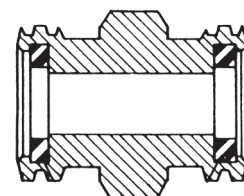


5769HVB*

* includes bleeder

Male Acme x Male Acme

Part #	Material	A M Acme	B F NPT	C Hex	D OAL
5765M	Brass	1 ³ / ₄ "	1 ³ / ₄ "	2 ¹ / ₁₆ "	7/8"
5767M	Brass	2 ¹ / ₄ "	2 ¹ / ₄ "	2 ⁵ / ₁₆ "	1 ²⁵ / ₆₄ "
5769M	Brass	3 ¹ / ₄ "	3 ¹ / ₄ "	2 ³ / ₄ "	2 ¹ / ₈ "

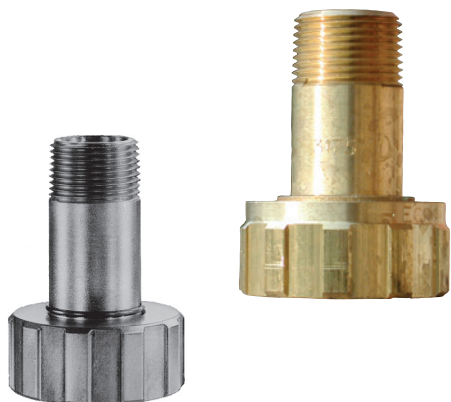


Spanner Wrench for Acme Connectors

This aluminum spanner wrench is especially designed for use with 2¹/₄" and 3¹/₄" ACME couplings, adapters and caps.

3195-50 Spanner Wrench
JWRENCH Acme Wrench





Fill Couplings

Part #	Material	Pipe Size	Acme Size	Length
3175B	Brass	1/2"	1 3/4"	2 7/8"
3175	Brass	3/4"	1 3/4"	2 7/8"
3175A	Brass	1"	1 3/4"	2 7/8"
3185	Brass	1 1/4"	2 1/4"	3 5/8"
3195	Brass	2"	3 1/4"	3 5/8"
A3175	Steel	3/4"	1 3/4"	2 7/8"
A3175A	Steel	1"	1 3/4"	2 7/8"
A3185	Steel	1 1/4"	2 1/4"	3 5/8"
A3195	Steel	2"	3 1/4"	3 5/8"

Vapor Return Couplings

Part #	Material	Pipe Size	Acme Size	Length
3171	Brass	3/8"	1 1/4"	2 1/16"
3171A	Brass	1/2"	1 1/4"	2 1/16"
3181	Brass	3/4"	1 3/4"	3 1/4"
3181A	Brass	1"	1 3/4"	3 1/4"



Long Style Couplings

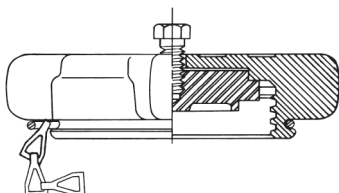
Designed especially for liquid filling and vapor equalization of LP-Gas. The limited travel of the handle on the tailpiece minimizes spin off. The ACME threads are machined on a rugged steel insert which is permanently cast in the aluminum handle, providing for durability under repeated use.

Part #	Type of Service	Pipe Size	Acme Size	Length
A7571LA	Vapor	1/2"	1 1/4"	7"
A7575L3	Liquid	3/4"	1 3/4"	7"
A7575L4	Liquid	1"	1 3/4"	7"



Acme Caps

1 1/4" and 1 3/4" Acme Caps are made from strong and durable Cicolac which is a special plastic material. Brass is also available. 2 1/4" and 3 1/4" Acme Caps are made from either brass or steel.



Part #	Material	Acme Size	Chain
3144-9P	Cicolac	1 1/4"	No
3144-91	Cicolac	1 1/4"	Yes
7141FP	Brass	1 1/4"	No
3174-9P	Cicolac	1 3/4"	No
3174-93	Cicolac	1 3/4"	Yes
3175P	Brass	1 3/4"	Yes
3184-90	Brass	2 1/4"	Yes
A3184-90	Steel	2 1/4"	Yes
ME106-1	Plastic	3 1/4"	Yes
3194-90	Brass	3 1/4"	Yes
A3194-90	Steel	3 1/4"	Yes
ST-1177C	Plastic	2 1/4"	Yes



Hose End Adapters for DOT Cylinder Filling

Designed to provide quick and easy filling of DOT Cylinders with POL or ACME Connections. The adapter may be used in conjunction with 7901TB Quick Acting Valves. These filling connections have an extended connection on the handwheel, which makes it possible to connect the loading hose to valves on cylinders with fixed collars.

7193D-10 Extended POL Connector with 1/4" MPT Inlet and stainless steel nipple with O-ring POL

7193U-10 Extended Type 1 5/16" Acme Connector with 1/4" MPT Inlet

110-70 Replacement POL O-Ring

Acme Plugs

Specifically designed to withstand the everyday abuse given hose end valves on delivery trucks and bulk plant hose end couplings. These rugged plugs protect the coupling tip as well as prevent the entrance of dirt, dust, snow and rain. The heavily ribbed outer surface permits hand-tight make-up. All nylon plugs have chains.

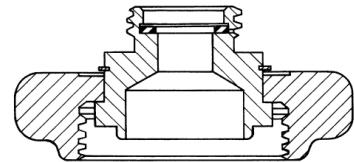


Part #	Material	Acme Size
C5763N	Nylon	1 1/4"
C5765N	Nylon	1 3/4"
5765PR	Brass	1 3/4"
C5767N	Nylon	2 1/4"
C5769N	Nylon	3 1/4"

Acme Reducer Coupling

These Acme reducer couplings have a 3/4" female acme and a 1 3/4" male acme. Commonly used on propane transport trucks.

5776 Brass Reducer Coupling
A5776 Steel Reducer Coupling



ACME Connector for DOT Cylinder Filling Adapter

The 7193T-10 is designed for use on the 7193D-10 Filling Adapter. Connector allows adapter to be used on the 1-5/16" M. Acme and Female POL connections of type 1 valves.

7193T-10 Female POL Inlet x 1 5/16" Female Acme Adapter



Hose End Adapter for Lift Truck Filling

The 7193L-10A is designed to provide quick and easy attachment of the filling hose to DOT cylinders equipped with RegO 7141M check connectors.

7193L-10A Extended Fork Lift Filling Adapter with 1/4" MPT and 1 1/4"



REGO POL Adapters



POL x 1/4" MPT

This POL hard nosed adapter has 1/4" MPT and is made of solid brass.

970 POL x 1/4" MPT



POL x 1/4" MPT with Excess Flow

This soft nosed POL with excess flow valve protects connected devices with a 1.10 gpm excess flow.

970AX Excess Flow POL



Soft Nose POL with Brass Handwheel

This soft nosed POL has 1/4" MPT and a brass handwheel for convenience in installing in POL Valve.

970AW Brass Handwheel POL



QCC Adapters

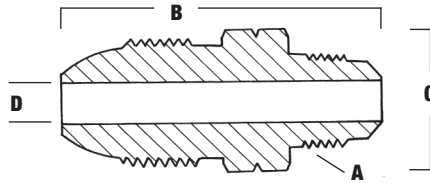
Type 1 - 15/16" ACME Coupling & Purging Adapter

New Type 1 - 15/16" ACME Female Connector with 1/4" MPT for adapting to new style cylinders.

G1851-A02 Black Adapter

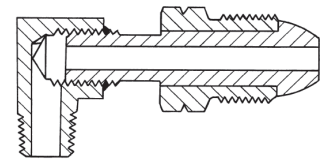
G1851-A03 Green HiFlow Adapter

ME519 Red HiFlow Adapter



Male POL x Male Flare Adapters

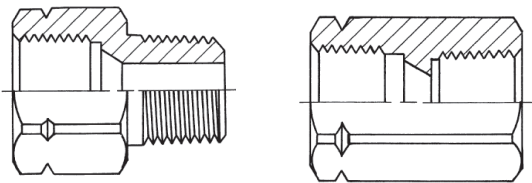
Part #	A Flare	B Length	C Hex	D Dia
2906D	3/8"	2 1/16"	15/16"	1 1/32"
2906F			7/8"	
2906E	1/2"	2 1/4"		9/32"
BG20I	5/8"	2 1/4"	2 1/4"	



Male POL Elbow Swivel Adapter

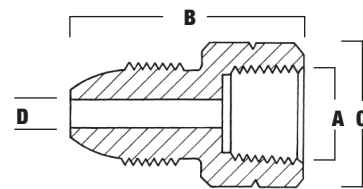
Male POL x 1/4" MPT 90° Elbow POL Commonly used on regulator inlet.

M345 1/4" MPT 90° POL



Female POL Adapters

Part #	Pipe Thread	B Length	C Hex	D Dia
5761A	1/4" mpt	1 5/8"	1 1/8"	3/16"
5761B	3/8" mpt			13/16"
5761C	1/2" mpt			7/16"
5761D	3/4" mpt			7/16"
5760A	1/4" fpt			13/32"
5760B	3/8" fpt			35/64"
5760C	1/2" fpt			43/64"
5760D	3/4" fpt	1 7/8"	1 3/8"	1 3/32"



POL x Female Pipe Adapters

Part #	A Flare	B Length	C Hex	D Dia
2906A	1/4" fpt	1 3/8"	15/16"	1/4"
2906G	1/2" fpt	2"	1 1/8"	1/4"



Acme Gaskets and O-Rings

These rubber gaskets and O-rings are used to seal Acme Fittings. Made of high quality Buna-N for sealing in all weather conditions.

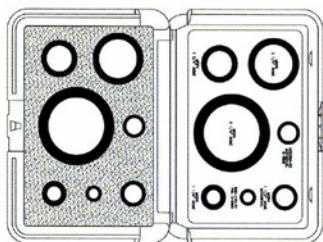
Acme Size	Part # O-Ring	List	Part # Gasket
1 1/4"	210SEL	32¢	MSW-3
1 3/4"	216SEL	52¢	MSW-2
Forklift	7513-25	\$1.68	MSW-4
2 1/4"	223SEL	64¢	MSW-5
3 1/4"	231SEL	98¢	MSW-6
3 1/4"	2-333B	53¢	N/A

Serviceman's Replacement Seal Kit

Provides a convenient storage system for all common gaskets and o-rings.

- Durable ABS plastic container with latch
- Preformed insert with individual labels
- Perfect for bobtails and dispenser cabinets

MEW1



Want More?

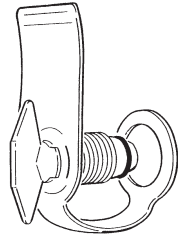
Visit us online at - www.fairbankequipment.com
Sign up for our digital Newsletter online or in store.



Snap-Fill Connector Cap

For use on forklifts and riding mowers, utilizing the new Snap-Fill valve.

033-473



POL Plugs

POL Plugs have plastic lanyards for attaching plugs to cylinder valve. They keep dirt and debris from contaminating the valve and accidental release of product.

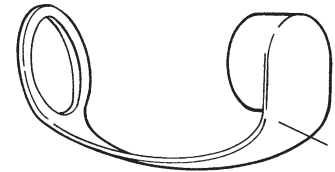
POL-PLUG-0



QCC Cap

This cap was designed to protect the valve threads from damage as well as protecting the inside of the valve from contamination by filling the void.

033-483 Blue
033-445 Black
033-443 Red



Acme Dust Cap

These rubber caps are used on Type 1 Cylinder Valves with 1 5/16" Acme to prevent dust and dirt. They are equipped with a strap to attach to cylinder valve.

3349-60 1 5/16" Acme Cap

Rotogauges for Stationary & Mobile LP-Gas Containers

Rotogauges are designed to provide accurate measurement of LP-Gas container contents. They may be end or side mounted in a 3/4" or 1" coupling on stationary or mobile containers.

To operate the Rotogauges, the vent valve is opened and the dip tube rotated slowly from the container vapor space to the liquid space. The difference in appearance of the discharge indicates when the liquid level is reached. Dial readings indicate the percentage of product in the container.

- 2072C60** 3/4" Rotogauge
- A9094RS** 1" Rego Rotogauge
- J31L-3/108** 1" Fisher Rotary Gauge



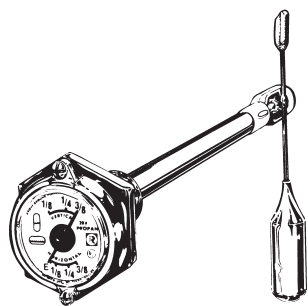
Part#	Tank Diameter	Case Quantity
EL4442	42"	1 Pc.
EL6046	46"	1 Pc.
EL6048	48"	1 Pc.
EL6056	56"	1 Pc.
EL6060	60"	1 Pc.
EL7266	66"	1 Pc.
EL7272	72"	1 Pc.
EL8474	74"	1 Pc.
EL8476	76"	1 Pc.
EL8479	79"	1 Pc.
EL8480	80"	1 Pc.
EL8481	81"	1 Pc.
EL8482	82"	1 Pc.
EL8484	84"	1 Pc.
EL8486	86"	1 Pc.
EL8487	87"	1 Pc.
EL9696	96"	1 Pc.

The Eliminator™

The Eliminator™ direct-reading float gauge is a direct replacement for 1" NPT rotary-type dip-tube gauges in LP-Gas and NH3 storage tanks.

These gauges are designed for larger tanks up to 96" in diameter. The Eliminator™ is not intended for use in filling tanks- its use is restricted to tanks with fixed liquid level gauges, used to determine when the maximum fill level has been reached.

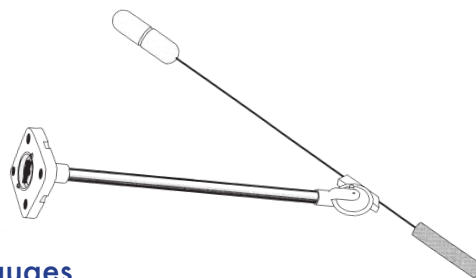




3/4" Threaded Gauge

This brass headed 3/4" float gauge is perfect for replacing those old rotary gauges and slip tubes in domestic tanks.

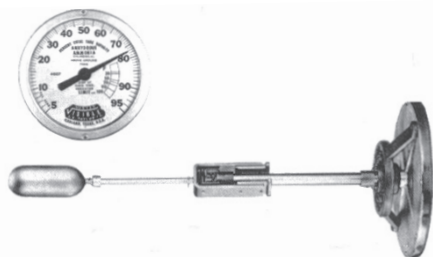
Tank Dia.	Part# Top Mount	Part# End Mount
24"	UA130A	B7384-1001
30"	UA160A	B7384-01035
36"	UA194A	B7384-1011
40"	UA210A	B7384-1019



Float Gauges

Tank Diameter	Junior Top Mount	1" Threaded	1 1/4" Threaded Top Mount
24"	JA124I	HA130A	TA130A
30"	JA154I	HA160A	TA160A
36"	JA192J	HA194A	TA194A
40"	JA206I	HA210A	TA210A

Tank Diameter	Senior Top Mount	Senior 45°	Senior End Center
24"	SA130A	SC130B	—
30"	SA160A	SC160A	SD100C
36"	SA194A	SC194D	SD120G
40"	SA214A	SC214C	SD140A



Squibb Master Float Gauges

Both the 4102A and 4102B float gauges feature a 10" hermetically sealed dial face. Standard gauges mount on side or end of tank.

4102A Standard construction gauge recommended for tanks up to 72" in diameter. Mounts directly to a **5305SQ** 2" four bolt adapter.

4102B Heavy duty gauge for any size storage tank. Mounts to a **5331SQ** 2½" eight bolt adapter with spirotallitic gasket.

Replacement Dials:

4102A for "A" series gauges

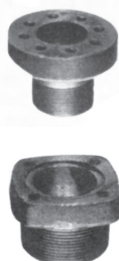
4102B for "B" series gauges

Replacement Adapters:

5305SQ 2" four bolt

5331SQ 2½" eight bolt

130040SQ: Replacement Spirotallitic Gasket



Marshall Excelsior Storage Tank Gauges



ME930-72



ME940-905

Part#	Type	Style	Dial Face	Dial Size	Tank Dia.
ME930-72	DOT	Std.	Glow/Blk	4"	72"
ME930-79	DOT	Std.	Glow/Blk	4"	79"
ME930-84	DOT	Std.	Glow/Blk	4"	84"
ME930C-72	DOT	Classic	Silver/Blk	4"	72"
ME930C-79	DOT	Classic	Silver/Blk	4"	79"
ME930C-84	DOT	Classic	Silver/Blk	4"	84"
ME940-108	ASME	Std.	Glow/Blk	8"	108"
ME940-130	ASME	Std.	Glow/Blk	8"	130"
ME940C-108	ASME	Classic	Silver/Blk	8"	108"
ME940C-130	ASME	Classic	Silver/Blk	8"	130"

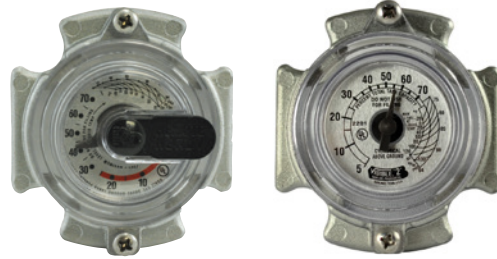
Accu-Max™ Limited Warranty: Marshall Excelsior warrants Accu-Max™ float gauges and repair kits to the original buyer to be free of defects in material and workmanship under normal service and use for two years from manufactured date.



Float Gauge Dials

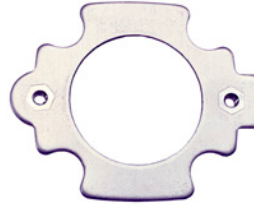
Part#	Dial Size
403594	Senior R3D
130082	Junior R3D
130037	Senior
130021	Junior

Dials come with 2 mounting screws.



Universal Dial Kit

Part#	Dial Size
130053	Senior R3D
130005	Junior
130010	Senior
7271731	Junior LP Dial Kit Tank Adapter



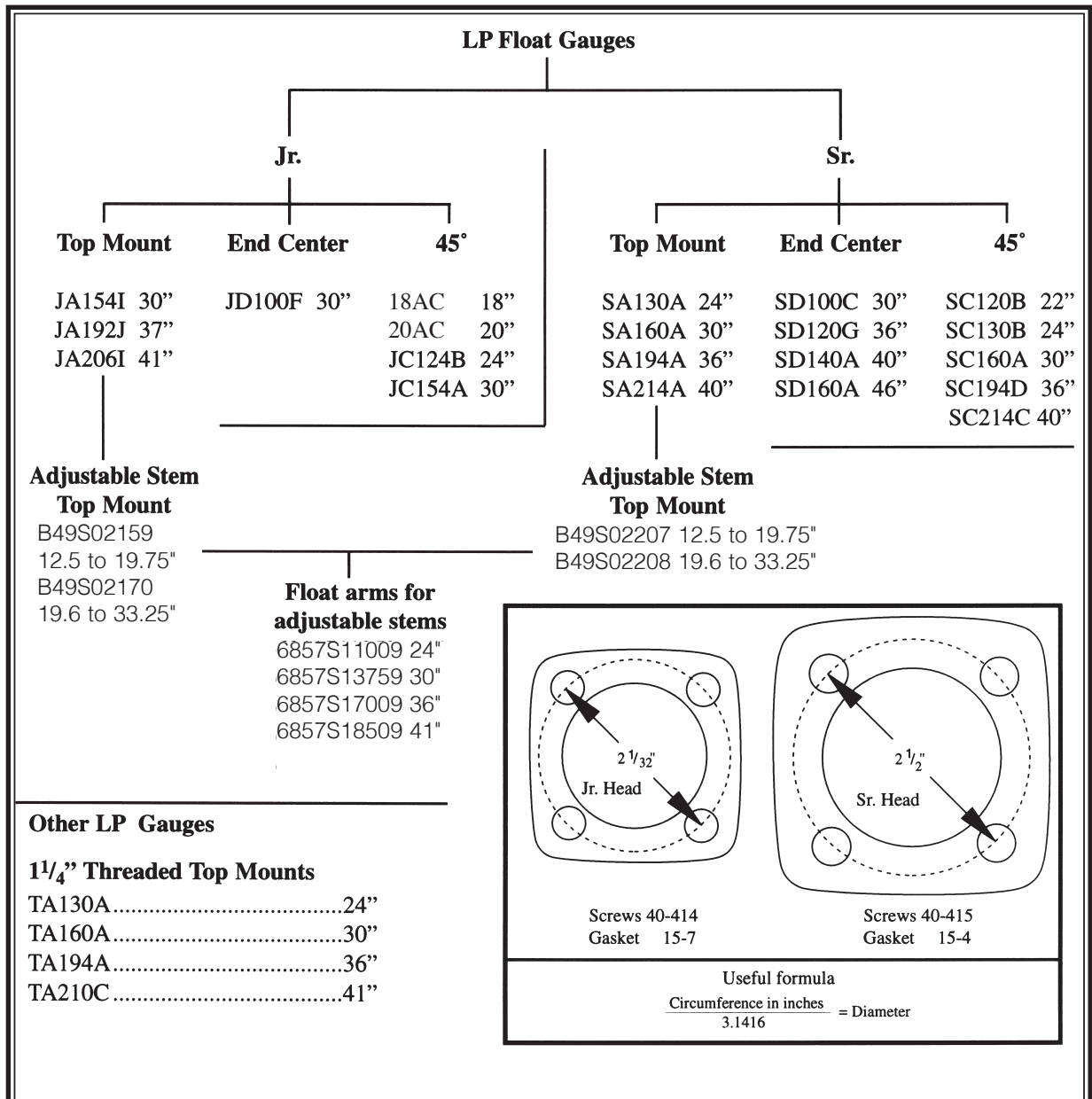
7271731



Allen Head (AH)

Float Gauge Screws

Part#	Dial Size
40-414	Junior
40-415	Senior
40-414AH	Junior
40-415AH	Senior



Other LP Gauges

1 1/4" Threaded Top Mounts

TA130A	24"
TA160A	30"
TA194A	36"
TA210C	41"



Float Gauge Gasket

Part #	Dial Size
15-4	Senior
15-7	Junior
223SEL	O-Ring Senior



Gauge Doctor Includes

- One drill guide block for both JR & SR tank gauges
- Bolts secure the block to the gauge flange on tank
- Drill bits for drilling out the broken bolts #3 or 7/32" Junior & I or 7mm Senior
- Taps to re-thread the bolt holes
- Free 50 piece starter kit of new gauge bolts & gaskets for both JR & SR gauges



Taylor Gauge Dial

This replacement dial insert has no mounting ears. It is used in both junior and senior Taylor Float Gauges.

2701CV



Dry Pressure Gauges

These standard pressure gauges have a 1/4" brass connection and are available with a 2" or 2 1/2" dial. These gauges are commonly used in regulators and on domestic tanks.

Part #	Pressure	Size
1000-300	0-300#	2"
1005-30	0-30#	2 1/2"
1005-60	0-60#	2 1/2"
1005-100	0-100#	2 1/2"
1005-300	0-300#	2 1/2"
1005-400	0-400#	2 1/2"
AB120CA	Gauge Adapter	1/8 mpt x 1/4 fpt



JD060A



UJ160B



5714S02591



130081

Forklift Gauges

- JD060A** Junior Mount Float Gauge
- UJ160B** Float Gauge 3/4" Threaded
- 5714S02591** Snap In Dial
- 5343S01992** Screw In Dial **130081**



Thermometers

- 1750-114** 4" Stem 1/2" thread
- 1750-115** 6" Stem 1/2" thread



Liquid Filled Pressure Gauges

These gauges offer superior performance and durability. They have a 1/4" brass connection and a 2 1/2" dial.

Part #	Pressure	Size
GG60	60#	2 1/2"
GG100	100#	2 1/2"
GG300	300#	2 1/2"

*There are many other pressure ranges available.



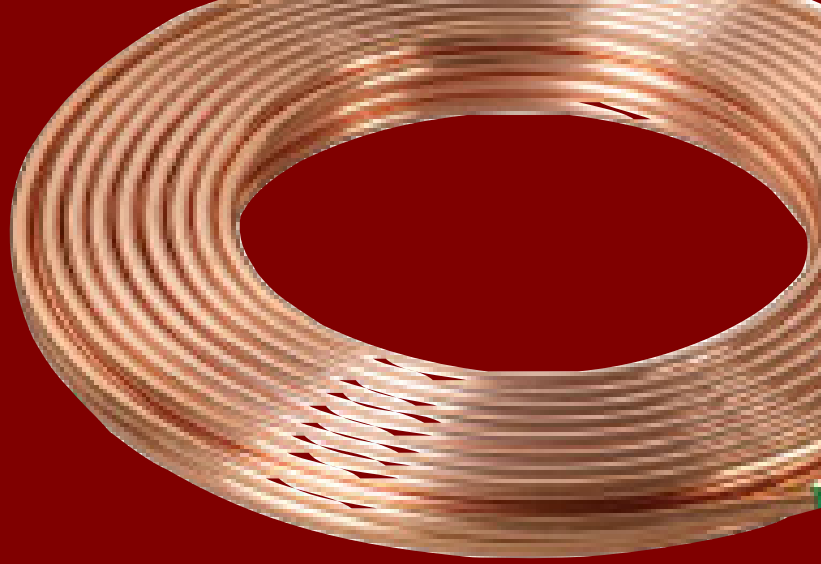
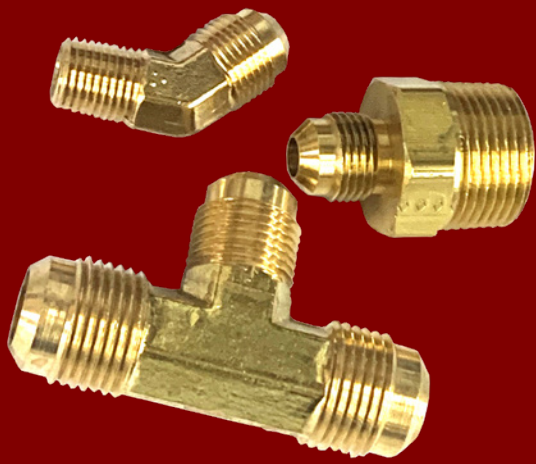
Back Mounted Gauges

This 300# dry gauge has a 1/4" brass rear connection and is commonly used in bobtails and storage tanks.

50755-300#

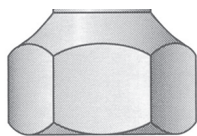
This 400# liquid filled gauge has a 1/4" stainless steel rear connection and is commonly used on transports and storage tanks.

CP1063



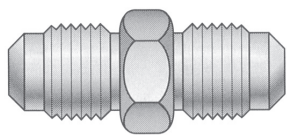
PIPING, HOSE & ACCESSORIES





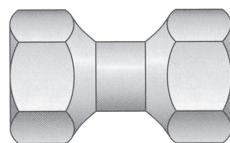
Forged Nuts

Part #	Size
NS4E	3/8"
NS4F	1/2"
NS4I	5/8"



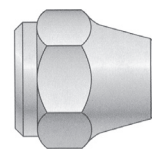
Unions

Part #	Size
42E	3/8"
42F	1/2"
42I	5/8"



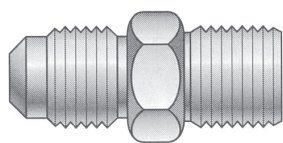
Swivels

Part #	Size
US4E	3/8"
US4F	1/2"
US4I	5/8"
US4FE	1/2" x 3/8"



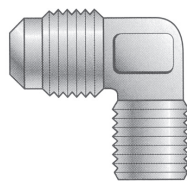
Caps

Part #	Size
N5E	3/8" FL
N5F	1/2" FL
N5I	5/8" FL



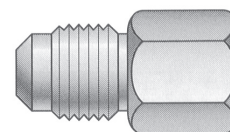
Half Unions

Part #	Description
48EC	3/8" FL x 1/4" MP
48EE	3/8" FL x 3/8" MP
48EF	3/8" FL x 1/2" MP
48EK	3/8" FL x 3/4" MP
48FC	1/2" FL x 1/4" MP
48FE	1/2" FL x 3/8" MP
48FF	1/2" FL x 1/2" MP
48FK	1/2" FL x 3/4" MP
48IE	5/8" FL x 3/8" MP
48IF	5/8" FL x 1/2" MP
48IK	5/8" FL x 3/4" MP
48KK	3/4" FL x 3/4" MP



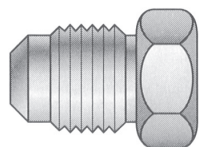
Elbow Half Unions

Part #	Description
49EC	3/8" FL x 1/4" MP
49EE	3/8" FL x 3/8" MP
49EF	3/8" FL x 1/2" MP
49EK	3/8" FL x 3/4" MP
49FC	1/2" FL x 1/4" MP
49FE	1/2" FL x 3/8" MP
49FF	1/2" L x 1/2" MP
49FK	1/2" FL x 3/4" MP
49IE	5/8" FL x 3/8" MP
49IF	5/8" FL x 1/2" MP
49IK	5/8" FL x 3/4" MP



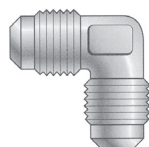
Female Half Unions

Part #	Description
46EC	3/8" FL x 1/4" FP
46EE	3/8" FL x 3/8" FP
46EF	3/8" FL x 1/2" FP
46EK	3/8" FL x 3/4" FP
46FC	1/2" FL x 1/4" FP
46FE	1/2" FL x 3/8" FP
46FF	1/2" FL x 1/2" FP
46FK	1/2" FL x 3/4" FP
46IF	5/8" FL x 1/2" FP
46IK	5/8" FL x 3/4" FP
46KK	3/4" FL x 3/4" FP



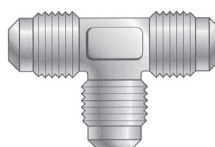
Plugs

Part #	Size
P2E	3/8" FL
P2F	1/2" FL
P2I	5/8" FL



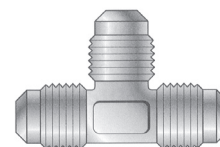
Elbows

Part #	Size
55E	3/8" FL
55F	1/2" FL
55I	5/8" FL



Tees

Part #	Size
44E	3/8" FL
44F	1/2" FL
44I	5/8" FL



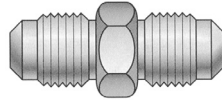
Reducing Tees

Part #	Size
44FFE	1/2" x 1/2" x 3/8"
44IIE	5/8" x 5/8" x 3/8"
44IIF	5/8" x 5/8" x 1/2"



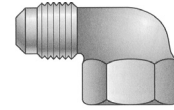
POL x Flare Adapters

Part #	Size
2906F	POL x 3/8"
2906E	POL x 1/2"
BG20I	POL x 5/8"



Reducing Unions

Part #	Size
42FE	1/2" x 3/8"
42IE	5/8" x 3/8"
42IF	5/8" x 1/2"
42EC	3/8" x 1/4"

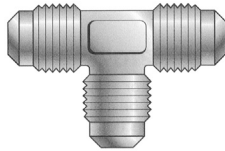


Female Flare x Pipe Elbows

Part #	Size
54EE	3/8" FL x 3/8" FP
54EF	3/8" FL x 1/2" FP
54EK	3/8" FL x 3/4" FP
54FK	1/2" FL x 3/4" FP
54IF	5/8" FL x 1/2" FP
54IK	5/8" FL x 3/4" FP
54FF	1/2" FL x 1/2" FP
54EC	3/8" FL x 1/4" FP

Reducing Flare x Pipe Tees

Part #	Size
45FFE	1/2" x 1/2" x 3/8"
45IIF	5/8" x 5/8" x 1/2"
45FFF	1/2" x 1/2" x 1/2"



NOW AVAILABLE!
Copper Tubing with
a PVC Jacket!



Type "L" Poly Coated Copper

Part #	Size	Flare Nut	Length
1/4X100L-POLY	1/4" OD	1/4"	100ft
3/8X60L-POLY	3/8" OD	3/8"	60ft
3/8X100L-POLY	3/8" OO	3/8"	100ft
1/2X60L-POLY	1/2" OD	1/2"	60ft
1/2X100L-POLY	1/2" OD	1/2"	100ft
5/8X60L-POLY	5/8" OD	5/8"	60ft
5/8X100L-POLY	5/8" OD	5/8"	100ft

Copper Type "L" Tubing

Part #	Size	Flare Nut	Length
1/4X60L	1/4" ID	3/8"	60ft
1/4X100L	1/4" ID	3/8"	100ft
3/8X60L	3/8" ID	1/2"	60ft
3/8X100L	3/8" ID	1/2"	100ft
1/2X60L	1/2" ID	5/8"	60ft
1/2X100L	1/2" ID	5/8"	100ft

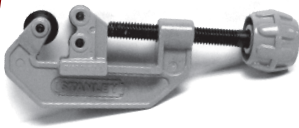
Copper Refrigeration Tubing

Part #	Size	Flare Nut	Length
1/4X50REF	1/4" OD	1/4"	50ft
3/8X50REF	3/8" OD	3/8"	50ft
3/8X100REF	3/8" OD	3/8"	100ft
1/2X50REF	1/2" OD	1/2"	50ft
1/2X100REF	1/2" OD	1/2"	100ft
5/8X50REF	5/8" OD	5/8"	50ft

Copper Type "K" Tubing

Part #	Size	Flare Nut	Length
1/4X60K	1/4" ID	3/8"	60ft
1/4X100K	1/4" ID	3/8"	100ft
3/8X60K	3/8" ID	1/2"	60ft
3/8X100K	3/8" ID	1/2"	100ft
1/2X60K	1/2" ID	5/8"	60ft
1/2X100K	1/2" ID	5/8"	100ft

Tube Cutters for Copper Tubing



75247 High precision, smooth action telescoping tube cutter with tightest possible constant turning radius for cutting copper tubing. Compact construction with sturdy aluminum casting, black plated, enclosed threaded spindle to protect against dirt and jamming, foldaway reamer and integral spare cutter wheel. Works on 1/8" to 1 1/8" tubing.



FGP-TC-15 The Ridgid 31622 is a constant swing feed cutter with new X-Cel features. This cutter has a capacity of 1/8-Inch to 1-1/8-Inch. This cutter features a telescoping feed screw design that keeps the cutter at the same length regardless of tubing diameter and is good for tight spaces. It features an enclosed feed screw to eliminate clogging and jamming, grooved rollers for close-to-flare cuts and a fold-away reamer. It now includes an X-Cel knob and X-Cel pin for quicker cutting and wheel replacement. It is made from high-strength zinc alloy, there is a spare cutter wheel included in the knob and it cuts copper, brass and aluminum tubing and thin-wall conduit. Ridgid covers its products with a lifetime warranty against defects in material or workmanship for the life of the tool.



76000 Mini tube cutter conveniently shaped with a very small working radius facilitating work in confined spaces. Large knurled wheel for effortless pressure adjustment. Twin grooved rollers for cutting close to flared ends. For use on 1/8" to 3/8" tubing.

Deluxe Flaring Tools

Full range 1/8" to 3/4" O.D.

- Automatic tube height gauge to make sure tubing height is correct each time for flaring
- Jaws grip with marring or constricting tube
- Self-centering flaring yoke for more precise flares
- Rugged one-piece for dependable long life

60280 Yellow Jacket

945TH Parker



1. Verify the stab fitting is the correct size for the polyethylene (P.E.) pipe. Verify the SDR (or wall thickness) of the pipe matches the SDR printed on the fitting label.



2. Cut pipe ends square.



3. Clean piping thoroughly to assure there is no dirt, grease or oil in assembly area.



4A. Chamfer end of pipe using Continental's double ended ID chamfering tool.



Proper Chamfer



Improper Chamfer

6. If using ID chamfer tool with gauge, check for proper chamfer by inserting pipe on gauge up to the O ring. With proper chamfer, O ring will begin to enter pipe.



7. Stab pipe completely into fitting entrance.



8. Stab pipe completely into fitting so that the mark on the pipe is within 1/8" from the fitting entrance.



Protective Conduit

This 3/4" liquid tight conduit is used in conjunction with service head adapters to protect poly tubing.

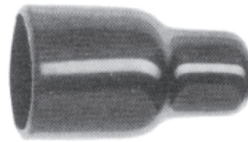
- 34LC** 3/4" Ligitite
- 114LC** 1 1/4" Ligitite



Tracer Wire

Tracer wire permits easy detection of buried pipe. Available in 500ft rolls.

- TW-14GA** 14 gauge
- TW-12GA** 12 gauge



Moisture Seals

For use with service head adapters and ligitite conduit to seal tubing.

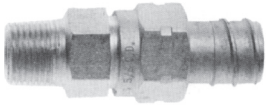
- 720020** Seal



Metallic Tracer Tape

Tracer tape allows you to find the buried pipe with a metal detector and since it is buried above the pipe, it helps prevent against accidental damage to the pipe. 2" wide in 1000ft rolls.

- MTYG-21**



Mechanical Transition Fittings

Service Head Adapters for:

- 1/2" CTS Poly
- X2537SW** 1/2" MPT
- X2707SW** 3/4" MPT
- 3/4" IPS Adapter
- X2500** 3/4" MPT



Polyethylene Tubing Cutter

- Ratchet
- 37118** 1" - 1 5/8"



- Non-Ratchet
- KWIKCUT 100** 1"
- KWIKCUT 200** 2"



Chamfering Tools with Gauge

Part #	Size
0000-33-6580-04	1/2" CTS
0000-33-6580-13	3/4" IPS
0000-33-6580-14	1" IPS
0000-33-6580-08	1" CTS
0000-33-6580-15	1 1/4" IPS
0000-33-6580-17	2" IPS

or



4B. Chamfer end of pipe using the Continental's ID chamfering tool with ID gauge.



5. Mark the stab depth by inserting pipe into ID chamfer tool and marking the pipe at the entrance as shown.

9. Repeat steps 1 thru 8 for all Con-Stub joints.

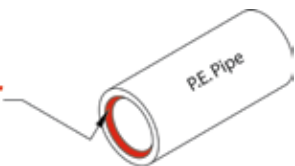
10. To assure proper assembly and to comply with 49 CFR 192 Subpart J-Test Requirements, the joint shall be leak tested.

For Use On: Polyethylene gas pipe meeting the requirements of ASTM D 2513

Pressure Rating: 125 psig MAOP

Operating Temperature: -20° to 140°F

IMPORTANT
CHAMFER THE
ID OF PIPE



FREE Training Available

We are serious about training our industry, so we offer training at no charge to you!

- We will certify your employees to install poly tubing
- Provide each employee with a certificate
- We tailor training sessions to your specific needs
- We offer training on Trac-Pipe, regulators and line sizing
- Complete product training on Rego Products.

Three Way Tees



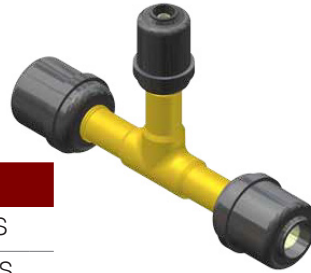
Part #	Size
3259-50-1004-00	1/2" CTS
3259-50-1013-00	3/4" IPS
3259-50-1008-00	1" CTS
3259-50-1014-00	1" IPS
3369-50-1015-00	1 1/4" IPS
3259-50-1012-00	1/2" IPS
3259-50-1017-00	1/2" IPS

Reducing Couplings



Part #	Size	Size
3259-54-0804-A0	1/2" CTS	1" CTS
3259-54-1304-00	1/2" CTS	3/4" IPS
3259-54-1308-00	1" CTS	3/4" IPS
3259-54-1508-00	1" CTS	1 1/4" IPS
3259-54-1413-00	1" IPS	3/4" IPS
3259-54-1513-00	1 1/4" IPS	3/4" IPS
3259-54-1514-00	1 1/4" IPS	1" IPS

Three Way Reducing Tees



Part #	Size	Size	Size
3259-49-0408-00	1/2" CTS	1/2" CTS	1" CTS
3259-49-1304-00	3/4" IPS	3/4" IPS	1/2" CTS
3259-49-0804-00	1" CTS	1" CTS	1/2" CTS
3259-49-1508-00	1 1/4" IPS	1 1/4" IPS	1" CT



Coppersert Copper to PE Fittings

Part #	PE Size	Copper
41007		3/8" OD
41012	1/2" CTS	1/2" OD
41000		5/8" OD

Elbows

Part #	Size
3259-51-1004-00	1/2" CTS
3259-51-1013-00	3/4" IPS
3259-51-1008-00	1" CTS
3259-51-1014-00	1" IPS
3259-51-1015-00	1 1/4" IPS
3259-51-1017-00	2" IPS



Transition Fittings

Part #	Size
0432-00-0913-00	1/2" CTS x 3/4"mpt
4646-00-0913-25	3/4" IPS x 3/4"mpt
0832-00-0914-00	1" CTS x 1"mpt
4646-00-0914-25	1" IPS x 1"mpt
4646-00-0915-0A	1 1/4" IPS x 1 1/4"mpt



Mechanical Couplings

Part #	Size	SDR
3259-52-1004-00	1/2" CTS	.090"
3259-52-1012-00	1/2" IPS	9.3
3259-52-1013-00	3/4" IPS	11
3259-52-1008-00	1" CTS	.099"
3259-52-1014-00	1" IPS	11
3259-52-1015-00	1 1/4" IPS	10
3259-52-1017-00	2IPS	11



Repair Couplings

Part #	Size	SDR
0459-56-1200-00	1/2" CTS	.090"
1259-56-1200-00	1/2" IPS	9.3
1359-56-1200-00	3/4" IPS	11
0859-56-1200-00	1" CTS	.099"
1469-56-1200-00	1" IPS	11
3238-14-4415-00	1 1/4" IPS	10

12" long coupling is used to repair accidental damage to piping.

Plastic Polyethylene Piping

Medium Density Polyethylene Tubing

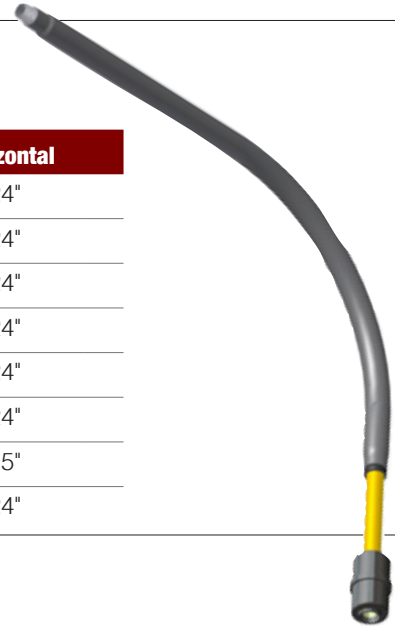
Part #	Length	I.D.	O.D.	SDR	Wall
CTS1/2	500 ft.	1/2"	0.625	7	.090
IPS1/2	500 ft.	5/8"	0.844	9.3	.101
IPS3/4	500 ft.	3/4"	1.050	11	.095
CTS1	500 ft.	7/8"	1.130	11.5	.107
IPS1	500 ft.	1"	1.315	11	.120
IPS114	500 ft.	1 1/4"	1.660	10	.166
IPS2	500 ft.	2"			



Continental Anodeless Meter Risers

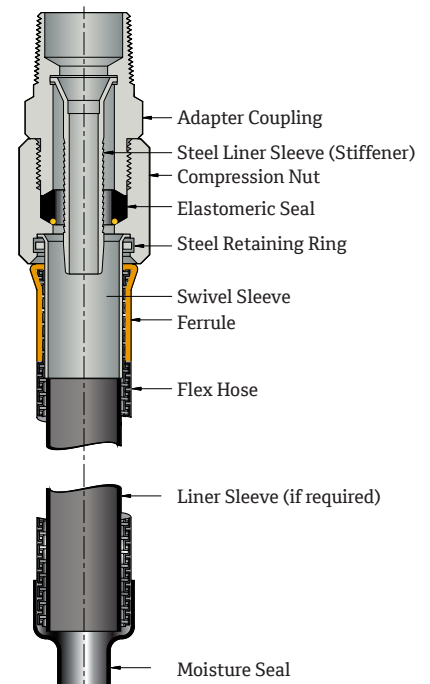
with Permasert Mechanical Ends

Part #	Inlet	Outlet	SDR	Vertical	Horizontal
1353-91-4604-25	1/2" CTS	3/4" MPT	.090	30"	24"
1355-91-4604-25	1/2" CTS	3/4" MPT	.090	18"	24"
1353-91-4613-25	3/4" IPS	3/4" MPT	11	30"	24"
1353-91-4608-25	1" CTS	3/4" MPT	.099	30"	24"
1453-91-4614-25	1" IPS	1" MPT	11	30"	24"
1553-91-4615-25	1 1/4" IPS	1 1/4" MPT	10	30"	24"
1752-91-4617-25	2" IPS	2" MPT	11	30"	15"
1353-91-4612-00	1/2" IPS	3/4" MPT	11	30"	24"



Conflex Risers

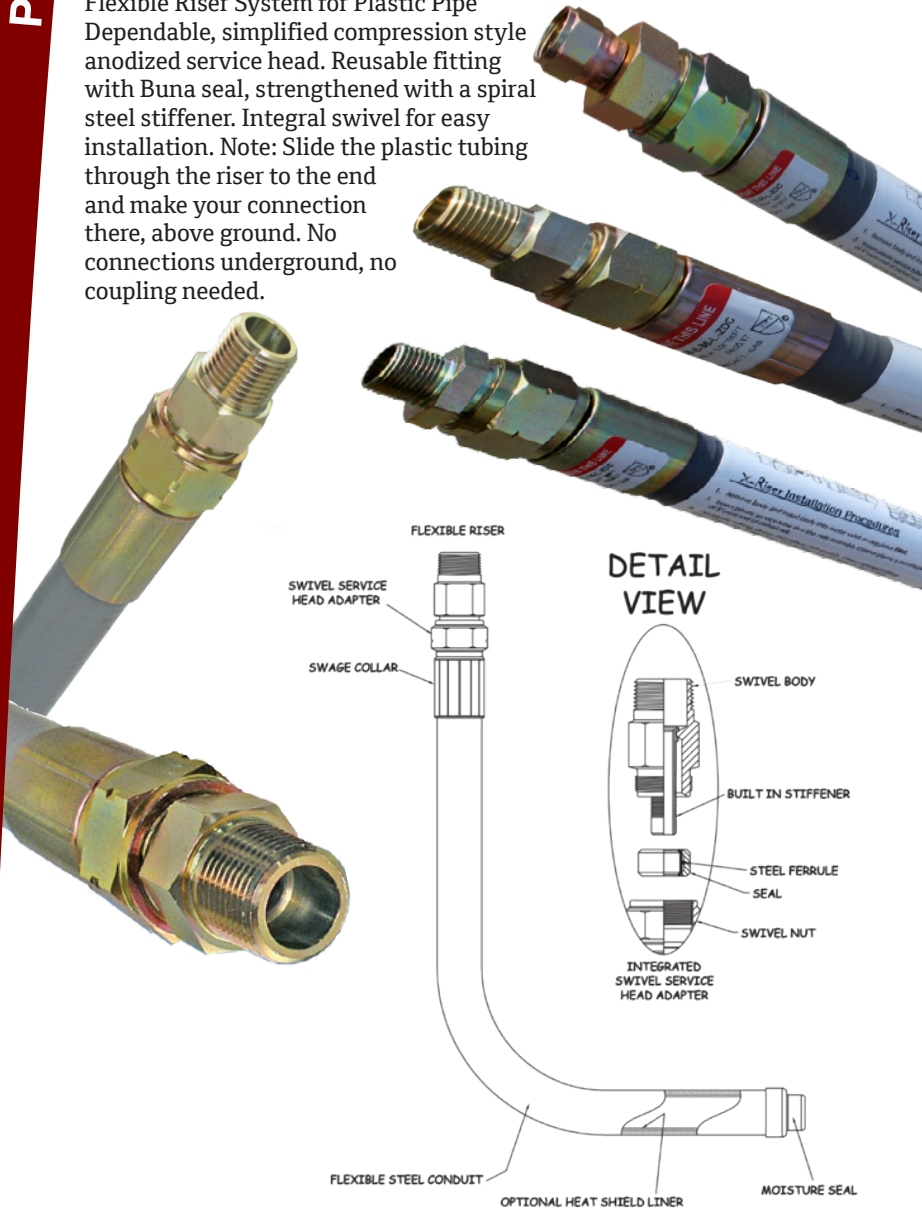
Part #	Tubing Size	Fitting Size	Length
1253-92-1004-36	1/2" CTS	1/2"	3ft
1253-92-1004-60	1/2" CTS	1/2"	5ft
1253-92-1004-84	1/2" CTS	1/2"	7ft
1353-92-1004-36	1/2" CTS	3/4"	3ft
1353-92-1004-60	1/2" CTS	3/4"	5ft
1353-92-1004-84	1/2" CTS	3/4"	7ft
9953-99-0511-36	1/2" CTS	1/2" Flare	3ft
9953-99-0511-60	1/2" CTS	1/2" Flare	5ft
9953-99-0511-84	1/2" CTS	1/2" Flare	7ft
9953-99-0511-96	1/2" CTS	1/2" Flare	8ft
1353-92-1013-36	3/4" IPS	3/4"	3ft
1353-92-1013-60	3/4" IPS	3/4"	5ft
1353-92-1013-84	3/4" IPS	3/4"	7ft
1453-92-1008-36	1" CTS	1"	3ft
1453-92-1008-84	1" CTS	1"	7ft
1453-92-1014-36	1" IPS	1"	3ft
1453-92-1014-60	1" IPS	1"	5ft



X-Riser

X-Riser

Flexible Riser System for Plastic Pipe Dependable, simplified compression style anodized service head. Reusable fitting with Buna seal, strengthened with a spiral steel stiffener. Integral swivel for easy installation. Note: Slide the plastic tubing through the riser to the end and make your connection there, above ground. No connections underground, no coupling needed.



Part #	Lastic Pipe Size	Outlet Connection	Length
XR108-36	1/2" CTS	1/2" MPT	3ft
XR108-72			6ft
XR108-96			8ft
XR108SN-36	1/2" CTS	1/2" Female Flare Swivel	3ft
XR108SN-72			6ft
XR108SN-96			8ft
XR1012-36	3/4" MPT	3/4" MPT	3ft
XR1012-72			6ft
XR1012-96			8ft
XR1012-144			12ft
XR17C12-36	3/4" IPS	5/8" Female Flare Swive	3ft
XR17C12-72			6ft
XR17C12-96			8ft
XR17C10SN-36L	1" CTS	1" MPT	3ft
XR17C10SN-72L			6ft
XR17C10SN-96L			8ft
XR18E16-36L	1" CTS	1" MPT	3ft
XR18E16-72L			6ft
XR18E16-96L			8ft
XR21J16-36L	1" IPS	1" MPT	3ft
XR21J16-72L			6ft
XR21J16-96L			8ft



Tracpipe Tee by Tracpipe Outlet

Part #	Size	Description
FGP-TF500-T500	1/2" x 1/2"	TracPipe Tee 1/2"
FGP-TF750-T750	3/4" x 3/4"	TracPipe Tee 3/4"
FGP-TF1000-T1000	1" x 1"	TracPipe Tee 1"
FGP-TF750-T500	3/4" x 1/2"	Tee 3/4" x 1/2"
FGP-TF1000-T500	1" x 1/2"	Tee 1" x 1/2"



TracPipe Coupling

Part #	Size	Description
FGP-CPLG-375	3/8"	Coupling 3/8"
FGP-CPLG-500	1/2"	Coupling 1/2"
FGP-CPLG-750	3/4"	Coupling 3/4"
FGP-CPLG1000	1"	Coupling 1"

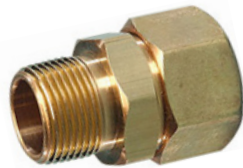
CounterStrike CSST Tubing

-A patented CSST innovation based on the existing TracPipe® CSST product, but is engineered to significantly decrease the potential for lightning induced damage to fuel gas piping systems. CounterStrike has been designed with a proprietary jacket material in place of the standard yellow jacket. This black jacket has energy dissipating properties that will help protect the TracPipe stainless steel pressure liner as well as other fuel gas system components if the CounterStrike becomes energized due to lightning. The improved version of CounterStrike is designed to withstand significantly higher levels of lightning energy when compared to first generation CounterStrike and, of course, to conventional TracPipe with the yellow jacket. CounterStrike has been shown to be **50 times more resistant** to the damaging effects of electrical energy than conventional TracPipe, and is at least 6 times more resistant to that damage than the previous version of CounterStrike. The New CounterStrike uses standard TracPipe Fittings.

Part #	Size	Reel Length	LB/Reel
FGP-CS-375-250	3/8"	250'	29#
FGP-CS-500-250	1/2"	250'	40#
FGP-CS-500-100	1/2"	100'	22#
FGP-CS-750-250	3/4"	250'	55#
FGP-CS-750-100	3/4"	100'	22#
FGP-CS-100-100	1"	100'	60#
FGP-CS-125-150	1 1/4"	150'	66#



Straight Auto Fittings



Part #	Size	Package Quantity
FGP-FST-375	3/8"	24
FGP-FST-500	1/2"	24
FGP-FST-750	3/4"	16
FGP-FST-1000	1"	16
Spare Split Rings FGP-RING-SIZE	All above	10

AutoFlare Fittings

90 Degree Elbow Flange Mount Fitting



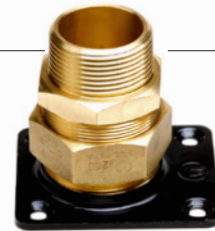
Part #	Size	Description
FGP-ELL-375	3/8"	90° Flange Fitting
FGP-ELL-500	1/2"	90° Flange Fitting
FGP-ELLB-375	3/8"	Brass 90° Fl Ftg
FGP-ELLB-500	1/2"	Brass 90° Fl Ftg

Tracpipe Tee by Pipe Outlet



Part #	Size	Description
FGP-T500-750	1/2" - 3/4" Male	Tee-Male
FGP-T500-500	1/2" Female	Tee-Female 1/2"
FGP-T750-500	3/4" - 1/2" Female	Tee-Female 1/2"
FGP-T750-750	3/4" Female	Tee-Female 3/4"
FGP-T1000-1000	1" Female	Tee-Female 1"

AutoFlare Flange Fittings



Brass Flange	Part #	Size	Package Quantity
	FGP-RFG-375	3/8"	12
	FGP-RFG-500	1/2"	12
	FGP-RFG-750	3/4"	8
	FGP-RFG-1000	1"	8



Floppy Strip Wound Conduit

Part #	Size	Description
FGP-FPY-375	3/8"	Floppy-fits 3/8"
FGP-FPY-500	1/2"	Floppy-fits 1/2"
FGP-FPY-750	3/4"	Floppy-fits 3/4"
FGP-FPY-1000	1"	Floppy-fits 1"



Trac Pipe Tubing Cutter

Part #	Size	Description
FGP-TC-15	All Sizes	Cutter No. 151



Tracpipe Protection Devices

Carbon Steel Hardened Striker Plates

Part #	Size	Description
FGP-SP-100	3" x 12"	Full Striker Plate
FGP-SP-050	3" x 7"	Half Striker Plate
FGP-SP-025	3" x 2"	Quarter Striker Plate



Multi-Port Manifold

This malleable iron manifold has 1/2" x 3/4" female inlets and 4 1/2" female ports.

FGP-MI-PC



Stainless Steel Flexible Connectors

Series 20 Dormont Connectors are 1/2" O.D. and have either 3/8" or 1/2" male or female thread connections.

Part #	Length	Connections
20-2222-12	12"	3/8" fpt
20-2222-24	24"	3/8" fpt
20-2222-36	36"	3/8" fpt
20-2222-48	48"	3/8" fpt
20-3131-18	18"	1/2" mpt
20-3131-24	24"	1/2" mpt
20-3131-36	36"	1/2" mpt
20-3232-18	18"	1/2" fpt
20-3232-24	24"	1/2" fpt
20-3232-36	36"	1/2" fpt
20-3232-48	48"	1/2" fpt

Series 30 Dormont Connectors are 7/8" O.D. and have 1/2" or 3/4" threaded connectors.

Part #	Length	Connections
30-3132-18	18"	1/2" mp x 1/2" fp
30-3132-24	24"	1/2" mp x 1/2" fp
30-3132-36	36"	1/2" mp x 1/2" fp
30-3132-48	48"	1/2" mp x 1/2" fp

Part #	Length	Connections
10-2222-18	18"	3/8" fpt
10-2222-24	24"	3/8" fpt
10-2222-36	36"	3/8" fpt
10-2222-48	48"	3/8" fpt
10A-2122-12	12"	1/2" mpt
10A-2122-18	18"	1/2" mpt
10A-2122-24	24"	1/2" mpt

½" MPT x ½" FPT

Part #	Length
31P-31P32P-24	24"
31P-31P32P-36	36"
31P-31P32P-48	48"
31P-31P32P-60	60"

¾" MPT x ¾" FPT

Part #	Length
31P-41P42P-24	24"
31P-41P42P-36	36"
31P-41P42P-48	48"
31P-41P42P-60	60"

Dormont Stainless Steel, 15 psig, Coated Propane Connectors

Approved for use after the first stage regulator! ⅝" OD Propane Connector



Warnings

- Do not use pipe sealant, teflon tape or any other sealing compound in flare seat of gas connector.
- This is not an appliance connector
- Outdoor LP-Gas Connection only
- Not suitable for underground piping
- Not to be used for Natural Gas
- No attempt will be made to assemble union flare nuts directly to NPT threads

Product Specifications

- 304 Stainless Steel Tubing
- Construction
- Dormont No-Neck™
- Forged Brass Nuts
- Supr-Flex™ PVC Coating
- Flare Construction

Standard Black Pipe Nipples

Standard Black Pipe Nipples Assortments

- BLK66F** ½" 66 pcs. (CL-6")
- BLK66K** ¾" 66 pcs. (CL-6")
- BLK66M** 1" 60 pcs. (CL-6")

Size	Close Part#	Short Part#	2" Part#	3" Part#	4" Part#	6" Part#
¼"	14xCNS	14XSNS	14X2NS	14X3NS	14X4NS	14X6NS
⅜"	38XCNS	38XSNS	38X2NS	38X3NS	38X4NS	38X6NS
½"	12XCNS	12XSNS	12X2NS	12X3NS	12X4NS	12X6NS
¾"	34XCNS	34XSNS	34X2NS	34X3NS	34X4NS	34X6NS
1"	1XCNS	1XSNS	---	1X3NS	1X4NS	1X6NS
1¼"	114XCNS	114XSNS	---	114X3NS	114X4NS	114X6NS
1½"	112XCNS	112XSNS	---	112X3NS	112X4NS	112X6NS
2"	2XCNS	2XSNS	---	2X3NS	2X4NS	2X6NS



Heavy Duty Pipe Nipples

Size	Close Part#	Short Part#	3" Part#	4" Part#	6" Part#
¼"	14XCNHD	14XSNHD	14X3NHD	14X4NHD	14X6NHD
⅜"	38XCNHD	38XSNHD	38X3NHD	38X4NHD	38X6NHD
½"	12XCNHD	12XSNHD	12X3NHD	12X4NHD	12X6NHD
¾"	34XCNHD	34XSNHD	34X3NHD	34X4NHD	34X6NHD
1"	1XCNHD	1XSNHD	1X3NHD	1X4NHD	1X6NHD
1¼"	114XCNHD	114XSNHD	114X3NHD	114X4NHD	114X6NHD
1½"	112XCNHD	112XSNHD	112X3NHD	112X4NHD	112X6NHD
2"	2XCNHD	2XSNHD	2X3NHD	2X4NHD	2X6NHD



Black Pipe Nipple Trays (Tray Only)

- A3500F** ½" Nipple Tray Holds 77 pcs.
- A3501K** ¾" Nipple Tray Holds 66 pcs.
- A3510FK** ½" & ¾" Nipple Combo Tray



Couplings

Size	Part#
1/4"	14CS
3/8"	38CS
1/2"	12CS
3/4"	34CS
1"	1CS
1 1/4"	114CS
1 1/2"	112CS
2"	2CS



Unions

Size	Part#
1/4"	14US
3/8"	38US
1/2"	12US
3/4"	34US
1"	1US
1 1/4"	114US
1 1/2"	112US
2"	2US



Tees

Size	Part#
1/4"	14TS
3/8"	38TS
1/2"	12TS
3/4"	34TS
1"	1TS
1 1/4"	114TS
1 1/2"	112TS
2"	2TS



Plugs & Caps

Size	Plug Part#	Cap Part#
1/4"	14PS	14CAS
3/8"	38PS	38CAS
1/2"	12PS	12CAS
3/4"	34PS	34CAS
1"	1PS	1CAS
1 1/4"	114PS	114CAS
1 1/2"	112PS	112CAS
2"	2PS	2CAS



90° Elbows

Size	Elbows Part#	Street Elbows Part#
1/4"	14x90ES	14x90SES
3/8"	38X90ES	38X90SES
1/2"	12X90ES	12X90SES
3/4"	34X90ES	34X90SES
1"	1X90ES	1X90SES
1 1/4"	114X90ES	114X90SES
1 1/2"	112X90ES	112X90SES
2"	2X90ES	2X90SES



45° Elbows

Size	Elbows Part#	Street Elbows Part#
1/4"	14x45ES	14x45SES
3/8"	38X45ES	38X45SES
1/2"	12X45ES	12X45SES
3/4"	34X45ES	34X45SES
1"	1X45ES	1X45SES
1 1/4"	114X45ES	114X45SES
1 1/2"	112X45ES	112X45SES
2"	2X45ES	2X45SES

Bell Reducers



Size	3/8" fpt Part#	1/2" mpt Part#	3/4" fpt Part#	1" fpt Part#	1 1/4" fpt Part#	1 1/2" fpt Part#	2" fpt Part#
1/4"	38X14RS	12X14RS	34X14RS	---	---	---	---
3/8"	---	12X38RS	34X38RS	1X38RS	---	---	---
1/2"	---	---	34X12RS	1X12RS	---	---	---
3/4"	---	---	---	1X34RS	114X34RS	112X34RS	2x34RS
1"	---	---	---	---	114X1RS	112X1RS	2x1RS
1 1/4"	---	---	---	---	---	112X114RS	2x114RS
1 1/2"	---	---	---	---	---	---	2x112RS



Couplings

Size	Part#
1/4"	14CFS
3/8"	38CFS
1/2"	12CFS
3/4"	34CFS
1"	1CFS
1 1/4"	114CFS
1 1/2"	112CFS
2"	2CFS
3"	3CFS



Unions

Size	Part#
1/4"	14UFS
3/8"	38UFS
1/2"	12UFS
3/4"	34UFS
1"	1UFS
1 1/4"	114UFS
1 1/2"	112UFS
2"	2UFS
3"	3UFS



Tees

Size	Part#
1/4"	14THD
3/8"	38THD
1/2"	12THD
3/4"	34THD
1"	1THD
1 1/4"	114THD
1 1/2"	112THD
2"	2THD
3"	3THD



Plugs

Size	Part#
1/4"	14PHD
3/8"	38PHD
1/2"	12PHD
3/4"	34PHD
1"	1PHD
1 1/4"	114PHD
1 1/2"	112PHD
2"	2PHD



45° Elbows

Size	Elbows Part#	Street Elbows Part#
1/4"	14x45EHD	14x45SEHD
3/8"	38X45EHD	38X45SEHD
1/2"	12X45EHD	12X45SEHD
3/4"	34X45EHD	34X45SEHD
1"	1X45EHD	1X45SEHD
1 1/4"	114X45EHD	114X45SEHD
1 1/2"	112X45EHD	112X45SEHD
2"	2X45EHD	2X45SEHD



90° Elbows

Size	Elbows Part#	Street Elbows Part#
1/4"	14x90EHD	14x90SEHD
3/8"	38X90EHD	38X90SEHD
1/2"	12X90EHD	12X90SEHD
3/4"	34X90EHD	34X90SEHD
1"	1X90EHD	1X90SEHD
1 1/4"	114X90EHD	114X90SEHD
1 1/2"	112X90EHD	112X90SEHD
2"	2X90EHD	2X90SEHD
3"	3X90EHD	---

Reducing Couplings

Size	1/2" Part#	3/4" Part#	1" Part#	1 1/4" Part#	1 1/2" Part#	2" Part#	3" Part#
1/4"	12X14RHD	34X14RHD	---	---	---	---	---
3/8"	12X38RHD	34X38RHD	1X38RHD	---	---	---	---
1/2"	---	34X12RHD	1X12RHD	---	---	---	---
3/4"	---	---	1X34RHD	114X34RHD	112X34RHD	2X34RHD	---
1"	---	---	---	114X1RHD	112X1RHD	2X1RHD	---
1 1/4"	---	---	---	---	112X114RHD	2X114RHD	---
1 1/2"	---	---	---	---	---	2X112RHD	3X112RHD
2"	---	---	---	---	---	---	3X2RHD





Standard Black Bushing

Size	3/8" MPT Part#	1/2" MPT Part#	3/4" MPT Part#	1" MPT Part#	1 1/4" MPT Part#	1 1/2" MPT Part#	2" MPT Part#
1/4"	38x14BS	12X14BS	34X14BS	---	---	---	---
3/8"	---	12X38BS	34X38BS	1X38BS	---	---	---
1/2"	---	---	34X12BS	1X12BS	---	---	---
3/4"	---	---	---	1X34BS	114X34BS	112X34BS	2x34BS
1"	---	---	---	---	114X1BS	112X1BS	2x1BS
1 1/4"	---	---	---	---	---	112X114BS	2x114BS
1 1/2"	---	---	---	---	---	---	2x112BS



Forged Steel Bushings

Size	1/2" MPT Part#	3/4" MPT Part#	1" MPT Part#	1 1/4" MPT Part#	1 1/2" MPT Part#	2" MPT Part#	3" MPT Part#
1/4"	12X14BHD	34X14BHD	1X14BHD	---	---	---	---
3/8"	12X38BHD	34X38BHD	1X38BHD	---	---	---	---
1/2"	---	34X12BHD	1X12BHD	---	---	---	---
3/4"	---	---	1X34BHD	114X34BHD	112X34BHD	2X34BHD	---
1"	---	---	---	114X1BHD	112X1BHD	2X1BHD	---
1 1/4"	---	---	---	---	112X114BHD	2X114BHD	---
1 1/2"	---	---	---	---	---	2X112BHD	3X112BHD
2"	---	---	---	---	---	---	3X2BHD

Ductile Iron Strainers

These Y type strainers are used on the inlet side of pumps to prevent foreign particles from entering the pump. They have a plugged opening for screen clean out.



Part#	Pipe Size	Plug Size
YS12D0075	3/4"	3/8"
YS12D0100	1"	3/8"
YS12D0125	1 1/4"	3/4"
YS12D0150	1 1/2"	3/4"
YS12D0200	2"	1"
YS12D0300	3"	1 1/2"

Pipe

Fairbank Equipment stocks a complete line of your piping needs. From standard black plain or wrapped pipe to heavy duty sch.80 pipe, we can fill your needs.

We can also supply you with special length pipe nipples.

Pipe Size	Standard Black Pipe	Sch. 80 XH Black Pipe
1/2"	12SP	12HDP
3/4"	34SP	34HDP
1"	1SP	1HDP
1 1/4"	114SP	114HDP
1 1/2"	112SP	112HDP
2"	2SP	2HDP
3"	3SP	3HDP



These hoses are used between the tank and pump or between sections of piping to compensate for vibration and settling of piping. They are made of stainless steel braided metal hose with heavy duty male nipples. Sizes shown are normally stocked and any size hose may be ordered.

Standard Thread: Male x Male / With Union: Male x Female

3/4" Thread Size

Length 12"	Union	Heat Wrap
3/4X12AIP		
3/4X12AIPUN	X	
3/4X12AIPUNHW	X	X

Length 18"	Union	Heat Wrap
3/4X18AIP		
3/4X18AIPUN	X	
3/4X18AIPUNHW	X	X

1" Thread Size

Length 12"	Union	Heat Wrap
1X12AIP		
1X12AIPUNHW	X	X

Length 18"	Union	Heat Wrap
1X18AIP		
1X18AIPUN	X	
1X18AIPUNHW	X	X

Length 24"	Union	Heat Wrap
1X24AIPUNHW	X	X

1 1/4" Thread Size

Length 12"	Union	Heat Wrap
1 1/4X12AIP		
1 1/4X12AIPUNHW	X	X

Length 18"	Union	Heat Wrap
1 1/4X18AIP		
1 1/4X18AIPUN	X	
1 1/4X18AIPUNHW	X	X

Length 24"	Union	Heat Wrap
1 1/4x24AIP		
1 1/4x24AIPUNHW	X	X

1 1/2" Thread Size

Length 12"	Union	Heat Wrap
1 1/2X12AIP		
1 1/2X12AIPUNHW	X	X

Length 18"	Union	Heat Wrap
1 1/2X18AIP		
1 1/2X18AIPUNHW	X	X

Length 24"	List
1 1/2X24AIP	\$125.36

2" Thread Size

Length 12"	Union	Heat Wrap
2X12AIP		
2X12AIPUN	X	
2X12AIPUNHW	X	X

Length 18"	Union	Heat Wrap
2X18AIP		
2X18AIPUN	X	
2X18AIPUNHW	X	X

Length 24"	Union	Heat Wrap
2X24AIP		
2X24AIPUN	X	
2X24AIPUNHW	X	X

2 1/2" Thread Size

Length 24"
2 1/2X18AIP

3" Thread Size

Length 12"	Union	Heat Wrap
3X12AIP		
3X12AIPUNHW	X	X

Length 18"	Union	Heat Wrap
3X18AIP		
3X18AIPUN	X	
3X18AIPUNHW	X	X

Length 24"	Union	Heat Wrap
3X24AIP		
3X24AIPUN	X	
3X24AIPUNHW	X	X



BAND-IT Clamps

Hose Size	Galvanized	Stainless
1/4" & 3/8"	J301	J201
1/2"	J303	J203
1"		JS205
2"	J310	J210



POL Hose Inserts

Male POL by 1/4" hose barb

Part#	Handwheel
HC5930	NO
ME1655A	Brass



Pipe Thread Hose Inserts

Hose inserts for use on low pressure hose. Made of brass with pipe threads.

Part#	Hose Size	Pipe Size
BN21	1/4"	1/8" mp
BN22	1/4"	1/4" mp
BN23	1/4"	3/8" mp
BN32	3/8"	1/4" mp
BN33	3/8"	3/8" mp



Inverted Flare Hose Insert

1/4" hose by 1/4" inverted flare. This is commonly used on recreational vehicles.

HC5133



3/8" Low Pressure Propane Hose

Low pressure propane hose is rated for use on propane vapor after the final stage regulator. Available in 3/8" sizes and is commonly used for temporary use on portable heaters.

7122-38200 3/8" Hose



BAND-IT Tools

These tools are used to install any BAND-IT Band of .030" thickness or less and 3/4" Giant Band of .044" thickness.

Keep the leading edges of the cutter blade and backing plate free of metal shavings. Metal shavings will result in clamp tail gouging during tensioning.

C001- Tool

J001- Junior Adapter



45° Flare Hose Inserts

SAE 45° female flare swivel by hose barb connection constructed of brass.

Part#	Hose Size	Flare Size
HC4335	1/4"	3/8"
HC4355	3/8"	3/8"

Order Online

Did you know you can order your parts online. Get the most updated pricing by logging into your account! Visit today at: www.fairbankequipment.com



**Pre-Made LP High Pressure
Hose Assemblies**



LG-LPG/NH3-2X18'6" LP/NH3



**High Pressure Tested Hose
Assemblies for Bobtails
(Good for Low Temp.)**

High Pressure assemblies are factory assembled with pressed on ends, tested and tagged for use on propane bobtails. Smooth cover hose is easy to wind on and off the hose reel.

Part#	Hose Size
L83-1/2X100-TA	1/2" x 100ft
I16C1200MP16MP16-P1	1" x 100ft
I16C1500MP16MP16-P1	1" x 125ft
I16C1800MP16MP16-P1	1" x 150ft

	Part#	Length	Ends	Tested Certificate
1/4" Hose Assemblies	I4C24FS6FS6	2'	3/8" Fe Flare	no
	I4C36FS6FS6	3'	3/8" Fe Flare	no
	I4C60FS6FS6	5'	3/8" Fe Flare	no
	I4C72FS6FS6	6'	3/8" Fe Flare	no
	I4C120FS6FS6	10'	3/8" Fe Flare	no
	I4C144FS6FS6	12'	3/8" Fe Flare	no
	I4C240FS6FS6	20'	3/8" Fe Flare	no
3/8" Hose Assemblies	I6C72FS6FS6	6'	3/8" Fe Flare	no
	I6C120FS6FS6	10'	3/8" Fe Flare	no
	I6C144FS6FS6	12'	3/8" Fe Flare	no
	I6C240FS6FS6	20'	3/8" Fe Flare	no
	I6C360FS6FS6	30'	3/8" Fe Flare	no
1/2" Hose Assemblies	I6C600FS6FS6	50'	3/8" Fe Flare	no
	I8C72MP8MP8	6'	1/2" MPT	no
	I8C96MP8MP8	8'	1/2" MPT	no
	I8C144MP8MP8-S	12'	1/2" MPT	no
	I8C180MP8MP8-S	15'	1/2" MPT	no
	I8C300MP8MP8-S	25'	1/2" MPT	no
	I8C600MP8MP8-S	50'	1/2" MPT	no
3/4" Hose Assemblies	I8C1200MP8MP8-S	100'	1/2" MPT	no
	I8C1500MP8MP8-S	125'	1/2" MPT	no
	I12C144MP12MP12	12"	3/4" MPT	no
	I12C180MP12MP12	15"	3/4" MPT	no
1" Hose Assemblies	I12C216MP12MP12	18"	3/4" MPT	no
	L83-1X15'	15'	1" MPT	no
	L83-1X19'6"	19'6"	1" MPT	no
2" Hose Assemblies	I16C234MP16MP16	19'6"	1" MPT	Yes
	N2804-2X15'	15'	2" MPT	no
Life Guard Smart Hose Assemblies	LPG-7232-2X18'6"-TA	18'6"	2" MPT	Yes
	LG-LPG-2X18'6" LP		2" FPT	Yes
	LG-LPG-SG-2X18'6" LP w/Scuff Guard		2" FPT	Yes
	LG-LPG/NH3-2X18'6" LP/NH3 SS w/Scuff Guard		2" FPT	Yes

*Custom hose assemblies are available in 1/4", 3/8", 1/2", 3/4", and 1"



Swivel Hose Adapter

Part#	Part#	MPT	Swivel FPT
8MPX8FPX	20MP-20FPX	1/2" 1/4"	1 1/4"
12MPX12FS	24MP-24FPX	3/4" 1/2"	1 1/2"
16MP-16FPX	1"	1"	

"Female swivel end has to be used on the hose/beveled end side"



Squibb Hose End Swivel

The Rotoseal increases freedom of movement to make attaching or disconnecting hose end valves easier. It also prevents twisting of the hose.

- Double Sealed Radial Ball Bearings
- Full Flow
- 400psi Working Pressure
- 5 Year Warranty
- TFE Pressure Core Seal

AL109



Smith Full Circle Swivel

These lubrication free maintenance free swivels are great for delivery hose. Made with the unique maintenance free superseal.

J0-1 1" Swivel



Parker Pressed on Ends

Part#	Hose Size	Connection
4NP-4SB	1/4"	1/4" mpt
4FF-4SB	1/4"	1/4" fpt
6FA-4SA	1/4"	3/8" flare
6NP-6SB	3/8"	3/8" mpt
6FA-6SB	3/8"	3/8" flare
8NP-8SB	1/2"	1/2" mpt
7661-08FJ08TY	1/2"	1/2" flare
12NP-12SC	3/4"	3/4" mpt
16MP-16LAR	1"	1" mpt



High Pressure Propane Hose

The high pressured hose has a working pressure of 350# wp and is rated for liquid or vapor. Hose is constructed with a fabric braid for reinforcement.

Size	Hose	M.P. Hose Ends
1/4"	7132-251	4NP-4SB
3/8"	7132-381	6NP-6SB
1/2"	7132-502	8NP-8SB
3/4"	7232-752	12NP-12SC
1"	7232-1002	16MP-16LAR

Propane Cylinders

All cylinders equipped with outage gauge. Horizontal 20# cylinders are also available. Also available are cylinders with type 2 OPD valves.

Part#	W.C.	Diameter	Height
5SC-OPD	13.0	8	8
10SC-OPD	26.1	8.87	13.75
11SC-OPD	25.4	12.16	8.37
20SC-OPD	47.6	12.16	13.62
20SC-WG-OPD (w/gauge)	47.6	12.16	13.62
30SC-OPD	71.4	12.16	19.56
40SC-OPD	95.2	12.16	25.56



Propane Cylinders

These cylinders are ideal for larger BTU loads such as torches, tank heaters and commercial portable heaters. They have a special phenolic coating on foot ring to prevent corrosion.

Part#	W.C.	Diameter	Height
50SC	119	14.50	23.70
60SC	142	1	44.1
100SC	238	15.06	41.00



Large Capacity Cylinders

420# Cylinder also available in horizontal cylinder.

Part#	W.C.	Diameter	Height
200SC	476	24	34.06
420SC	1000	30	45.62



Aluminum Forklift Cylinders

Cylinders are complete with all valves and fittings.

Part#	W.C.	Diameter	Height
20ALFL	47.6	12.19	19.13
33ALFL	80	12.19	27.25
43ALFL	104	12.19	33.25



Steel Forklift Cylinders

Cylinders are complete with all valves and fittings.

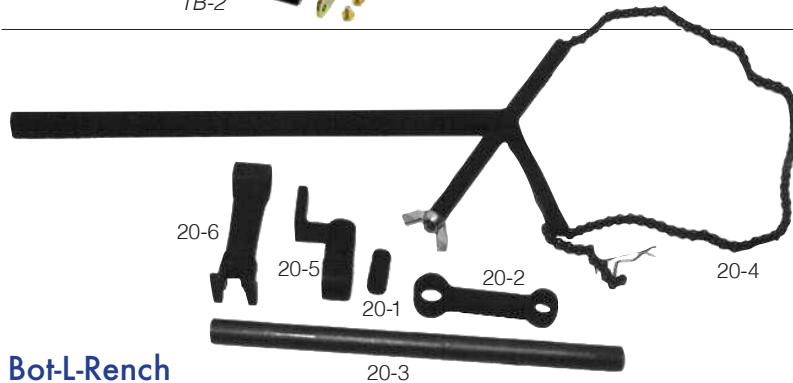
Part#	W.C.	Diameter	Height
20FL	47.6	12.19	19.13
33FL	80	12.19	27.25
43FL	104	12.19	33.31
5455 (Buffer)	47.6	12.19	19.13



Forklift Cylinder Brackets

Forklift Cylinder brackets allow mounting of forklift cylinder horizontally on forklift. These brackets are made for 33# and 43# Cylinders.

Part#	Description
TB-2	Set of two brackets
TB2-60	Replacement toggles



Bot-L-Rench

Part#	Description
20-1	Plug
20-2	Wrench
20-3	Handle
20-4	Chain Vise
20-5	Plumbers Pot
20-6	Lift Truck Wrench

Kits

Part#	Kit Contents
F100-2	20-1, 20-2, 20-3 & 20-4
F100-3	20-1, 20-2 & 20-3
F100-7	20-3 & 20-6



QCC Removal Tool

OPD Valve removal tool.

20-8QCC TOOL

Gauge Doctor

Kit for Junior and Senior gauge mounts

- One drill guide block for both JR & SR tank gauges
- Bolts secure the block to the gauge flange on tank
- Drill bits for drilling out the broken bolts #3 or 7/32" Junior & I or 7mm Senior
- Taps to re-thread the bolt holes
- Free 50 piece starter kit of new gauge bolts & gaskets for both JR & SR gauges



E-Z Stamp

Air Operated tool stamps the date easily and clearly to conform to DOT regulations. Requires only 60psi air pressure.

MODEL A



Stamp Set

1/4" Steel Figures stamp cylinders clearly.

0-9FS steel stamp set numbers 0-9

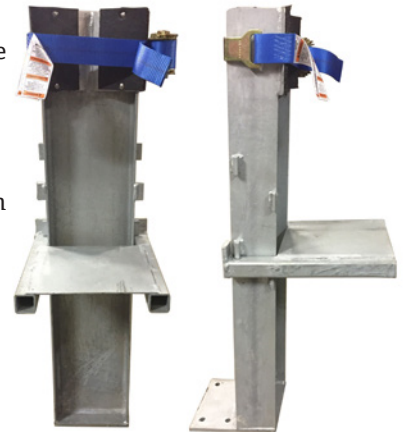
LETTER "E" 1/4" letter

Cylinder Vise

This provides a convenient, secure way to change valves. Holes are pre-drilled in base to anchor to dock. Complete with polyester binding strap and ratchet.

- Material: 8" I-Beam Construction
- Weighs: 58 lbs.
- Finish: Gray Rust-Inhibiting
- Specifications: 40" Tall

CYL-VS



The Tank-Jak™

It is designed to raise or lower propane tanks up to 1000 gallons. Rugged construction allows safe jacking with this simple-to-use, one-person tool. Tanks can be raised or lowered safely and efficiently for maintenance operations like painting and re-leveling. Boom trucks or tank carriers are not needed for personnel to re-level LP gas tanks which saves labor costs and equipment.

TANK-JACK



Order Online

Did you know you can order your parts online. Get the most updated pricing by logging into your account! Visit today at: www.fairbankequipment.com

QCC x POL Adapter

ME393 male QCC threads by 1/4" FPT ME1654 is handwheel POL

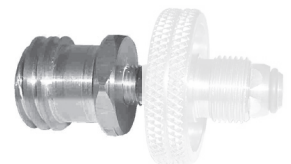
ME398
Male QCC x Male POL
(One piece)



ME1654



ME393



Part#	Capacity
FH04202SSACA	4
FH09302MSACA	9
FH09302MSACA-U	9
A-FH09302MSACA	9
A-FH09302MSACA-U	9
FH09303MSACA	9
FH09303MSACA-U	9
A-FH09303MSACA	9
A-FH09303MSACA-U	9
FH12302LSACA	12
FH12302LSACA-U	12
A-FH12302LSACA	12
A-FH12302LSACA-U	12
FH12303LSACA	12
FH12303LSACA-U	12
A-FH12303LSACA	12
A-FH12303LSACA-U	12

Forklift Cylinder Cabinets

Promote safety and protect yourself and your customers by insisting that all forklift cylinders be safely stored in a forklift cylinder storage cabinet. These rugged, versatile, secure cabinets make compliance with NFPA-58 simple and affordable.



(Steel)

All cabinets are available in steel or aluminum. "A" in front of a part number represents Aluminum. "U" at the end of a part number represents unassembled.

Part#	Capacity
LB04202SSACA	4
A-LB04202SSACA	4
LB12302MSACA	12
LB12302MSACA-U	12
A-LB12302MSACA	12
A-LB12302MSACA-U	12
LB18302LSACA	18
LB18302LSACA-U	18
A-LB18302LSACA	18
A-LB18302LSACA-U	18
LB24402LDACA	24
LB24402LDACA-U	24
A-LB24402LDACA	24
A-LB24402LDACA-U	24

Cylinder Exchange Cabinets

Designed for maximum visual effect, each one of these display cabinets could become a virtual sign post promoting your product or company.



(Aluminum)



Cylinder Caps and Collars

These caps and collars offer protection of the cylinder valves.

- MSC-5 3½" Cap
- MSC-6 3½" Cap
- 312SEL 3½" Collar
- 318SEL 3½" Collar



Cylinder Filling Adapter

This adapter is used when filling DOT Cylinders from a larger fill hose. Male 1¼" Acme x FMPT.

- 5764A Rego Adapter
- 970 POL



Cylinder Exchange Sign

C37G

Domestic Propane Tanks

Fairbank Equipment is proud to be a stocking depot for propane tanks. We normally have tanks in Wichita, Grand Island, Yankton, and Denver. Another value added service provided by Fairbank Equipment.

Capacity	Diameter	Length	Weight	Vapor Cap. @ 20° F
120 Gallon	24"	68"	288lbs	235,008
250 Gallon	30"	94"	542lbs	406,080
325 Gallons	30"	119"	672lbs	514,100
500 Gallons	37"	119"	1,062lbs	634,032
1,000 Gallons	41"	192"	1,983lbs	1,088,472



Tank Lifting Straps

These heavy lifting straps make tank moving easy. On 500 gallon tanks or smaller use a minimum of one strap. Use two straps for 1,000 gallon tanks or larger.

Made of heavy yellow strapping material with loops made into straps.

LLS STRAPS



Fisk Tank Carriers

- Lifting Capacity: 6,000 lbs.
- Overall Length: 20'6"
- Overall Height: 7'0"
- Loaded Tank
- Ground Clearance: 25"
- Weight: 2,020 lbs.
- Axles: 7,000 lb. capacity
- Tires: 7.50-16LT, 8 ply
- Brakes: Electric
- Electrical: 12V divided drum winch
- Fully wired: D.O.T. lighting system

Also available in basic version

The standard model still has a 6,000lb lifting capacity and 7,000 lb axles.





HEATERS



FIREPLACES, LOGS,
GRILLS





Infra-Red Heaters

Model#	Input BTU	Temperature Control
HRW06ML	6,000	Manual
HRW10ML	10,000	Manual
HRW15ML	15,000	Manual
HRW25ML	25,000	Manual
HRW10TL	10,000	Thermostat
HRW15TL	15,000	Thermostat
HRW25TL	25,000	Thermostat

Accessories

HAB01 Blower for Thermostat and Manual control

HAS04 Floor Stand for 6,000 to 10,000 btu models

HAS03 Floor Stand for Newer Models



Blue Flame Heaters

Model#	Input BTU	Temperature Control
HBW06ML	6,000	Manual
HBW10ML	10,000	Manual
HBW20ML	20,000	Manual
HBW30ML	30,000	Manual
HBW10TL	10,000	Thermostat
HBW20TL	20,000	Thermostat
HBW30TL	30,000	Thermostat

Features

- 99.9% Efficiency-Turns more gas into heat
- Propane or Natural Gas
- Push button piezo ignition and standing pilot
- Heats even when electric power fails
- Oxygen depletion sensor shuts off heater before oxygen drops to unsafe level
- Wall mount or floor stand
- Three year limited warranty on parts and labor

Empire Room Heaters

Empire's room heaters are easy to operate. They are uniquely designed to give you maximum results with minimum cost. Some of the features included are:

- Vents into existing chimney
- Lower cost to heat than electric
- Heats without electricity
- Automatic blower to circulate air



Visual Flame Room Heater

Model#	Input BTU	Temperature Control	Ignition System
RH-50B	50,000	Hydraulic T-Stat	Piezo
RH-65B	60,000	Hydraulic T-Stat	Piezo

Accessories

RAD-8 Radiants and Supports

RH-425 Floor Pad 36" x 21"

RHL-2 Log Kit



Room Heater

Model#	Input BTU	Temperature Control	Ignition System
RH-25	25,000	Hydraulic T-Stat	Piezo
RH-35	35,000	Hydraulic T-Stat	Piezo
RH-50C(B)	50,000	Hydraulic T-Stat	Piezo
RH-65C(B)	65,000	Hydraulic T-Stat	Piezo



MADE IN USA.

Accessories

DRB-1 Automatic Blower – 25 & 35

RH-425 Floor Pad 36" x 21"

FRB-3 Blower – 50 & 60

CB has blower installed.

Infra-Red Heaters

These Heaters produce an infrared "radiant" heat that adds warmth to a room just like the sun.

Empire heaters are 99.9% fuel efficient because they don't require outside venting. This means no heat will be lost. Empire Vent-Free units also do not require electricity to operate.

All models have standing pilot with piezo ignition.



MADE IN USA.

Model#	Input BTU	Temperature Control
SR-6	6,000	1 Manual setting
SR-10	10,000	1 Manual
SR-10T	10,000	1 Thermostat
SR-18	18,000	3 Manual
SR-18T	18,000	Thermostat
SR-30	30,000	3 Manual
SR-30T	30,000	Thermostat

Accessories

SRB-18 Blower for SR-18

SRB-18T Automatic Blower for SR-18T

SRB-30 Blower for SR-30

SRB-30T Automatic Blower for SR-30T

SRS-10 Floor Stand for SR-6, 10 & 10T

SRS-18 Floor Stand for SR-18 & SR-18T

SRS-30 Floor Stand for SR-30 & SR-30T



Blue Flame Heaters

These heaters heat the air, which then surrounds the environment creating an "atmospheric" warmth.

Empire heaters are 99.9% fuel efficient because they don't require outside venting. This means no heat will be lost. Empire Vent-Free units also do not require electricity to operate.

All models have standing pilot with piezo ignition.



Model#	Input BTU	Temp. Control
BF-10	10,000	Hydraulic
BF-20	20,000	Modulating Hydraulic
BF-30	30,000	Modulating Hydraulic

Accessories

SRB-18T Automatic Blower for BF-10, BF-20

SRB-30T Automatic Blower for BF-30

SRS-18 Floor Stand for BF-10, BF-20

SRS-30 Floor Stand for BF-30

MADE IN USA.



DV-210 / DV-215

Model#	Input BTU	Temperature Control
DV-210-SG	10,000	Wall T-Stat
DV-215-SG	15,000	Wall T-Stat

Accessories

- DRB-1** Automatic Blower
- DV-822** Vinyl Siding Vent Kit



DV-25 / DV-35

Model#	Input BTU	Temperature Control
DV-25-SG	25,000	Wall T-Stat
DV-35-SG	35,000	Wall T-Stat

Accessories

- DRB-1** Automatic Blower
- DV-822** Vinyl Siding Vent Kit



High-Efficient Direct Vent

Model#	Input BTU	Temperature Control
DV-20E	20,000	Thermistor
DV-40E	40,000	Thermistor
DV-55E	55,000	Thermistor

Accessories

- DVE-1** Intake/Exhaust Kit for DV-20E, DV-40E (54" kit with 2 elbows)
- DVE-2** Intake/Exhaust Kit for DV-20E, DV-40E (54" kit for extended vent runs)
- DVT-2** Extended Vent Terminal (walls up to 32" thick)
- DVP-1** Floor Pad
- TMV** Wall Thermostat
- TRW** Wireless Remote Wall Thermostat

Wall Thermostat is included in all units.



Floor Furnace

Model#	Input BTU	Casing Length & Width	Type of Gas
5088	45,000	34"x22"	Natural or LP
7088	65,000	34"x30"	Natural or LP

Safety Control

Pilot and Main Burners Include Automatic Shutoff, Temperature Limit Controls, Flood Pan and Debris Pan.



Direct Vent Counterflow Wall Furnace

Model#	Input BTU	Temperature Control	Ignition System
DVC-35-SPP	35,000	24V T-Stat	Piezo
DV-55-SPP	55,000	24V T-Stat	Piezo
DV-55-IP	55,000	24V T-Stat	Electronic

Accessories

- SOR-1** Side Outlet Register
- SOK-1** 10" Side Outlet Kit
- DV-822** Vinyl Siding Vent Kit

Direct Vent Counterflow Wall Furnace

Model#	Input BTU	Temperature Control	Ignition System
FAW-40-SPP	40,000	24V T-Stat	Piezo
FAW-55-SPP	55,000	24V T-Stat	Piezo
FAW-55-IP	55,000	24V T-Stat	Electronic



Accessories

- SOR-1** Side Outlet Register
- SOK-1** 10" Side Outlet Kit
- ROK-1** 10" Rear Outlet Kit
- FVE-24** Vent Enclosure, 24" for FAW-40
- FVE-34** Vent Enclosure, 34" for FAW-40
- FVE-46** Vent Enclosure, 46" for FAW-40
- DV-651** Vent Enclosure, 14" for FAW-55
- DV-665** Vent Enclosure, 24" for FAW-55
- DV-666** Vent Enclosure, 36" for FAW-55
- DV-648** Oval-To-Round Flue Adapter Kit

Gravity Wall Furnace

Model#	Input BTU	Temperature Control	Ignition System
GWT-25	25,000	Wall T-Stat	Standing Pilot
GWT-35	35,000	Wall T-Stat	Standing Pilot
GWT-50	50,000	Wall T-Stat	Standing Pilot

Accessories

- GWTB-2** Automatic Blower
- GWTR-1** Rear Register Kit (GWT-25/35 models only)
- GWTW-2** Out-of-the-Wall Installation Kit (GWT-25/35 models only)
- GWTH-25/35** Header for GWT-25/35 models (included with furnace)
- GWTH-50** Header for GWT-50 model (included with furnace)
- GWRB-T** Remote Bulb T-stat, Millivolt (not needed on new unit)
- TMV** Wall Thermostat-Millivolt Reed Switch



HeatStar Vent Free Infrared & Blue Flame Heaters

- Convenient-top mounted comfort controls with adjustable settings
- No electricity required
- Easy to Install-wall mount or free standing (feet included)
- Limited 5-year warranty
- Safe-clean burning, equipped with low oxygen shutoff sensor



10,000btu Model

- Heats up to 300 sq ft
- Dimensions 15.75"w x 20"w x 7.5"d
- Low and high heat settings
- Available in Manual or with Thermostat



HSVFR10LP Propane
HSVFR10NG Natural Gas



HSVFB10LP Propane
HSVFB10NG Natural Gas

20,000btu Model

- Heats up to 600 sq ft
- Thermostat
- Includes factory installed blower fan
- Dimensions 19"w x 24"w x 8"d
- Easy to read room temperature display



HSSVFR20LPBT Propane
HSSVFR20NGBT Natural Gas



HSSVFB20LPBT Propane
HSSVFB20NGBT Natural Gas

30,000btu Model

- Heats up to 1,000 sq ft
- Thermostat
- Includes factory installed blower fan
- Dimensions 23.5"w x 24"w x 8"d
- Easy to read room temperature display



HSSVFR30LPBT Propane
HSSVFR30NGBT Natural Gas



HSSVFB30LPBT Propane
HSSVFB30NGBT Natural Gas

Value Series

The perfect combination of comfort and value. These easy-to-install, compact models combine all the reliability you'd expect from Rinnai with performance that's ideal for medium- to smaller- sized new homes or remodels.

- Energy Factor of up to .82
- Alternative water heating choice for homes with smaller demands

Part#	Dimensions WxHxD	Max BTU	Hot Water Flow Rate	Installation Type	Fuel
V75i	14"x23"x9"	180,000	0.26 - 7.5 GPM	Indoor	Natural Gas
V75E				Outdoor	Natural Gas
V65iN		150,000	0.26 - 6.5 GPM	Indoor	Natural Gas
V65iP				Indoor	Propane
V65E				Outdoor	Natural Gas
V53E	14"x21"x7"	120,000	0.6 - 5.3 GPM	Outdoor	Natural Gas



Luxury Series

Offers the highest output of Rinnai's non-condensing line of tankless models. It comes with a sleek, modern design and a range of standard features and benefits to fully satisfy the demands of larger homes and light commercial applications.

- Energy Factor of up to .82
- Recirculation: Circ-Logic provides optimal operation of an external recirculation pump utilizing a dedicated recirculation line
- Easy maintenance is achieved with included isolation valves



Part#	Dimensions WxHxD	Max BTU	How Water Flow Rate	Installation Type	Fuel
RL94i	14"x23"x9"	199,000	0.26 to 9.8GPM	Indoor	Natural Gas
RL94iP					Propane
RL75i	14"x23"x9"	180,000	0.26 to 7.5GPM	Indoor	Natural Gas
RL75iP					Propane



Hybrid Tank-Tankless Water Heater

This Water Heater installs like a traditional tank-style using a ½" gas line, standard water connections and 4" B-Vent, or can be common vented with a furnace.

- Advanced tankless technology heats water quickly and provides more hot water, saving you valuable time and simplifying your life
- Replenishes hot water faster so you'll get more out of every day
- Standard tank connections means, quick and easy installation without reconfiguring your setup
- Controller with diagnostic capabilities makes it simple to operate



Part#	Dimensions WxHxD	Max BTU	Hot Water Flow Rate	Installation Type
RH180	20" x 51.2" x 27.5"	91,300	First Hour:180 GPH	Indoor



**VT-21/2-30C
400,000 BTU Torch Kit**

An excellent utility torch kit for around the farm and home. The 28" handle is just the right length for burning weeds, heating, or melting snow and ice.

- Max Capacity: 400,000 Btu
- Operating Pressure: 25 PSI
- Operating Range: 5-90 PSI
- Fuel Consumption at 25 PSI is 9.03 lbs/hr

Kit Contains:

VT 2-1/2-30 Vapor Torch / 10ft high pressure hose / Excess Flow POL / Adjustable Needle Valve / Pipe Thread Compound



**VT-21/2-24CE
500,000 BTU Economy Torch Kit**

An economical model for the price conscious individual. Handle length is 23 inches.

- Max Capacity: 500,000 Btu
- Operating Pressure: 30 PSI
- Operating Range: 5-90 PSI
- Fuel Consumption at 30 PSI is 10.13lbs/hr

Kit Contains:

VT 2-1/2-24CE Vapor Torch / 10ft high pressure hose / Excess Flow POL / Adjustable Needle Valve / Pipe Thread Compound



VT-1-32C Mini Dragon

The Mini Dragon torch kit is perfect for spot weeding and other small jobs such as lighting charcoal, campfires and more.

The pinpoint flame is perfect for those smaller jobs that the full size weed dragon isn't required.

Kit Contains:

18,000 BTU Torch with non-slip grip / Flame Adjusting Needle Valve / 1 lbs. Cylinder Connector / Spark Lighter



**VT-3-30C
500,000 BTU Torch Kit**

The perfect all-around torch packaged in a complete kit. Rugged, all-steel construction assures durability, yet this propane torch is lightweight to allow hours of comfortable operation.

- Max Capacity: 500,000 Btu
- Operating Pressure: 30 PSI
- Operating Range: 5-90 PSI
- Fuel Consumption at 25 PSI is 10-13 lbs/hr

Kit Contains:

VT 3-30 Vapor Torch / 10ft high pressure hose / Excess Flow POL / Adjustable Needle Valve Pipe / Thread Compound



HeatStar Contractor Series Portable Radiant Heaters

Reflective radiant Heat with the warmth of the sun. Great for construction sites, utility/farm buildings, factories, barns, and even sporting events.



35,000 BTU Infrared - HS35LP

- Heats up to 800 sq. ft.
- CSA certified
- No electricity required – heats during power outages
- Clean burning, quiet, odorless
- Tip-over switch, safety shutoff, P.O.L. Connection with 10' hose included
- Operates on standard 20lb cylinder
- Includes fold-down handle and 3.5" solid rubber tires for easy transport
- Fully assembled, ready to use



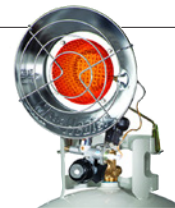
125,000 BTU Infrared - HS125LP

- Heats up to 3,000 sq. ft.
- Rugged, durable construction
- No electricity required – heats during power outages
- CSA certified
- Fully assembled - ready to use
- Welded frame, heat shield, safety shutoff, regulator, P.O.L. connection with 10' hose included
- Recommended for cylinders 60 lbs & larger
- Includes handles & wheels

Mr. Heater Portable Heaters

These portable infrared heaters offer warmth and convenience. Available from 14,000 to 42,000Btu per hour.

Model#	BTU Range	Description
MHC15T	8-14,000	Single element
MH15TS	8-14,000	Single w/spark ignition
MH30T	8-28,000	Double element
MH30TS	8-28,000	Double w/spark
MH45T	8-42,000	Triple element



Mr. Heater 45,000 BTU 540 Degree Tank Top Heater

The Mr. Heater 540° Heater 30,000 – 45,000 BTU Liquid Propane Tank Top heater with soft nose POL is the perfect solution for a variety of outdoor heating applications. This heater is constructed with an adjustable 360° burner head that swivels up to 180° which allows you to focus radiant heat in multiple directions. The MH540T is easy to light due to the push button TE valve, and its high quality stainless steel components bring you longer lasting durability and the standard tip over safety shut-off switch brings you peace of mind. 360° Burner Head, 180° Multi-Directional Bracket, 30,000 - 45,000 BTU per hour, For use with Liquid Propane, Push Button TE Valve, Safety Shut-off Tip Over Switch, Mounts to a 20 lb. cylinder

MH540T



Big Buddy

- 4,000, 9,000 and 18,000 BTU/HR
- Designed and approved for emergency indoor & outdoor use
- Automatic low oxygen shutoff
- Accidental tip-over shutoff
- Heats up to 400 sq. ft.
- Connects directly to two 1 lb. disposable cylinders or to a 20 lb. cylinder with optional hose
- CSA certified

F274800



Mr. Buddy

- 4,000 & 9,000 BTU/HR
- Designed and approved for emergency indoor & outdoor use
- Swivel Out Regulator
- Automatic low oxygen shutoff
- Accidental tip-over safety shutoff
- Heats up to 200 sq. ft.
- CSA certified

F232000

F273701 5ft hose

F273702 12ft hose



Little Buddy

- 3,800 BTU/HR
- Accidental tip-over safety shutoff
- CSA certified for indoor use
- One button ignition/on function
- Oxygen depletion sensor
- Heats up to 100 sq. ft.
- Connects directly to one 1lb. disposable cylinder

F215100

Direct Vent Wall Furnace

With a Rinnai EnergySaver® Direct Vent Wall Furnace, you'll be as comfortable with your energy bill as you are with your room temperature. Our technology uses only the exact amount of gas needed, optimizing energy efficiency.



Rinnai®

Part#	Gas Rate Input	Gas Rate Output	Weight	Fuel
EX38CP	13,200-36,500 BTU/HR	10,560-29,200 BTU/HR	88 lbs	Propane

Vent Free, Gas Fan

These convection heaters are suitable for homes, apartments, and condominiums, residential or commercial setting; modular/mobile home approved; forced combustion, forced convection

Part#	Gas Rate Input	Weight	Fuel
FC510LP	5,600-10,000 BTU/HR	22.1 lbs	Propane
FC824LP	8,000-22,000 BTU/HR	26.5 lbs	Propane



Rinnai®

N=Natural Gas LP=Propane Gas



Enerco Tube Radiant Heaters

Heatstar Low Intensity Radiant Tube Heaters direct line-of-sight radiant heat to floor-level objects, which in turn, heat surrounding air to desired temperature. Personnel and objects at floor level enjoy instant, cost-saving comfort.



- 10 Year Limited Warranty
- 16-Gauge Aluminized Tubing
- Outside or Inside Air for Combustion
- Sealed Burner Control Box
- Full Cover Polished Aluminum Reflector
- All natural gas units include an LP gas conversion kit
- Available in 60, 80, 100, 125, 150, 175,000 BTU/hr capacities
- 20 - 60 foot system lengths
- Install as "U-Tube" or "L" configuration with optional kits
- Hanger design allows horizontal or 45° angle of reflectors
- Honeywell Smart Valve II® which combines the gas valve & ignition control into one unit

Model#	Length	Top	Straight Below	Side	Mounting Height	Weight(lbs)
ERXL 60 N/LP	20'	6"at0° 12"at 45°	55"	36"	10'-14'	110
ERXL 80S N/LP	20'	6"at 0° 18"at 45°	55"	36"	12'-15'	110
ERXL 80 N/LP	30'	6"at 0° 18"at 45°	55"	36"	12'-15'	110
ERXL 100S N/LP	30'	6"at 0° 18"at 45°	74"	36"	12'-15'	130
ERXL 100 N/LP	40'	6"at 0° 18"at 45°	74"	36"	12'-15'	150
ERXL 125S N/LP	40'	6"at 0° 18"at 45°	87"	36"	14'-19'	150
ERXL 125 N/LP	50'	6"at 0° 18"at 45°	87"	36"	14'-19'	170
ERXL 150 N/LP	50'	6"at 0° 18"at 45°	87"	36"	15'-25'	170
ERXL 150L N/LP	60'	6"at 0° 18"at 45°	87"	36"	15'-25'	190
ERXL 175 N/LP	50'	6"at 0° 18"at 45°	87"	36"	15'-25'	170
ERXL 175L N/LP	60'	6"at 0° 18"at 45°	87"	36"	15'-25'	190



Enerco Infrared Gas Heaters

NDSP-5

Natural Gas - Automatic Spark Ignition on pilot, with safety burner shut-off, 34V AC control with intermittent pilot. (Pilot is off when heater is off.) 120/25V transformer is shipped loose with each heater.

NPP

Natural Gas - Power Pile (self generating) Control, no outside electrical source required to turn heater on or off. Manually lit pilot, safety shut-off on pilot and burner. Power Pile Thermostat shipped loose with each heater.

LA-5

Propane Gas - Automatic Spark Ignition on pilot, with 100% safety shut-off on pilot and burner, 24V AC control with intermittent pilot. (Pilot is off when heater is off.) 120/25V transformer shipped loose with each heater.

LPP

Propane Gas - Power Pile (self generating) Control, no outside electrical source required to turn heater on or off. Manually lit pilot, safety shut-off on pilot and burner. Power Pile Thermostat shipped loose with each heater.

**Optional Controls Available*



Series 4040 Overhead Heaters

Model#	Gas	BTU/hr	Weight
4040 NDSP-5	Natural	40,000	25
4040 NPP	Natural	40,000	25
4040 LA-5	Propane	40,000	25
4040 LPP	Propane	40,000	25

NOTE: All 4040 heaters come with an extra orifice to convert to 30,000 BTU.

Series 8060 Overhead Heaters

Model#	Gas	BTU/hr	Weight
8060 NDSP-5	Natural	60,000	34
8060 NPP	Natural	60,000	34
8060 LA-5	Propane	60,000	34
8060 LPP	Propane	60,000	34

NOTE: All 8060 heaters come with an extra orifice to convert to 50,000 BTU or 70,000 BTU. All 8060 LP heaters come with an extra orifice to convert to 50,000 BTU.

Series 9100S Overhead Heaters

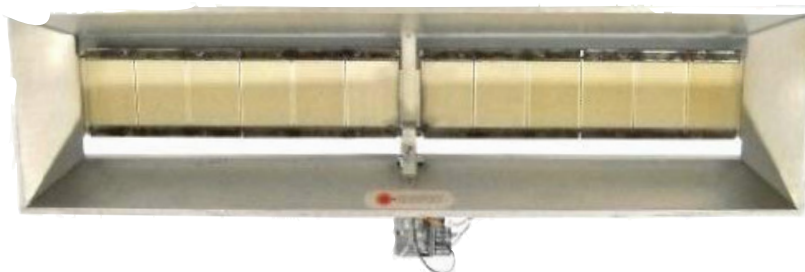
Model#	Gas	BTU/hr	Weight
9100S NDSP-5	Natural	100,000	46
9100S NPP	Natural	100,000	46
9100S LA-5	Propane	100,000	46
9100S LPP	Propane	100,000	46

NOTE: All 9100S heaters come with an extra orifice to convert to 80,000 BTU or 90,000 BTU.

Series 9120 Overhead Heaters

Model#	Gas	BTU/hr	Weight
9120 NDSP-5	Natural	120,000	61
9120 NPP	Natural	120,000	61
9120 LA-5	Propane	120,000	61
9120 LPP	Propane	120,000	61

NOTE: All 9120 natural gas heaters come with an extra orifice to convert to 100,000 BTU or 140,000 BTU. All 9120 LP heaters come with an extra orifice to convert to 100,000 BTU.



Enerco Infrared Garage Heater

Infrared heater heats the objects and floor which radiate heat to the surrounding air. Millivolt thermostat requires no electricity.

- Heats up to 500sq ft
- Wall mount infrared heater with thermostat
- 100% fuel efficient
- Comes complete and ready to install



Model#	BTU	Fuel
H22L	22,000	Propane
H25N	25,000	Natural

HeatStar Forced Air Propane Heaters

- Instant Heat Economical, efficient and clean burning
- Maximum Heat Circulation Heavy duty high output fan
- Safe-heater shuts off with loss of power or flame
- Simple hook up, hose and regulator included
- Made to last rugged, durable steel construction



Model#	BTU Range	Heats up to...
HS35FA	35,000	800sq.ft.
HS85FAV	55-85,000	2,000sq.ft.
HS125FAV	75-125,000	3,000sq.ft.
HS170FAVT	125-170,000	4,000sq.ft.
HS400FAVT	250-400,000	9,000sq.ft.

Tradesman Gas Portable Forced Heaters

- Direct-fired = 99.97% fuel efficiency
- Propane models available
- Dependable electronic spark ignition
- Superior Tri-Shield finish provides extended protection against abrasion and corrosion.
- Thermostatic temperature control (400 model)
- Variable output saves fuel
- Adjustable front leg provides easy direction of heat (400 model)
- CSA US and Canadian



Model#	Fuel	BTU Range	Weight
CP170ASP	Propane	170,000	39
CP400ASP	Propane	400,000	54

L.B. White Classic Forced Air Heaters

The direct-fired L.B. White Classic forced air heater has had over 40 years of dependable service.

- *Pilot Ignition
- *Indoor Use Only
- *Side draw design
- *Two models ranging from 60,000 to 115,000 Btu/h
- *Easy to maintain pilot ignition
- *Integrates with all major pig house control systems
- *Quick change motor mount for easier replacement of motor or blower wheels



Model#	BTU/hr	Thermostat (05568)	Hose Piping Regulator	Hanging Kit (08749)
346LBW (Classic 60)	60,000	Y	Y	Y
346-4 (Classic 60-4)	60,000	Y	N	Y
377LBW (Classic 115)	115,000	Y	Y	Y
377-4 (Classic 115-4)	115,000	Y	N	Y



Common Replacement Parts

Model#	Motor	Blower	LP Control Valve	Limit Switch	Thermocouple
346	20290	02808	02309	05566	03497
377	20554	03531			
408	20554	02684			

L.B. White Guardian Forced Air Heaters

- *Models ranging from 60,000 to 325,000 Btu/h
- *Indoor or outdoor installation
- *Bottom draw design
- *Manually adjustable variable rate valve (50% to 100%) or fixed rate heat output
- *Automatic Variable Rate available with Smart Sense upgrade
- *Advanced Service Saver (a built-in electronic diagnostic feature)
- *All models have integral regulator in the gas valve with maximum inlet psi of 1/2"
- *Quick change motor mount for easier replacement of motor or blower wheels
- *Integrates with all major pig house control systems
- *Three Ignition Configurations Available (Hot Surface, Spark, Pilot Light)



Model#	BTU/hr	Accessory Package	Outdoor Mount Kit	Ignition Options
AW060 LP/NG	30,000 - 60,000	09985/09986	500-09810	HSI, SI
AW100 LP/NG	50,000 - 100,000	20182/20183	500-09811	HSI, SI
AW250 LP/NG	160,000 - 250,000	20180/20181	500-24097	HSI, SI, PL
AW325 LP/NG	200,000 - 325,000	09004/09006	500-24098	HSI

Modine Unit Heaters

Due to its low cost and compact design, Modine's PD propeller unit heater is the logical choice for many unit heater applications. The model PD is a gas fired, gravity-vented unit heater that provides application versatility, ease of installation, low installed cost, long service life and excellent heat throw. Designed for overhead suspended mounting, it only requires venting and gas and electric service connections prior to operation.

Product Features and benefits

- All models are 80% thermally efficient
- Adjustable mounting brackets
- High limit safety control & blocked vent safety switch
- Low voltage terminal connections
- Input ranges from 30,000 to 400,000 BTU/hr
- Two point suspension on most sizes
- Aluminized steel heat exchanger and burner
- Hinged tool-less bottom pan entry
- No thermostat with unit



Model#	Input BTU	Output BTU	Vent Dia	CFM @ 70°F	Max Height	Heat Throw	Motor HP	LP Conn. Kit#
HD30	30,000	24,000	3"	505	10ft.	25ft.	1/15	53079
HD45	45,000	36,000	3"	720	10ft.	27ft.	1/15	53079
HD60	60,000	48,000	3"	990	12ft.	36ft.	1/12	53079
HD75	75,000	60,000	3"	1160	14ft.	38ft.	1/12	53079
HD100	100,000	80,000	4"	1490	12ft.	42ft.	1/12	53080
HD125	125,000	100,000	4"	1980	16ft.	56ft.	1/8	53081
PDP150	150,000	120,000	5"	2180	16ft.	55ft.	1/8	28048
PDP175	175,000	140,000	5"	2550	17ft.	59ft.	1/6	28049
PDP200	200,000	160,000	5"	2870	15ft.	51ft.	1/6	28050
PDP250	250,000	200,000	6"	3700	19ft.	67ft.	1/3	28051
PDP300	300,000	240,000	6"	4460	21ft.	74ft.	1/2	28052
PDP350	350,000	280,000	6"	4870	20ft.	70ft.	3/4	28053
PDP400	400,000	320,000	6"	5440	19ft.	69ft.	3/4	28054

INDIRECT FIRED UNIT INDUSTRIAL HEATER

- Efficient and Effective Heat - Quiet operation
- Heats up to 1,250, 2,000, 3,000 sq. ft. respectively
- Easy Installation - Requires only 1'-0" clearance from ceiling with 2 angle brackets included
- Operating Versatility - Power exhaust allows for vertical or horizontal venting.
- Designed for right or left side venting
- Built-in Reliability - Tubular heat exchanger for maximum efficiency and longer life
- Available as a natural gas only design and includes an LP conversion kit as standard



Model#	BTU	Fuel
HSU50-NAT	50,000	Natural
HSU80NG	80,000	Natural
HSU125-NAT	125,000	Natural



Compact Size Stoves

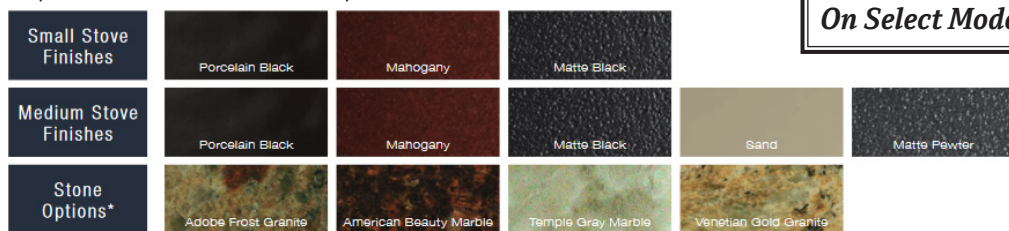
- 10,000 BTUs (Vent Free Only) and 20,000 BTUs Contour/Slope Glaze Burner
- Available Vent Free 10,000-Btu model may be installed in bedrooms, where allowed by code.
- Richly detailed casting
- Available in three finishes: porcelain black, porcelain mahogany, and matte black
- Optional side shelf sets and floor pads available

Medium Size Stoves

- 27,000 BTUs Contour/Slope Glaze Burner
- Richly detailed casting
- Available in five finishes: porcelain black, porcelain mahogany, porcelain sand, matte black, and matte pewter
- Optional side shelf sets and floor pads available



**Call For Pricing And Availability
On Select Models And Options Below**



Millivolt / IP Burner	Dimensions HxWxD	Weight (lbs)	Available Options
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Vent Free

VFD10CC30 (B,M,F)	24-1/8 x 21-1/2 (32-3/4 w/ shelves) x 15-3/8	172	Cast Iron Stove Shelf Kits: CSK-B (Porcelain Black), CSK-F (Matte Black), CSK-M (Porcelain Mahogany), CSK-S (Porcelain Sand), CSK-W (Matte Pewter) Accessories: Auto Variable Speed Blower (CIB-3 is for the Med CI Stove & CIB-4 is for the Compact CI Stove) Remote Options: FRBC, FRBTC, FWS1, TMV, TRW Stone Inlays and Floor Pads: See information below
VFD20CC30 (B,M,F) / VFD20CC70 (B,M,F)	24-1/8 x 21-1/2 (32-3/4 w/ shelves) x 15-3/8	172	
VFD30CC30 (B,M,F,S,W) / VFD30CC70 (B,M,F,S,W)	27-3/4 x 28-1/16 (37 w/ shelves) x 17-1/8	205	

Direct Vent

DVP20CC30 (B,M,F) / DVP20CC70 (B,M,F)	24-1/8 x 21-1/2 (32-3/4 w/ shelves) x 15-3/8	202	Cast Iron Stove Shelf Kits: CSK-B (Porcelain Black), CSK-F (Matte Black), CSK-M (Porcelain Mahogany), CSK-S (Porcelain Sand), CSK-W (Matte Pewter) Accessories: Auto Variable Speed Blower (CIB-3 is for the Med CI Stove & CIB-4 is for the Compact CI Stove) Liner: Porcelain Black- DVP-20/30-CCKR Vent Kits: DVKHP-45 (Vent Kit for Horizontal Run), DVKVP-45 (Vent Kit for Vertical Run). Contact us for specific vent kit information Remote Options: FRBC, FRBTC, FWS1, TMV, TRW Stone Inlays and Floor Pads: See information below
DVP30CC30 (B,M,F,S,W) / DVP30CC70 (B,M,F,S,W)	27-3/4 x 28-1/16 (37 w/ shelves) x 17-1/8	240	

Stone Colors for Inlays & Floor Pads	Adobe Frost Granite	American Beauty Marble	Temple Gray Marble	Venetian Gold Granite
Stone Inlay for Medium Stove <i>(replaces metal grill inlay on Medium Stoves only)</i>	CSI-9A	CSI0-12A	CSI-11G	CSI-8V
Traditional Floor Pad Stone Inlay Kit (CIFPB-1)	CIFS-9A	CIFS-12A	CIFS-11G	CIFS-8V
Corner Floor Pad Stone Inlay Kit (CIFPB-1C)	CIFS-9AC	CIFS-12AC	CIFS-11GC	CIFS-8VC



Breckenridge Select Firebox shown with Banded Brick Liner, Sassafras log set on a Slope Glaze Burner, Black Outer Frame, and LK3 Lighting Kit (available for Premium and Select Models only)

Breckenridge Vent-Free Deluxe, Premium, and Select Models

- Variety of Configurations
- Decorative Accessories Tailor the Look to Your Décor
- Louver and Flush Front Models in Matte Black
- Blowers available for Louver and Flush front models
- Refractory, Ceramic Fiber, and Metal Liners (varies by model)
- Accepts Any Certified Vent-Free Burner and Log Set
- Zero Clearance Certified
- Made in the U.S.A.



*Breckenridge Deluxe 36 Vent-Free
Flush Firebox with Refractory Liner*



*Breckenridge Premium 32 Vent-Free
Louvered Firebox with Traditional Liner*



*Breckenridge Select 42 Vent-Free
Firebox with Herringbone Liner*

Breckenridge Deluxe

Breckenridge Deluxe fireboxes measure just 16 1/2 inches deep for the 32-inch model and 19 for the 36- and 42-inch models, yet still allow installation of a blower. We offer an assortment of decorative arched doors, louvers, and frames for the Deluxe fireboxes. Liners include four styles in ceramic fiber, one in refractory, plus Stainless Steel and Black Reflective (Deluxe only). Surround your fireplace with a traditional-style Cabinet or Corner mantel in one of four finishes, or choose stainable hardwood. For use with contemporary burners, we also offer stainless steel and reflective black liners to fit the Deluxe firebox.

Breckenridge Premium

Breckenridge Premium fireboxes add a little more overall depth – 20 9/16 inches – and a taller opening to showcase today's bigger log sets. Complete the Premium Firebox with one of four ceramic fiber liners, decorative accessories in three styles and four finishes, a blower – and even a lighting kit for use with a switch or dimmer control. Surround the installation with a traditional cabinet or corner mantel.

Breckenridge Select

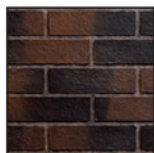
Breckenridge Select fireboxes feature a tall, deep stage for the log set, yet have compact outer dimensions and a low-profile top and bottom. The visual effect is a lot more fireplace with less of the firebox face showing. The Breckenridge Select has no lower louvers, allowing it to be installed at floor level, yet still provides the benefit of a recirculating firebox with optional blower. The low floor height allows installation at or near floor level, for a natural, integrated look that creates the illusion of a site-built fireplace – at a fraction of the cost. All our fireboxes feature hem-bent seams that provide a better seal while eliminating dozens of screws and fasteners. The result is a lighter, more rigid box that's easier to install.

Liners

Our brick liners give your new firebox the look of a real masonry fireplace.



*Traditional Brick
(Ceramic Fiber)*



*Aged Brick
(Ceramic Fiber)*



*Banded Brick
(Ceramic Fiber)*



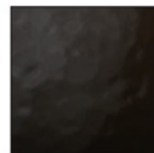
*Stacked Limestone
(Ceramic Fiber)*



*Herringbone Brick
(Ceramic Fiber)*



*Refractory Brick
(Deluxe Fireboxes only)*



*Polished Black Metal
(Deluxe Fireboxes only)*



*Brushed Stainless
(Deluxe Fireboxes only)*



The Breckenridge Premium 36-inch Peninsula Vent-Free Firebox in flush-face, shown with Slope Glaze Vista Burner and Rock Creek refractory log set.



Breckenridge 36 See-Through Firebox shown with Polished Black Liner, Slope Glaze Vista Burner and Stone River ceramic fiber log set.

**Call For Pricing
And Availability
On Select Models
And Options Below**

Louvers or Flushed	Model	Framing Dimension H x W x D	Available Options
VFD32FB	Deluxe 32"	33.75" x 35.5" x 16.25"	Liners: Refractory, Aged Brick, Banded Brick, Trad Brick, Stacked Limestone, Black Porcelain, SS Accessories: Blower, Speed Ctrl, Ember Kit, Fresh Air Kit Decorative Accessories: Standard/Corner Cabinet Mantels w/ Base, Hoods, Louvers, Door Sets, Outer Frames
VFD36FB	Deluxe 36"	35.75" x 40.5" x 18.75"	
VFD42FB	Deluxe 42"	35.75" x 44.5" x 18.75"	
VFP32FB	Premium 32"	38.875"x35.375"x20.563"	Liners: Aged Brick, Banded Brick, Trad Brick, Stacked Limestone Accessories: Blower, Speed Ctrl, Lighting Kit, Ember Kit, Fresh Air Kit Decorative Accessories: Hoods, Louvers, Door Sets, Outer Frames
VFP36FB	Premium 36"	38.875"x40.375"x20.563"	
VFP42FB	Premium 42"	38.875"x44.375"x20.563"	
VFP36SB2	See-Through 36"	41.5" x 40" x 23"	Log Sets: Stone River Ceramic Fiber, Rock Creek Refractory Accessories: Blower, Speed Ctrl, Lighting Kit, Ember Kit, Flush Panel Decorative Accessories: Hoods, Louvers, Door Sets, Outer Frames Frames Peninsula Only: Standard Mantel Top/Base
VFS32FB	Peninsula 36"	41.5" x 39" x 23"	
Flushed Only			
VFS32FB	Select 32"	38.875"x35.375"x23.375"	Liners: Banded Brick, Stacked Limestone, Herringbone Brick Accessories: Blower, Speed Ctrl, Lighting Kit, Ember Kit Decorative Accessories: Hoods, Door Sets, Outer Frames
VFS36FB	Select 36"	38.875"x40.375"x23.375"	
VFS42FB	Select 42"	38.875"x44.375"x23.375"	

VAIL VENT-FREE FIREBOX

Call or Login Online For Current Prices



Vail Series Vent-Free Fireplace

- Zero Clearance Certified
- Integrated Oxygen Depletion Sensor
- Thermostat and Remote Control Models
- More Decorative Accessories Than Ever
- Made in the U.S.A.

The Vail 24 and Vail 26 delivers the beauty of hand-painted ceramic fiber logs and natural flickering flames to dens, halls, and even bedrooms. Vail 24 and 26 Fireplaces are rated at 20,000 Btu, enough heat to keep a family room cozy and warm. Special 10,000 Btu models are available in Millivolt and Intermittent Pilot for bedroom installations, where allowed by local codes. Available accessories include louvers and metal frames, blowers, liners, remote controls, and Standard/Corner Cabinet Mantels with Base.

The Vail 26 Special Edition is the American-made fireplace system that ships complete in one package – fireplace, assembled mantel, Flint Hill log set with 20,000 Btu vent-free Contour burner, matte black hood, frame and louvers – even glowing embers. The Vail 26 Special Edition is available in two mantel colors, cherry and white in Millivolt control. Add a wall thermostat, remote control, or thermostat remote control.

The Vail 32 and Vail 36 are 99.9 percent efficient, which delivers more heat for your energy dollars. Ceramic glazed pellets in the burner tumble and swirl the gas to produce a natural flickering flame. Choose one of two available log sets – Ceramic Fiber or Refractory. Both are hand painted for exceptional realism and exquisite detail. One of two liners – aged brick or stacked limestone – will complement your decor. The matte black arched screen front perfectly frames the logs and optional brick liner to create an exceptionally beautiful fireplace. All Vail fireplaces come with matte black slat louvers and hood.

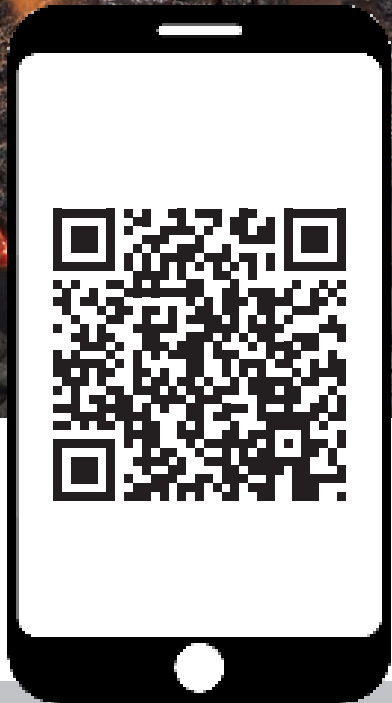


**Call For Pricing And Availability
On Select Models And Options Below**



Millivolt / LP Burner	Model	Framing Dim H x W x D	Available Options
VFP24FP30L10 / VFP24FP70L10	Vail 24" 10k Btu	27 x 23-1/4 x 11-1/2	Liners: Traditional Brick, Aged Brick Accessories: Blower, Ember Kit Decorative Accessories: Standard/Corner Cabinet Mantels w/ Base, Louver, Outer Frame Control Options: See Control Options page in catalog
VFP24FP30L / VFP24FP70L	Vail 24"	27 x 23-1/4 x 11-1/2	
VFP26FP30L10 / P26FP70L10	Vail 26" 10k Btu	30-3/4 x 30-1/2 x 13-1/4	Liners: Banded Brick Accessories: Blower, Ember Kit Decorative Accessories: Standard/Corner Cabinet Mantels w/ Base, Hood, Outer Frame
VFP26FP30L / VFP26FP70L	Vail 26"	30-3/4 x 30-1/2 x 13-1/4	
VFP32BP30L / VFP32BP70L	Vail 32"	36-1/4 x 34-1/2 x 17-7/8"	Log Sets: Ceramic Fiber or Refractory Sassafras Liners: Aged Brick, Stacked Limestone Accessories: Blower, Ember Kit
VFP32BP31L / VFP32BP71L	Vail 32" w/ Blower	36-1/4 x 34-1/2 x 17-7/8"	Decorative Accessories: Standard/Corner Cabinet Mantels w/ Base, Hoods, Louvers, Door Sets, Outer Frames
VFP36BP30L / VFP36BP70L	Vail 36"	38-1/4 x 39-1/2 x 17-7/8"	Log Sets: Ceramic Fiber or Refractory Sassafras Liners: Aged Brick, Stacked Limestone Accessories: Blower, Ember Kit
VFP36BP31L / VFP36BP71L	Vail 36" w/ Blower	38-1/4 x 39-1/2 x 17-7/8"	Decorative Accessories: Standard/Corner Cabinet Mantels w/ Base, Hoods, Louvers, Door Sets, Outer Frames

VENT FREE LOG SET/BURNER SYSTEM



Each log set on the following pages has a QR Code available to scan. You will need an app that reads these QR codes with your mobile device and it will take you to a video of the log set burning.

Empire manufactures log sets and burners to suit any application in sizes ranging from 16 inches to 30 inches. We offer both ceramic fiber and traditional refractory concrete logs. Each log is hand-painted to bring out the rich detail.

Our Vent-Free Burners are approved for use in any certified vent-free firebox. They may be also installed in an existing wood-burning fireplace, with the damper closed, to operate as a vent-free heating system.

For applications where you want the ambiance of a fire without the heat, our Millivolt and manual burners are also certified for installation as decorative vented log sets. Because it is “decorative,” the burner may not operate by thermostat and the installer must block the fireplace damper partially open. A flue-damper clamp is included with every burner.

Beyond Real

From the curve of each log to the height of the stack, your White Mountain Hearth Log Set complements the burner pattern for a lifelike fire. Complete the illusion with one of our optional Ember Bed Kits and Platinum Glowing Embers.

Your White Mountain Hearth Vent-Free log set creates a consistent, controlled heat – without dangerous flare-ups or chilling die-downs. These gas logs warm your room quickly and efficiently, while using about half the energy of a vented gas log.

Contour Log Set/Burner Systems

- 18, 24 and 30-inch Vent-Free Burners – up to 40,000 Btu
- Millivolt (VFDR) and Thermostat (VFDT) models
- Special 10,000 Btu Millivolt model for bedroom applications (where allowed by code)
- Choose Whiskey River Refractory or Flint Hill Ceramic Fiber model
- Only requires a minimum of 12 inches firebox depth, this compact system can fit into most fireplaces



Scan these QR codes with your smart phone to see a video of the product burning!



Flint Hill Log Sets
(Ceramic Fiber)

Whiskey River Log Sets
(Refractory)

Model	Log Set Description	Btu	Fits Empire Model	Front Width	Rear Width	Depth	Height
VFDR-18LB10	Flint Hill, 5-pc	10,000	VFD/VFP/VFS32FB	28"	17"	12"	17"
VFD(R,T)-18LB	Flint Hill, 5-pc	28,000	VFD/VFP/VFS32FB	28"	17"	12"	17"
VFD(R,T)-24LB	Flint Hill, 5-pc	34,000	VFD/VFP/VFS32FB	30"	23"	12"	18"
VFD(R,T)-30LB	Flint Hill, 7-pc	40,000	VFD/VFP/VFS36FB	34"	26"	12"	20"
VFDR-18LBLBW10	Whiskey River, 7-pc	10,000	VFD/VFP/VFS32FB	28"	17"	12"	17"
VFD(R,T)-18LBW	Whiskey River, 7-pc	28,000	VFD/VFP/VFS32FB	28"	17"	12"	17"
VFD(R,T)-24LBW	Whiskey River, 7-pc	34,000	VFD/VFP/VFS32FB	30"	23"	12"	18"
VFD(R,T)-30LBW	Whiskey River, 7-pc	40,000	VFD/VFP/VFS36FB	34"	26"	12"	20"

Empire manufactures log sets and burners to suit any application. With sizes ranging from 16 inches to 30 inches, and log pieces ranging from slender to massive, the White Mountain Hearth collection is sure to have the perfect set to fill your fireplace. We offer ceramic fiber, traditional refractory concrete, and Burncrete logs. Each log set is hand-painted to bring out the rich detail.



Scan these QR codes with your smart phone to see a video of the product burning!



Charred Oak
(Ceramic Fiber)



Super Charred Oak
(Ceramic Fiber)



Sassafras
(Refractory)



Super Sassafras
(Refractory)



Log Sets	Style	Material	Description	Fits Empire Firebox	Fits Vent Free Burner
LS16C	Charred Oak	Ceramic Fiber	4-pc, 16"	VFD/VFP/VFS32FB	VFSR-16
LS18C2	Charred Oak	Ceramic Fiber	4-pc, 18"	VFD/VFP/VFS32FB	VFS(R,V,E)-18
LS24C2	Charred Oak	Ceramic Fiber	4-pc, 24"	VFD/VFP/VFS32FB	VFS(R,V,E)-24
LS30C2	Charred Oak	Ceramic Fiber	4-pc, 30"	VFD/VFP/VFS36FB	VFS(R,V,E)-30
LS18C2S	Super Charred Oak	Ceramic Fiber	6-pc, 18"	VFD/VFP/VFS32FB	VFS(R,V,E)-18
LS24C2S	Super Charred Oak	Ceramic Fiber	6-pc, 24"	VFD/VFP/VFS36FB	VFS(R,V,E)-24
LS30C2S	Super Charred Oak	Ceramic Fiber	6-pc, 30"	VFD/VFP/VFS42FB	VFS(R,V,E)-30
LS18RS	Sassafras	Refractory	6-pc, 18"	VFD/VFP/VFS32FB	VFS(R,V,E)-18
LS24RS	Sassafras	Refractory	6-pc, 24"	VFD/VFP/VFS36FB	VFS(R,V,E)-24
LS30RS	Sassafras	Refractory	6-pc, 30"	VFD/VFP/VFS42FB	VFS(R,V,E)-30
LS18RSS	Super Sassafras	Refractory	7-pc, 18"	VFD/VFP/VFS32FB	VFS(R,V,E)-18
LS24RSS	Super Sassafras	Refractory	7-pc, 24"	VFD/VFP/VFS36FB	VFS(R,V,E)-24
LS30RSS	Super Sassafras	Refractory	7-pc, 30"	VFD/VFP/VFS42FB	VFS(R,V,E)-30



Stacked Aged Oak
(Refractory)

Empire manufactures log sets and burners to suit any application. With sizes ranging from 16 inches to 30 inches, and log pieces ranging from slender to massive, the White Mountain Hearth collection is sure to have the perfect set to fill your fireplace. We offer ceramic fiber, traditional refractory concrete, and Burncrete logs. Each log set is hand-painted to bring out the rich detail.



Ponderosa
(Refractory)

Scan these QR codes with your smart phone to see a video of the product burning!



Driftwood - Burncrete®
(Refractory)



Stacked Wildwood
(Refractory)



Super Stacked Wildwood
(Refractory)

Log Sets	Style	Material	Description	Fits Empire Firebox	Fits Vent Free Burner
LS18SRAO	Stacked Aged Oak	Refractory	7-pc, 18"	VFD/VFP/VFS32FB	VFS(R,V,E)-18
LS24SRAO	Stacked Aged Oak	Refractory	7-pc, 24"	VFD/VFP/VFS36FB	VFS(R,V,E)-24
LS30SRAO	Stacked Aged Oak	Refractory	7-pc, 30"	VFD/VFP/VFS42FB	VFS(R,V,E)-30
LS18P	Ponderosa	Refractory	13-pc, 18"	VFD/VFP/VFS32FB	VFS(R,V,E)-18
LS24P	Ponderosa	Refractory	13-pc, 24"	VFD/VFP/VFS36FB	VFS(R,V,E)-24
LS30P	Ponderosa	Refractory	13-pc, 30"	VFD/VFP/VFS42FB	VFS(R,V,E)-30
LS18CD	Driftwood - Burncrete	Refractory	8-pc, 18"	VFD/VFP/VFS32FB	VFS(R,V,E)-18
LS24CD	Driftwood - Burncrete	Refractory	10-pc, 24"	VFD/VFP/VFS36FB	VFS(R,V,E)-24
LS30CD	Driftwood - Burncrete	Refractory	10-pc, 30"	VFD/VFP/VFS42FB	VFS(R,V,E)-30
LS18WRR	Stacked Wildwood	Refractory	5-pc, 18"	VFD/VFP/VFS32FB	VFS(R,V,E)-18
LS24WRR	Stacked Wildwood	Refractory	5-pc, 24"	VFD/VFP/VFS36FB	VFS(R,V,E)-24
LS30SWRR	Stacked Wildwood	Refractory	5-pc, 30"	VFD/VFP/VFS42FB	VFS(R,V,E)-30
LS18WRS	Super Stacked Wildwood	Refractory	7-pc, 18"	VFD/VFP/VFS32FB	VFS(R,V,E)-18
LS24WRS	Super Stacked Wildwood	Refractory	7-pc, 24"	VFD/VFP/VFS36FB	VFS(R,V,E)-24
LS30WRS	Super Stacked Wildwood	Refractory	7-pc, 30"	VFD/VFP/VFS42FB	VFS(R,V,E)-30

Availability and appearance may vary by fireplace.
 Call for a complete list of available options at 800.666.5764

Remote Controls and Thermostats



FRBC

- Battery Remote Control
- On/Off Remote
- For Millivolt or IP



FRBTC

- Battery Remote Control, Thermostat
- Thermostat Remote
- For Millivolt



FWS

- Wall Switch
- On/Off Wall Switch, Wire
- For Millivolt, Direct Ignition



TMV

- Wall Thermostat
- Wall Thermostat, Wire
- For Millivolt



TRW

- Battery Wall Thermostat, Digital
- Wall Thermostat, Wireless
- For Millivolt or IP

Decorative Louvers – with screens



Mission Louver



Arch Louver

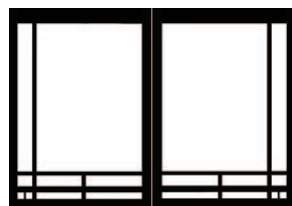
Decorative Doors – include handles, screens, and hinges



Plain Rectangle



Plain Arch



Mission Rectangle



Mission Arch

Log Set Accessories – ember kits



EK-1 Traditional Ember Bed Kit includes six burnt log pieces, white ash, and lava rock.



EK-2 Large Ember Kit available for Multi-sided log sets or large fireplaces.

Trojan's Stock Tank Heater

The Trojan 66B Stock Tank Heater offers a thermostatically controlled heating solution that uses LP Gas or Natural Gas instead of electricity in your stock tank. Our 66B offers a powder coated, heavy steel casing and a control & burner assembly that is designed to stay lit and is easily removed for servicing. Adjustable brackets allow the 66B to be mounted to most metal, poly, wood and concrete tanks. The Trojan 66B Stock Tank Heater keeps a 3 to 5 foot radius of drinkable water around the heater at all times.

- Works with LP or Natural Gas
- Easy to light and stays lit in the winter
- AGA listed automatic control for safe operation
- Thermostat and controls may be removed easily for service
- Adjustable brackets fit most steel, wood, poly or concrete tanks
- 12,400 BTU every hour if needed
- No gaskets to melt or leak
- Long-lasting heavy steel casing
- Control and burner assembly easily removed for servicing



13997
Pilot Assembly



15467A
Burner Assembly



66B-3
Height: 35"
Diameter: 8½"
Weight: 49 lbs.
Casing & Heat Chamber
Length: 20"

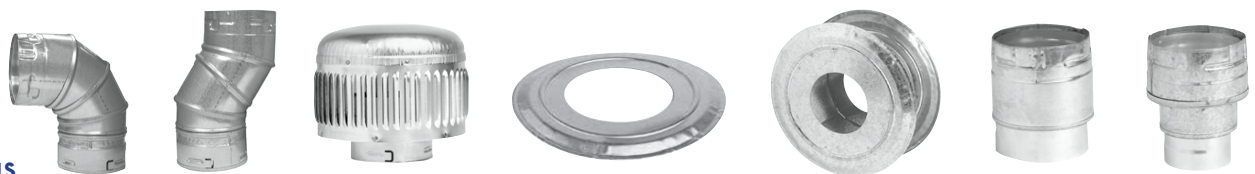
Part#	Description
66B-3	Trojan Stock Tank Heater
15467A	NEW Complete Burner Assembly
13997	Pilot Assembly

Metal Fab Vent Pipe

Diameter	18" Adjustable	24"	36"	48"	60"
3"	3M18A	3M24	3M3	3M4	3M5
4"	4M18A	4M24	4M3	4M4	4M5



Fittings



Diameter	Adj. 90° Elbow	Vent Cap	Vent Collar	Wall Thimble	Draft Hood Connector	Draft Hood Increaser
3"	3M90	3MCHP	3MVC	3MPT	3MDC	3"- 4", 3MDC4
4"	4M90	4MCHP	4MVC	4MPT	4MDC	---

Grave by Broilmaster

- Stainless Steel Oval Burner adjusts from 25,000 Btu to 7,500 BTU (cooks more than 50hrs on one tank on low)
- Deep Cast Aluminum Grill Head Maintains Consistent Temperature
- Two-Piece Stainless Steel Cooking Grids (2-level) Maximize Space
- Full-Area, Stainless Steel Drip Pan with Drain Valve
- External Drip Bucket
- Built-in Smoker Tray for Wood Chips or Pellets
- Electric Igniter Lights All Season on One AA Battery
- Made in USA
- Slow Cook, Steam, Smoke, Grill

Q3PK1 Package Includes:

Q3X Grill Head (Propane) / Painted Steel
Package Cart / Drop-Down Side Shelf



BROILMASTER®
PREMIUM GAS GRILLS



BROILMASTER®
PREMIUM GAS GRILLS



Broilmaster Super Premium Gas Grill

- Stainless Steel Bowtie Burner disperses flames evenly, 45,000 BTU
- 695 sq." of total cooking area
- Propane or Natural
- Adjustable three-level cooking grids for grilling, baking and warming

Features

- Push-button Electronic Igniter
- Flare Buster Briquets
- Built-in Analog Heat Indicator
- Stainless Steel Griddle (Limited Lifetime Warranty)

Broilmaster Premium Gas Grill

- H4PK1 Premium Gas Grills
- Stainless Steel Bowtie Burner disperses flames evenly, 40,000 BTU
- 473 sq." of total cooking area
- Adjustable two-level cooking grids for grilling, baking and warming
- Choose cart or post mounting
- Choose Flare Buster or CharMaster Briquets
- Propane or Natural

Easy enough for a beginner to use but built with all the quality and cooking features for the serious griller. This outdoor cooking platform allows you to grill, roast, steam and smoke foods. Designed to enhance the flavor of the food, features have been built-in to reduce flavor damaging flare-ups. These grills offer 25,000 BTUs with 400 sq. inches of cooking surface. Grill with worry-free confidence that you will get great tasting food and consistent results.



PHOENIX
GRILLS



SDBOCP

- Cast aluminum end caps
- Stainless steel grill head
- Aluminum column & base



SDSSOCP

- Cast aluminum end caps
- Stainless steel grill head & column
- Cast aluminum base



AMCWSS-P

40,000 BTU

Total cooking area: 642 Sq. In.
432 sq. in main cooking space
plus an additional 210 sq. inches
of secondary cooking surface



AMCTSS-P

40,000 BTU,

Total cooking area: 642 Sq. In.
432 Sq. In main cooking space
plus an additional 210 Sq. In.
of secondary cooking

Black Powder Coated Cast
Aluminum Top End Caps
Stainless Steel Grill Top Insert

Common Repair Items for Phoenix Grills



GGIB



GGEIB



PBSPH34



GGTG4

Part#	Description
GGIB	Scottsdale Ignitor box
GGEIB	Push button electric ignitor
GGTG4	Scottsdale temperature gauge
OBSPH34	Phoenix Burner with Venturi

Collegiate Grill Covers

Show your school spirit with these quality grill covers!

- Heavy duty reinforced vinyl with flannel backing
- Weather resistant, resists cracking even in the colder weather
- Adapts to fit most large cart style grills
- Extends the life of your grill, protects from the elements
- Drawstring bottom to ensure secure fit
- Call for full selection of teams available

Size: 59" x 19" x 42"



BBQ Rubs

4 oz & 24 oz

Basic Butt Rub, Premium Butt Rub, Cajun Butt Rub, Steak Butt Rub, Chipolte Butt Rub, Cowgirl Butt Rub, Pecan Rub, Sweet Rub

4 oz rubs available in variety 7 pack



BBQ Sauces

12 oz & 1/2 Gallon

Haugwash, Chipolte, Apple Honey Mustard, Sticky Stuff, Cowboy Chipolte

12 oz Sauces available in variety three packs



Chile Slinger BBQ Sauce & Rub

All Natural, NO Corn Syrup, Gluten FREE

Chile Slinger "original" sauce is a gourmet thick and savory barbecue sauce. Made in USA.

20.5 oz. Bottle

6 oz. Rub



PUMPS

& METERS,
DISPENSERS



Cylinder Filling Pumps

These 1" pumps have long been popular for cylinder filling, small volume motor fueling and supplying small vaporizers. The LGF1P models will produce up to 15 gallons per minute. All models have 1" NPT tapped ports and use an exclusive combination valve that acts as both a back-to-tank bypass valve and as an internal safety relief valve. It also assures pressure relief if the back to tank bypass line is closed. The LGF1P Pump is available as a pump only or with motor sizes of 1 and 1½ horsepower.



LGF1PC-1HP 1" Pump with 1hp motor and switch

LGF1PC-112HP 1" Pump with 1½hp motor and switch

Part#	Pump Speed	GPM at 50psi Differential	GPM at 100psi Differential	Max Differential Pressure	Time to Fill 20# LP Cylinder	Time to Fill 100# LP Cylinder	Motor HP
LGF-1	1750	8.0	6.0	125 PSI	¾ minute	3 minutes	1
LGF1P	1750	13.0	10.0	125 PSI	½ minute	2 minutes	1½

Motor Fuel and Cylinder Filling Pumps

These durable pumps offer capacities up to 35gpm and are ideal for motor fueling, multiple cylinder filling and a variety of small transfer jobs. Available with 1¼" or 1½" NPT tapped ports, all models are equipped with an internal safety relief valve, and a replaceable casing liner and discs. 1¼" pumps are available with a 2 or 3 horsepower motor 1½" pumps are available with a 3hp motor.

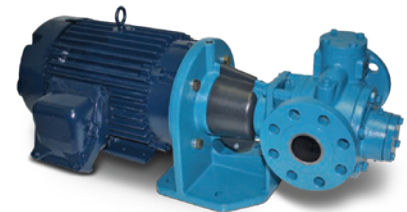


Part#	Motor HP	Pump Speed	GPM at 50psi Differential	GPM at 100psi Differential	Max Differential Pressure	Max Working Pressure
LGL1-1/4"	2	1750rpm	21.0	18.0	150psi	350psi
LGL1-1/2"	3	1750rpm	33.0	29.0	150psi	350psi

Motor Speed High Differential Pressure

Designed for the toughest LPG applications

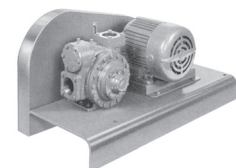
Part#	Max Speed	HP	Max Differential Pressure	Max Working Pressure
LGL156A	1,750	4.9	160 PSI	425 PSI
LGL158A	1,750	6.5	200 PSI	



2" & 3" Pumps

These pump models are often mounted to the chassis of a bobtail. They can also be mounted on a base for use at a storage plant. These pumps have 2" threaded inlet and outlet flanges for easy installation and removal from piping systems. Blackmer LGLD3E Pumps are typically used at a storage facility mounted on a base with an electric motor. The TLGLD3 pump can be used for truck mounting. All 2" & 3" pumps have an internal safety relief valve, and a replaceable casing liner and end discs for easy rebuilding of the pumping chamber if ever necessary.

Part#	Pump Speed	GPM at 50psi Differential	GPM at 100psi Differential	Max Differential Pressure	Motor HP
LGLD2E	660	67	57	150	5
	520	50	41		
	420	40	30		
LGLD3E	660	133	112	150	10
		520	108	84	
		420	80	60	



LGLD2E-103 2" on base

LGLD3E-103 3" on base

4" Pumps

Blackmer LGL4 Pumps are typically used at a storage facility mounted on a base with an electric motor. The 4" bulk plant pumps are designed to transfer large volumes of propane. All pumps have an internal safety relief valve, and a replaceable casing liner and end discs for easy rebuilding of the pumping chamber if ever necessary.

Part#	Pump Speed	GPM at 50psi Differential	GPM at 100psi Differential	Maximum Differential Pressure	Motor HP
LGLD4	660	270	220	125	15-20
	---	520	220	180	---
	---	420	170	130	---



3" Flange Mount Pump

Blackmer TLGLF3 pumps are designed to flange mount directly to a commercial internal valve on a propane bobtail. The TLGLF3 is widely used on bobtails because of its compact mounting arrangement, with a 3" ANSI intake flange, and 2" auxiliary intake and discharge ports. The 3" pump is equipped with a double ended shaft for clockwise or counterclockwise rotation by simply changing position of the pump. In addition, this pump has an internal safety relief valve, and a replaceable casing liner and discs for easy repair.

Part#	Pump Speed	GPM at 50psi Differential	GPM at 100psi Differential	Maximum Differential Pressure	Maximum Working Pressure
TLGLF3C	660	96	81	125	350 PSI
	---	600	85	73	---
	---	500	70	59	---

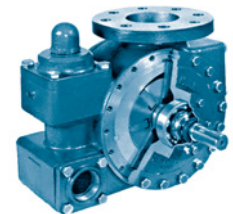
Top Gasket is 1P877699152



4" Flange Mount Pump

Blackmer TLGLF4 pumps are designed to flange mount directly to a commercial internal valve on a propane or anhydrous ammonia transport. The TLGLF4 is widely used on transports because of its compact mounting arrangement, with a 4" ANSI intake flange, and 3" auxiliary intake and twin 2" discharge ports. The 4" pump is equipped with a double ended shaft for clockwise or counterclockwise rotation by simply changing position of the pump. In addition, this pump has an internal safety relief valve, and a replaceable casing liner and discs for easy repair. Capacities range from 200 to 300gpm.

Part#	Pump Speed	GPM at 50psi Differential	GPM at 100psi Differential	Maximum Differential Pressure	Maximum Working Pressure
TLGLF4B	650	280	245	125	350 PSI
	---	600	260	220	---
	---	500	210	170	---



TXD Series

TXD models are equipped with FKM O-rings and Blackmer mechanical seals that are compatible with all biodiesel and ethanol blends. TXD options include corrosion resistant relief valve, pneumatic relief valves and Buna or PTFE elastomers and seals.

Part#	Size	Max Nominal Flow Rate	Max Working Pressure
TXD2A	2"	87 GPM	175 PSI
TXD2.5A	2½"	157 GPM	175 PSI
TXD3E	3"	270 GPM	175 PSI



Blackmer Bypass Valves

Blackmer differential bypass valves are designed to protect system components from excessive pressure damage. Blackmer bypass valves have no small, easily plugged sensing passages and with only two moving parts, their operation is simple and reliable. Blackmer offers five different models that provide full flow pressure control. Installation is easy with threaded openings from 3/4" to 2".

Part#	Size	Pump Size	GPM at 20 PSI	GPM at 50 PSI	GPM at 80 PSI	GPM at 120 PSI
BV34	3/4"	1 1/4"	25	40	50	60
BV1	1"	1 1/2"	25	40	50	60
BV114	1 1/4"	2" or 3"	60	80	100	125
BV112	1 1/2"	2" or 3"	60	80	100	125
BV2	2"	3" or 4"	150	180	220	250



Corken Bypass Valves

B166 3/4" and 1" Automatic Dual-Purpose Bypass Valve

This valve is typically used on cylinder filling pumps. A combination by-pass valve and priming valve specifically designed for small cylinder filling pumps, especially the Corken Coro-Flo series. The patented vapor elimination system keeps liquefied gas pumps primed to increase system reliability and decrease pump and seal wear. *B166-034, B166-100*

ZV200AAA 1 1/4" and 1 1/2" Pump Flow Control Valve

These valves are commonly used on bobtails and storage tanks. A high pressure build-up valve provides smooth acting flow control. Specifically designed for by-pass protection for pumps in the 30-100gpm range. In contrast to the B177, the T166 valve opens gradually as pressure builds up to modulate the flow, bypassing the excess capacity smoothly and silently back to the supply tank. A continuous internal bleed in the valve assists in eliminating vapors.

ZV200BAEE 2" Bypass Valve

The model ZV200 is a 2", low-pressure build-up bypass valve designed for applications that require protection for positive displacement pumps. It is ideal for capacities up to 250 gpm. The model ZV200 has a continuous internal bleed that helps operate systems containing an "air" or "electric" operated internal valve.

Typical applications: Used for truck and stationary applications utilizing medium to large capacity loading and unloading pumps.



Multi-Purpose LPG Pump

The LGL3021 was designed to provide the same foot-to-flange and flange-to-flange dimensions as competitive pumps. This allows for easy pump installation during change overs or plant maintenance without changing piping or motor drives because the inlet and discharge flanges are on the pump shaft centerline.

A major benefit is the LGL3021 has the same horsepower requirement as competitive pumps but provides 13% to 25% more flow, depending upon the LPG installation and application conditions.

The pump is UL-Listed and approved for use on propane, butane, butane/propane mixes and anhydrous ammonia applications.

Can replace Corken 1021EG.

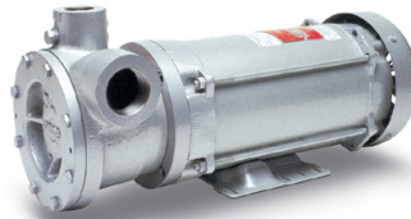
LGL3021 \$3,465.00



Corken Coro-Flo Specifications

Part#	Motor HP	GPM at 20 PSI	GPM at 50 PSI	GPM at 75 PSI	Maximum Differential	Minimum Inlet Piping	Minimum Outlet Piping
C10S	1	12	6.5	3.5	60	1¼"	1"
C12S	2	19	15	9	100	1½"	1"
C13S	2	28	22	14	1258	1½"	1"

This Pump was designed for cylinder and motor fuel filling. Extremely quiet and free of vibration, the Coro-Flo pump provides trouble-free service and long life for volatile liquids such as propane. The exclusive turbine construction provides smooth continuous flow through the pump case, resulting in higher efficiency and greater capacity and pressure for the same size motor. The impeller floats on the shaft without contacting adjacent surfaces, thus extending pump life. The cover can be removed and the impeller and seal serviced without disturbing the piping. The balanced mechanical seal is furnished with its own sleeve, providing extremely reliable service.



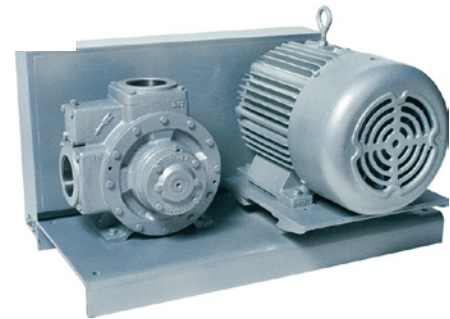
Pump Replacement Parts

- 113-CXA** Replacement Seal & O-rings
- 1003-0** C10 Impeller
- 1003-2** C12 Impeller
- 1003-3** C13 Impeller
- 1003-4** C14 Impeller
- 4261-1** Corken 1HP Motor
- 4261** Corken 2HP Motor

Corken Coro-Vane Pumps

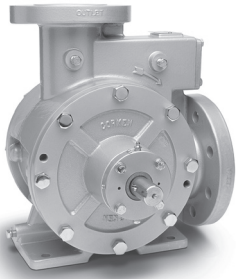
Positive displacement pump line that is designed for stationary applications at the bulk plant. Corken Coro-Vane pumps have heavy duty roller bearings for longer service life.

All parts, including the hydraulically self-adjusting blades, are easily accessible for inspection or replacement without disturbing the piping. All listed pumps have built-in internal relief valves for added safety.



Part#	Suction Flange	Discharge Flange	Max RPM	Min RPM	Additional	Max Working Pressure	Max Differential Pressure
521EG	2"	2"	950	450	Pump Only	400 PSIG	125 PSIG
521EG-103					Pump with base, sheaves, belt guard		
1021EG	3"	3"	950	950	Pump Only	400 PSIG	400 PSIG
1021EG-103					Pump with base, sheaves, belt guard		

Pump Model	RPM	Motor HSP	Additional	Max Differential Pressure	Piping Sizes			Hose Sizes		
					Inlet	Outlet	Vapor	Bypass Valve	Liquid	Vapor
Z2000	780	5	Pump Only	55 PSIG	2"	1½"	1¼"	1½"	1½"	1"
Z2000-103			Pump with base, sheaves, belt guard							
Z3500	780	7.5	Pump Only	30 PSIG	3"	2½"	1¼"	2"	2"	1¼"
Z3500-103-10			Pump with base, sheaves, belt guard							
Z4500	640	10		20 PSIG	4"	3"	2"	2"	2"	1½"
	780	15		25 PSIG	4"-6"	4"	2"	2"	2"	1½"
	860	20		25 PSIG	6"	4"	2"	2"	2"	1½"

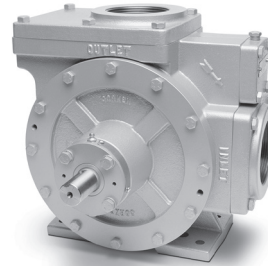


Z4500 4" Stationary Pump

The Z4500 is a 4" stationary pump designed for transport loading and multiple bobtail loading applications. If you have two or more bulkheads to load bobtails and transports, and would like to shorten your fill times, then the Z4500 is the stationary pump for you. The Z4500 can fill two 3,000 gallon bobtails in 20 minutes or less at typical operating RPMs.

Z4500 pump only

Z4500-103-15 pump mounted on base-ready to accept motor



Z3500

3" LPG Pump

The new 3" Z3500 LPG pump was designed for stationary ammonia plant applications. The Z3500 stationary pump has the same locked rotor design used in the Corken Z-Series truck pumps to ensure long pump life and excellent performance. With higher flow rates than other 3" pumps, the Z3500 retrofits Corken's and other competitive pumps with little or no change in piping. If you want to fill your nurse tanks quickly, the Z3500 is the one!

Z3500 pump only

Z3500-103-10 pump mounted on base-ready to accept motor

Features and Benefits

- Large diameter non-metallic pins aren't speed sensitive, you can operate the pump at a higher RPM and not damage it
- High tech materials used on the cam and blades help extend the life of the pump
- Up to 7% or more capacity at 640 RPM
- Z2000 and Z3500 is rated up to 800 RPM providing higher capacity without damage
- When necessary to service the pump, remove twelve head bolts to inspect the bearings, seals, side plates, rotor, vanes and vane drivers
- Retrofits the Corken stationary pump and other competitive pumps with little or no change in piping



Z2000 2" Pump

The Z2000 2" Pump may be used on bobtails and bulk plants. It incorporates Corken's latest technology with the proven design and durability that Corken Pumps are known for.

The Z2000 will deliver up to 70gpm with ease and operate smoothly even under high differential pressures.



Z3200 3" Flanged Pump

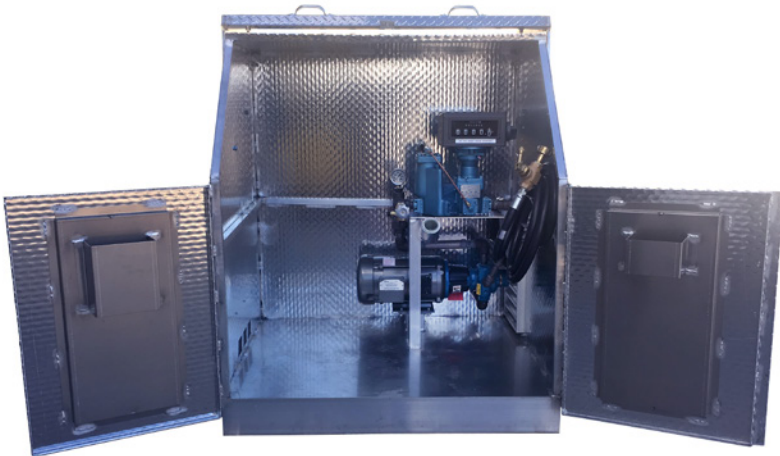
The Z3200 3" Pump is ideal for bobtails and will provide years of trouble free service. Corken has redesigned their truck pumps and the Z3200 features improved bearings and performance. This pump will deliver up to 120 gpm and is equipped with a 3" flanged inlet and a 2" outlet. It also has a 2" auxiliary inlet. The built in relief valve will protect your system and is easily adjustable.



Z4200 4" Flanged Pump

Need a dependable high performing 4" pump for your transport? The Z4200 is the pump for you! This all new design will move the gallons for faster unloading while providing unsurpassed reliability. It has a 4" flanged inlet and a 2" outlet along with an auxiliary inlet.

It is designed to move over 320 gallons a minute and perform faithfully for years to come.

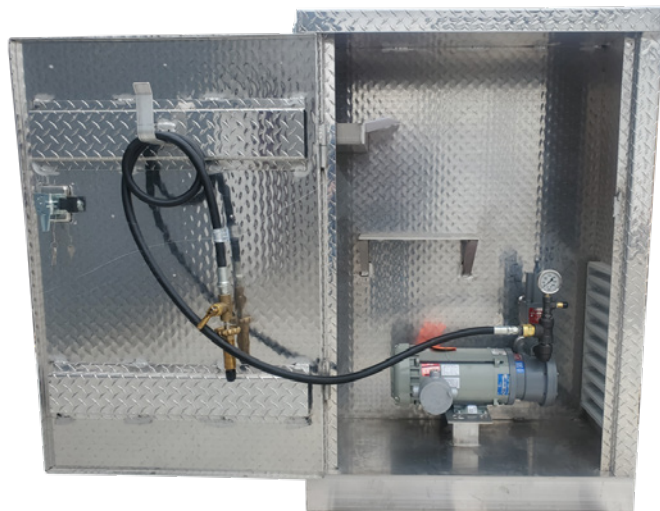


Propane Dispensers

Our specially designed propane dispensers are designed to allow filling of DOT Cylinders, Forklift Cylinders and Motor Fuel Tanks

Standard Features:

- D1 or D2 Aluminum Cabinet
- Blackmer LGF1PC-112HP or Corken C10
- 1" Meter w/ or w/o ATC
- Explosion Proof Switch (1HP-2HP motors)
- Hose assemblies (1/2" or 3/4") w/ QA hose ends
- Dispenser Decal Kit



Options/Upgrades

- Corken C12
- Corken C13
- Corken High Diff C16
- Liquid Piping Kit
- Cylinder Purge Kit
- Cardinal Detecto Scale
- Propane Skid

TCS 700 2" LP Meter with TCS 3000 Electronic Register

The TCS 700 series 2" bobtail meter is the flagship product of Total Control Systems. This positive displacement rotary flow meter boasts unique design features to improve accuracy and performance. The TCS 700 features tri-rotor design that improves accuracy by minimizing pressure loss. With no metal to metal contact within the measuring chamber, the TCS 700 avoids internal wear to ensure long-term accuracy and extend time between calibrations.

The TCS 3000 register is a powerful, electronic register designed to transform the way you deliver fuel. This next generation register was designed not only to meet the needs of today's users, but also those of the future. The TCS 3000 features a large easy-to-read color display and a backlit alpha-numeric keyboard. Whether you require a simple "Pump and Print" delivery or an advanced measurement solution, the TCS 3000 will provide total control of your product inventory.



70020LP4FT - TCS 700 2" LP Meter with TCS 3000 Electronic Register



American Vapor Meters

These temperature compensated vapor meters are used for low pressure use and provide accurate measurement over a wide temperature range. They have a cubic foot index and 3/4" fpt inlet and outlet. The maximum inlet pressure is 5psi and a Btu rating of 404,000.

AM250TC 3/4" meter



EPSON TM-U295 POS Compact Slip Printer

Works with LCR-II as a Ticket Printer
 7 pin, shuttle impact dot matrix, 2.1 Ips
 Ultra-small footprint saves counter space
 Operator-friendly features
 Four print sizes, four printing directions



Hannay Liquid Electric Hose Reel

To Handle Single 150' of 1" Hose.

- Standard hose reel is steel construction, painted graphite. Aluminum construction is available.
- "SB" prefix denotes polished aluminum construction, offering both reduced weight and superior corrosion resistance compared to standard steel construction.
- Standard configuration is an electric motor, #40 chain, sprocket drive, and strap brake.
- Standard inlet: 90° ball bearing swivel joint, 1-1/2" female NPT threads.
- Standard outlet: flanged riser, 1" female NPT threads.
- Hose Guides available are an FH-3 Single Roller or FH-3 Double Captive Roller guide.
- Hannay GM-X Guidemaster available on liquid reels



Hannay Vapor Spring Rewind Hose Reel

To Handle Single 100' of 1/2" Hose.

- Standard hose reel is steel construction, painted graphite.
- "SB" prefix denotes polished aluminum construction, offering both reduced weight and superior corrosion resistance compared to standard steel construction.
- Non-sparking ratchet locks reel, and declutching arbor prevents damage from reverse winding.
- Standard inlet: 90° ball bearing swivel joint, 1" female NPT threads.
- Standard outlet: 1" female NPT threads.
- Supplied 4-way roller assembly.



AL109
1" straight swivel



SMAC-1-90
1" 90° swivel



SMAC-112-ST
1 1/2" straight swivel



SMAC-112-90
1 1/2" 90° swivel

Motor Sprockets

These sprockets attach to the electric motor shaft to drive the reel drum via the #35 or #40 chain.



Part#	Description
9910.1010	#35 9 tooth 1/2 long
9910.1116	#35 11 tooth 3/4 long
9910.1118	#35 11 tooth 15/16 long
9910.1119	#35 11 tooth 1 3/4" long
9910.0917	#40 9 tooth 15/16 long

12V Electric Reel Motor

This Flange Mount Motor is explosion proof.



Part#	Description	HP
9915.0003	12V Flange Mount 650 RPM	1/2
9915.0009	12V Flange Mount 500 RPM	2/3

Red Dot Switch

The Red Dot EXPB-2A 12V Switch is used to control the reel.



Part#	Description
9917.0001	Complete Switch
9917.0014	Replacement internal switch for EXPB-2A
9917.0150	Red Dot Kit-Cover w/ Button & Screws

Ring Gear

The ring gear is on the reel drum and is turned by the pinion gear.



Part#	Description
9914.0382	H-28 Ring Gear

H27 Pinion Gear

The H27 pinion gear is a composite gear that drives the reel drum on manual rewind reels.



Part#	Description
9914.0393	H-27 Gear

Hannay Switches

This switch is used with the guidemaster style reel. It comes with wire lead. Replacement push button 12V switch for EPS-3. (less cap) Replacement rubber cap for switch.

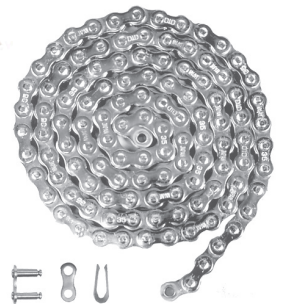


Part#	Description
9917.0200	EPS-3 Switch
9917.0004	Switch
9917.0008	Rubber Cap



Reel Chain

The #35 and #40 chain comes in 10ft lengths with a connecting link.



Part#	Description
#40 Chain	For New Trucks/Reels
#35 Chain	10/1 #35 Chain

12V Solenoid & Circuit Breaker

Diode Suppressed 12V solenoid that is used in reel electrical circuit. This Circuit breaker is used in the reel electrical circuit.



Part#	Description
9917.0025	Solenoid
9917.0021	Circuit Breaker



9902.1400



9902.1500



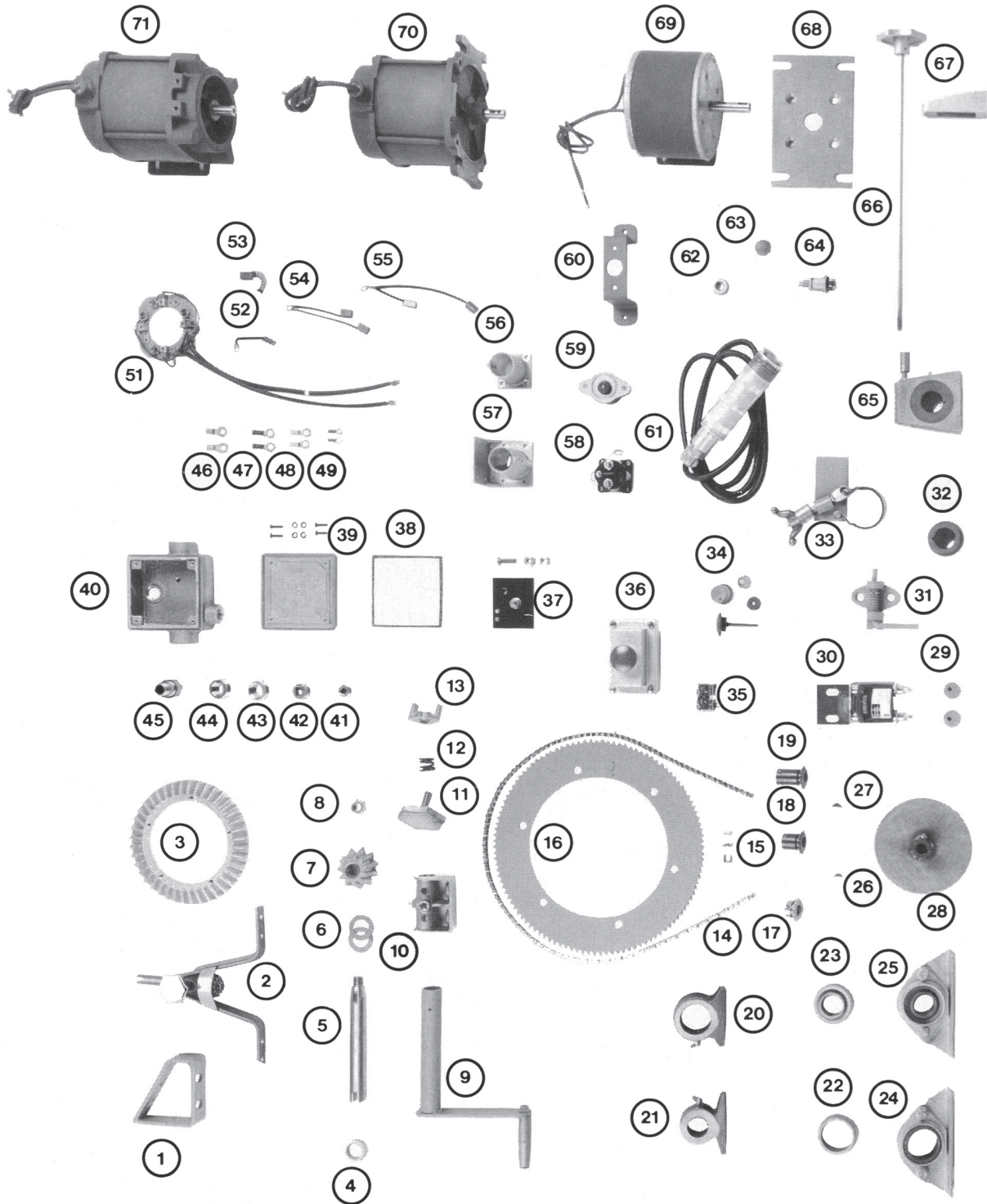
9902.1612

Bearings

Part#	Description
9902.1612	1 1/2" Front Split Bearing Complete
9902.1710	1 1/2" Front Split Bearing Only
9902.1400	1" Back Bearing complete
9902.1500	1" Back Bearing Only



9902.1710



#	Part#	Description
1	9914.0541	30° rewind bracket
2	9914.0222	Complete vertical rewind assembly
3	9914.0372	H-26 ring gear
4	9914.0351	Pinion Shaft collar with set screw
5	9914.0261	Pinion shaft
6	9954.0035	Special spacer washer
7	9914.0393	H-27 pinion gear
8	9904.5600	5/8" hex nut
9	9914.0011	H-18 hand crank
10	9914.0243	H-2A pinion shaft bearing
11	9914.0413	H-30A brake wheel
12	9914.0451	H-31 brake spring
13	9914.0433	H-3 brake pad
14	9912.0001	Length #35 chain
15	AC35C	Connecting link (#35 chain)
16	9910.1423	138T35 Disc sprocket
17	9910.1116	11T35 motor sprocket 3/4"
18	9910.1118	11T35 motor sprocket 15/16"
19	9910.1119	11T35 motor sprocket 1 3/4"
20	9902.1610	H-4B 1 1/2" bronze bearing
21	9902.2000	H-41B 1" bronze bearing
22	9902.1700	1 1/2" bronze bearing insert
23	9902.1500	1" ball bearing insert
24	9902.1610	1 1/2" S.A. bearing complete
25	9902.1400	1" S.A. ball bearing complete
27	9916.0080	3/16" x 3/4" key for nonexplosion-proof motor shaft
28	9910.2219	Disc & sprocket for caliper brake (#35 chain)
29	9947.0024	Pair of brake pads for caliper brake (air)
30	9947.0001	Caliper brake manual
31	9965.0030	PL-1 pinlock
32	9947.0038	Comet brake iron hub
33	9947.0035	Comet brake
34	9917.0150	Red dot repair kit
35	9917.0014	Internal switch for EXPB-2A
36	9917.0001	EXPB-2A switch
37	9917.0039	Terminal block with screw

#	Part#	Description
38	9917.0034	Junction box gasket
39	9917.0033	Junction box cover with mounting screw
40	9917.0032	Junction box
41	9917.0119	PLG-1 1/2" plug
45	9955.0012	1/2" Strain relief connector
46	9917.0080	#6 terminals for 5/16" stud
47	9917.0081	#6 terminals for 3/8" stud
48	9917.0093	#16-14 terminals for 5/16" stud
49	9917.0091	#16-14 terminals for #10 stud
51	9916.0013	Brush board assy. (w/springs & bushes) for permanent magnet motor
52	9916.0071	572008 brushes (pair) for permanent magnet non-explosion-proof motor
53	9916.0075	SA678-9 brush for field-wound motor
55	9916.0070	57200 brushes (pair) for permanent magnet motor (Imperial)
56	9916.0019	ESH-2B guidemaster mounting bracket for EPS-1
58	9917.0027	12V solenoid
59	9917.0021	CDLM circuit breaker
61	9917.0200	EPS-1 switch with 6" cord
62	9917.0007	83274 chrome recessed cap for 90018 & EPS-1
63	9917.0008	83280 rubber cover for 90018 & EPS-1
64	9917.0006	90018 switch, less cap
65	9947.0045	EH-820 bearing & brake assy.
67	9947.0050	EH-820 rod support
68	9916.0090	Flange mount plate for 12V non-explosion-proof motor
69	9915.0052	12V base mount non-explosion-proof motor
70	9915.0003	12V Motor
71	9915.0283	12V Motor



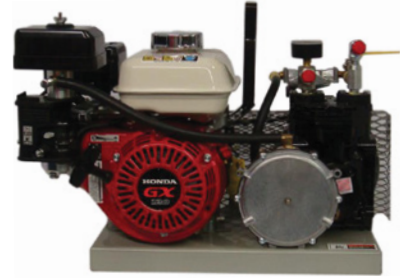
Krug Hand Pump

It may be used for filling cylinders, motor fuel and tractor tanks. It has a 1" inlet, 3/4" outlet and has a capacity of six gallons per forty strokes.

Model G Krug Hand Pump

Krug Vapor Compressor

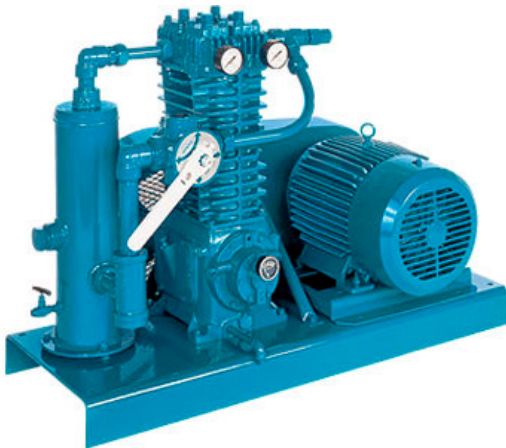
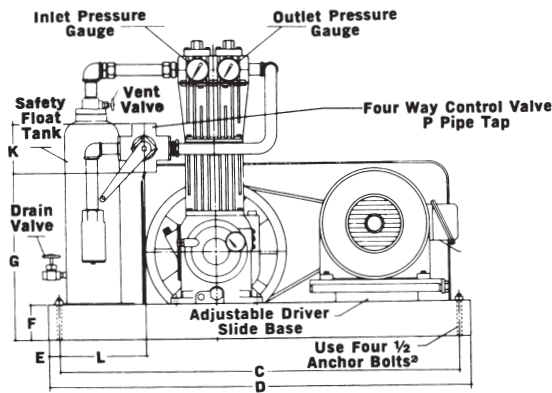
This handy compressor is ideal for pumping down domestic tanks without damaging your truck's pump. It is available with either a gasoline or propane powered engine. The propane engine is powered by vapor from the compressor. Maximum capacity is 20gpm. Optional hose kit contains two 12ft hoses and all fittings that are necessary for installation.



Part#	Description
H50GL	Compressor with gasoline engine
H50LPL	Compressor with dual fuel engine
K HK	Hose kit for compressor
25459B	Compressor only
3X927	Krug Pulley

Liquefied Gas Transfer Compressor

Contamination-free, Oil-free Delivery of LP-Gas and Anhydrous Ammonia



Exchange Compressor Block Assembly

Model No. 290 and 490

Cut "down-time." If a problem arises, simply replace your compressor block. Remove your existing flywheel, inlet and discharge tubing, and pressure gauges. Then remove four cap screws holding block in place. Replace your block assembly and reassemble. Be back in business in 30 minutes.

Model Size

Description	291	491	691
# of Stages	1	1	1
# of Cylinders	2	2	2
Bore of Cylinder In (cm)	3(7.62)	4(10.16)	4½(11.43)
Stroke, In. (cm)	2½(6.35)	3(7.62)	4(10.16)
Piston Displacement, CFM (Lit/min) Min. at 300RPM	6(170)	13(368)	22(623)
Mas. at 825 RPM	16(453)	36(1020)	60(1699)
Max. discharge pres. psig (Kg/cm2)	250(17.6)	250(17.6)	270(17.6)
Max. Compression Ratio ¹ : Continuous Duty	5	5	5
Vapor Recovery Cycle ²	7	7	7
Maximum allowable driver size, Hp.	15	15	30

Corken "Dry Cylinder" Gas Compressors

For Propane or Anhydrous Ammonia. A compressor unit for liquid transfer and vapor recovery.

Part#	Capacity
291	Up to 88 GPM
491	Up to 198 GPM
691	Up to 330 GPM



Style-107

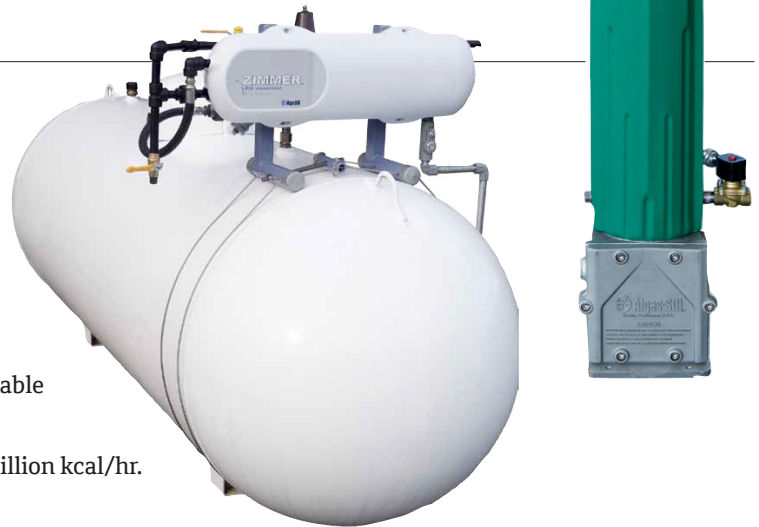
Complete Gas Compressor Bulk Plant Unit with pressure gauges, steel baseplate, liquid trap, 4-way valve, safety relief valve, strainer, interconnecting piping, adjustable driver slide base, V-belt drive and belt guard — ready to receive an electric motor driver.

Algas Torrexx Vaporizers

- Great reliability through simplified and more roust controls- no star/stop switches
- Modular control board with easily replaceable components
- Heavy Duty 135 amp contactor increases life span of contactor and reduces maintenance
- Replaceable temperature controller with an adjustable set point
- Thermocouple temperature sensor increases life and reduces maintenance

Features

- Dry electric design requires no water or glycol
- 98% Thermal Efficiency
- Perfect for any climate
- Automatic restart standard on all units



ZIMMER Electric LPG Vaporizer

Innovative, Easy-to-Use & Reliable

- Simple design, reliable performance, affordable price
- No switches, thermostats, floats, or relays
- Operates on any voltage
- Small, explosion-proof, light-weight, and wall-mountable
- Very few parts, low-maintenance
- Capacity: 1.82 MMBTU/hr, 20 GPH, 40 kg/hr, 0.448 million kcal/hr.



Algas Direct Fired Vaporizers

These reliable vaporizers provide steady uniform gas supply over a broad temperature range. They are very easy to install and provide years of reliable and safe operation. They meet all applicable codes and requirements for industrial applications. Completely self contained including strainer.

Part#	Capacity
40/40H	40 GPH
60/60H	60 GPH
80/40H	80 GPH
120/60H	120 GPH
320H	320 GPH

41073 Replacement Control Valve

Base Remote Shut-Off for Bobtails and Transports

- Meets full compliance to DOT final ruling
- Intrinsically safe transmitters
- Offers a variety of optional controls such as hose reel and throttle.
- Easy to Install with a Two year replacement warranty



**See Page 219-223
for More Information**

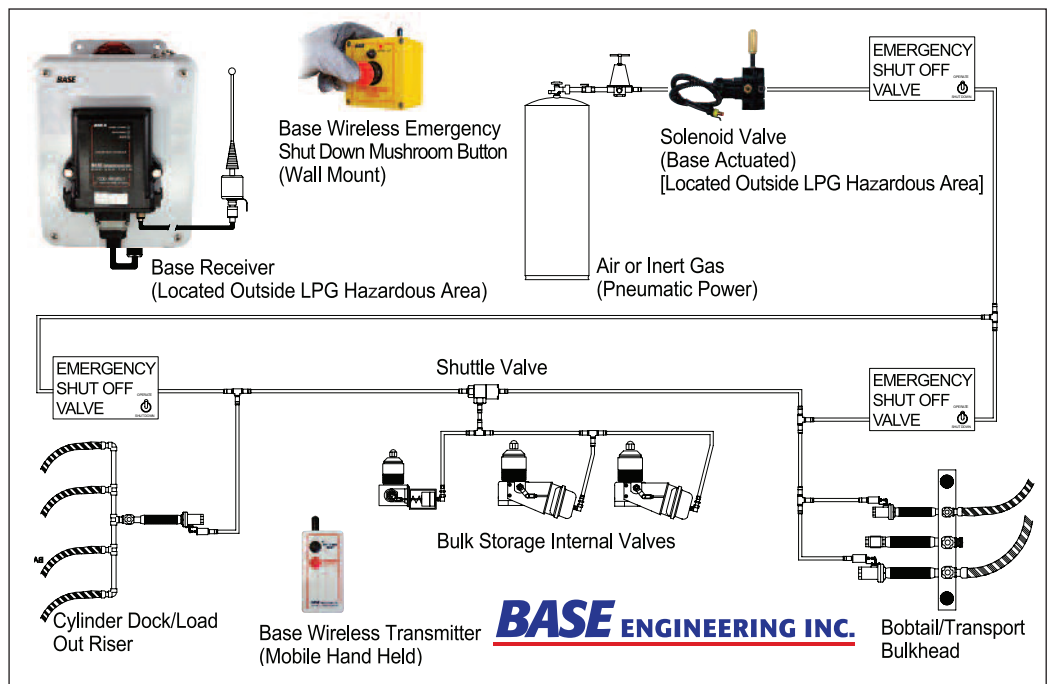


ProControl³ Integrated Fuel Delivery System

ProControl3 – BASE Engineering’s newly engineered hand-held control center – is the first and only all-in-one handheld solution for the Oil and Gas industry.
Call for complete details



Emergency Plant Shutdown



3300-FGL / 3300-FGLV Series Safety Shutdown Systems



(3300-FGL with out Valve / 3300-FGLV with K02-004 Valve)

The all-new 3300 Series Safety Shutdown Systems from Propane Technologies, LLC now has a plug-in antenna plus a line-of-sight 600 foot range. The smaller receiver includes an 8-point terminal block. This timesaving addition will make testing and troubleshooting easier; taking less time for installation due to having all wire connections and colors at one point. When using a circuit tester, everything is at one location; no tape or wire connectors needed.

- 3300-FGL** - Remote Shutoff with one Transmitter (Basic system)
- 3300 - FGLV** Remote Shutoff with Valve
- 3300-FTGL** - Remote Shutoff with 2 Transmitters
- 3300-FTGLV** - Remote shutdown with Valve and 2 Transmitters
- VAP327G** - Handheld Transmitter



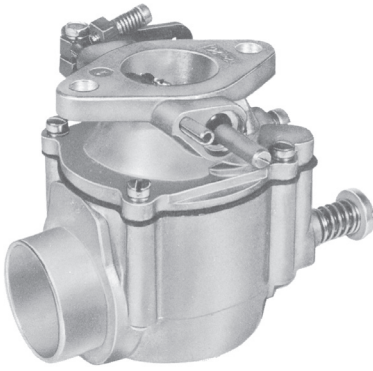
CARBURETION

EQUIPMENT



CA55 Impco Carburetor

These carburetors are used primarily on forklifts. Rated at 56 horsepower and a 3/8" NPT fuel inlet.

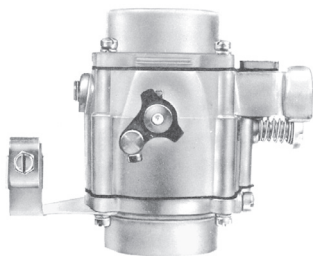
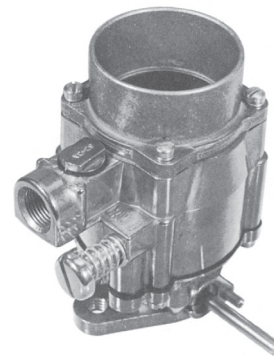


Part#	SAE Flange	Air Horn	Bolt Spacing	Mixer	Throttle Body
CA55-6	1"	1 7/8"	2 3/8"	CA55M-4	AT2-26
CA55-8	1 1/4"	2 1/16"	2 11/16"	CA55M-5	AT2-27
CA55-10	1"	1 3/4"	2 3/8"	CA55M-3	AT2-26
CA55-12	3/4"	1 1/2"	2 1/4"	CA55M-1	AT2-25
CA55-14	1"	1 1/2"	2 3/8"	CA55M-1	AT2-26
CA55-20	1"	1 5/8"	2 3/8"	CA55M-2	AT2-26

CA55 Series 500 Impco Carburetor

The air horn is in a straight through configuration. Rated at 77hp and a 3/8" fuel inlet.

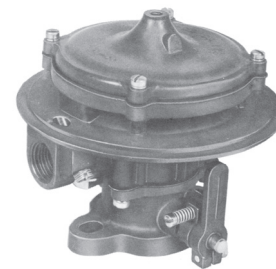
Part#	SAE Flange	Air Horn	Bolt Spacing	Throttle Body
CA55-504	3/4"	1 5/8"	2 1/4"	AT2-25
CA55-510	1"	1 3/4"	2 3/8"	AT2-27
CA55-512	3/4"	1 1/2"	2 1/4"	AT2-25
CA55-514	1"	1 1/2"	2 3/8"	AT2-26
CA55-520	1"	1 5/8"	2 3/8"	AT2-26



CA55 Series 750L

These carburetors are for use in dual fuel applications and have a boden wire bracket and holder for lifting the air valve in gasoline operation.

Part#	Hose Adapter	Air Horn
CA55-750L	1 1/2"	1 1/2"
CA55-752L	1 5/8"	1 5/8"
CA55-756L	2 1/16"	2 1/16"



Impco 125 Series Carburetor

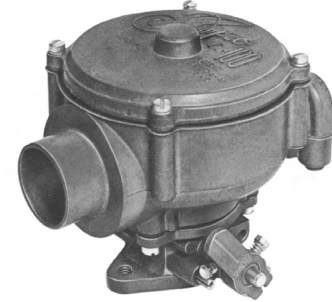
The 125 series carburetor is used on stationary engines, farm equipment and many other engines. It is rated at 126hp. Operates on propane or natural gas.

Part#	SAE Flange	Air Horn	Bolt Spacing
CA125-2	1"	2 5/16"	2 3/8"
CA125-6	1 1/4" & 1 1/2"	2 5/16"	2 11/16" & 2 15/16"
CA125-12	1 1/4" & 1 1/2"	2 5/8"	2 11/16" & 2 15/16"
CA125-18	1 1/4" & 1 1/2"	2 7/32"	2 11/16" & 2 15/16"

Impco 100 Series Carburetor

The 100 series carburetor is used on large forklifts, farm equipment and industrial engines. It is rated for 105hp and provides years of trouble free operation. Operates on propane or natural gas.

Part#	SAE Flange	Air Horn	Bolt Spacing
CA100-6	1"	1 ⁷ / ₈ "	2 ³ / ₈ "
CA100-8	1 ¹ / ₄ "	2 ¹ / ₁₆ "	2 ¹¹ / ₁₆ "
CA100-10	1 ¹ / ₄ "	2 ⁵ / ₁₆ "	2 ¹¹ / ₁₆ "
CA100-12	1 ¹ / ₂ "	2 ⁵ / ₁₆ "	2 ¹⁵ / ₁₆ "
CA100-46	1 ³ / ₄ "	2 ⁵ / ₁₆ "	3 ⁵ / ₁₆ "



Impco 110 Carburetor

The Impco Model 110 is widely used on industrial and oilfield engines. It has an extra diaphragm plate that sets it apart from other Impco Carburetors.

Part#	SAE Flange	Air Horn	Bolt Spacing
CA110-4	1"	1 ¹ / ₂ "	2 ³ / ₈ "
CA110-6	1"	1 ⁷ / ₈ "	2 ³ / ₈ "
CA110-8	1 ¹ / ₄ "	2 ¹ / ₁₆ "	2 ¹¹ / ₁₆ "
CA110-10	1 ¹ / ₄ "	2 ⁵ / ₁₆ "	2 ¹¹ / ₁₆ "
CA110-12	1 ¹ / ₂ "	2 ⁵ / ₁₆ "	2 ¹⁵ / ₁₆ "

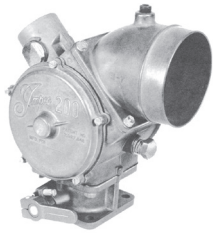


Impco 200 Series Carburetor

The 200 series carburetors are for use on industrial engines and farm equipment. They are rated at 172hp. They may operate on either propane or natural gas.

Part#	SAE Flange	Air Horn	Bolt Spacing
CA200-M2	1 ¹ / ₂ "	2 ⁵ / ₈ "	2 ¹⁵ / ₁₆ "
CA200-4	1 ³ / ₄ "	2 ⁵ / ₈ "	3 ⁵ / ₁₆ "
CA200-6	2"	3 ¹ / ₁₆ "	3 ⁹ / ₁₆ "
CA200-8	1 ³ / ₄ "	3 ¹ / ₁₆ "	3 ⁵ / ₁₆ "





Impco 200D Carburetor

This Impco Carburetor is used on large industrial engines. It has two diaphragms and is rated for 292hp.

Part#	SAE Flange	Air Horn	Bolt Spacing
200D-1	2½"	3½"	2 ⁷ / ₈ "
200D-3	2½"	4"	2 ⁷ / ₈ "
200D-5	3"	4"	3"
200D-16	3"	3½"	3"



Impco 210 Carburetor

The Impco Model 210 is widely used on industrial and oilfield engines. It also has an extra diaphragm plate.

Part#	SAE Flange	Air Horn	Bolt Spacing
210-2	1½"	2 ⁵ / ₈ "	2 ¹⁵ / ₁₆ "
210-4	1¾"	2 ⁵ / ₈ "	3 ⁵ / ₁₆ "
210-6	2"	3 ¹ / ₁₆ "	3 ⁹ / ₁₆ "
210-8	1¾"	3 ¹ / ₁₆ "	3 ⁵ / ₁₆ "

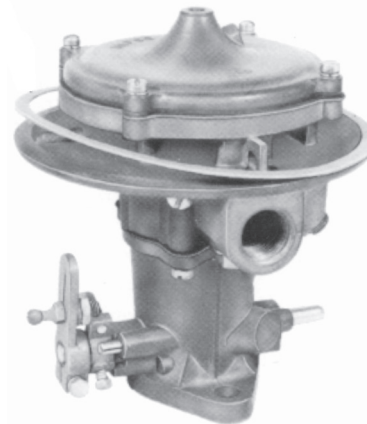
Impco CA225 Carburetor

The 225 (Single Barrel) is Impco's most popular carburetor. It is widely used on industrial engines, farm equipment and on motor fuel applications. It is rated at 205hp and can be used on propane or natural gas just by switching air valve assemblies.

Part#	SAE Flange	Air Horn	Bolt Spacing
CA225-52	1½"	5 ¹³ / ₁₆ "	2 ¹⁵ / ₁₆ "
CA225-54	1¾"	5 ¹³ / ₁₆ "	3 ⁵ / ₁₆ "
CA225-56	2"	5 ¹³ / ₁₆ "	3 ⁹ / ₁₆ "

CA225 Two Barrel

Part#	SAE Flange	Air Horn	Bolt Spacing
CA225-11	1½" 2V	5 ¹³ / ₁₆ "	1 ⁷ / ₈ " x 3¼"
CA225-12	1½" 2V	5 ¹³ / ₁₆ "	2" x 3 ¹¹ / ₁₆ "
CA225-13	Holly 2V	5 ¹³ / ₁₆ "	5 ³ / ₃₂ " x 3 ¹¹ / ₁₆ "
CA225-14	GMC 2V	5 ¹³ / ₁₆ "	2 ³ / ₁₆ " x 4½"



Air Horn Adapters

- A2-2 51/8"** Diameter Adapter
- A2-3 25/8"** Diameter Adapter

Impco 425 Carburetor

This carburetor is widely used on motor vehicles from pickups to delivery vehicles. It is available with large 2½" one barrel flanges, two barrel throttle bodies and four barrel throttle bodies. It is also widely used for dual fuel operation in large engines.

The AA2-40 Adapter permits horizontal mounting of 425 carburetor for dual fuel operation. This adapter has a 51/8" inlet for mounting on Ford 4bbl and Chevy 4bbl carburetors. The AF1-14 Impco Air Cleaner assembly is used in conjunction with AA2-40 adapter and CA425 Impco Carb for dual fuel operation

CT425M-2



Impco 300A Dual Fuel Mixer

The Impco "Imperial 300" is very popular for dual fuel usage. It is made to mount on top of the gasoline carburetor or throttle body for ease of installation. It is available in two models, the standard 300A for engines below 350cid and the 300A-50 for engine 350cid and above. The adapters listed below allow installation on the vehicles original carburetor.

- CA300A-M** Standard Mixer
- CA300AM-50-2** Large Mixer

Repair Kits

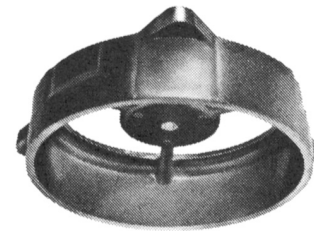
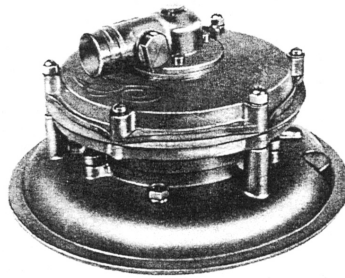
- RK-300MI-1/20-2** Minor repair kit CA300A
- RK-300MI-50** Minor repair kit CA300AM-50
- RK-300MA-1/20-2** Major repair kit CA300AM
- RK-300MA-50/70-2** Major repair kit CA300AM-50

Air Filter Assemblies

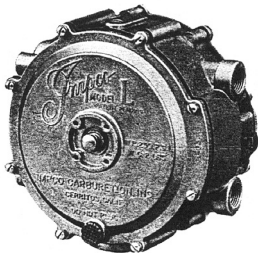
- AF1-1** 10" Air Filter Assembly
(replacement filter F1-1)
- AF1-11** 14" Air Filter Assembly
(replacement filter F1-9)



Complete mixer with 14" or 10" air filter. (AF1-11, AF1-1)



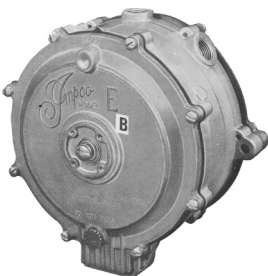
Imperial 300 Adapters	
Adapter	Air Horn Size
A1-1	2 ⁵ / ₈ "
A1-2	2 ⁵ / ₁₆ "
A1-3-1	4 ³ / ₁₆ " tall
A1-3-2	4 ³ / ₁₆ " short
A1-4	2 ⁵ / ₈ "
A1-5	2 ⁵ / ₈ " V-Ring
A1-6	3 ¹ / ₁₆ "
A1-10-2	2 ⁵ / ₈ "
A1-16-1	5 ¹ / ₈ " tall
A1-16-2	5 ¹ / ₈ " short
A1-30	2 ³ / ₁₆ "
AA1-35	4 ¹ / ₈ " offset
A1-39	2 ⁵ / ₈ " tall
A1-49	5 ³ / ₈ " Ford VV
A1-50-2	5 ¹ / ₈ " Chevy FI
A3-96	300A to Holly TB



Model "L" Vaporizer

The Model L Vaporizer is a compact vaporizer that is rated at 325 horsepower. It is commonly used on motor fuel applications and stationary engines. The vaporizer is only 6¹/₂" wide and 4⁵/₁₆" deep. It has a 1/4" fpt liquid inlet and a 1" vapor outlet.

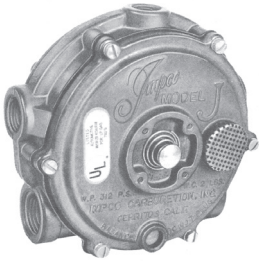
Part#	Description
LB-2	Vaporizer with Silicone Dia.
RK-L-2	Standard Repair Kit



Model "E" Vaporizer

The Model E Vaporizer is rated at 325 horsepower. It is commonly used on motor fuel applications and stationary engines. The vaporizer is 7¹/₄" wide and 4⁵/₈" deep. It has a 1/4" fpt liquid inlet and a 1" vapor outlet.

Part#	Description
N-EB-2	Vaporizer with Silicone Dia.
N-RK-E-2	Repair Kit with Silicone Dia.

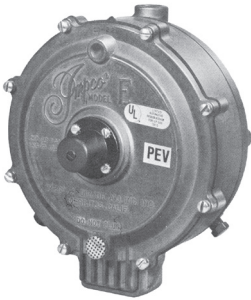


Model "J" Vaporizer

The Model J Vaporizer is used on forklifts around the world. It is rated at 100 horsepower. This compact vaporizer measures only 45/8" wide and 27/8" deep. It has a 1/4" fpt liquid inlet with two 1/2" FPT vapor outlets. The two coolant openings are 3/8" FPT.

Part#	Description
N-JB-2	Vaporizer with Silicone Dia.
RK-J-2	Repair Kit with Silicone Dia.

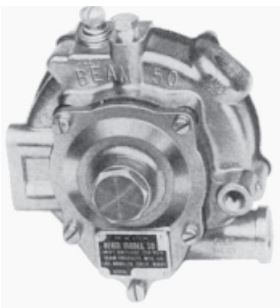
Also available: Corba Vaproizer, Cobra Repair Kit



Impco EV Vapor Regulator

The Model EV Vapor Regulator is based upon the dependable Model E Vaporizer. This vapor regulator is used when a liquid vaporizer is not practical.

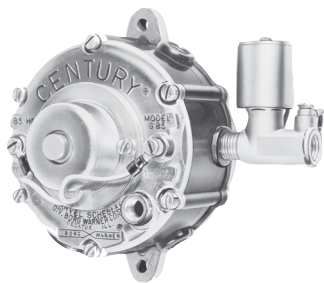
Part#	Description
EV	Vapor Regulator



Beam Regulator/Vaporizer

The Beam Model T60B Vaporizer is a Vaporizer/Regulator for engines up to 60hp. This unit is used on small forklifts and industrial engines.

Part#	Description
T60RK	Repair kit for both the 50B and 60B Regulators



Century Model "G-85" Vaporizer

The Model G-85 Century Vaporizer is a mainstay for forklift applications. It is rated at 85 horsepower and comes complete with an electric primer. This compact vaporizer has a 1/4" fpt liquid inlet and a 3/4" vapor outlet.

Part#	Description
2335CENT	"G-85" Vaporizer
286-1554	G-85 Repair Kit



Model A962B Vaporizer

This can style vaporizer is used in conjunction with the 60B00 Regulator. It is normally inserted in a water manifold to permit coolant to circulate around the heat transfer tubes.

Part#	Description
A962B-1A	Vaporizer

Century Model "H" Vaporizer

The Century Model "H" Vaporizer is rated at 100hp and is used on many tractors and stationary engines. This vaporizer is equipped with an electric primer and is equipped with a ¼" liquid inlet and ¾" vapor outlet.



Part#	Description
1477CENT	Century Vaporizer
286-1301	Model "H" Repair Kit
317-529	Primer for all Century Vaporizers

Note: Century Vaporizers are the most compatible with the old "Ensign" Systems. A 66EP tapped elbow and 4H-102S idle control valve must be used when replacing an Ensign Vaporizer.

Model "M6" Vaporizer

The Century Model "M-6" Vaporizer is rated at 350hp and is used on many tractors, stationary engines and motor fuel applications. This vaporizer is equipped with an electric primer and is equipped with a ¼" liquid inlet and ¾" vapor outlet.

Note: Century Vaporizers are the most compatible with the old "Ensign" Systems. A 66EP tapped elbow and 4H-102S idle control valve must be used when replacing an Ensign Vaporizer.



Part#	Description
286-1688	Model "M-6" Repair Kit

Garretson Small Engine Vapor Regulators

The Model SD fuel controller is the most popular fuel controller used on small engines today. This unit has been in production for over 15 years. The molded silicone diaphragm and the square seating plunger help contribute to its sensitivity and long trouble free service.



Part#	Outlet	Orifice	Inlet Pressure	Special Options
T52N	¼" Hose	3/16"	6 oz.	Auto
	3/8" Hose	¼"	2 psi	Prime
	¼" fpt		5 psi	

KN Vapor Regulator

The Model KN is designed for sensitivity and simple operation. It is used with low pressure vaporized fuels where dependable automatic starting is a requirement. The KN is an excellent choice for use on irrigation engines, oil field engines and stand-by generators.



Part#	Orifice	Inlet Pressure	Special Options
KN	7/16"	6 oz.	No Primer
039-122	7/16"	6 oz.	Manual Prime Idle Fitting

Repair Kit **039-99**

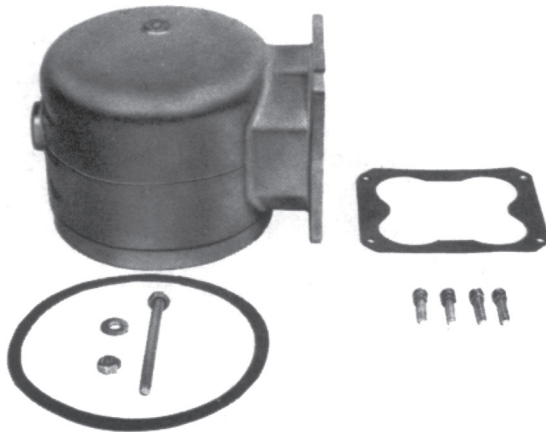


Impco Model VFF30 Filterlock

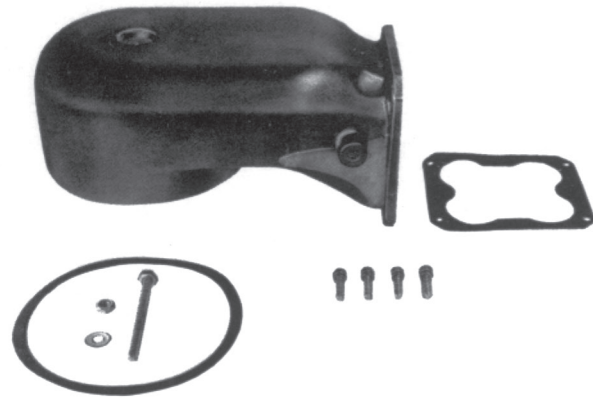
The VFF30 Impco Filterlock is used on forklifts and motor fuel applications. It is rated at 325 horsepower. This filterlock combines a vacuum lockoff and a filter. It has a 1/4" fpt inlet and outlet. The vacuum connection is 1/8" fpt and should be connected to air valve vacuum.

Part#	Description
N-VFF-30-2	Impco Filterlock
AF1-10	Filter Pad & Gasket
F1-10	Filter Pad Only

425 Elbow Adapter AA2-40



425 Elbow Adapter (low profile) AA2-40-2



Impco SV Start Assist Valve

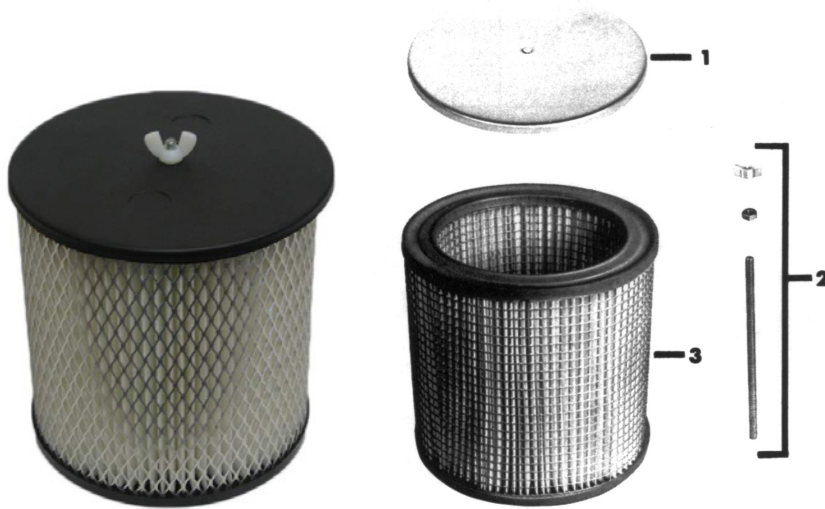
The SV Start Assist Valve is installed in the secondary side of Impco Vaporizer to aid in starting. A vacuum hose is routed to the air valve section of the Impco Carburetor. The valve is wired to the starter circuit so the valve is open when the starter is engaged.



Part#	Description
SV	Start Assist Valve

Impco Air Filter Assemblies

Part#	Air Flow	Used with	Filter Part#	Cover Part#	Base Part#
AF1-5	150cfm	CA125	F1-5	C1-28	---
AF1-11	500cfm	CA300A	F1-9	C1-40	A2-26
AF1-15	400cfm	CA425	F1-15	C1-28	---
AF1-16-2	550cfm	CA425	F1-9	C1-60	A2-54
AF1-17-2	550cfm	CA225	F1-9	C1-60	A2-55



AF1-15 Air Filter Assembly

1. C1-28 Cover
2. AS3-51 Stud Assembly
3. F1-15 Filter Element



AF1-17-2 Air Filter Assembly

1. C1-60 Cover
2. A2-55 Adaptor, Base
3. AS3-52 Stud Assembly
4. F1-9 Filter Element



AVC LP Lockoff

This heavy duty solenoid has 1/4" FPT inlet and outlet. It is economically priced yet very dependable. Commonly used in motor fuel and on forklifts. 12V

G121



AVC LP Lockoff

This LP Lockoff has been an industry mainstay. It has a 1/4" side FPT inlet and a 1/4" FPT bottom. It operates on 12V.

G123



AVC Gasoline Solenoid

Economically priced yet dependable. This solenoid has 1/8" FPT and operates on 12V.

G111



Disposable Filter

These disposable filters can be used on many applications including forklifts and motor fuel.

408A32M (PF0532) 3/8" SAE Flare x 1/4" MPT

750815 (PF052FM) 1/4" FPT x 1/4" MPT



Beam FL-218 Filterlock

The FL-218 is used on engines under 200 cid. It is primarily used on forklifts. It has a 1/4" MPT inlet and 1/4" FPT outlet.

A152



Beam FL-418 Filterlock

The FL-418 is rated for engines above 200 c.i.d. and can be used on stationary and motor fuel applications. It has a 1/4" MPT inlet and a 1/4" FPT outlet.

FL-418



Beam Vacuum Switch

This vacuum switch is used on forklifts in conjunction with a 12V solenoid.

1501L

Century 2384 Filterlock

The 2384 Century Filterlock provides the security of an electric lockoff along with propane filtration. This lockoff has a 1/4" FPT inlet and outlet.

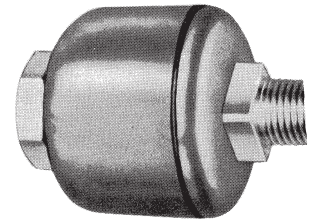
Part#	Description
2384CENT	Century Filterlock
286-1794	Filter Pad w/O-Ring
323-529	12V Solenoid Coil
310-6	Complete Repair Kit



F201 Filter

This compact filter has a replaceable element and is perfect for forklifts and other small engine applications. It has a 1/4" MPT inlet and a 1/4" FPT outlet.

Part#	Description
F-201	Beam Filter

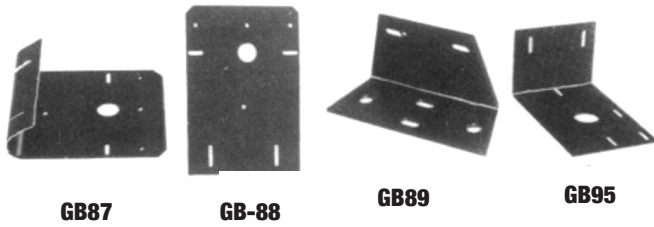


Century LP Lockoff

This solenoid is used primarily for forklift applications. It has a 1/4" MPT inlet and a 1/4" FPT outlet. 12V

2341CENT

Converter Mounting Brackets



Part#	Description
GB-80	For Century G85 Converter
GB-86	For G-85 converter. Mounts on carburetor mounting flange
GB-88	Straight bracket for Beam 400, Century H, M-5 & M-6 and Impco E.

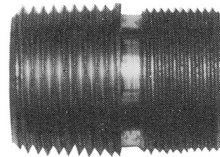


Relief Valve Pipeaway Fittings

This relief vent cover assembly has 1" MPT for easy installation. It has a chrome cover that is secured by a chain.

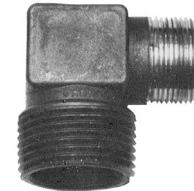
2995-P

Relief Valve Pipeaway Fittings



Straight

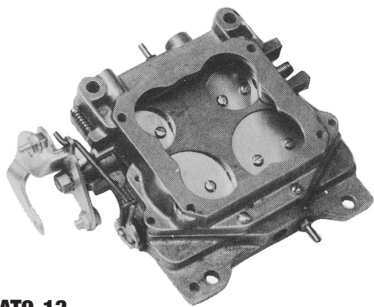
Part#	Relief Size	Pipe Size
RVC-1	1 1/4"	1"
RVC-2	1"	3/4"



Elbow

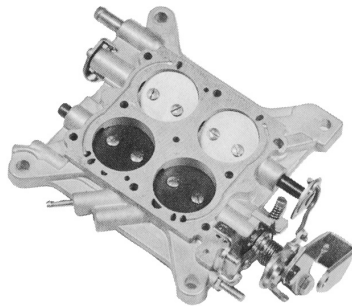
Part#	Relief Size	Pipe Size
88E-1	1"	1"

Gann Throttle Bodies



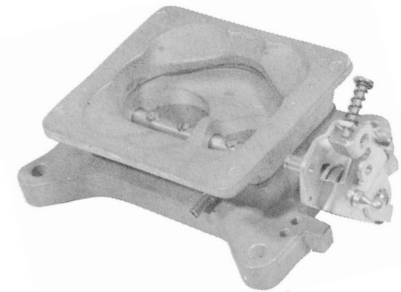
AT9-13

This GM Quadrajet style throttle body is used for mounting a CA425 Impco Carburetor for straight propane use.



TB9-8

This Holly 4bbl style throttle body is used for mounting a CA425 for straight propane use on Holly 4bbl manifolds.



AT2-13-1 & AA3-47-2

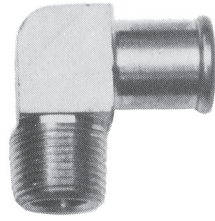
This Holly 2bbl style throttle body is used for mounting a CA425 for straight propane use on Holly 2bbl manifolds.



Gritrol® Fuel Line Filters

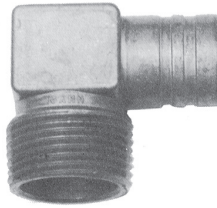
Designed especially for use in liquid motor fuel lines to trap foreign material which otherwise may damage precision components in the LP-Gas carburetion system. These filters incorporate an integral sintered metal filter element in a straight through design.

12802 1/4 Filter



Brass Hose Elbows

Part#	Hose Size	Pipe Size
53EB	5/8"	3/8"
54EB	5/8"	1/2"



Zinc Hose Elbows

Part#	Hose Size	Pipe Size
86EZ	1"	3/4"
88EZ	1"	1"



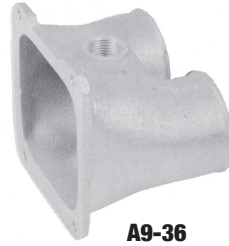
Brass Straight Hose Nipples

Part#	Hose Size	Pipe Size
53SB	5/8"	3/8"
54SB	5/8"	1/2"

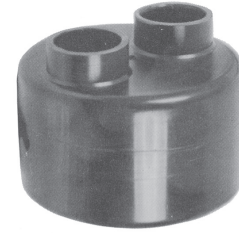


Zinc Straight Hose Nipples

Part#	Hose Size	Pipe Size
86SZ	1"	3/4"
88SZ	1"	1"



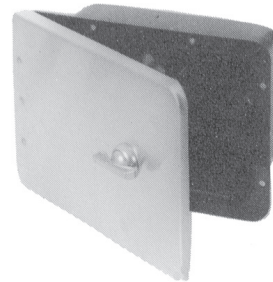
A9-36



A9-40

Gann 425 Adapters

These adapters are used with a CA425DF for mounting it in the air inlet hoses on fuel injected V-8 Ford Engines. A solenoid on the CA425DF opens the air valve for gasoline operation.



Remote Fill Box

This locking remote fill box permits remote installation of fill valve and outage valve.

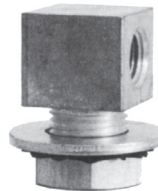
RFB-3



Hose Y

This water hose Y is used to splice vaporizer water lines into existing heater hoses.

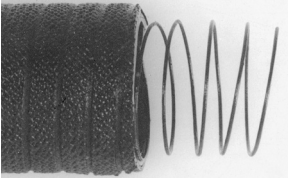
6655YN 3/4" x 5/8" x 5/8"



Bulkhead Fittings

This bulkhead fitting is used when installing high pressure fuel lines. Normally the bulkhead is installed in conjunction with a hydrostatic relief valve.

BF-23



Vapor Hose

Part#	Size
VH12	1/2"
VH58	5/8"
VH34	3/4"
VH78	7/8"
VH100	1"



S.S. Braided High Pressure Fuel Hose

Part#	Size
SS25UL-4	1/4"
7233-311	5/16"
SS25UL-8	1/2"



RegO 1/4" Hydrostatic Relief Valve

This 1/4" hydrostatic relief valve is set at 400PSI.

3125L



Reusable Hose Ends for Braided High Pressure Hose

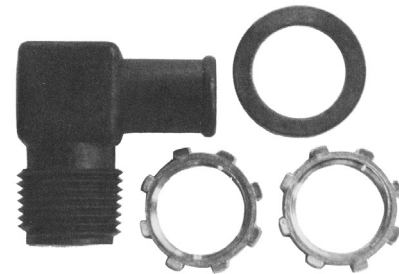
Part#	Hose Size	Fitting
20820-4-4	1/4"	1/4" fl
6FS	5/16"	3/8" fl
6FS-45	5/16"	3/8" 45° fl
6FS-90	5/16"	3/8" 90° fl
6-4MP	5/16"	1/4" mpt
20820-8-8	1/2"	1/2" fl



Reusable Hose End with 1/4" Relief Valve Tap

This end is for 5/16" SS braid LP Hose and has a 3/8" flare end. It is equipped with a 1/4" port for installation of a hydrostatic relief valve.

6FS-1/4



Crankcase Vent Fittings

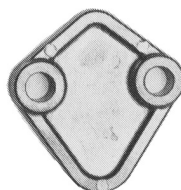
These fittings are used in the cover of an Impco 300A Mixer to install the crankcase ventilator hose.

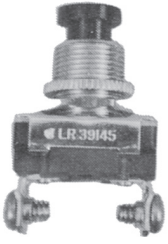
Part#	Hose Size	Pipe Size
54E-12	5/8"	1/2"
64E12	3/4"	1/2"
84E-12	1"	1/2"

Fuel Pump Block Off Plate

Used to block off fuel pump in a straight propane application. Includes gasket.

Part#	Description
622	1 3/4" bolt centers
622N	2 5/8" bolt centers

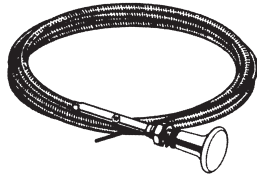




Primer Switch

Push Button Primer Switch for vaporizer primers.

9279



Boden Cable

8366 6ft boden wire cable with handle for control of air valves on dual fuel carburetors.

AB1-28 Manual primer for Impco Vaporizers



Vacuum Hose

$\frac{3}{16}$ " Vacuum hose



Remote Receiving Units

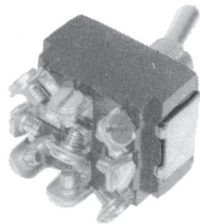
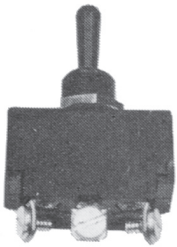
This receiving unit is wired to a sending unit to provide liquid tank level in a remote location.

136521

Motor Fuel Gauges Junior Remote Senders

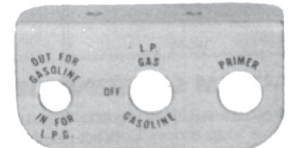
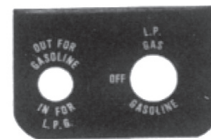
Part#	Description
5415S002064	Jr. 70-10 Ohm (Ford & Chrysler)
IP5628S02537	Jr. 0-90 Ohm (GM)

The TwinSite™ is a magnetically-driven, variable-resistance sender with plotted lead wires. Senders are utilized on both mobile and stationary applications where direct reading plus an electrical signal to a remote receiver are required. Models are available to fit all Rochester Junior™, liquid-level gauges equipped with our large Alnico drive magnet.



Three Way Switches

Part#	Description
5586	3 positions, on-off-on with three screw terminals
5592	3 positions, on-off-on with six screw terminals for two circuits
5592-1	3 positions, on-off-on with six spade terminals for two circuits



Dash Control Brackets

Part#	Description
244	2 hole for boden wire and 3 way switch
344	3 hole for boden wire, 3 way switch and primer



DECALS



SERVICE EQUIPMENT,
SUPPLIES

PROPANE



Klinger's Quality Paint

130-TA Aluminum Tank Paint

Klinger's aluminum tank paint is long lasting and covers better than a blanket! If you have used other aluminum paint that is runny and watered down, quit wasting your time and make the switch to Klingers. Use Mineral Spirits to thin. Available in one gallon cans (four gallons to a case) or in five gallon buckets.



11017 Bright White Tank Enamel

Are you ready for a white tank enamel that has a high gloss and lasts a long time? Klinger's white tank enamel is specially formulated to cover in one easy coat. You will definitely need to have your sunglasses handy after you use this paint! Use Mineral Spirits to thin. Available in one gallon cans, (four gallons to a case) in five gallon buckets and aerosol cans.

62017 White Silicone Super White Tank Paint

You will not believe the gloss on this silicone SuperWhite Tank Paint. Although it is a few bucks more, it is worth it to have better looking tanks that do not require painting for a long time. Available in one gallon cans (four gallons to a case), in five gallon buckets and in aerosol cans. Use Mineral Spirits to thin.

QUORA-03-01518 Quora Tank Paint White

Newly introduced Quora Tank Paint is a premium quality tank paint formulated to last with utmost durability. It dries to the touch in 30 to 45 minutes with a recoat time of 2 hours and a full cure time at 4 to 6 hours with no chalking. In addition, it is low-VOC. Also lasts an estimated 15 to 20 years.



Mildew Resistant and has an excellent coverage of 450 square feet per gallon.

Gray Tank Paint Primers

14022 Fast Dry Gray Primer has a recoat (drying) time of 30 minutes, brush, roll or spray. Available in gallons or 5 gallon. (Use Xylol Thinner)

12520 Gray Primer has an 8-12 hour recoat time brush, spray or roll use mineral spirits as a thinner.

Thinners Mineral Spirits Thinner is used in the majority of Klinger Paints. Xylol Thinner is used to thin the fast dry primer.



Wasp & Hornet Killer



Aerosol Paints



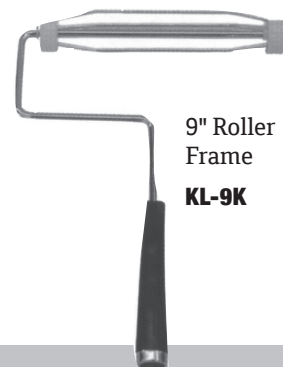
Wire Brush
w/Scraper
KL-42S



1", 2", 3"
Short Handle
Throw Away Brush



Long Handle 2" Paint Brush
KL-TTB2



9" Roller
Frame
KL-9K



Teflon Tape

Extra thick and easy to use. Use in conjunction with any pipe compounds. Packaged in 260" rolls.

Part#	Size
ATY004	1/2"
ATY005	3/4"
ATY006	1"

Rectorseal #5, T plus 2

The industry standard-slow dry-soft set. Non seizing. Breaks loose easy without damaging threads. All sizes come standard with brush top can.



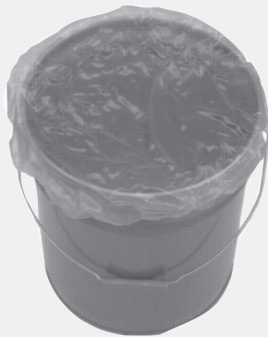
Part#	Size
25631	#5 - 1/4 pt
25551	#5 - 1/2 pt
25431	#5 - 1 pt
23631	(T PLUS 2) 1/4 pt

Sherlock Leak Detector

Low temperature leak detector solution for all weather leak checking. Available in one gallon or 8 oz size with dauber brush.



Part#	Size
LD2	1 Gallon
LD1	8 Ounce
16B0	Pint
16BTL	16 oz. (Trigger bottle only)



Bucket Bonnet
(5 Gal. Pail)
KL-BB

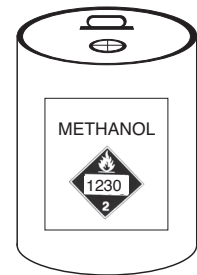


Bucket Roller Grid
KL-BG

3/4 Ultra-Blend Nap Cover
(Semi-Rough or Rough Surfaces)



3/8 Dripless Nap Cover
(Smooth or Semi-Smooth Surfaces)
KL-9V-16



Methanol

Available in five gallon, thirty gallon or fifty five gallon barrels. Used to assist in the prevention of freeze-ups.

John Crane PLS-2 & GASOILA

For every pipe joint service. Leak proof, seize proof, non hardening. Comes with brush top can.

Part#	Size
1#-No.2	1/4 pt
4#-No.2	1 pt



Gasola thread sealant with teflon is made especially for propane and natural gas piping.

Part#	Size
SS04	1/4 pt
SS16	1 pt



Thread Sealant (General Purpose)

Slow drying, soft setting, non-hardening pipe thread compound. Recommended for on-site or assembly line work. Lead free and non-toxic. No leaks, no callbacks!

Part#	Size
400-102	4 oz.



Thread Sealant (PTFE)

This pipe sealant incorporates teflon for sealing. It goes on thick and provides a positive seal.

Part#	Size
400-002	4 oz.





Part#	Description
V-81	Pull to close decal
P-81	Pull to close poly sign



Part#	Description
V-82	Push to close decal
P-82	Push to close poly sign

PROPANE

Part#	Description
2PD	2" Propane Decal
4PD	4" Propane Decal
6PRO	6" Propane Decal

FLAMMABLE

Part#	Description
V-24C	2" Flammable Decal
4FGD	4" Flammable Decal
6FD	6" Flammable Decal

NO SMOKING

Part#	Description
NSD-2	2" No Smoking Decal
NSD-4	4" No Smoking Decal
NSD-6	6" No Smoking Decal



Railroad Decal

Reflective scotchlite decals are required on the rear of all propane bobbails and transports.

Part#	Description
TVSRRRC	3" White Letters on Red 8"x36" double lined
TVSRRRC-2	2" Red Letters on White 4"x36" single line

LIQUEFIED PETROLEUM GAS

Part#	Size	Description
V-302C	2" letters	Liquefied Petroleum Gas Decal



Part#	Size	Description
ESD-2 1/2" x 6"	1/2" x 6"	Emergency shut off decal
ESD-2	6" x 12"	Emergency shut off decal



Liquid & Vapor Decals

These decals are used to identify valves and or piping.

- SLD** Liquid has red letters
- SVD** Vapor has green letters

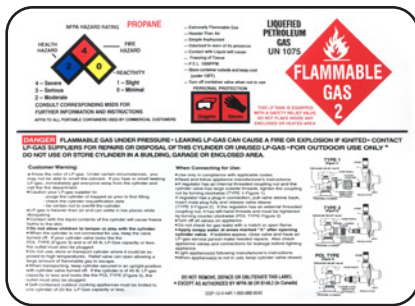
CD



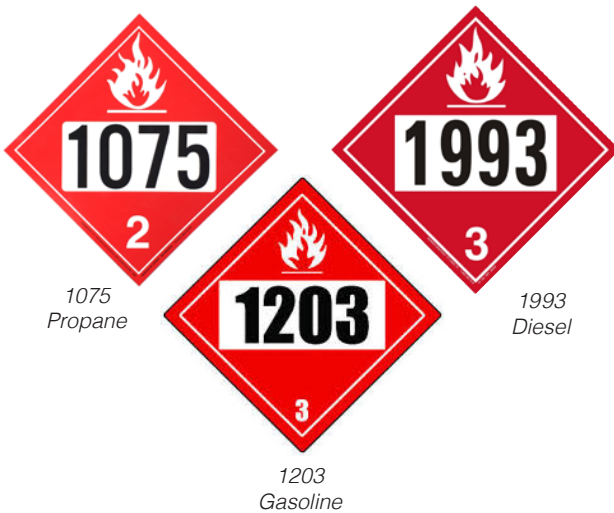
Propane Cylinder Decal (1075)



Propane Cylinder Decal



3N1 Decal



DOT Placards

Very durable and available in a vinyl decal or as a poly plastic sign

NFPA Storage Tank Decal

This decal is required in some commercial installations.



Part#	Description
NFPA-704-1-LP-NEW	7.5" x 7.5"
NFPA-704-2-LP-NEW	10.5" x 10.5"
NFPA-704-3-LP-NEW	15" x 15"

W.C.	LBS. PROPANE	W.C.	LBS. PROPANE
2.39	1	35.8	15
4.78	2	38.2	16
7.17	3	40.6	17
9.56	4	43.0	18
11.9	5	45.4	19
14.3	6	47.8	20
16.7	7	59.7	25
19.1	8	71.7	30
21.5	9	78.8	33
23.9	10	83.6	35
26.2	11	95.6	40
28.6	12	105.1	44
31.0	13	119.5	50
33.4	14	239	100

Cylinder Filling Capacity Chart

P-101 This chart is handy to have around your bottle fill plant. Blue lettering on a white poly sign.

**Filling Procedure
Portable Cylinders**

1. Open liquid outlet valve on storage tank and valves in by-pass return line.
2. Connect hose to cylinder fill valve.
3. Start pump.
4. Open valve on cylinder.
5. Open valve on end of hose.
6. Close hose valve as soon as scale beam or indicator tips.
7. Close cylinder valve.
8. Disconnect hose.
9. Check weight. Bleed off overfill at a safe location.
10. Check container valves for leaks.

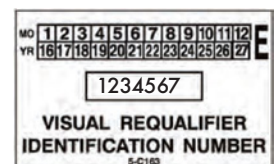
**OPERATOR MUST BE IN ATTENDANCE
DURING ENTIRE FILLING PROCEDURE.**

Cylinder Filling Procedure Chart

P-121 or **V-121** Basic instructions to fill a cylinder.

R.I.N. Decal

We can custom make your Requalifier Identification Number (R.I.N.) Decals
Minimum order of 100.



Sample Shown Here



Baso K15DA Thermocouple

This industry standard replaces the 88D Series Baso Thermocouple.

Part#	Length
K15DA-18	18"
K15DA-24	24"
K15DA-36	36"



Baso K16BT "Husky" Thermocouple

The "Husky" is a heavy duty commercial style thermocouple.

Part#	Length
K16BT-18	18"
K16BT-24	24"
K16BT-30	30"
K16BT-36	36"



Baso K19 Slim Jim Thermocouple

This universal model is our most popular. It comes with a selection of adapters to fit most pilots.

Part#	Length
K19AT-18	18"
K19AT-24	24"
K19AT-30	30"
K19AT-36	36"
K19AT-48	48"



Honeywell Q340A Thermocouple

One of the most popular thermocouples. Adapters to fit push in, clamp style and screw in pilots.

Part#	Length
Q340A-1066	18"
Q340A-1074	24"
Q340A-1082	30"
Q340A-1090	36"



Robertshaw 1970 Uni-Couple

Comes complete with zip nuts that can adapt to most pilot burners.

Part#	Length
1970-018	18"
1970-24	24"
1970-30	30"
1970-36	36"



Baso Valve Grease

This moly high temp grease provides excellent lubrication at a wide temperature range.

Part#	Description
Y70AA-1	2½" ounces

700 Series Gas Heating Valve

These control valves are reliable and economical. They are actuated by a wall thermostat and combine a manual gas cock and 100% safety valve. Available for propane or natural gas.

Part#	Length	Outlet	BTU Capacity	Voltage
700-400	1/2"	3/4"	240,000	24V
700-504	1/2"	3/4"	240,000	750MV



720 Series Dual Valve Gas Control

These control valves are reliable and economical. They are actuated by a wall thermostat and combine a manual gas cock and 100% safety valve. Available for propane or natural gas.

Part#	Length	Outlet	BTU Capacity	Voltage
720-402	1/2"	3/4"	150,000	24V



Honeywell Thermostats

These round thermostats are the industry standard. Available as heat only or heating and cooling combination.

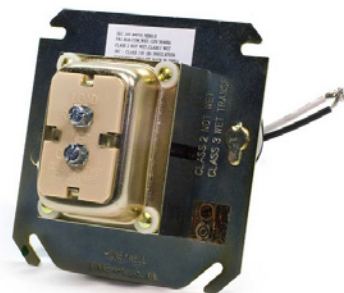
Part#	Description
T87N1000	24V Heat Only
TS86A1371	750MV Heat Only



Honeywell Economy Thermostats

These economy units combine all the reliability of the more expensive units. Available in Millivolt or 24V.

T822K1018



Honeywell Transformer

This transformer takes line voltage and converts it to 24V.

AT72D-1683



EM152 Manometer

The EM152 measures differential, positive or negative pressure. Units can be selected from any one of 11 options including; in H₂O, psi, bar, mBar, kPa, InHg, mmHg, ozin, FtH₂O, cmH₂O and kgcm. Features pressure zero, hold and record. A simple hose barb allows for quick tubing connections and is backed by a 1-Year limited warranty.

Features

- Dual input differential in 11 scales
- Hold/Min/Max/Avg
- Record with elapsed time stamp
- Backlit display
- Relative time clock
- Low battery indicator
- Auto power off
- Magnetic mount



EM201 Manometer

This meter provides a simple, time-saving alternative to U-tube pressure measurements. Use the UEI EM200 to measure gas supply. Its differential mode provides a convenient method to measure pressure drops.

Features

- Dual input differential measurement to ± 60 wg or 150 mBar
- MIN/MAX value capture
- Data hold
- One year limited warranty
- Backlit display
- Ruggedized, including rubber boot with integral magnet
- Auto power-off



CD100A Leak Detector

The perfect serviceman's tool designed to detect combustible gas leaks in residential and small commercial applications. Semiconductor sensor responds instantaneously to all combustible gases. The easily adjusted, steady tic rate provides a precise indication of the leak source. The CD100A can be used in tight quarters where others might not fit.

Features

- Long 18" gooseneck for hard to reach areas
- Minimum detection 50 ppm methane
- 'Tip-light' in sensor cap illuminates the search area
- Sensor provides accurate detection
- Audio and visual tic rate, fully adjustable
- Headphone jack
- One year limited warranty



CD200 Leak Detector

This detector has a long gooseneck probe and bright LED tip light to find combustible gas leaks in tight areas. Its adjustable alarm, easy one-hand operation and impact resistant storage case add up to value and convenience.

Features

- 50 ppm minimum detection
- Fast response time of less than two seconds to 40% LEL
- Visual leak detection by color LED's
- Separate user adjustable alarms for predetermined level detection
- Headphone jack
- Precision sensor detects even the smallest leaks
- Three year limited warranty
- 'Tip-light' in sensor cap illuminates the search area
- Long 18" gooseneck
- Adjustable tick rate to locate leaks quickly and easily

HIGHLY SENSITIVE Wohler GS 300 Gas Sniffer

Combustible gas sniffer

Application

- Highly sensitive and quick responsive Gas Sniffer for tight-ness control and leakage detection of gas lines carrying combustible gases

Features

- Acoustic signal and vibration alarm to display even the smallest leaks
- Display of gas concentration via bar graph in twelve levels from 0 to 1,200 ppm
- Perfect tool to control natural gas or propane, as well as liquefied gas installations
- Additional LED lighting turns on automatically in dark places , to search for leaks in hard to reach spots (flash-light function) see below

GS300



- 1 Flexible Probe
- 2 On/Off-key
- 3 Mode-key: Selection Propane / Methane
- 4 Alarm-key: Selection beep / vibration alarm / beep and vibration alarm / no alarm
- 5 Light-sensor
- 6 Earphone jack
- 7 Mains connection
- 8 Flashlight





Quick Coupling Fill Adapter

5LPA-FP Gas Mate II Fill Plug Female
POL x male plug



9/16" LH Adapter

33SEL Adapter for 9/16" LH to 1/4" mp.



Throwaway Cylinder Adapter

F273754 1/4" MPT x 1" 20F

3140P 1/4" FPT x 1" 20M



Left Hand Cylinder Adapter

F276130 9/16" MPT x 1"-20 Throwaway
cylinder thread with shutoff.

F273755 1/4" MPT x 1" 20M (without shutoff)



2nd Chance Propane Grill Adapter

G-480P Have you ever run out of propane when cooking on your grill? Wouldn't it be nice to have a second chance to finish your meal?

Needle Valves

These brass needle valves have many uses including torches and weed burners.

Part#	Description
211SEL	1/4" MPT x 1/4" MPT
V-334	1/4" FPT x 1/4" MPT



Brass Hammer

This durable, 2 lbs. brass hammer provides non sparking performance.

Model #D

Gas Mate II Quick Coupling



F276330 Male and female adapter kit.



F276334 Gas Mate II gas grill Quick Connect propane adapter.



Quick Connectors

For propane use.

Part#	Description
F276190	1/4"
F276187	3/8"



9/16" LH Hose Nut & Nipple

17HB 1/4" Barbed nipple for 9/16" LH Connection

8HB 9/16" - 18 LH Nut for above hose nipple

Propane Hose Assemblies

Swivel 1" -20 Male throwaway cylinder thread x excess flow soft nose POL with handwheel



Part#	Description
F273701	5', in packaging
F273702	12', in packaging
PI4C60MCPOLHW	5', no packaging
PI4C144MCPOLHW	12', no packaging



Extend-A-Flow Kit

Allows you to connect small portable appliances, normally fueled by disposable cylinders, to the existing LP-Gas supply of a recreational vehicle, cottage or propane gas grill without interrupting the supply of regulated fuel to the system.

Kit includes:

- G415 Brass Tee
- 12 foot hose

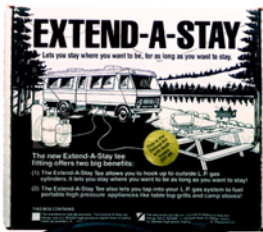
535-00



Extend-A-Flow Tee

Can be purchased out of the above kit.

G-415



Extend-A-Stay Kit

Allow motorhome owners to hook up to an auxillary propane cylinder or tank so they can stay where they want for as long as they desire without having to periodically move their RV to fill the propane tank. The standard Kit includes:

- Illustrated instructions for installation
- Brass tee fitting
- 5 ft. flexible pigtail for hooking up the auxillary tank or cylinder when parked

536-00



Extend-A-Stay Tee

This tee allows you to add a cylinder or tank to your RV for extended stays.

G-420



Orifice Reamer

TL-068 (Small Reamer) is for reaming orifices and has a double cutting edge

TL-070 (Large Reamer) reams the proper diameter hole to press fit the MI-100 Orifice Adapter



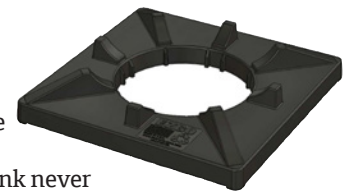
MI-100 Orifice Adapter

MI100 Can repair almost any orifice.

Propane Tank Stand

E-Z-GO is a propane tank holder and stabilizer that ensures a tank remains upright and secure during propane transportation, use, and storage. By design, a tank never touches the ground, this helps eliminate rusty rings, which protects tanks, decks, patios, and carports from any damage. EZGO is perfect for the RV, camping, tailgating, and backyards BBQs. EZGO is Made in the USA

KREZ2



Gauging Drill Set

A complete set of gauging drills with brass handles in a convenient plastic case.

G4080 Kit with #40 to #80

GDK1939 Kit with #19 to #39



Propane Tank Stand

Fits 20,30 and 40# cylinders and provides "tip" protection while transporting.

PTS





Edmont 23-173 Gloves

The winter Monkey Grip has a knobby vinyl coating for better grip. They have a non-woven inner lining for warmth. Stocked in large size only.

Best 75L Gloves

These heavy duty winter gloves are bright orange in color, have a knobby vinyl coating and an extra long cuff. They are the warmest of all our gloves.



**VersaTouch
23-202 Gloves**

Comfortable PVC glove with good dexterity and low temperature protection. Rough sandblast finish provides good wet-grip. Double lining with 13 gauge knitted cotton liner and acrylic. Medium duty glove compliant with FDA food handling requirements



Edmont 52547 Gloves

In medium and heavy-duty applications these gloves consistently outperform other cotton and leather types. The tough nitrile coating resists snags, punctures, abrasions and cuts. They have a classic driver style, with cloth backing and soft jersey lining, providing a snug, comfortable fit.



Safety Goggles

These vented goggles provide eye protection while fitting comfortably. The vents help keep them fog-free.

551



Flexible Lighter

Continuous Ignition Gas Match with 15" flexible nozzle extender. Refillable.

GM3X



Match Holder

This match holder provides a secure grip for lighting pilots. It has a clip for pocket storage.

0170



**GM-9 Gas Match 9
Gas Lighter**

Great for Fireplaces, Barbeques, Camping and household use.

- Adjustable Flame
- Fuel viewing window
- One year warranty (per package of two)

GM-9



1 3/4" Acme Lock Caps

These locking devices are used to lock the fill valves on domestic tanks. They prevent unauthorized filling or pilfering.

1-3/4LOCK



UniKap Relief Valve Cover

An inexpensive adaptable relief valve cover that fits virtually all popular sizes. These caps are safety yellow and have an imprinted safety message.

85A



Valve Lock Caps

Used to lock storage tank supply valves. Available in two sizes.

VAL2 for valves up to 2"
VAL3 for valves up to 3"



QCC Cap

This cap was designed to protect the valve threads from damage as well as protecting the inside of the valve from contamination by filling the void.

033-483 Blue
033-445 Black



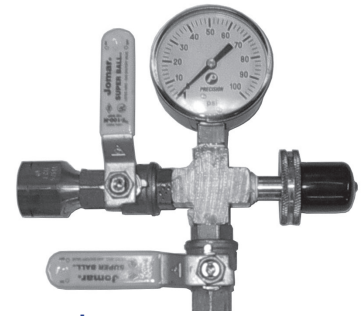
QCC Valve Cover

3349-60 These keep foreign material from entering valves and protect the acme threads.

Anode Bags

17lb anode bag complete with 10ft wire lead. For cathodic protection of underground tanks. See NPGA bulletin on underground tank installation for proper procedures.

#9 9 Pound
#17 17 Pound
ATK-1 Anode Test Kit
Electrode8B Copper Sulfate Half Cell Electrode



Purging Tool

This purging tool makes purging cylinders fast and easy. Can also be used for injecting methanol in vacuum purged tanks.



Vapor Methanol Injection Tool

This tool is for use with all multi-valve applications or where vapor recovery systems are in place. Gravity fed for fast convenient filling. Holds up to 42 ounces of methanol.

MEP700



Chock Blocks

Lightweight aluminum chock block is durable and stays in place.

WC1468 Rubber Chock Block
ME200 Aluminum Chock Block



Cable Hound

The Cable Hound DSP is an electronic device designed to accurately locate and determine depth of buried cable or metallic pipe. Each Cable Hound DSP KIT consists of a Transmitter, Receiver, Tone Probe, Headphones, Ground Rod and Carrying Case.

The weight less batteries is 4.5 lbs

88-20-011

POL Lock

This patent-pending lock, with a unique key code, blocks the outlet valve of a tank, effectively preventing the release of gas from the tank. The key-operated plug lock serves as a valve block for retail or larger residential and industrial tank valves. Residential and industrial tanks can be "locked-up" for non-payment or to protect against unauthorized access.

Re-usable retail tanks, which may be behind a barrier or locked inside a caged enclosure, are easy pickings if the fence or cage door is breached.

The POL valve locking system deters theft by making a filled or an empty retail tank useless to a thief.

Fill Valve Lock, HD Fill Valve Lock, POL Lock, Padlock, Keys, Dust Cover for Fill Lock

510P Old Style Lock

510K Old Style Key

B531G+B827P-A0 New Style Lock

S502K-C New Style Key



New Style



Old Style



Fill Valve Lock Cap

The Filler Valve Cap provides superior quality and design, with a hardened sheel shield to prevent tampering and unauthorized filling of a customer's tank. The filler valve cap also:

- Gives each propane dealer its own registered key with over 60,000 usable key combinations
- Combines a chrome-plated cap with solid brass fittings for maximum security and durability
- Can be keyed to match an existing customer's POLock or padlocks
- 7 Pin Anti-Pick Tubular Mechanism

S533G-LLVC-A0

MEC Gas Outlet Box

Single Outlet and Double Outlet Appliance Connector Boxes utilize standard LP-Gas Connector Fittings. Both models provide full capacity operation at 10psi or higher inlet pressures for all outdoor appliances without modification or the hassles of a 20# cylinder.

Simply thread the type 1 QCC Connector or POL onto the Gas Box, turn on the shutoff valve and enjoy continuous flow.

- Universal 1 5/16" M Acme/F POL Outlet
- Universal 1/2" FPT inlet connection
- Primary shutoff for each outlet connection
- Secondary safety shutoff poppet at each outlet for zero
- For use with 0-250 PSI inlet pressure
- Universal Mounting Hardware
- Hinged cover with latching mechanism
- Weather resistant high density poly case
- Single or dual outlet models available in black, gray or ivory

ME951IVY

ME952IVY



REPAIR KITS

Multivalve Part#	Replaced By	Container Connection	Repair Kits		
			Service Valve	Filler Valve	Vapor Equalizing
1477	G8475RLW	2½" M	3100-80A, bonnet-diaphragm-stem 3100-80B, diaphragm, washer ** 3100-81K, conversion, bonnet assy.	1475-80, kit	2418-51, asst
2180	8555 for 200# Cyl, 6543 for 420# Cyl	¾"	No repair parts available replace due to age		
2418	G8475RV	2½" F	No repair parts available replace due to age	N/A	2418-51 assy
2550	G8475RV	2½" M	7128-5, diaphragm assy.	N/A	2418-51 assy
2555 Series	6532, 6533, 6542, 6543	¾", 1"	replace due to age		
2557 Series	No Replacement	1½"	No repair parts available		
2577	6532, 6533, 6542, 6543	¾", 1"	No repair parts available replace due to age		
2580, 2581	8555D/8555R	¾"	no repair parts available		
2593, 2594	8593AR16.0	1½"	3100-80A, bonnet-diaphragm-stem 3100-80B, diaphragm, washer ** 3100-81K, conversion, bonnet assy.	1475-80	2418-51, assy
2593K, 2594K	8593AR16.0 Not a direct replacement	1½"	3100-80A, bonnet-diaphragm-stem 3100-80B, diaphragm, washer ** 3100-81K, conversion, bonnet assy	1475-80	2418-51, assy
532D,6533D, 542D,6543D		¾", 1"	903-50(lg), 903-51(sm), kits	6542-50, -80	
6303	3100-81K	8475-80	2418-5		
6477A	N/A	2½" M	8100-50, bonnet assy, handwheel**	8475-50, -80	8475-51A, kit
7555	8555D/R	¾"	Replace due to age		
7556	Pre 1962	¾"	8100-50, Bonnet Assy**		8475-51A
	Post 1962		19104-50/19100-50B		8475-51A
G8475 Pre1962		2½" F	8100-50, Bonnet Assy, handwheel**	8475-50, -80	8475-51A, kit
8477 Pre 1962	G8475RV	2½" F	8100-50, Bonnet Assy, handwheel**	8475-50, -80	8475-51A, kit
8484 Pre 1962	No replacement*		8100-50, Bonnet Assy, handwheel**		8475-51A, kit
8484A	No replacement*		19100-50B/19104-50, kit+		8475-51A, kit
8555 Pre 1962	8555D/R		no repair parts available replace due to age		
8555S			903-50(lg), 903-51(sm), kits	6542B-50, -80	
8593, 8594 Pre 1962	8593AR16.0		8100-50, bonnet assy, handwheel**	8475-50, -80	8475-51A, kit
8594, 8593 Post 1962	8593AR16.0		19100-50B/19104-50, kit+	8475-50, -80	8475-51A, kit

* Tanks equipped with obsolete 8484 & 8484A series valve can be retained in service.

**3100 & 8100 Bonnet Kits Right Hand Thread

+19100 & 19104 Bonnet Kits Left Hand Thread

Rego Fill Valves

Part#	Repair Kit	Contents
6579	7579-50	Seat assy, gaskets, spring & body
	7579-80	Seat assy, gaskets & spring
7547B & 7747B	7547B-80	Seat assy, gaskets & spring
7647B	7647B-80	Seat assy, gaskets & spring
7647H	7647B-80	Seat assy, gaskets & spring
7579	7579-50	Seat assy, gaskets, spring & body
	7579-80	Seat assy, gaskets & spring

Rego Service Valves

Part#	Repair Kit	Contents
901 Series	903-50	Bonnet assembly, handwheel & screw
903 Series	903-50	Bonnet assembly, handwheel & screw
2100 Series	7128-50	Seat disc assy only available
	3100-81k	Bonnet assy w/o ring
3100 Series	3100-80A	Bonnet assy old style
	3100-80B	Seat disc assy
	8100-50	Bonnet assy
8100 Series	8100-50	Bonnet assy
9100, 9103 & 9107 Series	19100-50B	Bonnet assy
	19104-50	Multibonnet assy
	19104-80	Upper packing w/ seal ring

Rego Duoport & Multiport Relief Valves

Part#	Repair Kit	Contents
AA8560	8560-50	Bleeder valve assy, Seat ring assy, Pressure seal rings, Packing gland, Jam ring, Washer & Gasket
AA8570		

Rego Vapor Return Valves

Part#	Repair Kit	Contents
7573A	7573A-81	Seat assy, gaskets & spring

Rego Forklift Adapter

Part#	Repair Kit	Contents
7141M	7141M-50	Check assy, gasket & O-ring



Rego Breakaways

Part#	Repair Kit	Contents
A2141A6	A2141A6-50	O-ring seal for female half
A2141A8	A2141A8-50	
A2141A10	---	
A2141A16	A2141A16-50	

Quick Acting Valves

Part#	Repair Kit	Contents
A7507 & 8LHA	A7707-75	New style bonnet assy
A7507 & 8LHB	A7707-75	
A7507 & 8LHC	A7707-75	
A7707L	A7707-50	Seat disc, pin, packing & gasket
A7708L	A7707-75	Bonnet assy
A7797	A7797-50	Seat disc, pin, packing & gasket
	A7797-75	Bonnet Assy
A7797A	A7797A-75	Bonnet Assy

Rego Liquid Withdrawal Valves

Part#	Repair Kit	Contents
7550P	A8000-16R	Hat Gasket Packing
	A7550-15	Bonnet Assy

Threaded Internal Valves

Part#	Repair Kit	Contents
A3209A	A3209A-50	Bearing, cam, hasket, seat disc assy, O-ring & ret ring
A3210A	---	Bushing, gasket, seat disc assy, o-rings & seal rings
A3212A	A3212A-50	Bearing, cam, gasket, seat disc assembly, O-ring & ret ring
A3212R	A3212R-50	
A3213A	A3213A-50	Bearing, cam, gasket, seat disc assy, o-ring & ret ring
A3213R	A3213R-50	
A3217	A3217F-80	Dust seal, inner stem bearing, main seat disc, flange gaskets, stem seals, wear button, pilot seat disc & outer stem bearing

Flanged Internal Valves

Valve Part#	Repair Kit	Contents
A3219F	A3219F-80G	Dust seal, inner stem bearing, main seat disc, flange gaskets, stem seals, wear button, pilot seat disc and outer stem bearing bumper
A7883FK	A7883F-50	Bleeder Assy, bushing, cap, cap screws, filters, gaskets, needle valve kit, o-rings, v-ring & x-seals
	A7883F-80	Bushing, cap screws, gaskets, o-ring, retaining ring, seat disc, v-ring and x-seals
A7884FK		Bleeder assy, bushing, cap, cap screws, filters, gaskets, needle valve kit, o-ring & v-ring
	A7884F-80	Bushing, cap screws, gaskets, o-ring, retaining ring, seat disc, v-ring and x-seals

Lever Valves

Valve Part#	Repair Kit	Contents
A7853A	A7853A-50	Block V-Packing, Gaskets, O-rings, Piston, Stem & Yoke, Seat Disc Assy
7554LV	7554L-20A	Bonnet Assembly
7554LAV		
7554SV		
7554SAV		
7554SAV		
7901 Series		

Globe & Angle Valves

Valve Part#	Repair Kit	Contents
A7505AP	A7505-50	Seat Disc, Packing & Gaskets
A7506AP	A7505-50	
A7507AP	A7505-50	
A7508AP	A7505-50	
A7509BP	A7509-50	
A7510BP	A7509-50	
A7511AP	A7511-50	
A7512AP	A7511-50	
A7513AP	A7513-50	
A7514AP	A7513-50	
A7515AP	A7515-50	
A7516AP	A7515-50	
A7517AP	A7515-50	
A7518AP	A7515-50	

Fisher Internal Valves

Part#	Repair Kit	Contents
C401-2"	RC40016T012	Discs, Packing, Bushings, O-rings, Washers & Cotter Pins
C401-3"	RC40024T012	
C402-2"	RC40016T012	
C402-3"	RC40024T012	
C403-24	RC40324T012	
C404-24	RC40424T012	
C407-10	RC40710T042	
C421-2"	RC40016T012	
C421-3"	RC40024T012	
C427-2"	RC40016T012	
C427-3"	RC40024T012	
C471-2"	RC47016T012	
C471-3"	RC47024T012	
C477-2"	RC47016T012	
C477-3"	RC47024T012	

Fisher Valves

Part#	Repair Kit	Contents
N301-08	RN30008T012	Seat, Gaskets, Packing & O-ring
N300-10	RN30012T012	
N300-16	RN30016T012	
N300-24	320-0022	
N350	RN350T0012	
B600H	T13184T0012	Bonnet Assembly
LR677A	T13184T0012	

Sherwood Repair Kits **NOT AVAILABLE**

Valve Part#	Repair Kit	Contents
623A	623B-100K	Body, Seat, Gasket & O-ring
1425	3250-8LH	Bonnet Assy
1425C	3329-13LHK	
1427	3250-8LH	
1427C	3329-13LHK	
1445	3250-8LH	
1447C	3329-13LHK	
2030	3329-13LH	Body, Seat, Gasket & O-ring
2030 fill valve	2030-100K	Bonnet Assembly
2341	2341-100K	Body, Seat, Gasket & O-ring
3250A	3250-8LH	Bonnet Assy
3250ALG	3250-8LH	
3329	3329-13LH	

Squibb Globe and Angle Valves

Part#	Repair Kit	Contents
AL308P	308-0022	Seat, Gaskets, Packing & O-ring
AL309P	308-0022	
AL310P	310-0022	
AL311P	310-0022	
AL312P	312-0022	
AL313P	312-0022	
AL314P	314-0022	
AL315P	314-0022	
AL316P	316-0022	
AL317P	316-0022	
AL320P	320-0022	
AL321P	320-0022	
AL410P	410-21	
AL412P	410-21	

As of this catalog printing, parts for Sherwood Valves are no longer available

Impco Mixer Repair Kits

Part#	Repair Kit	Contents
300A	RK-300MI N-RK-300MA	Gaskets, diaphragm, seal, retainer ring & lock Major kit has air valve & gas valve assembly
300A-50	RK-300-MI50 RK-300-MA50/70-2	Gaskets, diaphragm, seal, retainer ring & lock Major kit has air valve & gas valve assembly
CA100 & CA125	AV1-14	Air valve assembly with diaphragm
CA200 & CA225	AV1-12 CV1-12	Air valve assembly with diaphragm NG air valve assembly
CA425M	AV1-16-2	Air valve assembly with diaphragm
	AV1-1637-2	Air valve assembly w/ diaphragm for factory Ford Trucks

-2 kits have silicone diaphragms

Impco Filterlock Repair Kits

Part#	Repair Kit	Contents
VFF30	N-RK-VFF30-2	Diaphragm, Gasket, Screen, Filter & Screws

Zenith Carburetion

Part#	Repair Kit	Contents
Model 101	K2948	Diaphragms, Gaskets & Seats

Blackmer Pumps

Part#	Repair Kit	Contents
LGF1PC	898994	Vanes, Spring, Bearing, O-rings Lockwasher, Gasket, Grease Seal, Key & Mechanical Seal
LGL1-1/4	898976	Vanes, spring, bearing, o-rings lockwasher, gasket, grease seal, key, mechanical seal, relief valve, discs & push rods
LGL1-1/2	898976	
LGLD2E & TLGLD2E	898979	
LGLD3E & TLGLD3E	898981	
TLGLF3C	898980	
LGLD4	899022	
TLGLF4A	898922	

Impco Vaporizer Repair Kits

Part#	Repair Kit	Contents
Model J	RK-J-2 N-RK-J-2	Primary & secondary seat & diaphragms, gaskets & screws
Model L	N-RK-L-2 RK-L-2	
Model E	RK-E N-RK-E-2	

Beam Vaporizers

Part#	Repair Kit	Contents
Model 50 & 60	T60RK	Diaphragms, gaskets, valve seats & springs
Model 100 & 120	120RK	
Model 400	400RK	Diaphragms, gaskets & seats

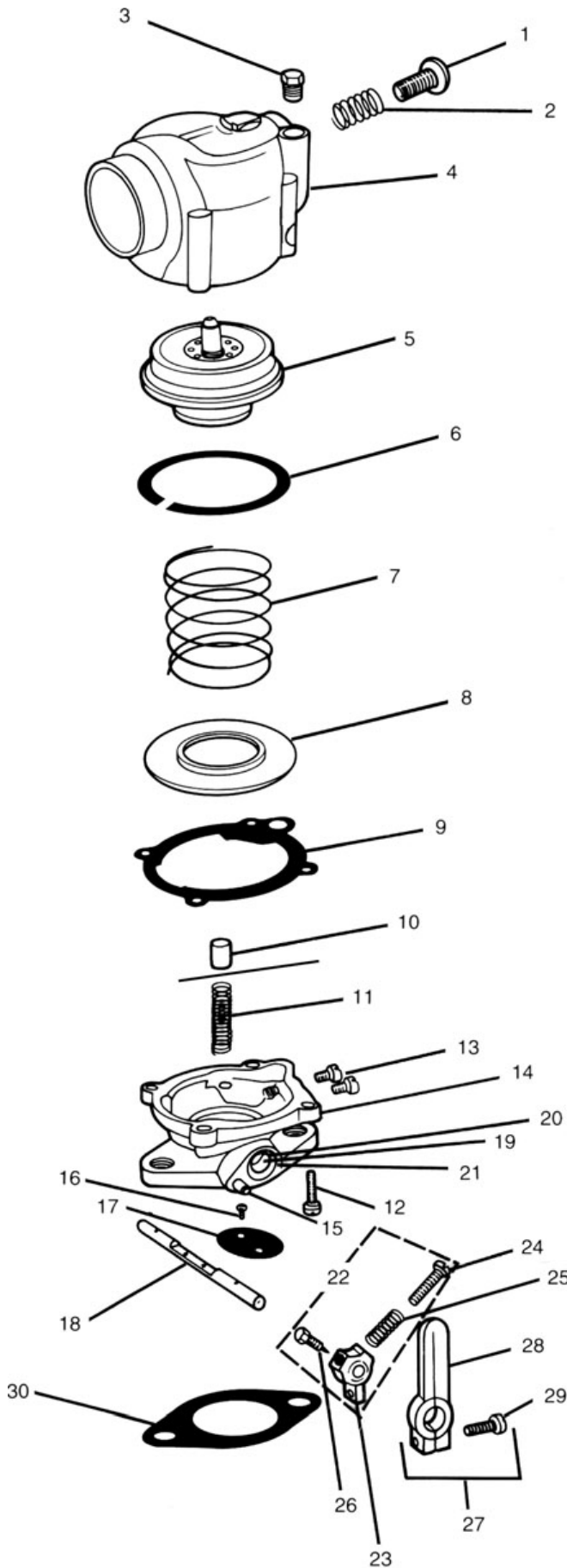
Century Vaporizers & Filterlock

Part#	Repair Kit	Contents
Model G-85 2355	286-1554	Diaphragms, gaskets, valve seats & springs
Model H 1477	286-1301	
Model M6 2504A	286-1688	
2384	286-1794	Filter Pad, o-ring & screws
	310-6	Plunger, seat, o-ring & filter

Corken Pumps

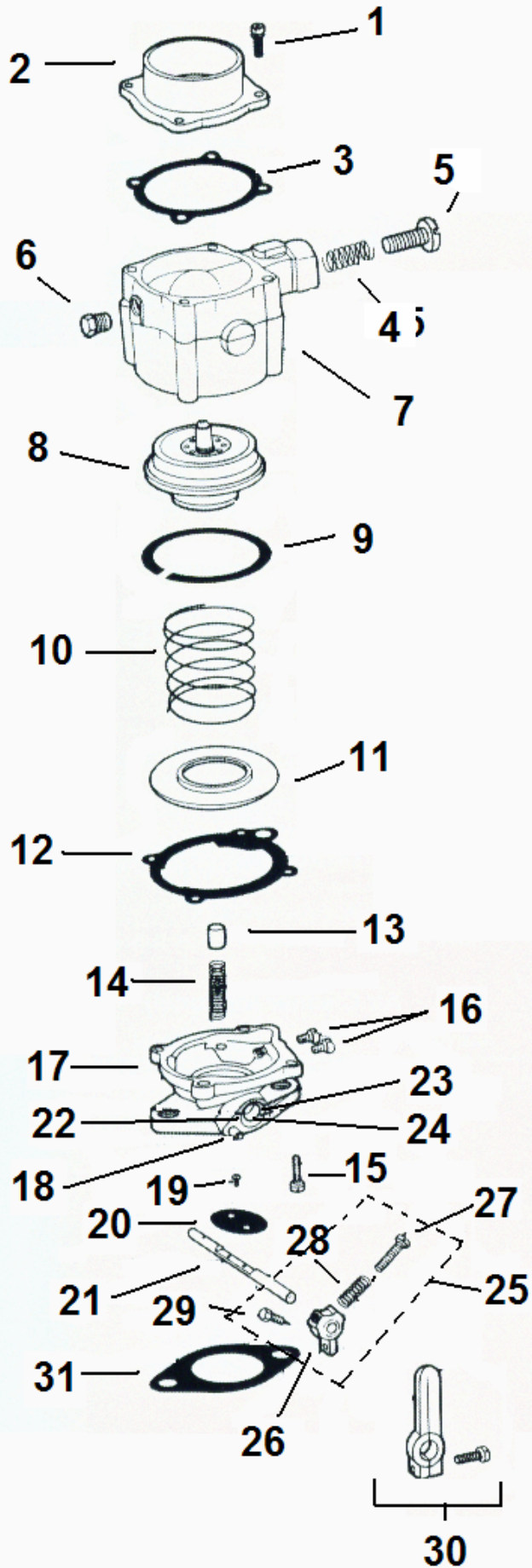
Part#	Repair Kit	Contents
521EG & 522EG	2904-X2	Mechanical seals, blades, o-rings, gaskets, bearings & sideplates
T722G & TR722G	2905-X5	
1021E & 1022E	2906-X2	
T1522F & TR1522F	2907-X3	

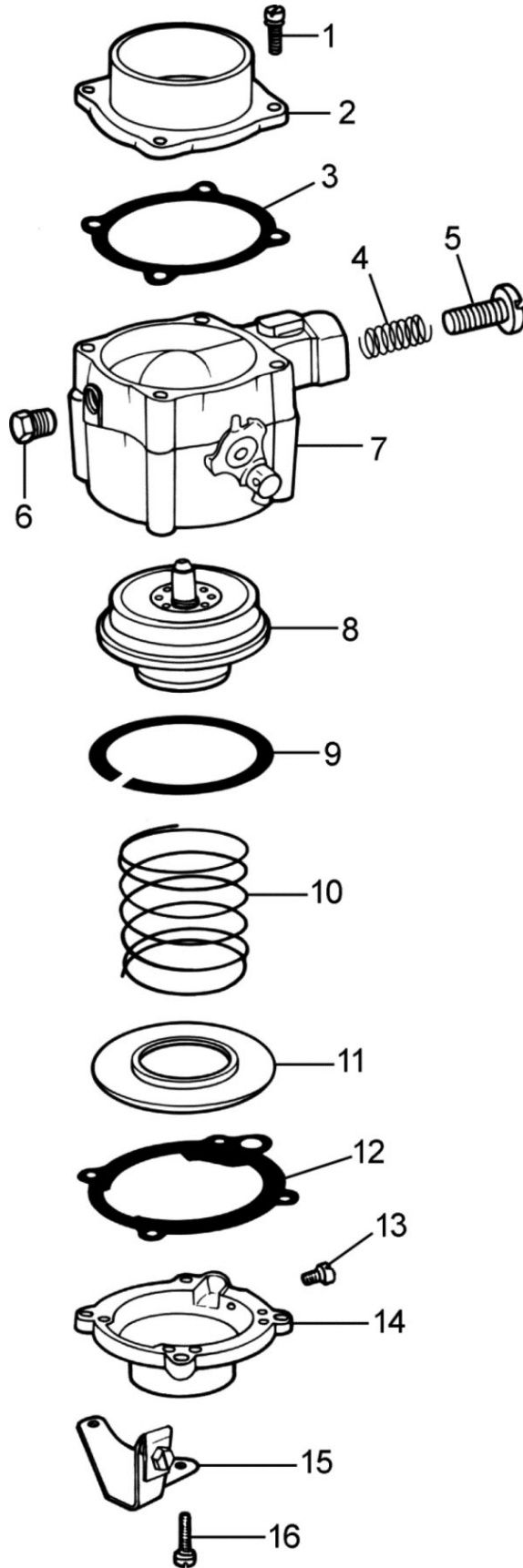
REPAIR PARTS SHEETS



Item#	Part #	Description
1	S1-74	Idle screw
2	S2-88	Spring
3	P3-3	Plug
4	AB1-35-1	Air Horn 1½"
	AB1-35-2	Air Horn 1⅝"
	AB1-35-3	Air Horn 1⅞"
	AB1-35-4	Air Horn 2⅛"
5	AV1-18	Air Valve Assy
6	R1-23	Ring
7	S2-45	Spring
8	AP2-32	Check Valve Assy
9	G1-92	Gasket
10	P4-1	Piston
11	S2-44	Spring
12	S1-3	Screw, 10-24 x 5/8" SEMS (4)
13	S1-69	Screw, 1/4"-28 x 5/16" (2)
14	At2-24	Throat, 1/2" SAE flange
	AT2-25	Throat, 3/4" SAE flange
	AT2-26	Throat, 1" SAE flange
	AT2-27	Throat, 1 1/4" SAE flange
15	P1-5	Pin, throttle stop
16	S1-22	Screw, 6-32 x 1/4" SEMS (2)
17	F2-13	Fly, 1/2"
	F2-1	Fly, 3/4"
	F2-2	Fly, 1"
	F2-5	Fly, 1 3/4"
18	S5-6	Throttle shaft, 1/4" diameter
19	B2-11	Bearing, Oilite, 1/2" i.d. (2)
20	S3-8	Seal, 1/4" shaft (2)
21	R1-9	Ring, seal retainer
22	AL1-8-1	Throttle stop assy., 1/4" i.d.
23	L1-8	Throttle stop lever
24	S1-21	Stop screw, 10-32 x 3/4"
25	S2-15	Spring, idle stop screw
26	S1-18	Pin screw, throttle stop
27	AL1-7-1	Throttle lever, w/screw
28	L1-7-1	Throttle lever
29	S1-17	Screw, 10-24 x 5/8"
30	G1-91	Gasket, 1/2" flange
	G1-16	Gasket, 3/4" flange
	G1-17	Gasket, 1" flange
	G1-18	Gasket, 1 1/4" flange

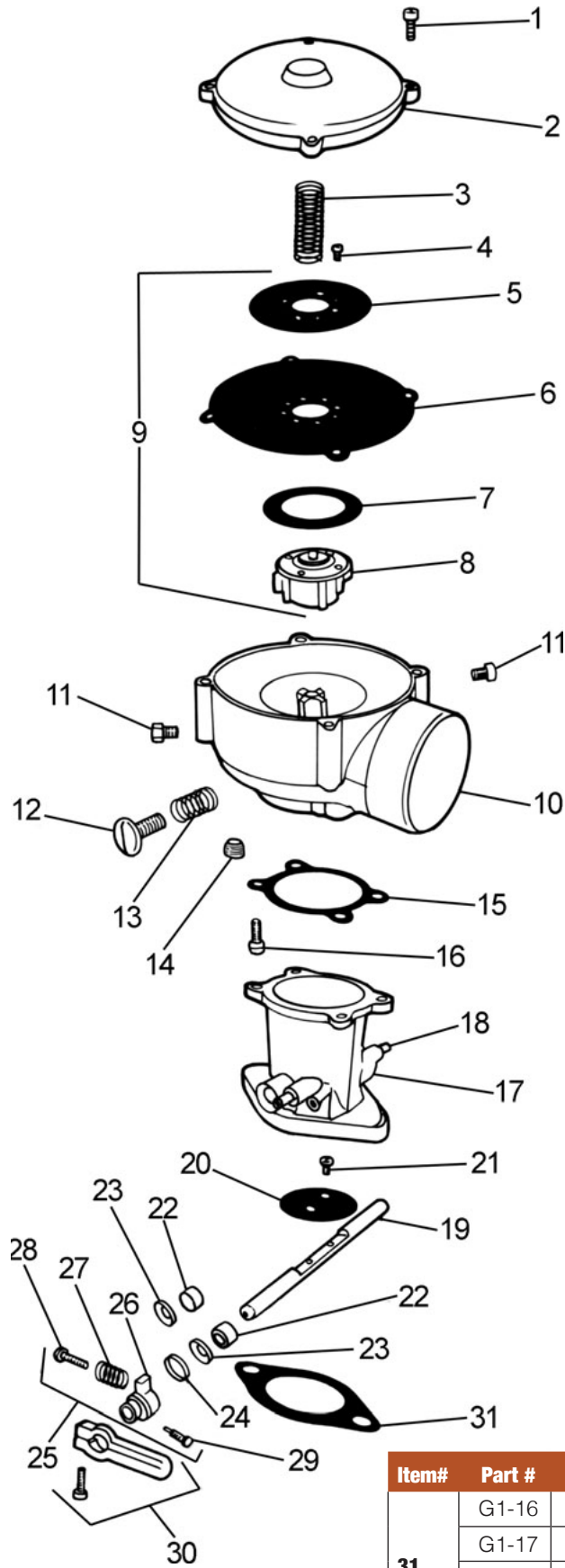
Item#	Part #	Description
1	S1-3	Screw 10-24 x 5/8" SEMS (4)
2	A2-36	Air Horn
3	G1-101	Gasket
4	S2-88	Spring
5	S1-74	Screw
6	P3-3	Plug, 1/8" pipe
7	AB1-38	Body
8	AV1-18	Air Valve Assy
9	R1-23	Ring
10	S2-45	Spring
11	AP2-32	Plate
12	G1-92	Gasket
13	P4-1	Piston
14	S2-44	Spring
15	D1-3	Screw, 10-24 x 5/8" SEMS (4)
16	S1-69	Screw, 1/4-28 x 5/16" (2)
17	AT2-24	Throttle Body 1/2"
	AT2-25	Throttle Body 3/4"
	AT2-26	Throttle Body 1"
	AT2-27	Throttle Body 1 1/4"
18	P1-5	Pin
19	S1-22	Spring
20	F2-13	Fly 1/2"
	F2-1	Fly 3/4"
	F2-2	Fly 1"
	F2-5	Fly 1 1/4"
21	S5-6	Shaft 6.4 mm (.250") dia.
22	B2-11	Bearing, 6.4 mm I.D. (2)
23	S3-8	Seal, 6.4 mm (.250") shaft (2)
24	R1-9	Ring, seal retainer (2)
25	AL1-8-1	Throttle stop ass'y., 6.4 mm (.250") I.D.
26	L1-8	Throttle stop lever
27	S1-21	Stop screw, 10-32 x 3/4"
28	S2-15	Spring
29	S1-18	Screw pin, throttle stop
30	AL1-7-1	Throttle lever w/ screw
31	G1-91	Gasket 1/2"
	G1-16	Gasket 3/4"
	G1-17	Gasket 1"
	G1-18	Gasket 1 1/4"



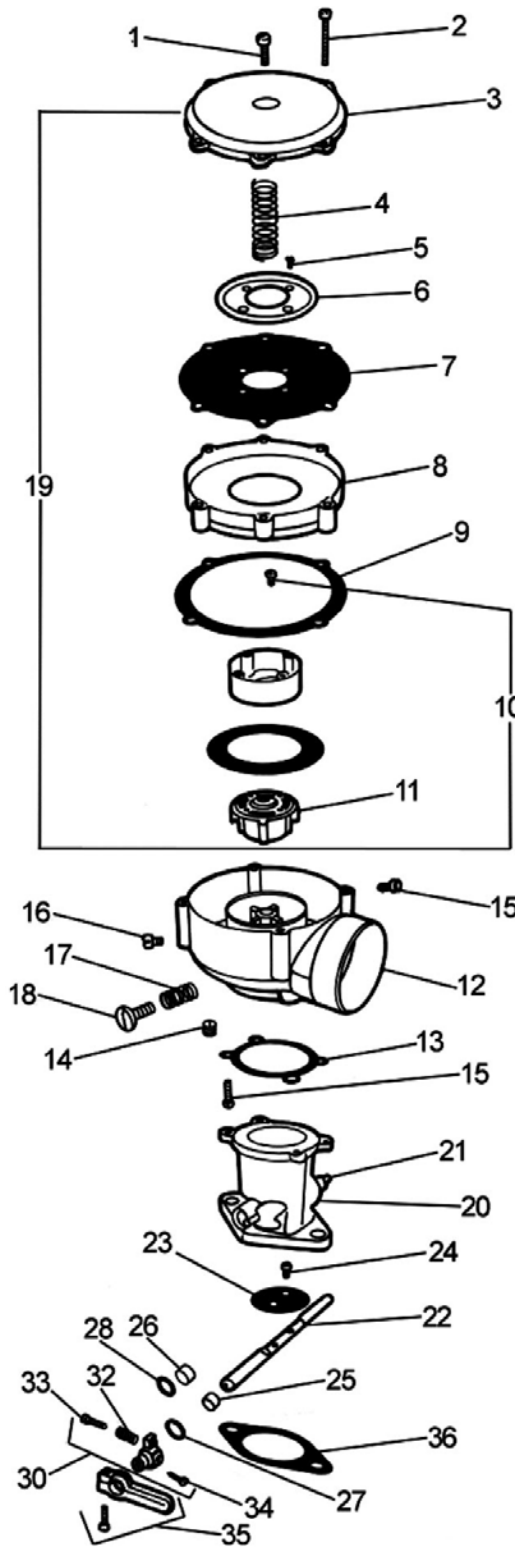


Item#	Part #	Description
1	S1-3	Screw, 10-24 x 5/8" SEMS (4)
2	A2-36	Air Horn
3	G1-101	Gasket
4	S2-88	Spring
5	S1-74	Screw
6	P3-3	Plug
7	AB1-38-2	Body Assy
8	AV1-18	Air Valve Assy
9	R1-23	Ring
10	S2-45	Spring
11	AP2-32	Check Plate Assy
12	G1-92	Gasket
13	S1-69	Screw, 1/4-28 x 5/16" (2)
14	A3-81	Adapter 1 1/2"
	A3-82	Adapter 1 5/8"
	A3-83	Adapter 1 7/8"
	A3-84	Adapter 2 1/16"
	A3-85	Adapter 2 5/16"
15	AB4-13	Bracket
16	S1-3	Screw, 10-24 x 5/8" SEMS (4)

Item#	Part #	Description
1	S1-3	Screw
2	C1-17	Cover
3	S2-85	Spring
4	S1-22	Screw
5	P2-22	Plug
6	D1-17	Diaphragm
	D1-17-2	Diaphragm-Silicone
7	R1-19	Ring
8	BV1-14	Air Valve
9	AV1-14	Air Valve Assy
10	AB1-8-1	Body
11	S1-69	Screw
12	S1-74	Screw
13	S2-88	Spring
14	P3-3	Plug
15	G1-11	Gasket
16	S1-19	Screw
17	AT2-1	Throttle Body 3/4"
	AT2-2	Throttle Body 1"
	AT2-3	Throttle Body 1 1/4"
	AT2-4-1	Throttle Body 1 1/2"
	AT2-4-3	Throttle Body 2"
	AT2-16	T. Body 1 1/4" & 1 1/2"
18	P1-5	Pin
19	S5-1	Shaft
20	F2-1	Fly 3/4"
	F2-2	Fly 1"
	F2-3	Fly 1 1/4"
	F2-4	Fly 1 1/2"
21	S1-22	Screw
22	B2-11	Bearing
23	S3-8	Seal
24	R1-9	Ring
25	AL1-8-1	Lever Assy
26	AL1-8-1	Lever Assy
27	S2-15	Spring
28	S2-21	Screw
29	S1-18	Screw
30	AL1-7-3	Lever Assy
	AL1-7-1	Lever Assy



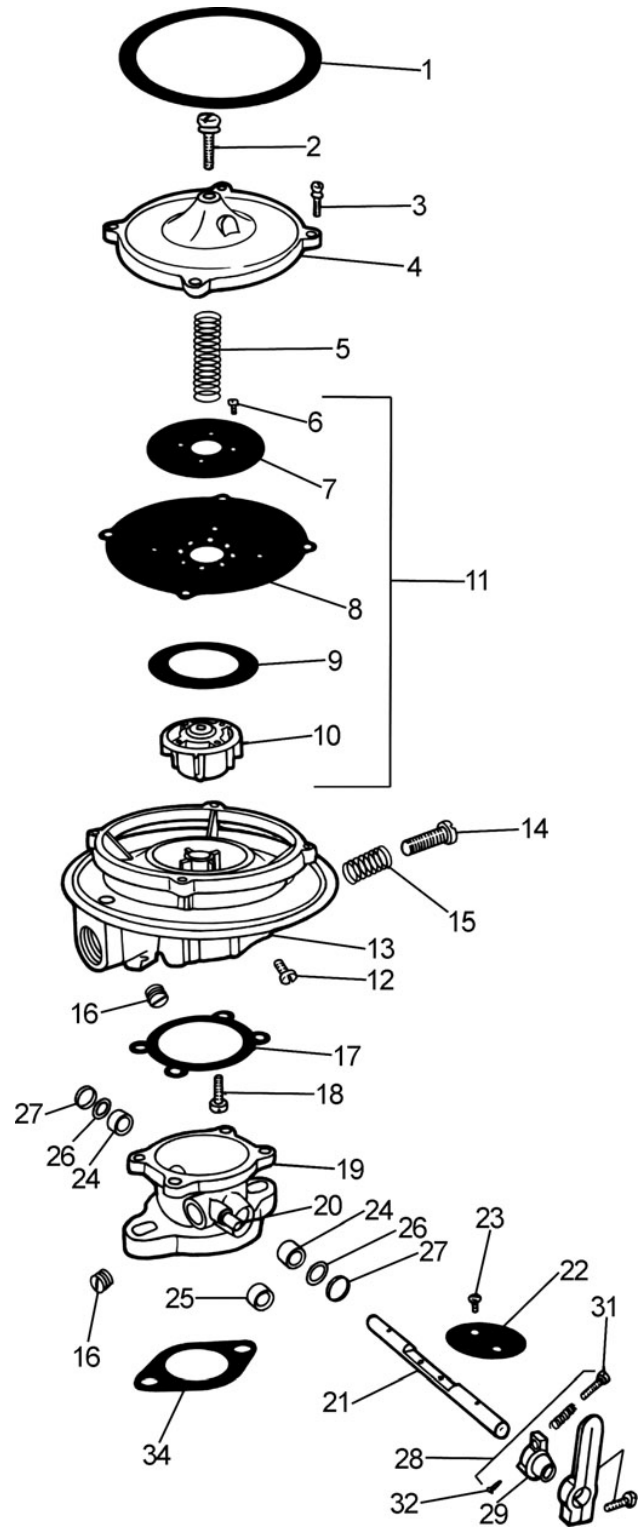
Item#	Part #	Description
31	G1-16	Gasket 3/4"
	G1-17	Gasket 1"
	G1-18	Gasket 1 1/4"
	G1-19	Gasket 1 1/2"
	G1-23	Gasket 1 3/4"



Item#	Part #	Description
1	S1-3	Screw
2	S1-41	Screw
3	C1-24	Cover
4	S2-13	Spring
5	S1-12	Screw
6	P2-15	Plug
7	D1-13	Diaphragm
	D1-13-2	Diaphragm-Silicone
8	P2-14	Plate
9	G1-13	Gasket
10	AS3-22	Air Valve Assy
11	BV1-14	Air Valve
12	AB1-8-1	Body
13	G1-11	Gasket
14	P3-3	Plug
15	S1-19	Screw
16	S1-69	Screw
17	S2-88	Spring
18	S1-74	Screw
19	A110-DP	Dash Pot Assy
20	AT2-1	Throttle Body 3/4"
	AT2-2	Throttle Body 1"
	AT2-3	Throttle Body 1 1/4"
	AT2-4-1	Throttle Body 1 1/2"
	AT2-4-3	Throttle Body 1 3/4"
21	P1-5	Pin
22	S5-1	Shaft
23	F2-1	Fly
24	S1-22	Screw
25	B2-11	Bearing
26	B2-6	Bearing
27	S3-8	Seal
28	S3-25	Seal
29	R1-9	Ring
30	AL1-8-1	Lever Assy
	AL1-8-2	Lever Assy
31	L1-8-1	Lever
32	S2-15	Spring
33	S1-21	Screw
34	S1-18	Screw

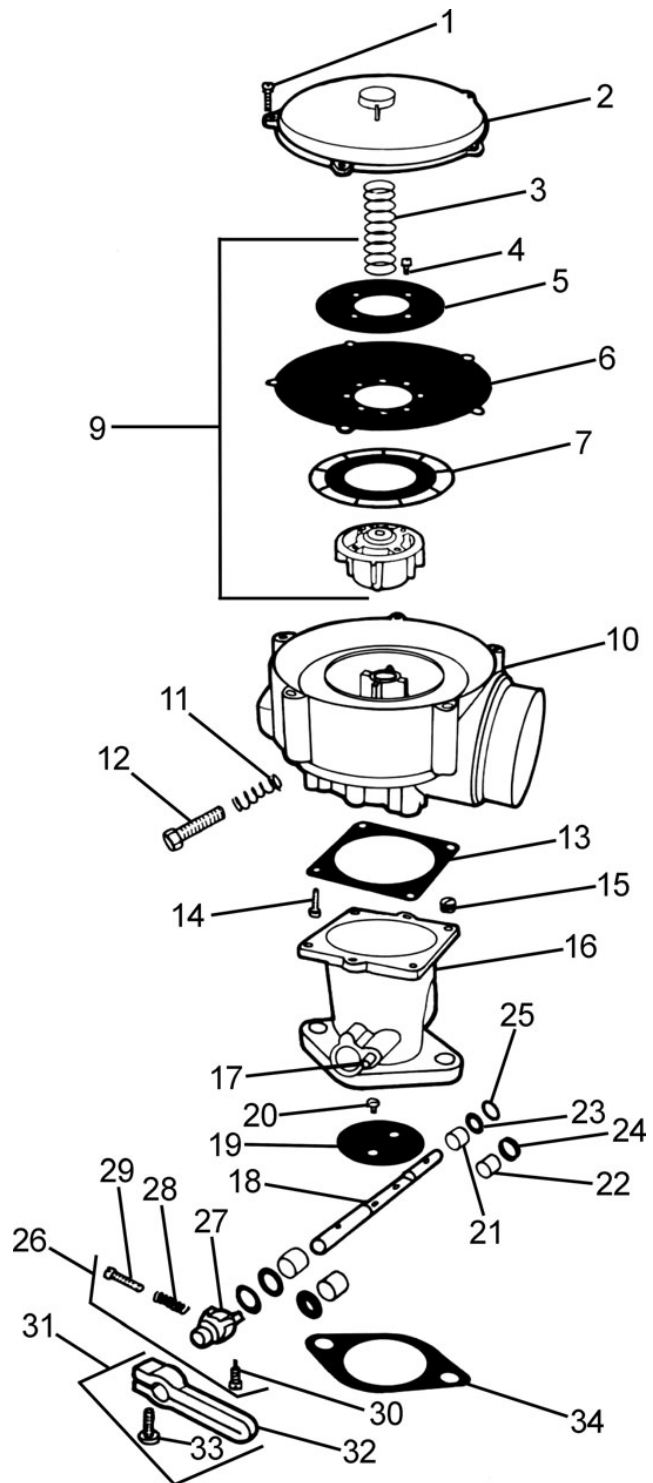
Item#	Part #	Description
35	AL1-7-3	Lever Assy
	AL1-7-1	Lever Assy
36	G1-16	Gasket 3/4"
	G1-17	Gasket 1"
	G1-18	Gasket 1 1/4"
	G1-19	Gasket 1 1/2"

Item#	Part #	Description
1	G1-66	Gasket
2	S1-47	Screw
3	S1-3	Screw
4	C1-26	Cover
5	S2-85	Spring
6	S1-22	Screw
7	P2-22	Plug
8	D1-17	Diaphragm
	D1-17	Diaphragm-Silicone
9	R1-19	Ring
10	BV1-14	Air Valve
11	AV1-14	Air Valve Assy
12	S1-69	Screw
13	AB1-25	Body
14	S1-28	Screw
15	S2-16	Spring
16	P3-3	Plug
17	G1-11	Gasket
18	S1-19	Screw
19	AT2-1	Throttle Body 3/4"
	AT2-2	Throttle Body 1"
	AT2-3	Throttle Body 1 1/4"
	AT2-4-1	Throttle Body 1 1/2"
	AT2-4-3	Throttle Body 1 3/4"
	AT2-16	Throttle Body 1 1/4" & 1 1/2"
20	P1-5	Pin
21	S5-1	Shaft
22	F2-1	Fly 3/4"
	F2-2	Fly 1"
	F2-3	Fly 1 1/4"
	F2-4	Fly 1 1/2"
23	S1-22	Screw
24	B2-11	Bearing
25	B2-6	Bearing
26	S3-8	Seal
27	R1-9	Ring
28	AL1-8-1	Lever Assy
29	L1-8-1	Lever
30	S2-15	Spring
31	S1-21	Screw
32	S1-18	Screw



Item#	Part #	Description
33	AL1-7-1	Lever Assy
34	G1-16	Gasket 3/4"
	G1-17	Gasket 1"
	G1-18	Gasket 1 1/4"
	G1-19	Gasket 1 1/2"
	G1-23	Gasket 1 3/4"

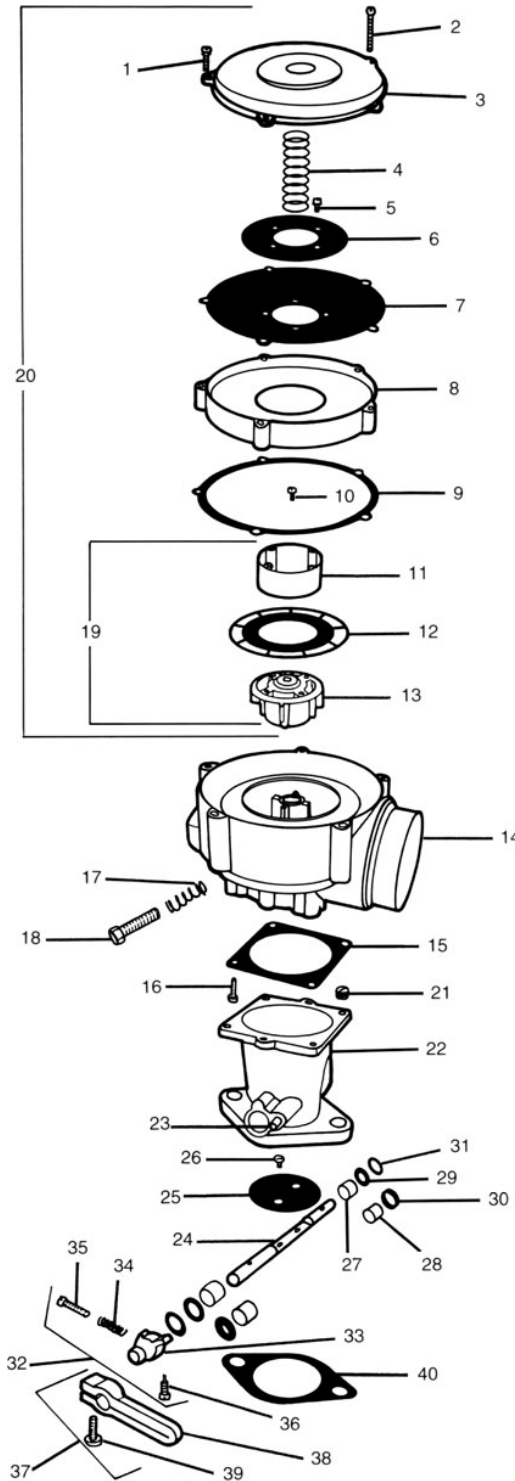
Item#	Part #	Description
1	S1-3	Screw
2	C1-18	Cover
3	S2-17	Spring, Air Valve
4	S1-12	Screw
5	P2-21	Plate
6	D1-16-1	Diaphragm
	D1-16-2	Diaphragm-Silicone
7	R1-17	Ring, Air Valve
8	BV1-12	Air-gas Valve Assy.
9	AV1-12	Air-gas Valve Assy.
10	AB1-11-1	Body Assy. 2 5/8"
	AB1-11-2	Body Assy. 3 1/16"
11	S2-16	Spring
12	S1-28	Screw
13	G1-21	Gasket
14	S1-19	Screw
15	P3-3	Plug
16	T2-4-2	Throat, 1 1/2"
	T2-5	Throat, 1 3/4"
	T2-6	Throat, 2"
17	P1-5	Pin, Throttle Stop
18	S5-2	Throttle Shaft, 5/16" dia
	S5-3	Throttle Shaft, 3/8" dia
19	F2-4	Fly 1 1/2"
	F2-5	Fly 1 3/4"
	F2-6	Fly, 2"
20	S1-12	Screw
21	B2-12	Bearing 5/16"
	B2-13	Bearing 3/8"
22	B2-7	Bearing Needle 5/16"
	B2-8	Bearing Needle 3/8"
23	S3-9	Seal, 5/16" Shaft
	S3-11	Seal, 3/8" Shaft
24	S3-20	Seal
25	R1-9	Ring
	R1-8	Ring
26	AL1-8-2	Throttle Stop Assy.
	AL1-10	Throttle Stop Assy.
27	L1-8-2	Throttle Stop Lever
	L1-10	Throttle Stop Lever
28	S2-15	Spring, Stop Screw



Item#	Part #	Description
29	S1-21	Stop Screw
30	S1-18	Pin Screw
31	AL1-7-1	Throttle Lever
	AL1-9-1	Throttle Lever
32	L1-7-1	Throttle Lever
	L1-9-1	Throttle Lever

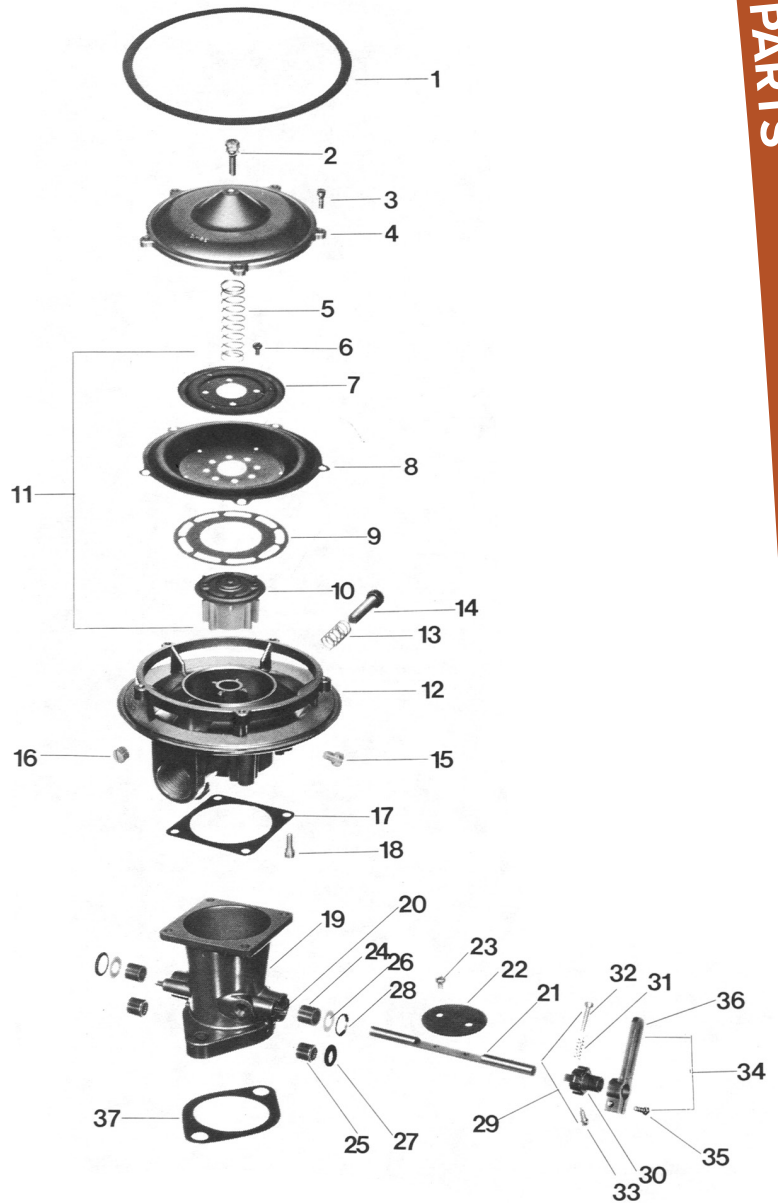
Item#	Part #	Description
33	S1-17	Screw
	S1-26	Screw
34	G1-19	Gasket 1 1/2"
	G1-23	Gasket 1 3/4"
	G1-24	Gasket 2"

Item#	Part #	Description
1	S1-3	Screw
2	S1-41	Screw
3	C1-23	Cover
4	S2-17	Spring
5	S1-12	Screw
6	P2-13	Plug
7	D1-12	Diaphragm
	D1-12-2	Diaphragm-Silicone
8	P2-12	Plate
9	G1-20	Gasket
10	S1-12	Screw
11	R3-21	Spacer
12	R1-17	Ring
13	BV1-12	Air Valve
14	AB1-11-1	Body
15	G1-21	Gasket
16	S1-19	Screw
17	S2-16	Spring
18	S1-28	Screw
19	AS3-21	Air Valve Assy
20	A210DP	Dash Pot
21	P3-3	Plug
22	AT2-4-2	Throttle Body 1½"
	AT2-5	Throttle Body 1¾"
	AT2-6	Throttle Body 2"
23	P1-5	Pin
24	S5-2	Shaft
25	F2-4	Fly
26	S1-12	Screw
27	B2-12	Bearing
28	B2-7	Bearing
29	S3-9	Seal
30	S3-11	Seal
31	R1-9	Ring
32	AL1-8-2	Lever Assy
	AL1-10	Lever Assy
33	L1-8-2	Lever
34	S2-15	Spring
35	S1-21	Screw
36	S1-18	Screw



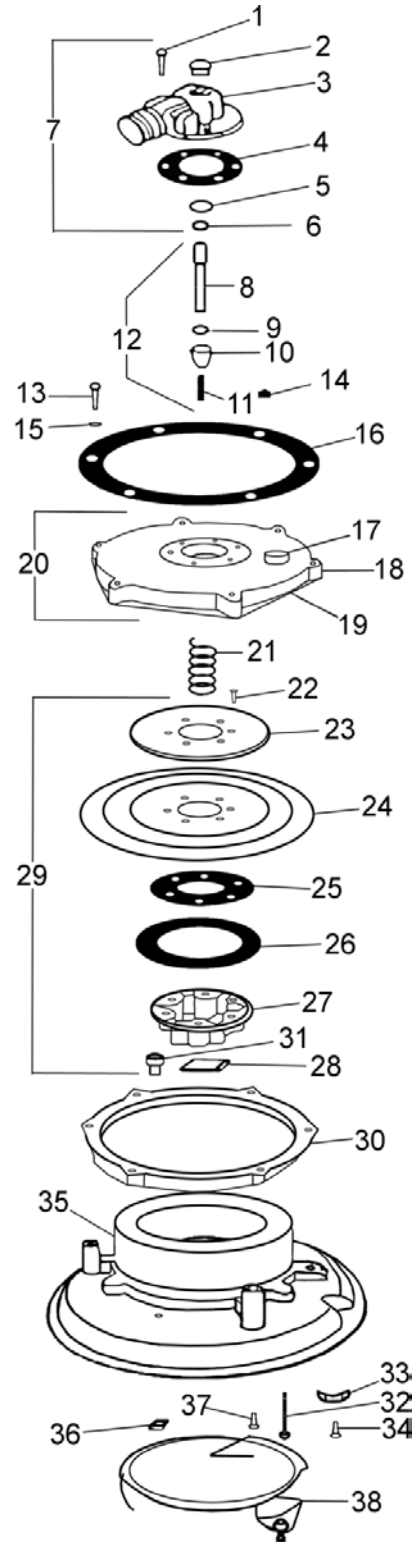
Item#	Part #	Description
37	AL1-7-1	Lever Assy
	AL1-9-1	Lever Assy
38	L1-7-1	Lever
39	S1-17	Screw
40	G1-19	Gasket 1½"
	G1-23	Gasket 1¾"
	G1-24	Gasket 2"

Item#	Part #	Description
1	G1-73	Gasket
2	S1-47	Screw
3	S1-3	Screw
4	C1-25	Cover
5	S2-17	Spring
6	S1-12	Screw
7	P2-21	Plate
8	D1-16-1	Diaphragm
	D1-16-2	Diaphragm-Silicone
9	R1-17	Ring
10	BV1-12	Air Valve-Propane
	DV1-12	Air Valve-NG
11	AV1-12	Air Valve-propane
	CV1-12	Air Valve-NG
12	AB1-23	Body
13	S2-16	Spring
14	S1-28	Screw
15	S1-69	Screw
16	P3-3	Plug
17	G1-21	Gasket
18	S1-19	Screw
19	AT2-4-2	Throttle Body 1½"
	AT2-5	Throttle Body 1¾"
	AT2-6	Throttle Body 2"
	AT2-11	Throttle Body 2bbl
	AT2-12	Throttle Body 2bbl
	AT2-13	Throttle Body 2bbl
20	P1-5	Pin
21	S5-2	Shaft
22	F2-4	Fly
23	S1-12	Screw
24	B2-12	Bearing
25	B2-7	Bearing
26	S3-9	Seal
27	S3-20	Seal
28	R1-9	Ring
29	AL1-8-2	Lever Assy
	AL1-10	Lever Assy
30	L1-10	Lever
31	S2-15	Spring
32	S1-21	Screw

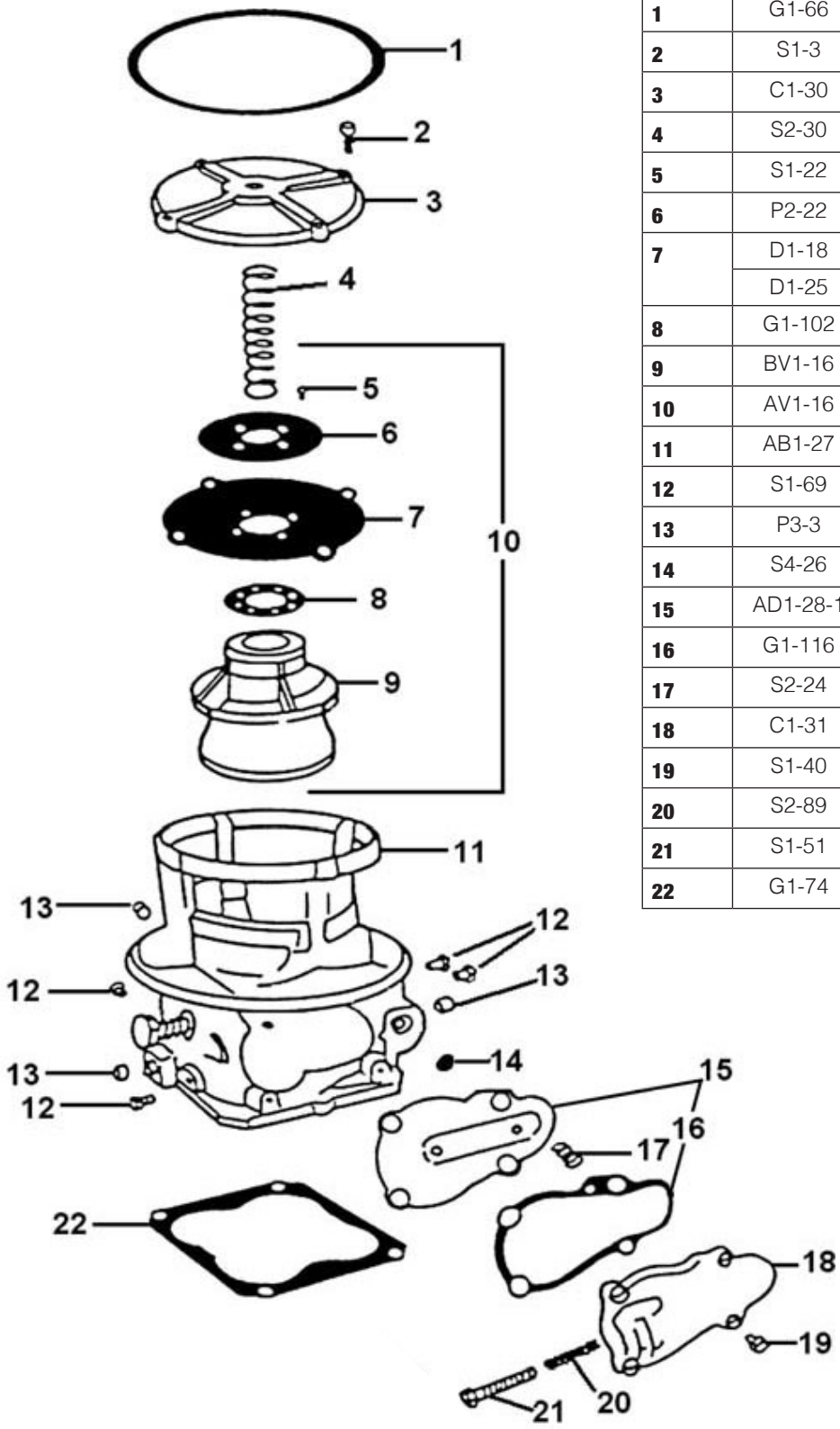


Item#	Part #	Description
33	S1-18	Screw
34	AL1-7-1	Lever Assy
35	S1-26	Screw
36	L1-7-1	Lever
	L1-9-1	Lever
37	G1-19	Gasket

Item#	Part #	Description
1	S1-3	Screw, 10-24 x 5/8" SEMS (3)
2	P3-2	Plug, idle adjustment
3	AE1-4	Elbow
4	G1-2	Gasket
5	R1-9	Ring
6	S3-3	Seal
7	BE1-4-1	Elbow Assy
8	S1-15	Screw
9	S4-2	Seal-CA300A
	S4-20	Seal-CA300A-50
10	V2-11	Valve-CA300A
	V2-39	Valve-CA300A-50
11	S2-3	Spring
12	AV2-11	Air Valve-CA300A
	AV2-39	Air Valve-CA300A-50
13	S1-6	Screw
14	N1-3	Nut
15	W1-2	Washer
16	G1-1	Gasket
17	R2-2	Rivet
18	V1-13	Valve
19	C1-2	Cover
20	AC1-2	Cover Assy
21	S2-2	Spring
22	S1-12	Screw
23	P2-1	Plug
	D1-1-1	Diaphragm
24	D1-1-2	Diaphragm-Silicone
	G1-15	Gasket
25	R1-2	Ring
26	BV1-10	Valve
27	L1-3	Lock
29	AV1-10-1	Air Valve-Assy CA300A
	AV1-10-2	Air Valve Assy-CA300A-50
30	R1-3	Ring
31	S1-5	Screw
32	S1-4	Screw
33	C2-1	Clamp



Item#	Part #	Description
34	S1-8	Screw
35	AB1-2	Base
36	N1-5	Nut
37	S1-69	Screw
38	AC2-2	Cam Assy

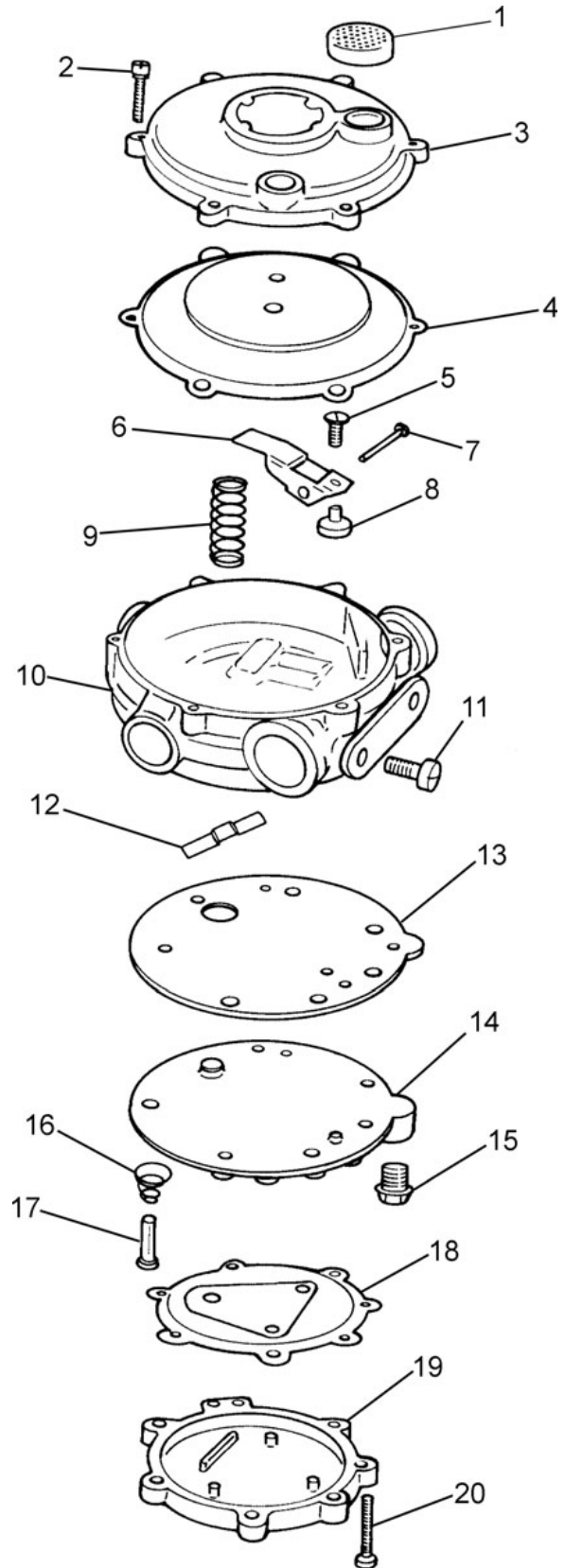


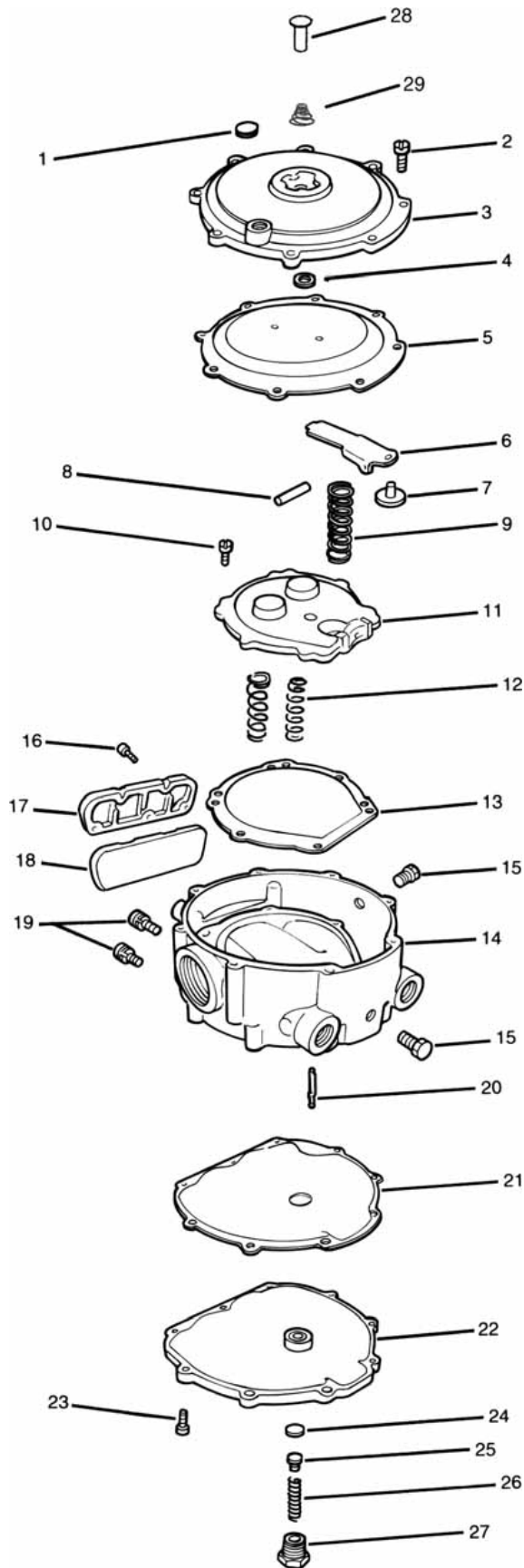
Item#	Part #	Description
1	G1-66	Gasket, Air Horn
2	S1-3	Screw, 10-24 x 5/8" SEMS (4)
3	C1-30	Cover, air valve diaphragm
4	S2-30	Spring, air valve
5	S1-22	Screw, 6-32 x 1/4" SEMS (4)
6	P2-22	Plate
7	D1-18	Diaphragm
	D1-25	Diaphragm-Silicone
8	G1-102	Gasket
9	BV1-16	Air-gas valve
10	AV1-16	Air Valve Assy
11	AB1-27	Body
12	S1-69	Screw, 1/4" -28 x 5/16" (3)
13	P3-3	Plug, 1/8" pipe
14	S4-26	Seat, idle valve
15	AD1-28-1	Idle diaphragm assy (Incl #16)
16	G1-116	Gasket, (Incl w/#15)
17	S2-24	Spring, idle valve
18	C1-31	Cover, idle valve
19	S1-40	Screw, 10-24 x 3/8" SEMS (4)
20	S2-89	Spring, idle adjustment
21	S1-51	idle adjust, 10-32 x 1-1/4"
22	G1-74	Gasket, mixer to adapter

Item#	Part #	Description
1	S7-4	Screen, atmospheric vent
2	S1-59	Screw, 8-32 x 7/8" Torx style (6)
3	AC1-34	Cover Assy Secondary
4		Diaphragm Assy secondary, Hydrin (RK-J, RK-J-C & RK-JC-734)
		Diaphragm Assy, Secondary, Silicone (RK-J-2)
		Diaphragm Assy, Secondary, Silicone (RK-J-3)
5	S1-42	Screw, 8-32 x 1/2" Torx style
6	L1-37	Lever, Secondary
7	P1-8	Pin, Secondary Fulcrum
8	S4-27*	Seat, Secondary
9	S2-35	Spring, blue secondary, Neg. 0.37 kPa (Neg. 1.5" H2O), standard
	S2-38	Spring, orange, secondary, Neg. 0.12 kPa (Neg. 0.5" H2O), optional
10	AB1-33	Body Assy, w/jet
11	S1-5	Plug, vapor outlet
12	S4-16	Seat, Primary Reg Mod J
13	G1-85	Gasket, body Plate Mod J
14	P2-26	Plate, Converter Body for Mod J
15	P3-13	Plug, 1/8 NPT, hex head
16	S2-36	Spring, Primary Reg Model J
17	P1-14	Primary valve pin
18	AD1-22	Diaphragm Assy, Primary
19	C1-93	Cover, Primary
20	S1-10	Screw, 8-32 x 7/8" Slot style (7)

NSS = Not Serviced Separately

* Included in repair kit





Item#	Part #	Description
1	S7-1	Screen, atmospheric vent
2	S1-59*	Screw, 8-32 x 5/8" SEMS (8)
3	NSS	Cover ass'y, secondary
4	W1-27*	Washer, hand primer
5	NSS*	Diaphragm ass'y, secondary, Hydrin
	NSS*	Diaphragm ass'y, secondary, Silicone
6	L1-87*	Lever, secondary
7	S4-37*	Seat, secondary
8	NSS	Pin, secondary lever fulcrum
9	S2-97	Spring, secondary regulator (blue)
10	S1-59*	Screw, 8-32 x 3/8" SEMS (2)
11	NSS	Cover, primary diaphragm
12	S2-92	Spring, primary regulator
13	NSS*	Diaphragm ass'y, primary
14	NSS	Body ass'y
15	P3-13	Plug, hex head, 1/8 NPT
16	S1-59*	Screw, 8-32 x 5/8" SEMS (5)
17	C1-61	Cover, water passage
18	NSS*	Gasket, water passage
19	S1-5	Screw, 1/4-20 x 5/8" SEMS (2)
20	P1-34	Pin, primary valve
21	NSS*	Gasket, vaporizing chamber
22	AC1-64	Cover, vaporizing chamber
23	S1-3*	Screw, 10-24 x 5/8" SEMS (9)
24	NSS*	Seat, primary
25	NSS*	Seat support, primary
26	S2-93	Spring primary valve
27	B3-25551	Bushing, fuel inlet
28	NSS	Pin, Primer
29	NSS	Spring, Primer

NSS = Not Serviced Separately

* Included in repair kit

RK-L

RK-L-2 For model L, w/ silicone diaphragm

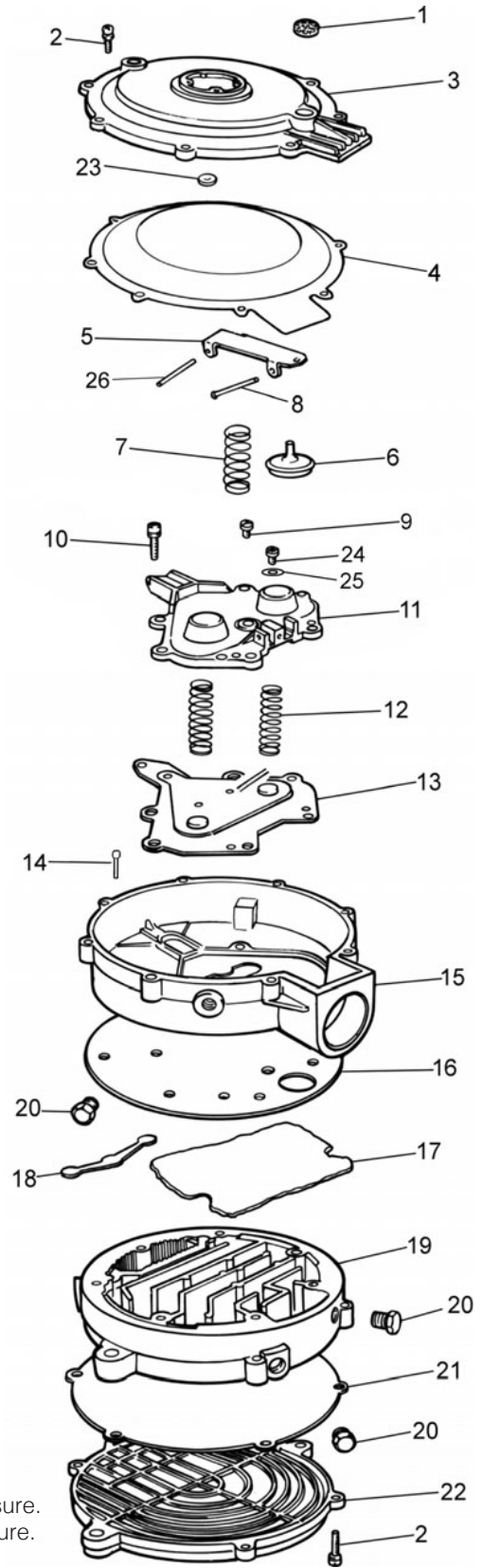
Item#	Part #	Description
1	S7-1 NSS	Screen, Atmospheric Vent
2	S1-3*	Screw, 10-24 x 5/8" SEMS (8)
3	NSS	Cover, Secondary
4	NSS (1)	Diaphragm, Secondary, Hydrin
	NSS (2)	Diaphragm, Secondary, Silicone
	NSS (3)	Diaphragm, Secondary, Flourosilicone
5	NSS*	Lever, Secondary w/ or w/o Hole
6	NSS*	Seat, Secondary
7 †	S2-22	Spring, Secondary Regulator (Blue), Standard
	S2-23	Spring, Secondary Regulator (Orange), Option
8	NSS	Pin, Secondary Lever Fulcrum (Early Model)
	NSS	Pin, Secondary Lever Fulcrum (Later Model)
9	NSS*	Screw, 10-24 x 3/8" SEMS
10	NSS*	(1)(2)(3) Screw, 12-24 x 1 1/8" SEMS
11	NSS	Cover, Primary Diaphragm (Early Model)
	NSS	Cover, Primary Diaphragm (Later Model)
12	NSS	Spring, Primary Regulator EB (2)
13	NSS*	Diaphragm Assy, Primary
14	NSS*	Pin, Primary Valve
15	NSS	Body, Regulator
16	NSS*	Gasket, Regulator Body
17	NSS*	Sponge
18	NSS*	Seat, Primary
19	NSS	Body, Assy, Heat Exchanger
20	NSS	Plug, Hex Head, 1/8 NPT (3)
21	NSS*	Gasket, Heat Exchanger Cover
22	NSS	Cover, Heat Exchanger
23	NSS*	Washer, hand primer
24	NSS	Screw 8-32 x .25" (Later Model)
25	NSS	Flat Washer (Later Model)
26	NSS*	Pin, Lever Diaphragm Link

NSS = Not Serviced Separately

* Repair kit components. (1) = RK-E; (2) = RK-E-2; (3) = RK-E-3

† Two vapor outlet pressures are available.

The Orange secondary spring gives Neg. 0.50" w.c. (Neg 0.12 kPa) pressure.
The Blue secondary spring gives a Neg. 1.50" w.c. (Neg. 0.37 kPa) pressure.

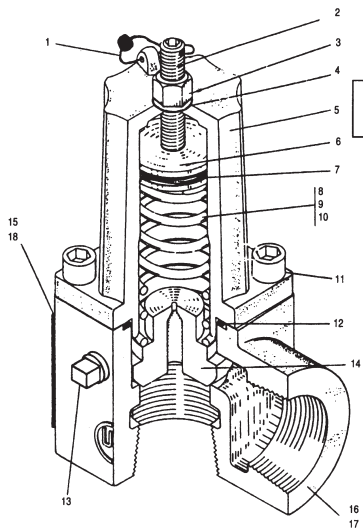
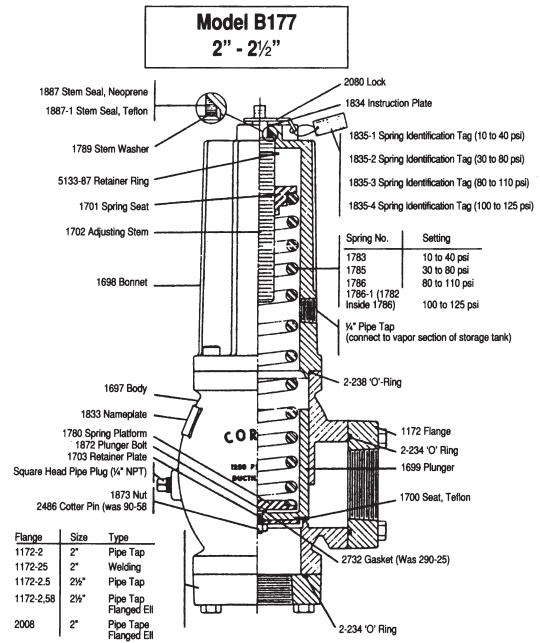
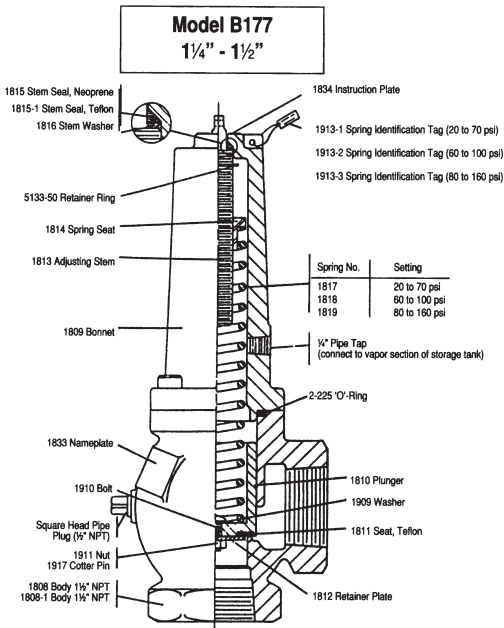


Corken Pump Parts

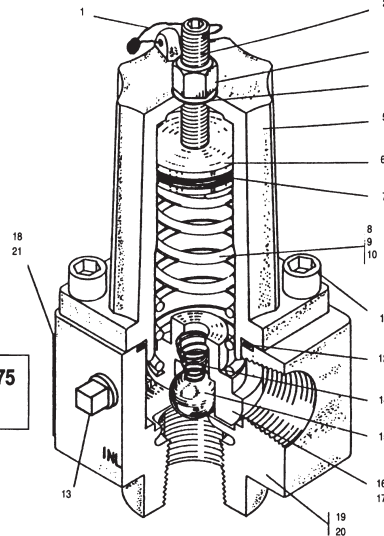
Description/Qty	521	522	T522	T722	TS722	TR722	1021	1022	T1522
Cam/1	1162-2	1162-2	1162-2	1849-1*	1849-1*	1849-1*	1201-2	1201-2	1792-1
Side Plates/2	1163-2*	1163-2*	1163-2*	3932*	3932*	3932*	1209-*	1209-*	--
Side Plate-Left/1	--	--	--	--	--	--	--	--	34761*
Side Plate-Right/1	--	--	--	--	--	--	--	--	3476R*
Rotor & Shaft/1	1166-1X1R	1166-1X2R	3983-X2R	3983-X2R	1208-1X1R	1208-1X2R	3350-X2R*		
Blade (10) or (6)	1168-7* (10)	1168-7* (10)	1168-7* (10)	3981* (6)	3981* (6)	3981* (6)	1308-9* (10)	1308-9* (10)	3477* (6)
Flange (2 or 2 1/2)/2	1172	1172	1172	--	--	--	--	--	--
Seal Assembly/2	1769-XRA*	1769-XRA*	1769-XRA*	1769-XRA*	1769XRA*	1769XRA*	1769-XRA*	1769-XRA*	1769-XRA*
Bearing Housing/2	1769	1769	1769	1769	1769	1769	1769	1769	1769
Bearing/2	2754-X*	2754-X*	2754-X*	2754-X*	2754-X*	2754-X*	2754-X*	2754-X*	2754-X*
Grease Seal/2	1358*	1358*	1358*	1358*	1358*	1358*	1358*	1358*	1358*
Thrust Absorber/1	--	--	--	254-X4	254-X4	254-X4	--	--	--
O-Ring/2	--	--	--	2-112A*	2-112A*	2-112A*	--	--	--
O-Ring/2	--	--	--	--	--	--	2-228A*	2-228A*	--
Flange O-Ring/2	2-234A*	2-234A*	2-234A*	--	--	--	--	--	2-234A*
O-Ring/2	--	--	--	--	--	--	--	--	2-238A*
O-Ring/2	--	--	--	--	--	--	2-245A*	2-245A*	2-245A*
O-Ring/2	--	--	--	--	--	--	2-249A*	2-249A*	2-259A*
Head O-Ring/2	2-261A*	2-261A*	2-261A*	2-261A*	2-261A*	2-261A*	--	--	--
Head O-Ring/2	--	--	--	--	--	--	2-268A*	2-268A*	2-268A*

Blackmer Pump Repair Parts and Kits

Description	LGB1PC	LGL1 1/4	LGL1 1/2	LGL2E	LGL3E	TLGLF3	LG4C	TLGLF4B	LG1-1/4A	LGL2C	LGL3C
	LGF1PC	LGLF1 1/4		TLGLD2E	TLGLD3		TLGLF4		LG1-1/2A	TLGLD2C	TLGLD3C
Valve Spring	472901*	471428*	471428*	471423*	475135*	471428*	476304	472039	471428*	471428*	471620
Relief Valve	452901*	453077	453077	454405	455129	45417*	452001	452001	453077	454405	455129
O-Ring	701965*	711924*	711924*	701919*	701925*	701946*	701946*	711924*	701919*	70919*	701925*
Vanes - Set	092912*	093088*	093088*	091419*	095131*	095123*	092019*	092019*	093088*	091419*	095131*
Bearings	903405*	903114*	903114*	903156*	903166*	903156*	903172*	903172*	903114*	903154*	903168*
Bear. Gasket	382901*	383075*	383075*	383940*	385125*	383940*	385125*	385125*	383075*	383940*	385125*
Disc	--	063075	063075	064412	065112	065121	062003	062039	063075	064413*	065113*
O-Ring	711941*	701918*	701918*	702022	702041	711923*	701944*	702039	701918*	383935*	385107*
Grease Seal	331934	331927	331927	331918	331908	331918	331908	331908	331927	331918	331908
Mech. Seal	332920*	333045*	333045*	334439	335225	334439	332050*	332050*	333045*	331417*	331825*
Repair Kit	898994	898976	898976	898979	898981	898980	898922	898922	898976	898979	895122



Models T166-1.25 and T166-1.5



Models B166-75 and B166B-1

T166

Ref Part No. No.	Description
1.	3456 Seal Wire
2.	2911 Adjusting Screw
3.	7101-037 NCo1A Lock Nut
4.	2732 Washer
5.	1134 Bonnet
6.	1136 Spring Seal
7.	2-217 O-Ring
8.	1138 Relief Spring (25 to 60 psi)
9.	1193 Relief Spring (50 to 150 psi)
10.	1193 Relief Spring (100 to 225 psi)
1313	Relief Spring (100 to 225 psi)

Ref Part No. No.	Description
11.	7002-037 Socket Head Screw
12.	2-224 O-Ring
13.	2442 Pipe Plug (1/4" NPT)
14.	2215 Valve
15.	2216 Nameplate
16.	1320-2 body 1 1/4" NPT (T166-1.25)
17.	1320-3 body 1 1/2" NPT (T-166-1.5)
18.	7012-006 SF025E Phillips Head, 6/32 x 1/4"

Caution: Always relieve pressure in the unit before attempting any repairs.

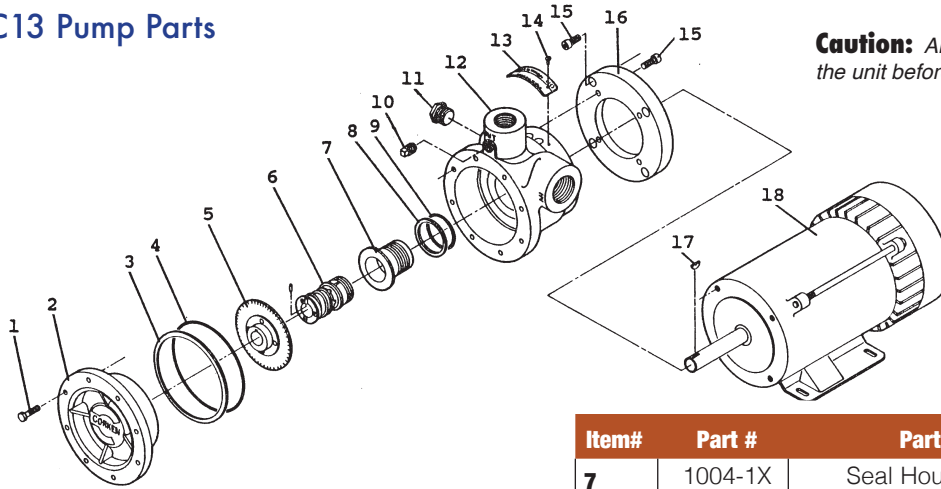
B166

Ref Part No. No.	Description
1.	3546 Seal Wire
2.	2911 Adjusting Screw
3.	7101-037NCo1A Lock Nut
4.	2732 Washer
5.	1134 Bonnet
6.	1136 Spring Seal
7.	2-217 O-Ring
8.	1138 Relief Spring (25 to 60 psi)
9.	1193 Relief Spring (50 to 150 psi)
10.	1193 Relief Spring (100 to 225 psi)
1313	Relief Spring (100 to 225 psi)
11.	7002-037 Socket Head Cap Screw

Ref Part No. No.	Description
12.	2-224 O-Ring
13.	3442 Pipe Plug (1/4" NPT)
14.	1139 Ball Spring
15.	1137 Ball
16.	1251 Valve (Steel)
17.	1251-1 Valve Continuous Bypass (Steel)
18.	2030 Nameplate
19.	1200 body 3/4" NPT (B166-75)
20.	1200-1 Body 1" NPT B166-1)
21.	7012-006 SF025E Phillips Head, 6/32x 1/4"

Caution: Always relieve pressure in the unit before attempting any repairs.

C10-C13 Pump Parts

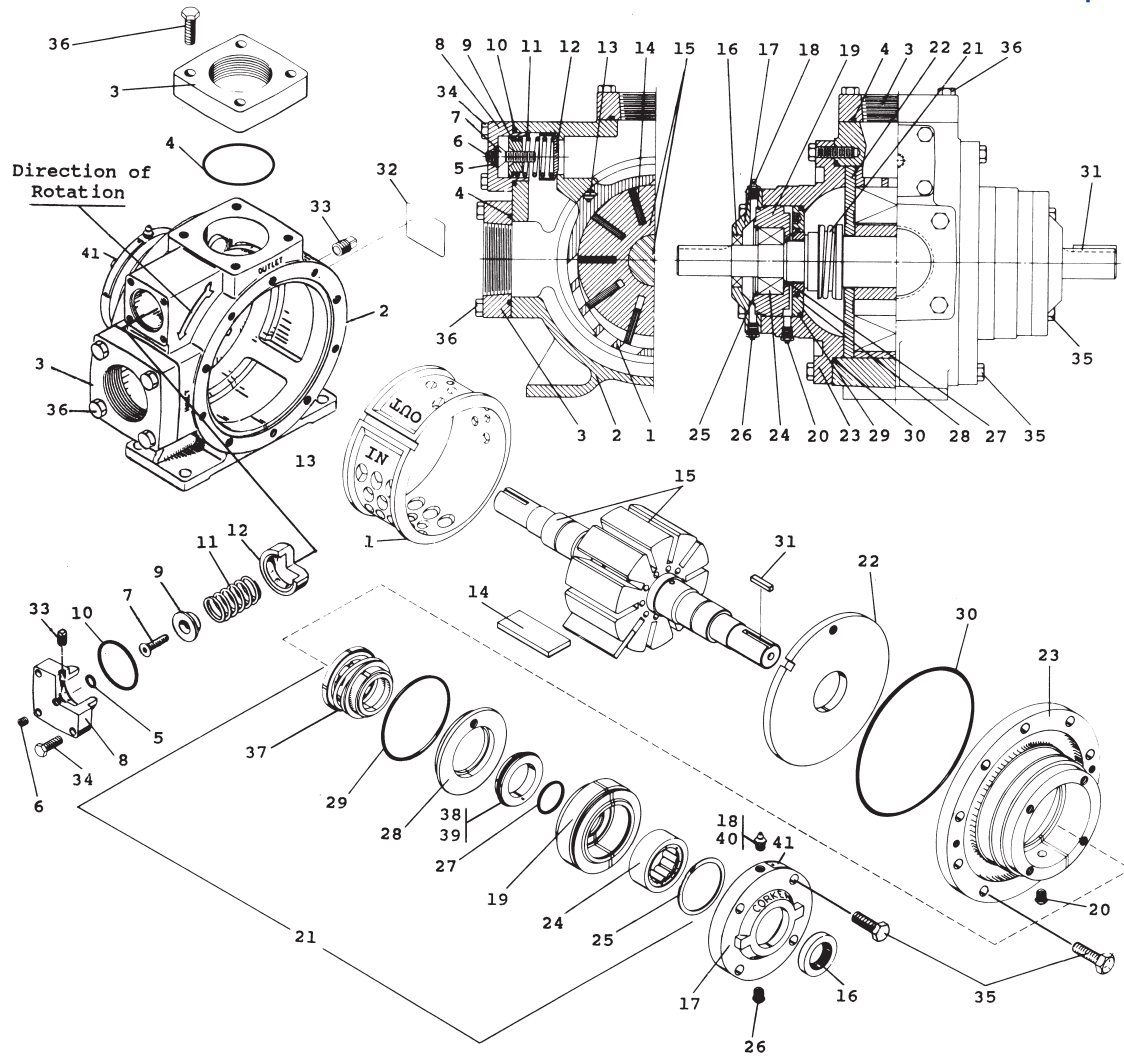


Caution: Always relieve pressure in the unit before attempting any repairs.

Item#	Part #	Part Name	Qty
1	7001-031		
	NC100A	Hex Hd. Cap Screw	8
2	1001-09	Cover (Model 9)	1
	1001-0	Cover (Model 10)	1
	1001-2	Cover (Model 12)	1
	1001-3	Cover (Model 13)	1
	1001-4	Cover (Model 14)	1
	1001-5	Cover (Model 15)	1
	3	1014	Case Clearance Shim (.002" Red)
1014-1		Case Clearance Shim (.003" Green)	As Req
4	2-246	O-Ring, Case (except TFE)	1
	2-247E	O-Ring, Case (TFE)	1
5	1003-09	Impeller, Brass	
	1003-091	Impeller, Iron (Model 9)	1
	1003-092	Impeller S.S.	
	1003-0	Impeller, Brass	
	1003-01	Impeller, Iron (Model 10)	1
	1003-02	Impeller S.S.	
	1003-2	Impeller, Brass	
	1003-21	Impeller, Iron (Model 12)	1
	1003-22	Impeller S.S.	
	1003-3	Impeller, Brass	
	1003-31	Impeller, Iron (Model 13)	1
	1003-32	Impeller S.S.	
	1003-4	Impeller, Brass	
	1003-41	Impeller, Iron (Model 14)	1
1003-42	Impeller S.S.		
1003-5	Impeller, Brass		
1003-51	Impeller, Iron (Model 15)	1	
1003-52	Impeller S.S.		
6	113-CX	Seal Assembly	1

Item#	Part #	Part Name	Qty
7	1004-1X	Seal Housing, Steel (Except TFE O-rings)	1
	1004-11X	Seal Housing, S.S. (Except TFE O-rings)	1
	1004-2X	Seal Housing, Steel (For TFE O-rings only)	1
	1004-21X	Seal Housing, S.S. (For TFE O-rings only)	1
8	1013	Housing Adjustment Shim (.010)	As Req
	1013-1	Housing Adjustment Shim (.020)	As Req
9	2-224	O-Ring, Housing	1
10	3442	Pipe Plug, 1/4" NPT	1
11	3444	Pipe Plug, 3/4" NPT	1
12	1002-09	Case (Model 9)	1
	1002-0	Case (Model 10)	1
	1002-2	Case (Model 12)	1
	1002-3	Case (Model 13)	1
	1002-4	Case (Model 14)	1
	1002-5	Case (Model 15)	1
13	1914-1	Nameplate	1
14	7012-006		
	SF025E	Phillip HD, 6-32 x 1/4" Type F, Plated	2
15	7002-037		
	NC087A	Socket Hd. Cap Screw	8
16	1015	Adapter Ring	1
17	2497	Woodruff Key, Steel	1
	2497-1	Woodruff Key, S.S.	1
18	2555	Motor 3/4hp (Models 9, 10)	1
	2556	Motor 1hp (Model 12)	1
	2557	Motor 3hp (Models 14, 15)	1
	2895	Motor 3/4hp, Obsolete (Models 9E, 10E)	1
	2896	Motor 1 1/2hp, Obsolete (Model 12E)	1
	3760	Motor 2hp (Model 13)	1

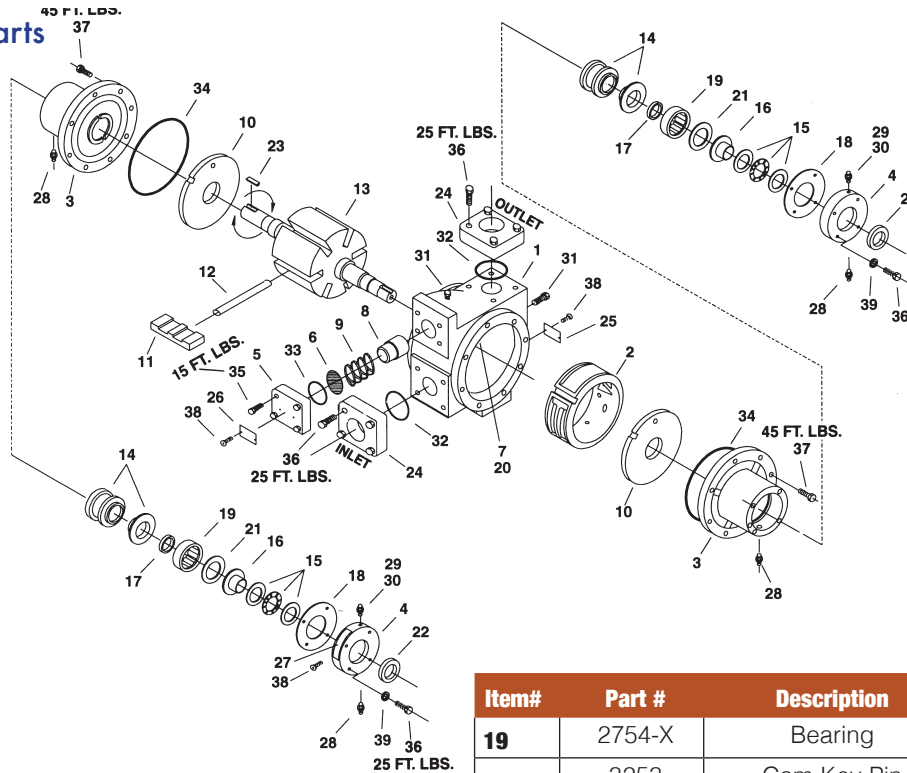
521-1021 Pump Parts



Item#	Description	521 2"	1021 3"
1	Cam	1162-2	1201-2
2	Case	2832	2841
3	Flange	1172-2	1206-3
4	Flange O-ring	2-234A	2-245
5	O-ring	2-112	2-112
6	Plug	2590	25-0
7	Screw	2252	2252
8	Cap	1174	1207
9	Guide	1242	1227
10	O-ring	2-224	2-228
11	Spring	1240	1226
12	Relief Valve	1241	1224
13	Key	1170	1309
14	LP Blade	1168-6	1308-8
	NH3 Blade	1168-7	1308-9
15	Rotor-Single	1166-1X1	1208-1X1
	Rotor-Double	1166-1X2	1208-1X2

Item#	Description	521 2"	1021 3"
16	Grease Seal	1358	1358
17	Cap	1164-1	1164-1
18	Zerk	2158	2158
19	Brg Housing	1769	1769
20	Fitting	1343	1343
21	Seal Assy	1769-XRA	1769-XRA
22	Sideplate	1163-2	1209-1
23	Head	1161-4	1205-4
24	Bearing	2754X	2754X
25	Retainer Ring	2760-244	2761-244
26	Fitting	1343	1343
27	O-ring	2-128	2-128
28	Seat-Ad Plate	1822	1822
29	O-ring	2-240	2-240
30	Case O-ring	2-261A	2-268A

Z2000 Pump Parts



Item#	Part #	Description	Qty
1	4413	Case	1
2	4414	Cam	1
3	4416	Head	2
4	4417	Bearing Cap	2
5	1174-3	Relief Valve Cap	1
6	4282	Shim	1
7	4424	Cam Key	1
8	4425	Relief Valve	1
9	4426	Relief Valve Spring	1
10	4427	Sideplate	2
(b) 11	4428	Blade	6
12	4262	Blade Driver	3
13	4430-X2R	Rotor-Shaft Assy	1
14	4431	Seal Assy	2
15	4432	Thrust Bearing Assy	2
16	4435	Bearing Race Mounting Ring	2
17	4438	Grease Seal	2
18	4439	Bearing Cap Shim (.002) Red	As Req
	4439-1	Bearing Cap Shim (.010) Brown	As Req
	4439-2	Bearing Cap Shim (.020) Yellow	As Req

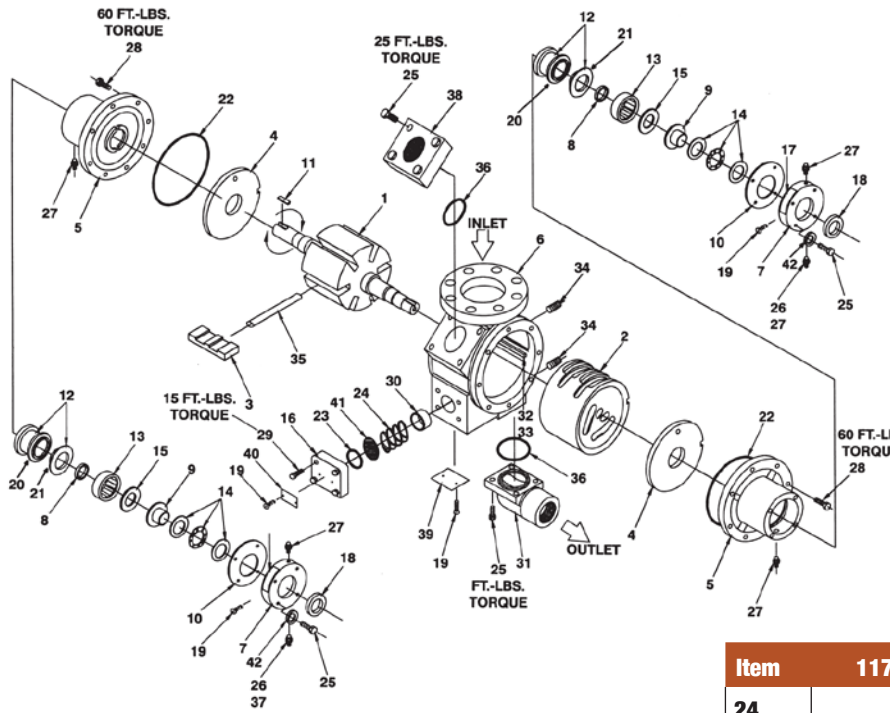
Item#	Part #	Description	Qty
19	2754-X	Bearing	2
20	3253	Cam Key Pin	2
21	2760-244	retainer Ring	2
22	4441	Grease Seal	2
23	2270	Shaft Key 1/4 x 1 9/16	2
(a) 24	4479-2	Flange 2" NPT	2
25	2649	Nameplate	1
26	4248	Relief Valve Nameplate	1
27	1359	Lubrication Instruction Plate	2
28	1343	1/8 NPT Relief Fitting	4
29	2158	1/8 NPT Grease Zerk	2
30	2159	Lubricap	2
31	3442	1/4 NPT Pipe Plug	2
32	2-231	O-ring - Flange	2
33	2-224	O-ring-Relief Valve Cap	1
34	2-261	O-ring - Case	2
(c) 35	7001-031		
	NC125A	Bolt-Hexagon head	16
(c) 36	7001-037		
	NC150A	Bolt-Hexagon head	16
(c) 37	7001-043		
	NC125A	Bolt-Hexagon head	16
38	7012-006		
	SF025E	Screw	8
39	7206-037A	Lockwasher	8

Notes

- (a) Optional: 4479-2S 2" Welded
- (b) Slots in blades must face towards the direction of rotation
- (c) Note torque valves

Caution: Always relieve pressure in the unit before attempting any repairs.

Z3200 Pump Parts



O-Ring Code
 A Buna-N
 B Neoprene®
 D Viton®
 E Teflon®

(a) Denotes O-ring code. See chart above
 (b) Slots in vanes must face Towards the direction of rotation.

Note: Hydraulic motor is not shown.

Caution: Always relieve pressure in the unit before attempting any repairs.

Item	1172-Part #	Description	Qty
1	4495-X2R	Rotor Shaft Assy	1
2	4242	Cam	1
3 (b)	4243	Vane	6
4	4231	Sideplate	2
5	4488	Head	2
6	4239	Case	1
7	4417	Bearing Cap	2
8	4438	Grease Seal	2
9	4435	Mounting Ring	2
10	4439	Bearing Shim .002 red	As Req
	4439-1	Bearing Shim.010 brown	
	4439-2	Bearing Shim .020 yellow	
11	2270	Shaft Key	2
12(a)	4431-X_2	Mech. seal assembly	2
13	2754	Bearing outer race	2
14	4432	Thrust bearing assembly	2
15	2760-244	Retainer ring	2
16	1174-2	Relief valve cap	1
17	1359	Lubrication instruction plate	2
18	4441	Grease Seal	2
19	7012-006SF019E	Screw	8
20	---	Not Shown	
21	---	Not Shown	
22(a)	2-262_	O-Ring Case	2
23(a)	2-224_	O-Ring relief valve cap	1

Item	1172-Part #	Description	Qty
24	1240	Relief Valve Spring	1
25	7001-037NC150A	Bolt- ³ / ₈ -16 X 1 1/2" hex head	16
26	2158	1/8" NPT Grease Zerk	2
27	1343	1/8" NPT Relief Fitting	4
28	7001-050NC150A	Bolt 1/2-13 x 1 1/2" hex head	16
29	7001-031NC125A	Bolt ⁵ / ₁₆ -16 x 1 1/4" hex head	4
30	1241	Relief Valve	1
31	1172-1.5	Outlet flange 1.5" NPT	1
	1172-1.5S	Outlet flange 1.5" WF	1
	1172-2	Outlet flange 2" NPT	1
	1172-2S	Outlet flange 2" WF	1
	1947	Outlet flange 1.5" NPT ell	1
	4243	Outlet flange 2" NPT ell	1
32	4241	Cam key	1
33	3253	Cam key pin	1
34	3442	1/4" NPT pipe plug	1
35	4262-X	Vane driver	3
36(a)	2-234_	O-ring flange	1
37	2159	Lubricap	2
38	1172-1.5	Aux. inlet flange 1.5" NPT	1
	1172-15S	Aux. inlet flange 1.5" WF	1
	1172-2	Aux. inlet flange 2" NPT	1
	1172-2S	Aux. inlet flange 2" WF	1
	1920-3	Aux. inlet flange blind	1
	4243	Aux. inlet flange 2" NPT ell	1
39	2649	Nameplate	1
40	4248	Relief Valve Nameplate	1
41	4282	Relief Valve Shim	As Req
42	7206-037A	³ / ₈ " lockwasher	8

Z3500 Pump Parts

O-Ring Code
 A Buna-N
 B Neoprene®
 D Viton®
 E Teflon®

Note: Hydraulic motor is not shown.

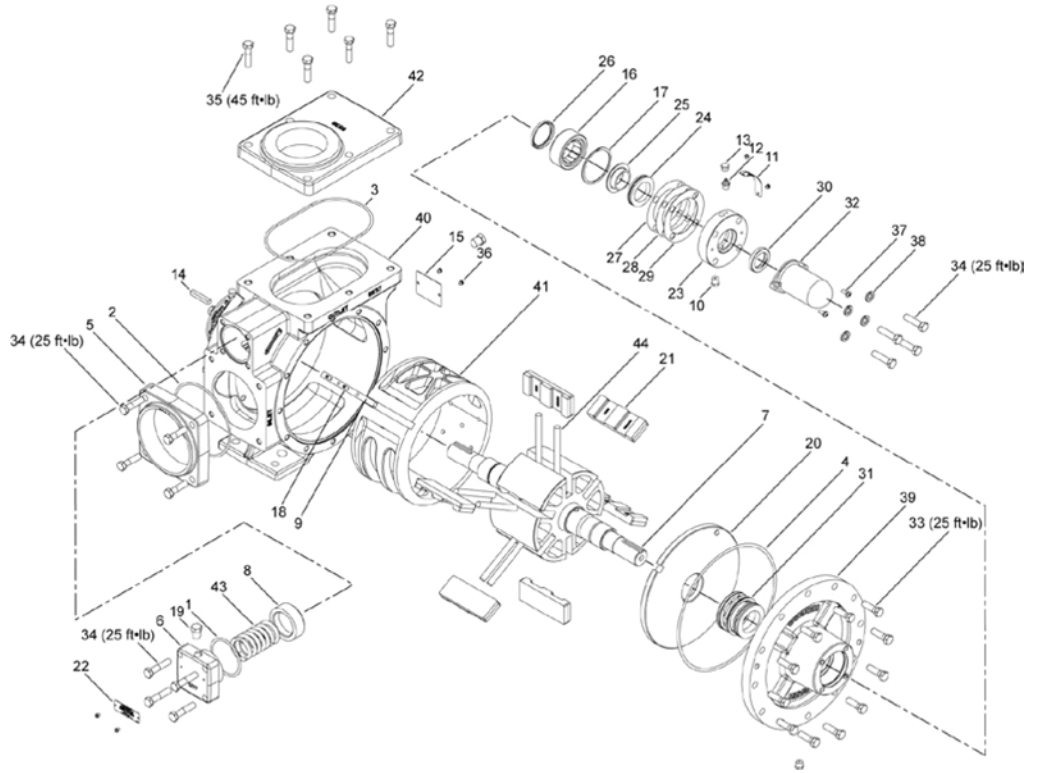
Caution: Always relieve pressure in the unit before attempting any repairs.

(a) Optional 4" NPT (1206-4), 3" Weld Flange (1206-3S), and 4" Weld flange (1206-4S)

(b) Optional 3" weld flange elongated (5538-3S)

(c) Denotes O-Ring code. See chart above.

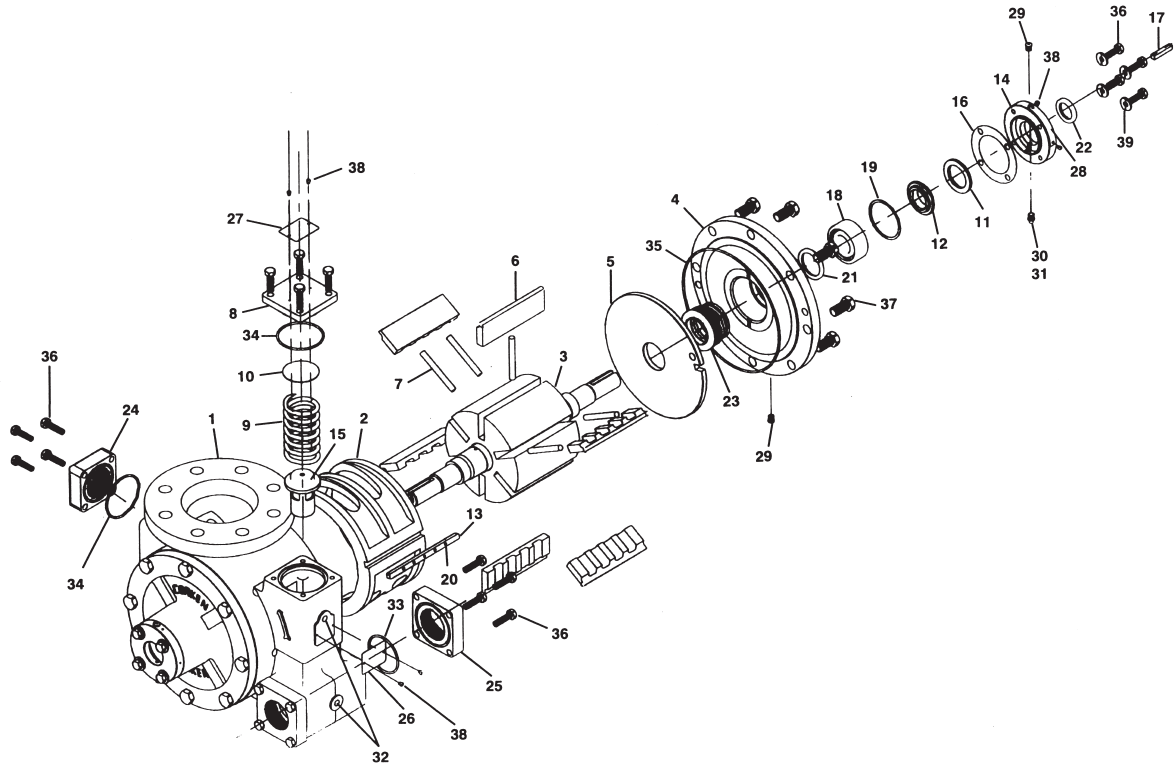
(d) Slots in vanes must face towards the direction of rotation



Item	Part #	Description	Qty
1 (c)	2-228	O-Ring	
2 (c)	2-245	O-Ring	
3 (c)	2-259	O-Ring	
4 (c)	2-268	O-Ring	
5 (a)	1208-4	Inlet Flange 3" NPT	
6	1207-2	Relief Valve Cap	
7	1208-1X6R	Rotor Shaft Assembly	
8	1224	Relief Valve	
9	1309	Cam Key	
10	1343	Grease Relief Fitting	
11	1359	Lubrication Plate	
12	2158	Grease Zerk	
13	2159	Lubricap	
14	2270	Shaft Key 1/4"	
15	2649	Nameplate	
16	2754	Outer Bearing	
17	2760-244	Retainer Ring	
18	3253	Cam Key Pin	
19	3442	Pipe Plug 1/4" NPT	
20	3935	Sideplate	
21(d)	3936	Vane	
22	4248	Relief Valve Warning Tag	6
23	4417	Bearing Cap	2
24	4432	Thrust Bearing Assembly	2

Item	Part #	Description	Qty
25	4435	Thrust Bearing Mounting Ring	2
26	4438	Grease Seal /Oil Seal	2
27	4439	Bearing Cap Shim .002"	2
28	4439-1	Bearing Cap Shim .010"	2
29	4439-2	Bearing Cap Shim .020"	2
30	4441	Grease Seal	2
31(c)	4431-X2	Mechanical Seal Assembly	2
32	4985	Coro-Vane Shaft Cover	1
33	7001-C37NC125A	Hex Head Bolt	24
34	7001-C37NC150A	Hex Head Bolt	18
35	7001-C37NC175A	Hex Head Bolt	4
36	7012-010SF050E	Screw	9
37	7012-010SF050E	Screw	2
38	7206-037A	Lock Washer .375"	8
39	5534	Head	2
40	5537	Case	1
41	5539	Cam	1
42(b)	5538	Outlet Flange 3" NPT Elongated	1
43	5548	Spring	1
44	5554-X	Vane Driver	6

Z4200 Pump Parts



REF NO.	PART NO.	DESCRIPTION	QTY
1.	4442	CASE	1
2.	4443	CAM	1
3.	4444-X2	ROTOR-SHAFT ASSEMBLY	1
4.	4445	HEAD	2
5.	4446	SIDEPLATE	2
6.	4448	BLADE	6
7.	4449-X	BLADE DRIVER	5
8.	4450	RELIEF VALVE CAP	1
9.	4451	RELIEF VALVE SPRING	1
10.	4452	SHIM	1
11.	4453	THRUST BEARING ASSEMBLY	2
12.	4454	BEARING RACE MOUNTING RING	2
13.	4455	CAM KEY	1
14.	4456	BEARING CAP	2
15.	4457	RELIEF VALVE	1
16.	4458	BEARING CAP SHIM - (.002)	AS REQ'D
	4458-1	BEARING CAP SHIM - (.010)	AS REQ'D
	4458-2	BEARING CAP SHIM - (.020)	AS REQ'D
17.	4459	SHAFT KEY - 5/16 X 1 1/4	1
18.	4460-X	ROLLER BEARING	2
19.	2760-281	RETAINER RING	2
20.	3253	CAM KEY PIN	5
21.	4462	GREASE SEAL	2
22.	4463	GREASE SEAL	2
23.	4464	SEAL ASSEMBLY	2
24.	1172-2	AUX. INLET FLANGE - 2" NPT	1
25.	4479-2	DISCHARGE FLANGE - 2" NPT	2
26.	2649	NAMEPLATE	1
27.	4248	RELIEF VALVE NAMEPLATE	1
28.	1359	LUBRICATION INSTRUCTION PLATE	2
29.	1343	1/8 NPT RELIEF FITTING	4
30.	2158	1/8 NPT GREASE ZERK	2
31.	2159	LUBRICAP	2
32.	3442	1/4 NPT PIPE PLUG	2
33.	2-231	O-RING - DISCHARGE FLANGE	2
34.	2-234	O-RING - AUX. INLET FLANGE	1
35.	2-270	O-RING - CASE	2
36.	7001-037 NC150A	BOLT - HEXAGON HEAD	24
37.	7001-062 NC125A	BOLT - HEXAGON HEAD	16
38.	7012-006 SF025E	SCREW	8
39.	7206-037A	LOCKWASHER	8

Listed below are designated repair kits for the Z4200.

REPAIR KIT - 3197-X1		
PART NO.	DESCRIPTION	QTY
2-231A	DISCHARGE FLANGE O-RING	2
2-234A	AUXILIARY INLET FLANGE O-RING	1
4448	BLADE	6
4449-X	BLADE DRIVER	5
4453	THRUST BEARING ASSEMBLY	2
4454	THRUST BEARING MOUNTING RING	2
4458	BEARING CAP SHIM - .002"	8
4458-1	BEARING CAP SHIM - .010"	2
4458-2	BEARING CAP SHIM - .020"	2
4459	SHAFT KEY	1
4460-X	ROLLER BEARING ASSEMBLY	2
4463	GREASE SEAL	2
4464-XA	SEAL ASSEMBLY	2

REPAIR KIT - 3198-X1		
PART NO.	DESCRIPTION	QTY
2-231A	DISCHARGE FLANGE O-RING	2
2-234A	AUXILIARY INLET FLANGE O-RING	1
4443	CAM	1
4446	SIDEPLATE	2
4448	BLADE	6
4449-X	BLADE DRIVER	5
4453	THRUST BEARING ASSEMBLY	2
4454	THRUST BEARING MOUNTING RING	2
4458	BEARING CAP SHIM - .002"	8
4458-1	BEARING CAP SHIM - .010"	2
4458-2	BEARING CAP SHIM - .020"	2
4459	SHAFT KEY	1
4460-X	ROLLER BEARING ASSEMBLY	2
4463	GREASE SEAL	2
4464-XA	SEAL ASSEMBLY	2

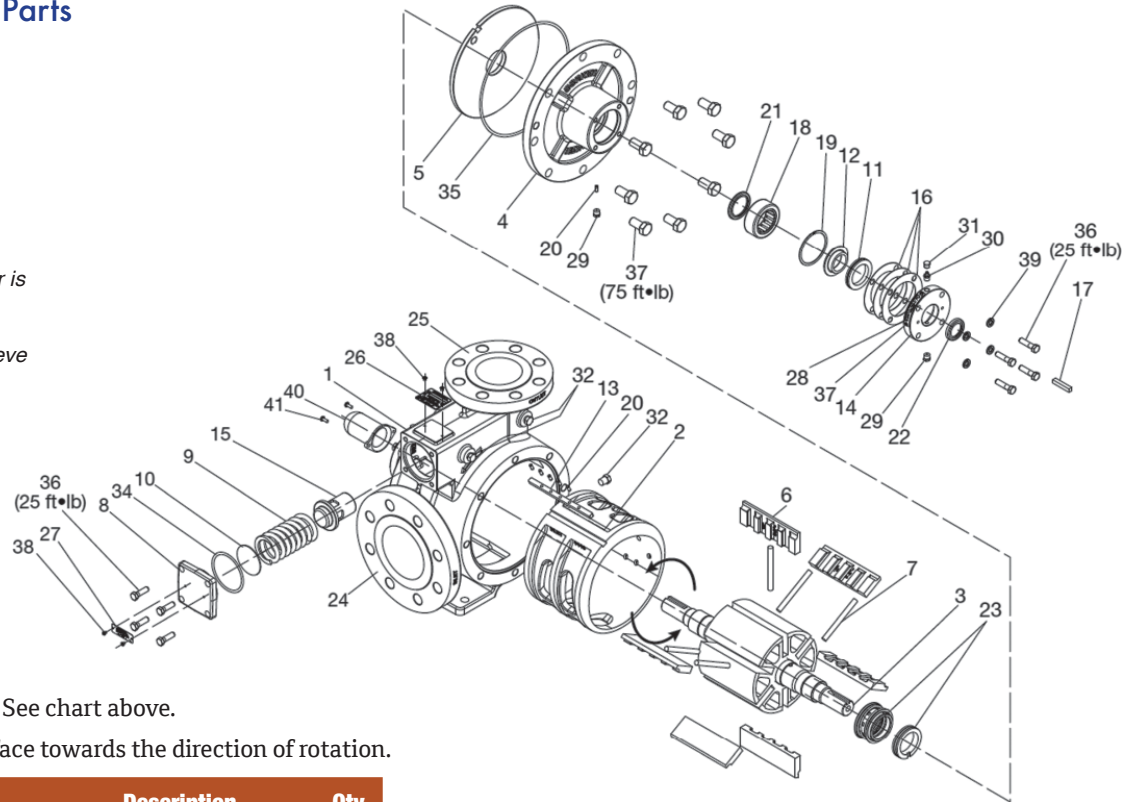
2-270 O-Ring-Case 2

Z4500 Pump Parts

O-Ring Code
 A Buna-N
 B Neoprene®
 D Viton®
 E Teflon®

Note: Hydraulic motor is not shown.

Caution: Always relieve pressure in the unit before attempting any repairs.

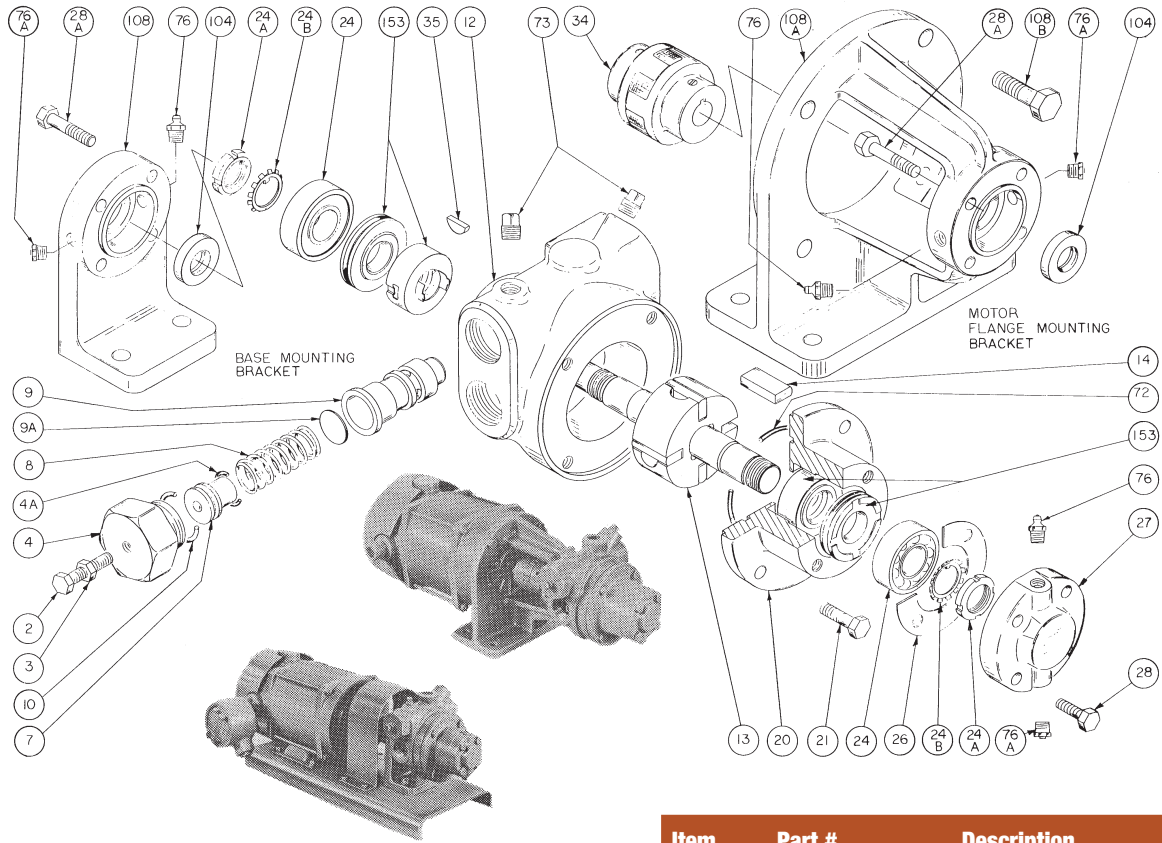


- (a) Denotes O-ring code. See chart above.
- (b) Slots in vanes must face towards the direction of rotation.

Item	Part #	Description	Qty
1	5522	Case	1
2	4443	Cam	1
3	4444-X2R	Rotor-shaft assembly	1
4	4445	Head	2
5	4446	Sideplate	2
6(b)	4448	Vane	6
7	4449-X	Vane Driver	5
8	4450	Relief valve cap	1
9	4451	Relief valve spring	1
10	4452	Shim	1
11	4453	Thrust bearing assembly	2
12	4454	Bearing race mounting ring	2
13	4455	Cam key	1
14	4456	Bearing cap	2
15	4457	Relief valve	1
16	4458	Bearing cap shim .002 red	As Req
	4458-1	Bearing cap shim .010 brown	
	4458-2	Bearing cap shim .020 yellow	
17	4459	Shaft key ⁵ / ₁₆ x 1 ³ / ₄	1
18	4460-X	Roller Bearing	2
19	2760-283	Retainer Ring	2
20	3253	Cam key pin	5

Item	Part #	Description	Qty
21	4462	Grease seal	2
22	4463	Grease seal	2
23(a)	4464-X_2	Mechanical seal assy	2
24	---	INlet flange 4" ANSI	1
25	---	Outlet flange 3" ANSI	2
26	2649	Nameplate	1
27	4248	Relief valve nameplate	1
28	1359	Lubrication instruction plate	2
29	1343	1/8 NPT relief fitting	4
30	2158	1/8 NPT grease zerk	2
31	2159	Lubricap	2
32	3442	1/4 NPT pipe plug	2
33(a)	2-231	O-ring discharge flange	3
34(a)	2-234	O-ring auxiliary inlet flange	1
35(a)	2-270	O-ring case	2
36	7001-037NC150A	Bolt hexagon head	24
37	7001-062NC125A	Bolt hexagon head	16
38	7012-006SF019E	Screw	8
39	7206-037A	Lockwasher	8
40	4985	Shaft cover	1
41	7012-010SF050E	Screw	2

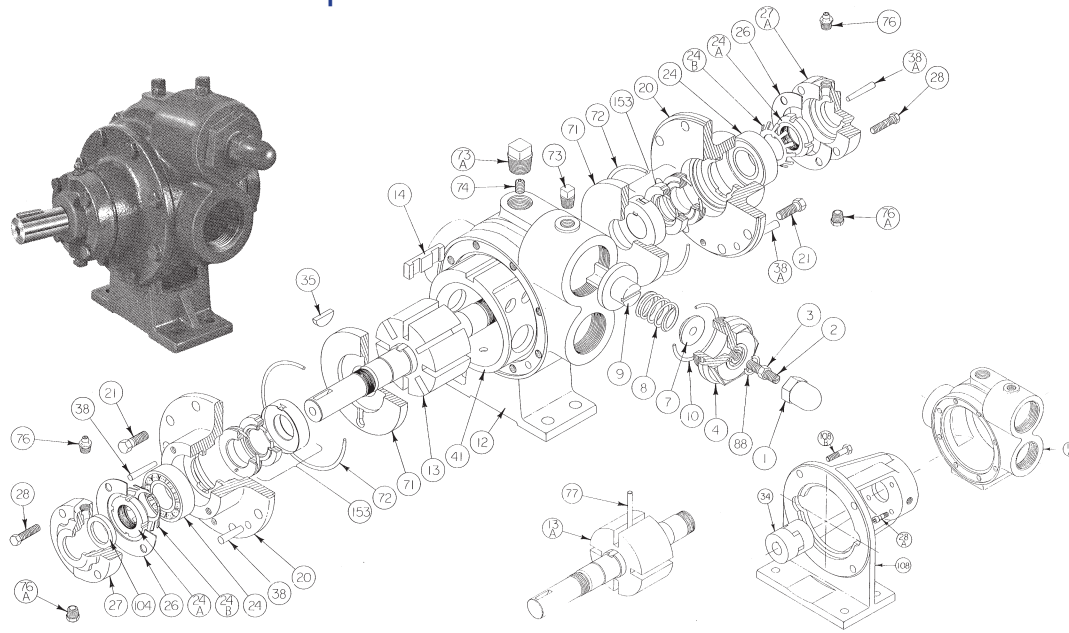
LGF1pC Pump Parts



Item	Part #	Description	Qty
2	432901	Adjusting Screw - Relief Valve (R/V)	1
3	922811	Locknut - Adjusting Screw	1
4	412901	Cover - R/V	1
4A	711940	O-ring - Spring Guide	1
7	422901	Spring Guide - R/V	1
8	472901	Spring - R/V	1
9	452901	Valve - R/V	1
9A	442901	Disc - R/V	1
10	701965	O-ring- R/V Cover	1
12	022902	Cylinder-LGF1, LGB1	1
	022911	Cylinder-LGF1P, LGB1P	
13	262901	Rotor & Shaft Assy (Includes Ref.# 24A)	1
14	092912	Vane - Duravane (Std.)	4
	092909	Vane - Laminate	
20	032902	Head	1
21	920178	Capscrews - Head	4
24	903405	Ball Bearing	2
24A	903531	Locknut - Bearing	2

Item	Part #	Description	Qty
24B	903532	Lockwasher-Bearing	2
26	382901	Gasket-Bearing Cover	1
27	042901	Bearing Cover	1
28	920203	Capscrews-Bearing Cover	4
28A	920230	Mounting Screws	4
34	906139	Coupling Half-Pump	1
	906143	Coupling Half-Motor (143T, 145T, 184 frame)	
	906141	Coupling Half-motor (56, 56C frame)	
	906154	Coupling Spider	
35	909126	Key-Shaft	1
72	711941	O-ring-Head	1
73	908195	Gage Plug	2
76	317815	Grease Fitting	2
76A	701992	Grease Relief Fitting	2
104	331934	Grease Seal	1
108	832901	Bracket-LGB1 & 1P	1
108A	832905	Bracket-LGF1 & 1P	1
108B	920331	Capscrews-Bracket	4
	892950	Pump Repair Kit	
153	332920	Seal	2

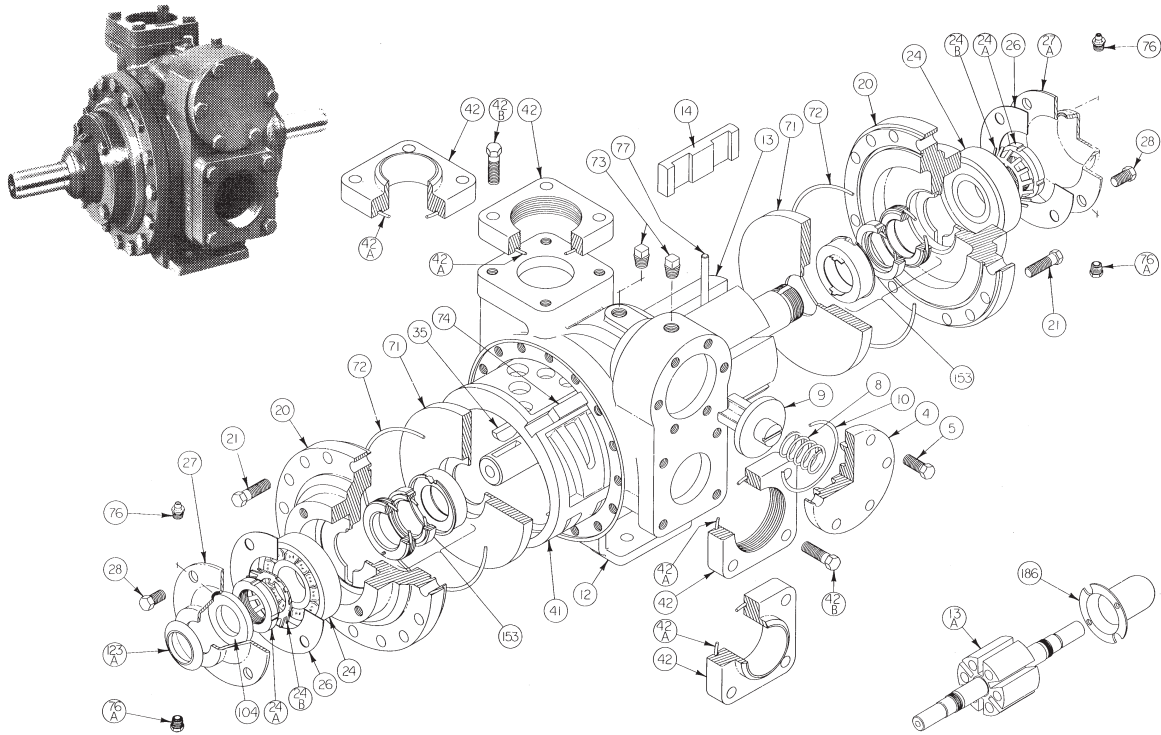
LGF 1¼ & LGL 1½ Pump Parts



Item	Part #	Description	Qty
1	41320	Cap-Relief Valve (R/V)	1
2	433909	Adjusting Screw - R/V	1
3	922923	Locknut-Adjusting Screw	1
4	413076	Cover - R/V	1
7	423955	Spring Guide-R/V	1
8	471428	Spring-R/V(81-150psi)	1
9	453077	Valve-R/V (Std.)	1
	452300	Valve-R/V (Nickel Plated)	
10	711924	O-ring-R/V Cover	1
12	013075	Casing 1¼	1
	013376	Casing 1½	
13	262300	Rotor & Shaft Asy. Eight-Vane (Std) (Includes Ref. # 24A & 24B)	1
13A	263076	Rotor & Shaft Asy. Four-Vane (Includes Ref. # 24A & 24B)	1
14	093088	Vane-Duravane (Std)	4-8
	093089	Vane-Laminate	
20	033073	Head	2
21	920276	Capscrews - Head	16
24	903114	Ball Bearing	2
24A	903534	Locknut - Bearing	2
24B	903533	Lockwasher - Bearing	2
26	383075	Gasket-Bearing Cover	2
27	043070	Bearing Cover-Inboard	0-1
27A	043071	Bearing Cover-Outboard	1
28	920080	Capscrews-Bearing Cover	4-8
35	909125	Key-Shaft	1
38	930037	Taper Pin (#2x1")	2

Item	Part #	Description	Qty
38A	930075	Taper Pin (#3x1¼")	2
41	183003	Liner-LGRL(F)1¼	1
	183004	Liner-LGL(F)1¼	
	183301	Liner-LGL 1½	
71	063075	Disc	2
72	701918	O-ring-Head	2
73	908195	Gage Plug ¼"	1
73A	908215	Gage Plug ½"	1
74	922088	Setscrew-Liner	1
76	317815	Grease Fitting	2
76A	701992	Grease Relief Fitting	2
77	123004	Push Rod-LGRL(F)1¼	0-2
	123076	Push Rod-LGL(F)1¼	
	123401	Push Rod-LGL1½	
88	701949	O-ring-R/V Cap	1
104	898976	Grease Seal	1
	892302	Pump Repair Kit-LGRL(F)1¼	
	892301	Pump Repair Kit-LGL(F)1¼	
	892600	Pump Repair Kit-LGL(F)1½	
12A	013077	Casing w/o Feet (F)1¼	1
28A	920101	Mounting Screws	4
34	906143	Coupling Half-Pump	1
	906141	Coupling Half-Motor (56C Frame)	
	906143	Coupling Half-Motor (56CZ Frame)	
	906154	Coupling Spider	
108	833000	Mounting Bracket	1
108B	920331	Capscrews-Bracket	4
153	333045	Seal	2

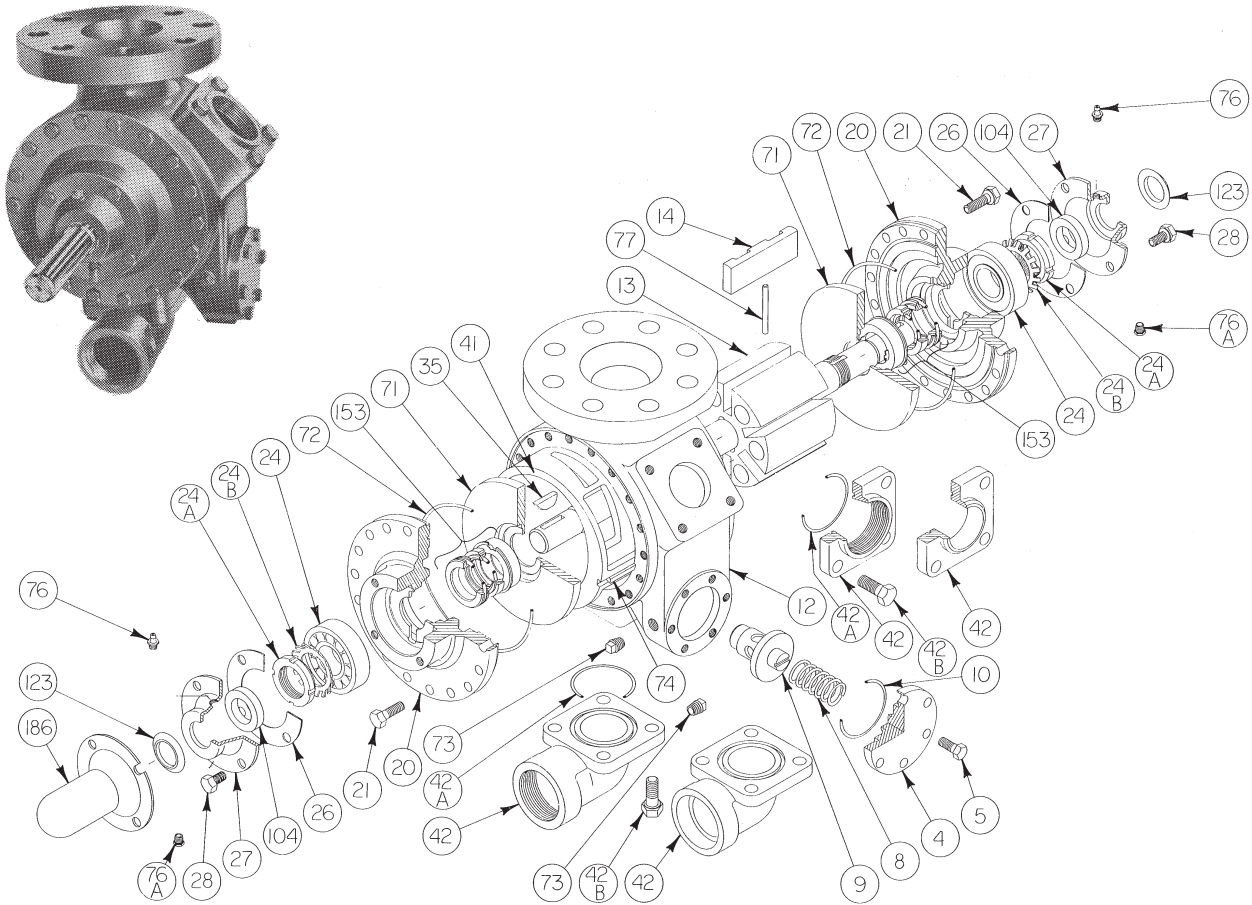
tlgld2e & lgl3e Pump Parts



Item	Size 2 Part #	Size 3 Part #	Description	Qty
4	414401	415113	Cover-Relief Valve R/V	1
5	920331	920331	Capscrews-R/V Cover	6
8	471423	475135	Spring - R/V	1
9	454405	455129	Valve-R/V (Std)	1
	454406	455100	Valve-R/V (Nickel plated)	
10	701919	701925	O-ring-R/V Cover	1
12	014405	015127	Casing	1
13	264443	265149	Rotor & Shaft Assy-LGL (Includes Ref.# 24A&24B)	1
13A	264445	265148	Rotor & Shaft Assy -TLGLD (Includes Ref.# 24A&24B)	1
14	091419	095131	Vane-Duravane (Std)	6
	091427	095109	Vane-Laminate	
20	034416	035128	Head	2
21	920351	N/A	Capscrews-Head (2)	32
	N/A	920369	Capscrews-Head (3)	40
24	903156	903166	Ball Bearing	2
24A	903156	903523	Locknut-Bearing	2
24B	903522	903524	Lockwasher-Bearing	2
26	383940	385125	Gasket-Bearing Cover	2
27	041431	041815	Bearing Cover (Inboard)	1(2)
27A	041433	041817	Bearing Cover (Outboard)	1(3)

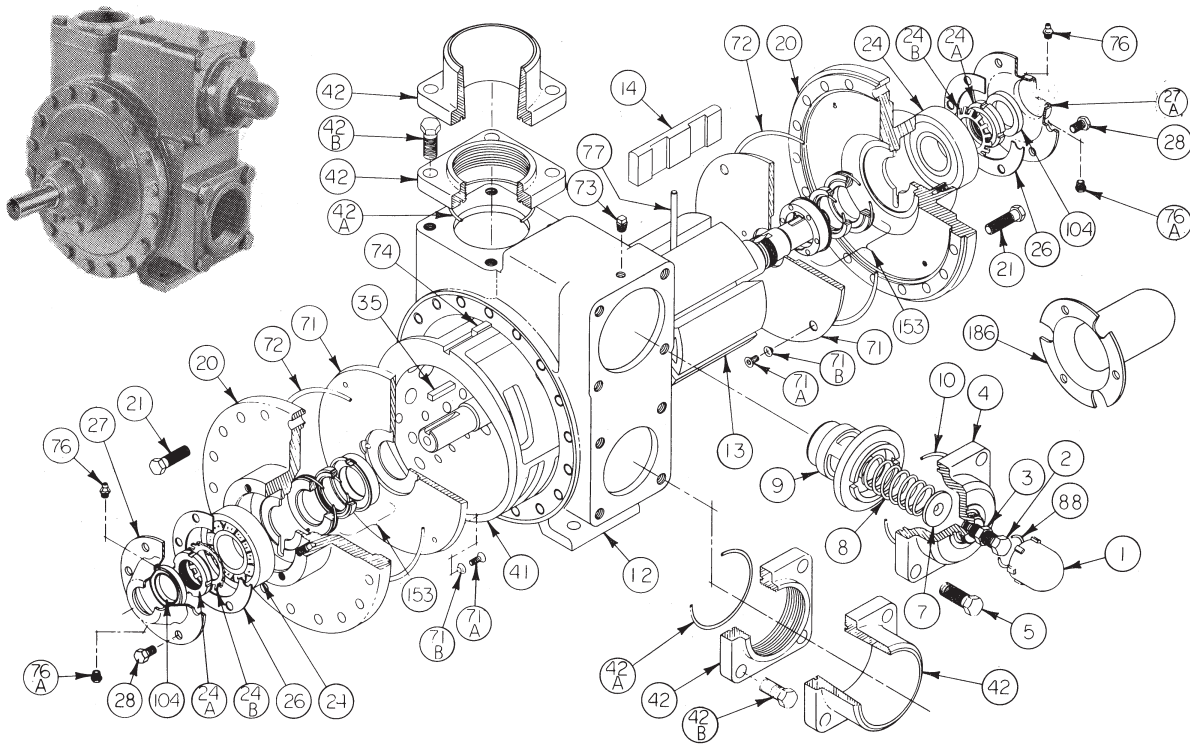
Item	Size 2 Part #	Size 3 Part #	Description	Qty
28	920285	N/A	Capscrews-Bearing Cover (2)	8
	N/A	920285	Capscrews-Bearing Cover (3)	12
35	909130	909130	Key-Shaft	1
41	184405	185111	Liner	1
42	654401	655112	Flange-NPT	2
	654405	655102	Flange-Weld	
42A	702004	702002	O-ring-Flange	2
42B	920384	920547	Capscrew-NPT Flange	8
	920351	920510	Capscrew-Weld Flange	
71	064412	065112	Disc	2
72	702022	702041	O-ring-Head	2
73	908195	908195	Gage Plug	2
74	184407	185191	Key-Liner	1
76	317815	317815	Grease Fitting	2
76A	701992	701992	Grease Relief Fitting	2
77	123905	125105	Push Rod	3
104	331918	331908	Grease Seal	1(2)
123A	701480	N/A	Dirt Shield	1(2)
186	341601	341801	Shaft Protector (TLGLD Models Only)	1
	898979	898981	Pump Repair Kit	
153	331652	335125	Mechanical Seal	2

TLGLF3 Parts



Item	Part #	Description	Qty
4	415108	Cover-Relief Valve R/V	1
5	920331	Capscrews-R/V Cover	6
8	471428	Spring - R/V	1
9	451417	Valve-R/V (Std)	1
	451415	Valve-R/V (Nickel plated)	
10	701919	O-ring-R/V Cover	1
12	015128	Casing	1
13	265147	Rotor & Shaft Assy (Includes Ref.# 24A)	1
14	095132	Vane-Duravane	6
20	035132	Head	2
21	920351	Capscrews-Head	36
24	903156	Ball Bearing	2
24A	903521	Locknut-Bearing	2
24B	903522	Lockwasher-Bearing	2
26	383940	Gasket-Bearing Cover	2
27	041431	Bearing Cover	2
28	920285	Capscrews-Bearing Cover	8
35	909130	Key-Shaft	1
41	185101	Liner	1

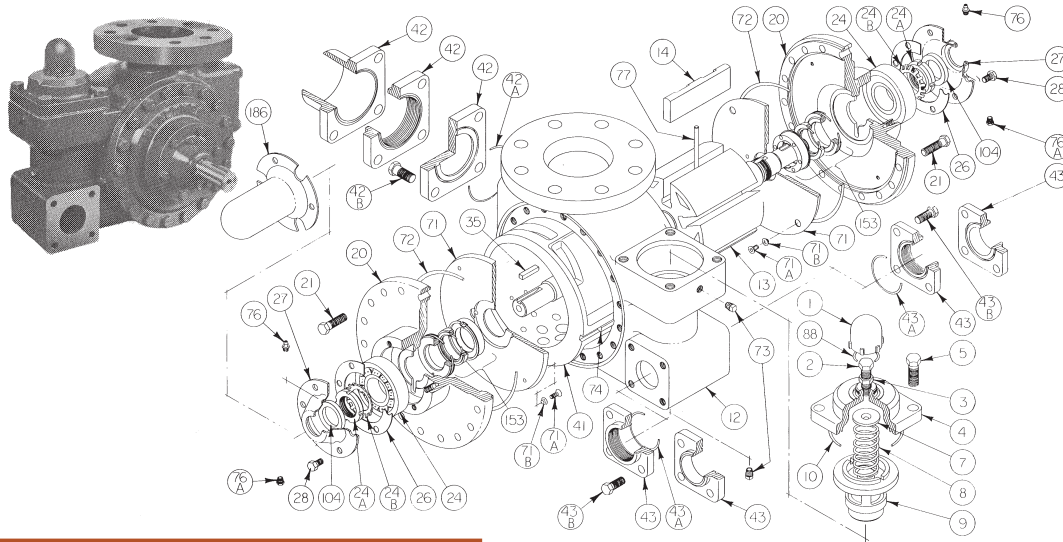
Item	Part #	Description	Qty
42	652010	Flange-2" NPT	1-2
	652011	Flange- 2" Weld	
	655100	Flanged Elbow - 2" NPT	
	655109	Flanged Elbow - 2" Weld	
42A	701919	O-ring-Flange, Flanged Elbow	2
42B	920491	Capscrew-Flange, Flanged Elbow	8
71	065121	Disc	2
72	711923	O-ring-Head	2
73	908195	Gage Plug	2
74	185193	Key-Liner	1
76	317815	Grease Fitting	2
76A	701992	Grease Relief Fitting	2
77	121607	Push Rod	3
104	331918	Grease Seal	2
123	701480	Dirt Shield	2
186	341601	Shaft Protector	1
	898980	Pump Repair Kit	
153	331652	Mechanical Seal Assy	2



Item	Part #	Description	Qty
1	413952	Cap-Relief Valve R/V	1
2	436310	Adjusting Screw-R/V	1
3	436355	Locknut-Adjusting Screw	1
4	412001	Cover-R/V	1
5	920663	Capscrew-R/V Cover	4
7	426355	Spring Guide-R/V	1
8	476305	Spring-R/V	1
9	452001	Valve-R/V	1
10	701946	O-Ring-R/V Cover	1
12	012000	Casing	1
13	262023	Rotor & Shaft Assy-LGL4 (Includes Ref.# 24A&24B)	1
	262023	Rotor & Shaft Assy-LGLD4 (Includes Ref.# 24A&24B)	
14	092019	Bane-Duravane (Std)	6
	092026	Vane-Laminate	
20	032039	Head	2
21	920532	Capscrews-Head	36
24	903172	Ball Bearing	2
24A	903541	Locknut-Bearing	2
24B	903542	Lockwasher-Bearing	2
26	385125	Gasket-Bearing Cover	2
27	041815	Bearing Cover (Inboard)	1(2)
27A	041817	Bearing Cover (Outboard)	1(3)

Item	Part #	Description	Qty
28	920286	Capscrews-Bearing Cover	12
35	909183	Key-Shaft	1
41	182000	Liner	1
42	652012	Flange-3" NPT	1-2
	652007	Flange-3" Weld	
	652005	Flange-4" Weld	
42A	701937	O-ring NPT, Weld Flange	2
42B	920663	Capscrew-NPT Flange	8
	920640	Capscrew-Weld Flange	
71	062039	Disc	2
71A	920015	Machine Screw-Disc	8
71B	909622	Lockwasher-Machine Screw	8
72	702039	O-Ring-Head	2
73	908195	Gage Plug	2
74	182040	Key-Liner	1
76	317815	Grease Fitting	2
76A	701992	Grease Relief Fitting	2
77	122005	Push Rod	3
88	701926	O-ring-R/V Cap	1
104	331908	Grease Seal	1(2)
	341801	Shaft Protector (LGLD4 Only)	
186	898922	Pump repair Kit	1
	332050	Mechanical Seal Assy	
153	332050	Mechanical Seal Assy	2

TLGLF4(A) 4" Flanged Pump Parts List



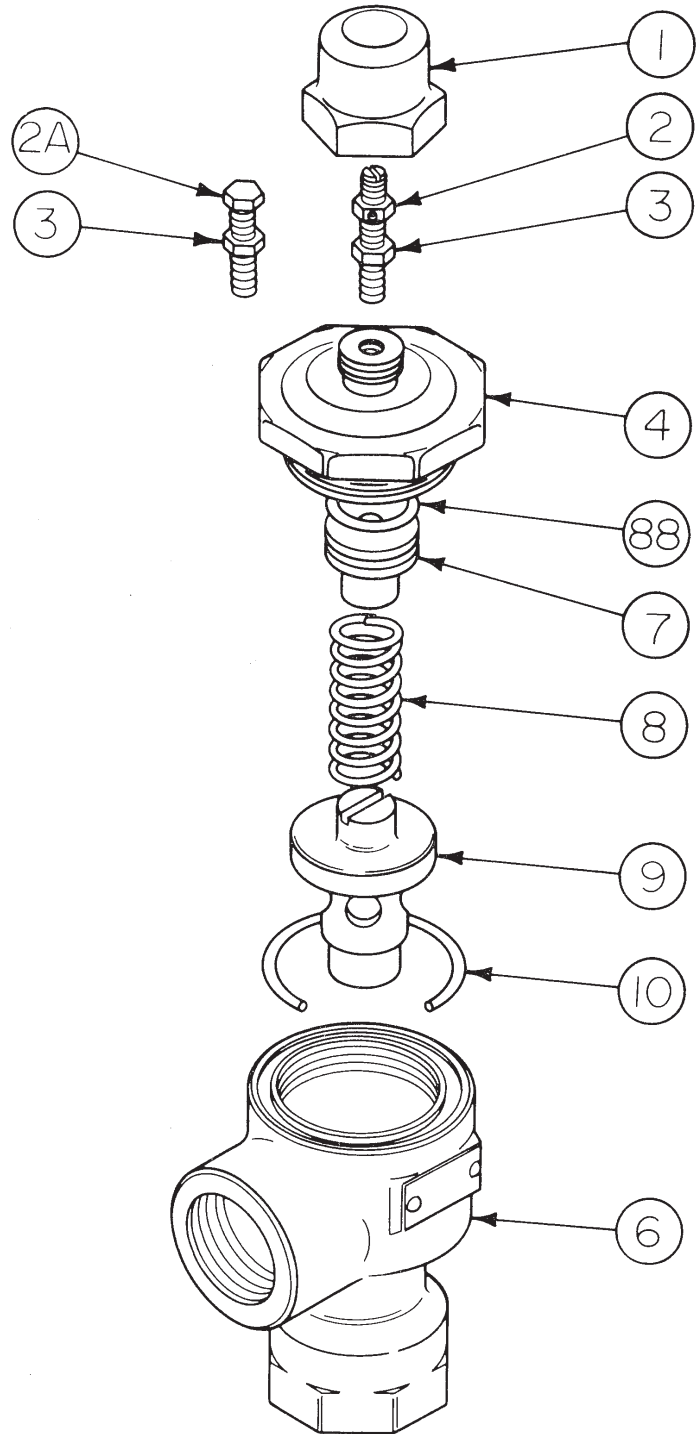
Item	TLGLF4A Part #	TLGLF4 Part #	Description	Qty
1	413952		Cap-Relief Valve R/V	1
2	436310	436307	Adjusting Screw-R/V	1
3	432039	436355	Locknut-Adjusting Screw	1
4	412001		Cover-R/V	1
5	920663		Capscrew-R/V Cover	4
7	426355		Spring Guide-R/V	1
8	472039		Spring-R/V	1
9	452001		Valve-R/V	1
10	701946		O-Ring-R/V Cover	1
12	012039		Casing	1
13	262024	262022	Rotor & Shaft Assy (Includes Ref.# 24A&24B)	1
14	092019		Bane-Duravane (Std)	6
	092026		Vane-Laminate	
20	032039		Head	2
21	920532		Capscrews-Head	36
24	903172		Ball Bearing	2
24A	903541	903523	Locknut-Bearing	2
24B	903542		Lockwasher-Bearing	2
26	385125		Gasket-Bearing Cover	2
27	041815		Bearing Cover	1(2)
28	920286		Capscrews-Bearing Cover	12
35	909183		Key-Shaft	1
41	182000	182039	Liner	1
42	652012		Flange-3" NPT	1-2
	652005		Flange-4" Weld	
	652007		Flange-3" Weld	
	652000		Flange-Blank	

Item	TLGLF4A Part #	TLGLF4 Part #	Description	Qty
42A		701937	O-ring - Flange	2
42B		920663	Capscrew-3" NPT Flange	8
		920640	Capscrew-3", 4" Weld Flange, Blank Flange	
Twin Discharge Port				
43		652010	Flange-2" NPT	
		652011	Flange-2" Weld	
43A		701919	O-ring-2" Flange	
43B		920491	Capscrew-Discharge Flange	
71		062039	Disc	2
71A		920015	Machine Screw-Disc	8
71B		909622	Lockwasher-Machine Screw	8
72		702039	O-Ring-Head	2
73		908195	Gage Plug	2
74		182040	Key-Liner	1
76		317815	Grease Fitting	2
76A		701992	Grease Relief Fitting	2
77	122005	12201	Push Rod	3
88		701926	O-ring-R/V Cap	1
104		331908	Grease Seal	1(2)
186		341801	Shaft Protector (LGLD4 Only)	1
		898922	892000	
153	352050	332050	Mechanical Seal	2

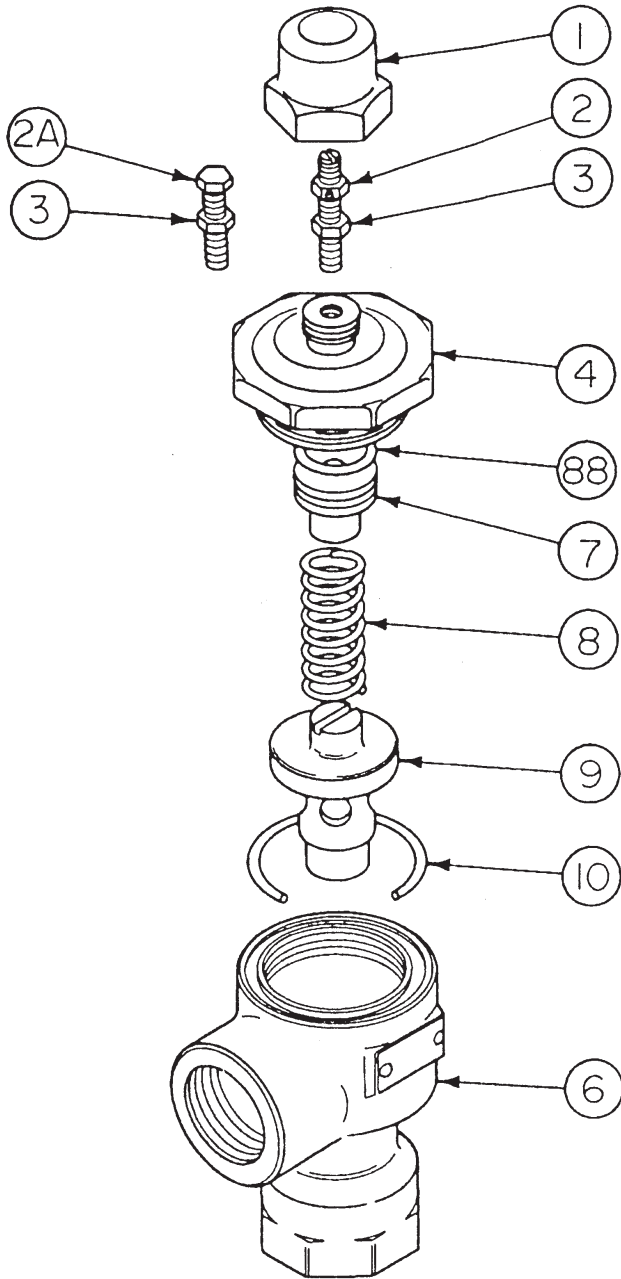
Blackmer BV1 Parts List

Item	Part #	Description	Qty
1	414402	Cap	1
2	•	Adjusting Stud & Nut Assy (71-100psi) (Std)	1
	•	Adjusting Stud & Nut Assy (101-125psi)	
2A	431808	Adjusting Screw (20-40psi)	1
	431808	Adjusting Screw (41-70psi)	
3	922923	Locknut	1
4	412845	Cover	1
6	402845	Body 3/4" NPT	1
	402846	Body 1" NPT	
7	422853	Spring Guide	1
8	471411	Spring (20-40psi)	1
	471412	Spring (41-70psi)	
	471415	Spring (71-100psi) (Std)	
	471420	Spring (101-125psi)	
9	452840	Valve	1
10	701933	O-ring-Cover	1
88	711917	O-ring- Spring Guide	1

• Assembly is not a saleable part; preset at factory.



Blackmer BV114 Parts List



Item	Part #	Description	Qty
1	414402	Cap	1
2	•	Adjusting Stud & Nut Assy (71-125psi) (Std)	1
	•	Adjusting Stud & Nut Assy (126-150psi) ¹	
2A	437803	Adjusting Screw (20-40psi)	1
	437803	Adjusting Screw (41-70psi)	
3	922923	Locknut	1
4	413045	Cover	1
6	403045	Body 1¼" NPT	1
	403345	Body 1½" NPT	
7	422853	Spring Guide	1
8	471415	Spring (20-40psi)	1
	471417	SS Spring (20-40psi) (BV1½ Only)	
	471420	Spring (41-70psi)	
	471428	Spring (71-125psi) (Std)	
	471428	Spring (126-150psi) ¹	
9	453041	Valve	1
10	701934	O-ring-Cover (Buna-N) (Std)	1
	701921	O-ring-Cover (Viton) ²	
88	711917	O-ring-Spring Guide (Buna-N) (Std)	1
	701979	O-ring- Spring Guide (Viton) ²	

¹ Non-U.L. Listed

² For MAPP GAs; must be used with Stainless Steel (SS) spring only

• Adjusting Stud & Nut Assembly is a non-salable part; preset at factory.

Blackmer BV2 Parts List

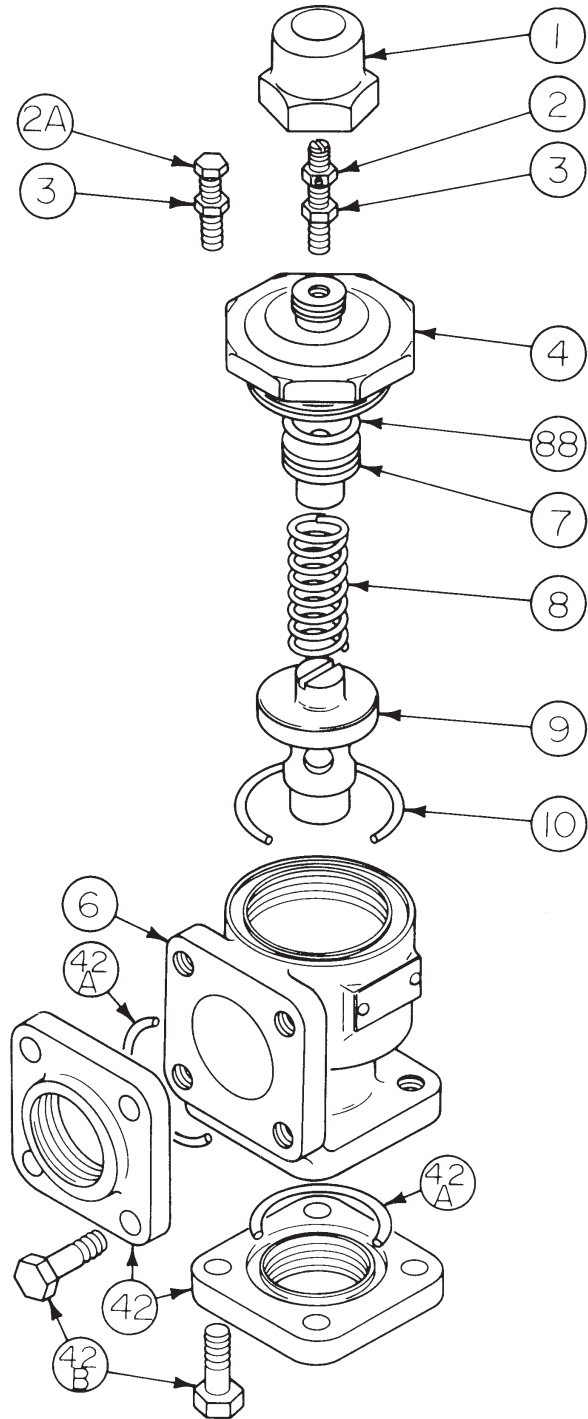
Item	Part #	Description	Qty
1	414402	Cap	1
2	•	Adjusting Stud & Nut Assy (91-125psi) (Std)	1
2A	437803	Adjusting Screw (20-40psi)	1
		Adjusting Screw (41-70psi)	
		Adjusting Screw (71-90psi)	
	433905	Adjusting Screw (126-150psi) ¹	
3	922923	Locknut	1
4	413945	Cover	1
6	403945	Body	1
7	423953	Spring Guide	1
8	471803	Spring (20-40psi)	1
	473901	SS Spring (20-40psi) ²	
	471805	Spring (41-70psi)	
	471815	SS Spring (41-70psi) ²	
	471811	Spring (71-90psi)	
	471806	Spring (91-125psi) (Std)	
	471810	Spring (126-150psi) ¹	
9	453940	Valve	1
10	701916	O-ring-Cover (Buna-N) (Std)	1
	711959	O-ring-Cover (Viton) ³	
42	652010	Flange-2" NPT (Std)	2
	652011	Flange-2" Weld	
42A	701919	O-ring-Flange (Buna-N) (Std)	2
	711929	O-ring-Flange (Viton) ³	
42B	920491	Capscrews-Flange	8
88	711916	O-ring-Spring Guide (Buna-N) (Std)	1
	711908	O-ring-Spring Guide (Viton) ³	

• Assembly is not a saleable part; preset a factory

¹ Non-U.L. Listed

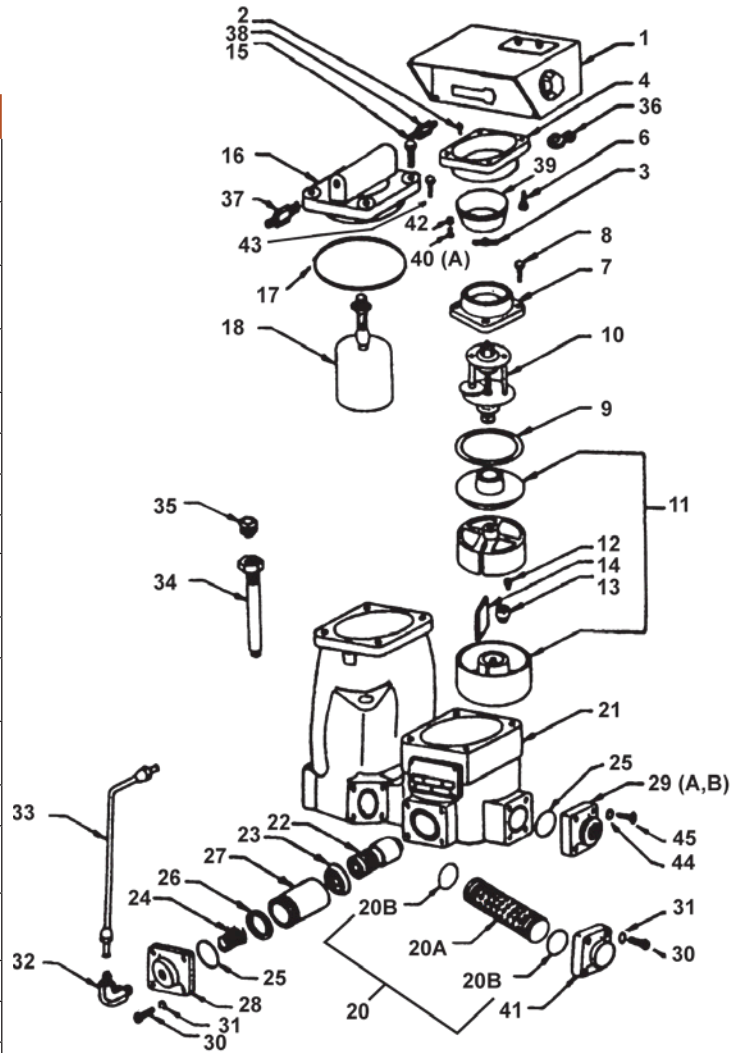
² For MAPP Gas; to be used with Viton O-rings only

³ For MAPP Gas; must be used with Stainless Steel (SS) spring only



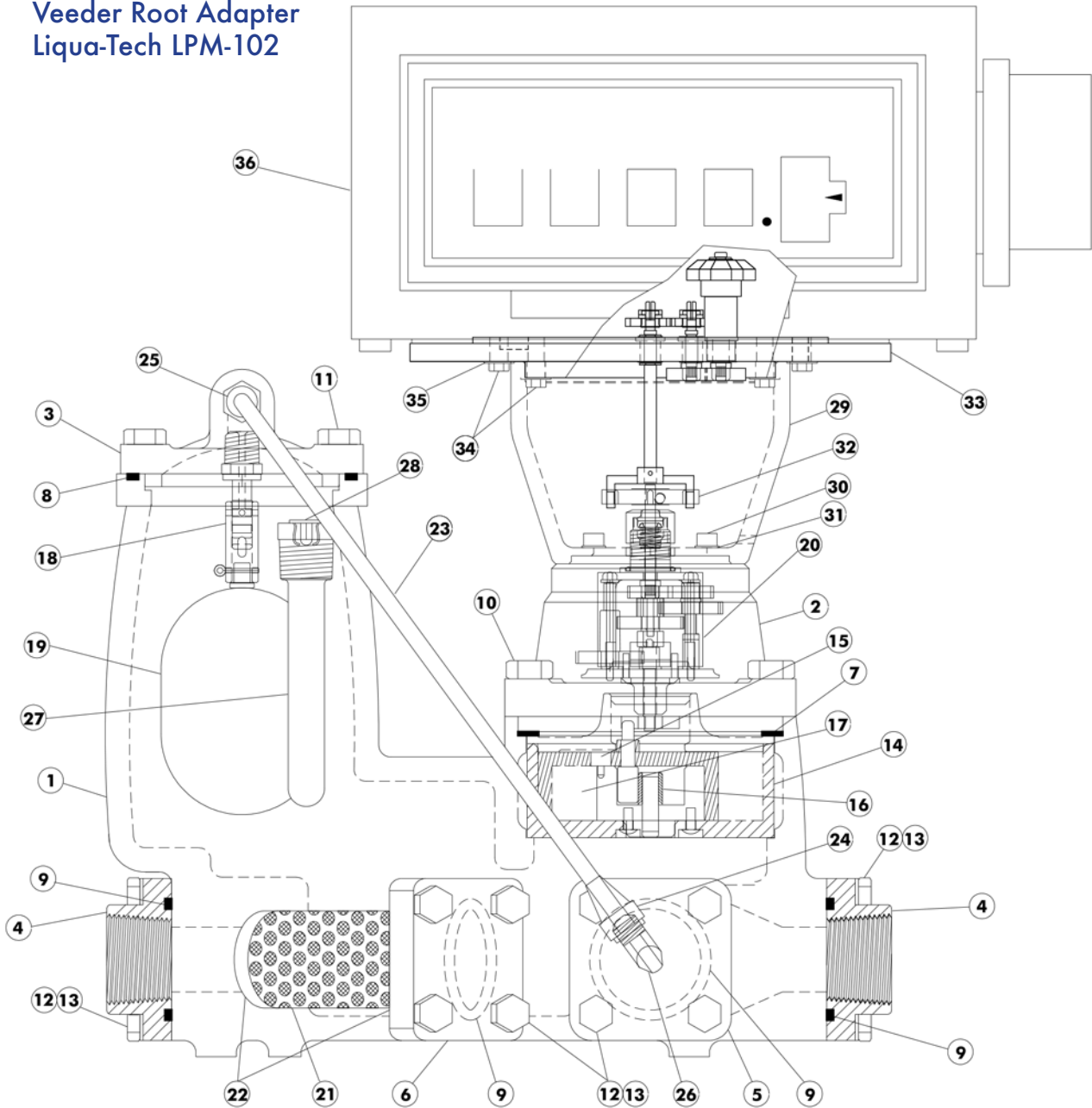
1" Type 4D with 600 Series Register

Item	Part #	Description
1	100498-018	Register Complete, 600 Series. Gallons W/ATC
	100498-016	Register Complete, 600 Series Gallons Non/ATC
	100498-015	Register Complete, 600 Series Liters W/ATC
	100498-019	Register Complete, 600 Series Liters Non/ATC
2	733-001	Screw, 10-32 x 3/8 fil hd
3	82976-001	Star Conn w/Set Screw
4	100729-001	Adapter
6	100062-023	Bolt, 1/4-28x1/2 hex hd Drill
	100061-023	Bolt, 1/4-28x1/2 hex hd (Undrilled)
7	400024-701	Main Case Cover Assy
8	40237-005	Cap Screw, 7/16-14 x 1-3/16 (Drilled)
	40237-004	Cap Screw, 7/16-14 x 1-3/16 (Undrilled)
9	4861-016	Gasket, Main Case
10	80905-013	Gear Train Complete 16.87 reduction (600; 10 liter)
	80905-017	Gear Train Complete, 43.5 reduction (600; US gal) - LG
11	101748-001	Measuring Chamber w/Piston
12	42792-000	Seal Pin
13	42086-000	Roller, Control
14	42791-000	Diaphragm
15	100071-025	Cap Screw, 3/8-016x1 hex Drill
	100071-024	Cap Screw, 3/8-016 x 1 hex head (Undrilled)
16	400021-701	Cover, Vapor Release
17	100139-012	O-ring
18	101751-001	Float Assy
20	101752-701	Strainer Kit, 88mm
20A	101738-001	Strainer Screen
20B	100139-007	"O" Ring, 1/8 x 1" Buna
21	100028-001	Differential Valve Kit
22	100160-002	Piston
23	100025-008	U-Cup
25	100139-007	"O" Ring, 1/8 x 1" Buna
26	100139-006	O-Ring
27	100027-003	Valve Sleeve
28	400020-702	Differential Valve Cover
29A	600057-000	Flange inlet/Outlet, 3/4" NPT
29B	600057-001	Flange Inlet/Outlet, 1" NPT



Item	Part #	Description
30	8325-046	Screw, 5/16-18 x 7/8 hex hd steel (Drilled)
	8325-044	Screw, 5/16-18 x 7/8 hex hd steel (Undrilled)
31	100121-010	5/16 steel Lockwasher
32	87195-001	Elbow, Male 1/4-90° (Flared tube fitting)
33	87196-001	Tube Assy, Vapor Release
34	1001906	Thermometer Well
35	600443-001	Cover, Thermometer Well
36		Change Gears (give dia. and number of teeth)
37	100135-002	Connector, Male 1/4 (flared tube fitting)
38	84826-000	Connector, Male 3/8 Flared
39	138-031	Register CUP
40	100059-024	Screw, 1/4-20 Hex Head
41	400025-701	Strainer Cover Assy
42	100737-001	Sleeve, Screw
43	400025-701	Strainer Cover Assy
44	41482-000	Lockwasher, 5/16 Hi Collar
45	8325-044	Screw 5/16 - 18 x 1 Hex. Soc. Head

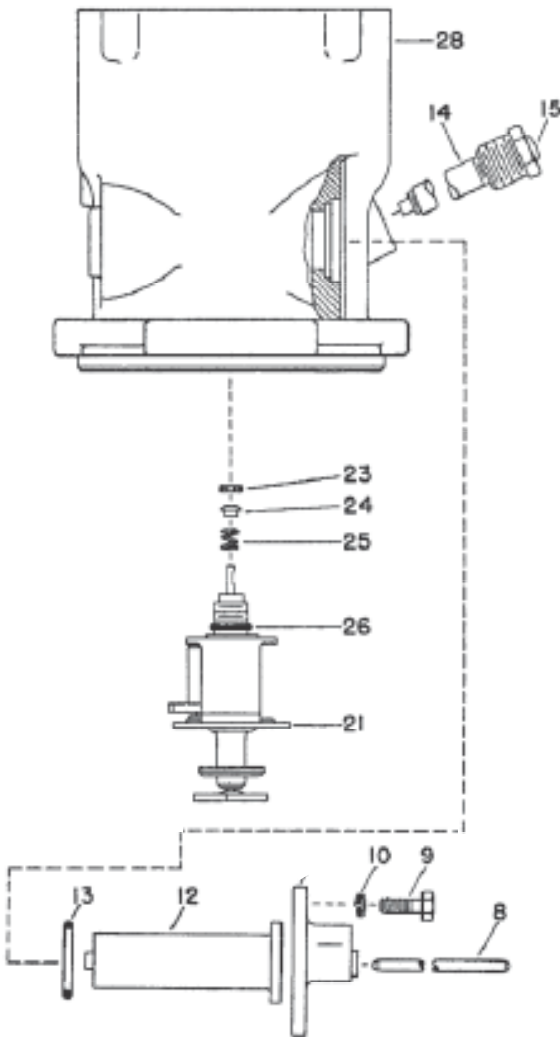
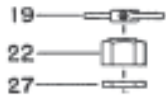
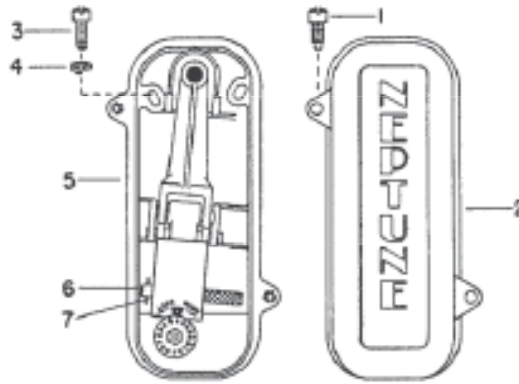
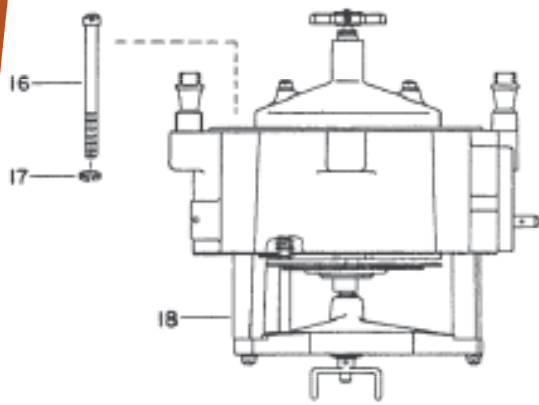
Veeder Root Adapter
Liqua-Tech LPM-102



Ref.	Description	Part Number	
1	Main case housing	400027-001	
2	Cover, main case	087173-710	
3	Cover, vapor eliminator	087193-710	
4	3/4" Flange inlet/outlet	087180-710	
	1" Flange inlet/outlet	087180-711	
5	Flange, differential valve	087179-710	
6	Flange, strainer	400025-001	
7	Gasket, main case	004861-016	
8	O-ring, vapor eliminator flange	100139-012	
9	O-ring, inlet/outlet flange	100139-007	
10	Bolt, hex head, 7/16 NC x 1 1/4", drilled	040237-005	
	Bolt, hex head, 7/16 NC x 1 1/4", undrilled	040237-004	
11	Bolt, hex head, 3/8-16 NC x 1"	100067-027	
12	Bolt, hex head, 5/16 NC x 1"	100063-026	
13	Lockwasher, split 5/16"	100121-010	
14	Measuring chamber, LP-gas, standard	042075-101	
	Measuring chamber, LP-gas, Trac-Bearing®	042075-501	
	15	Seal pin	042792-000
	16	Roller control	042086-010
	17	Diaphragm	042791-000
18	Vapor return valve	087190-000	

Ref.	Description	Part Number
19	Float	087189-001
20	Gear train, 43.5 ratio, U.S. gallons	080905-017
	Gear train, 11.6 ratio, liters	080905-015
21	Strainer assembly, 80 mesh	101738-001
22	O-ring, strainer endcaps	100139-006
23	Tube assembly, vapor release	087196-001
24	Nut, flared, 1/4" tube	087198-000
25	Male connector, 1/8" NPT x 1/4" tube	084826-100
26	90° elbow, 1/8" NPT X 1/4" tube	087195-000
27	Thermowell assembly	086666-702
28	Cover, thermowell	083732-000
29	Register adapter tower	886150-000
30	Screw, 10-32 x 3/8", socket cap	088524-010
31	Lock washer, split, #10	041211-000
32	Star drive, w/set screw	082976-001
33	Register gear plate adapter, no ATC	886101-001
34	Cap screw, plated, 1/4-28 x 5/8", drilled	100061-101
	Cap screw, plated, 1/4-28 x 5/8", undrilled	100061-100
35	Lock washer, external, 1/4"	100123-100
36	Register, non-printing, Veeder-Root	788700
	Register, printing, Veeder-Root	789002

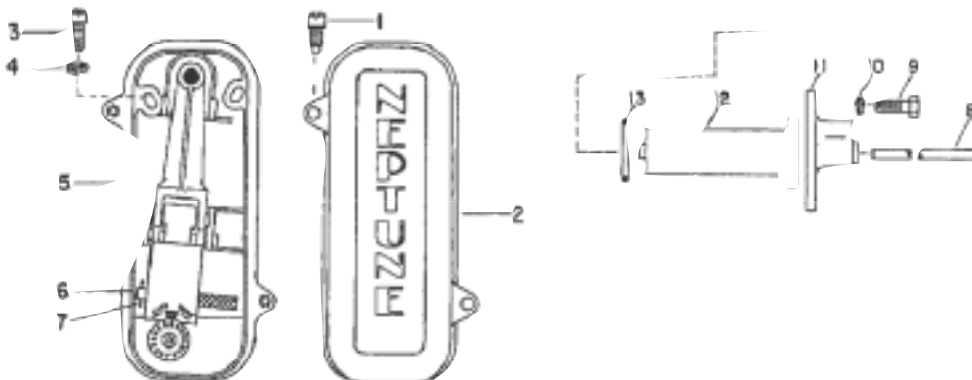
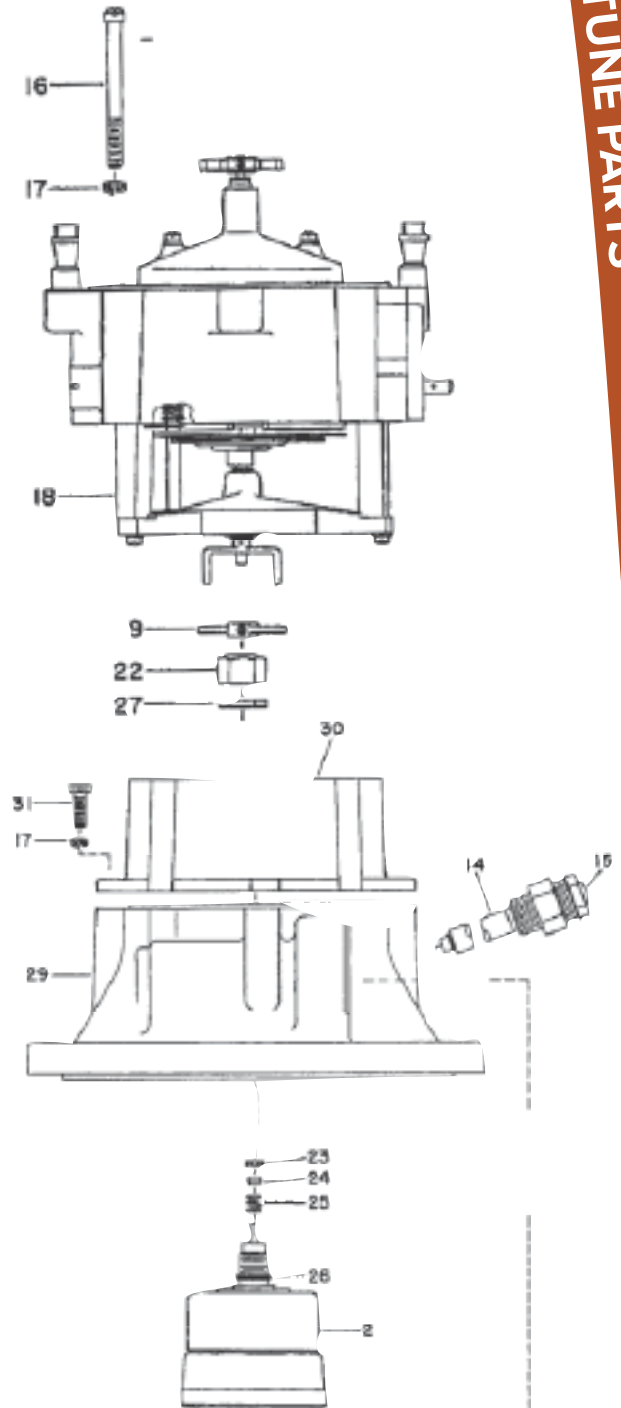
Temperature Compensator Type 1 Style 2



Item	1/4" Part#	1/2" Part#	Description
1		9287-003	Screw - Cover (10-32 Special)
2		86665-000	Cover - Lever Arm Mounting Plate
3		41221-002	Screw - 10-32 X 5/8 Fil Hd. Steel
4		41211-000	Lockwasher - No. 10 Steel
5		86649-003	Mounting Plate & Lever Arm Assy
6		86661-001	Pin - Lever Arm Lock
7		86973-000	Cover Pin - 1/16 Dia. X 3/8 - Brass
8		86648-000	Pin - Thermostat
9		83784-000	Screw - 1/4-20 X 3/4 Hex Hd.
10		41117-000	Lockwasher - 1/4 Steel
11		86647-001	Cover Thermostat
12		86646-000	Thermostat (Bellows)
13		100139-005	Gasket O-Ring Thermostat Cover
14		1001906	Thermometer Well Complete
15		600443-001	Cover Thermostat Well
16		8302-107	Screw 1/4-20 X 2 1/2 Fil Hd. Steel
17		88721-000	Lockwasher 1/4 Steel Small
18		88602-705	Adapter Unit Complete
19		82976-001	Driving Arm w/Setscrew
21	Gear Train Complete		
		84981-000	9.375 Reduc on U.S. Gal
	83501-000		14.06 Reduc on U.S. Gal
22		83536-000	Stuffing Box Nut w/Bushing
23		100025-002	Seal U-Cup Sha
24		83539-000	Expander Seal
25		83540-000	Spring Stuffing Box
26		100138-003	Gasket O-Ring Gear Train
27		34-000	Nut Clamp
28		86601-701	Housing Compensator

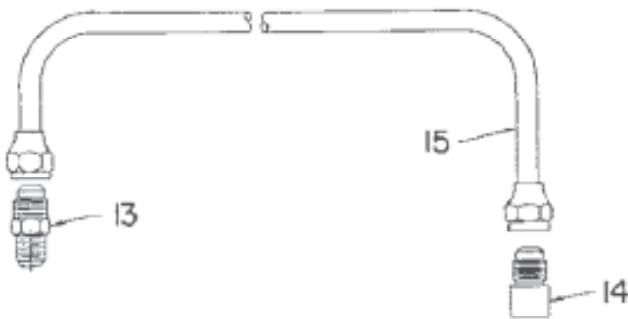
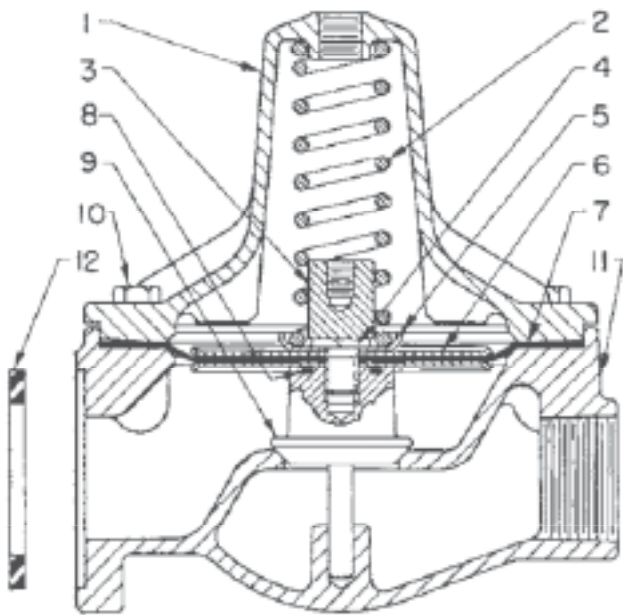
Temperature Compensator — Type 1 Style 2

Item	2" Part#	Description
1	9287-003	Screw - Cover (10-32 Special)
2	86665-000	Cover - Lever Arm Mounting Plate
3	41221-002	Screw - 10-32 X 5/8 Fil Hd. Steel
4	41211-000	Lockwasher - No. 10 Steel
5	86649-003	Mounting Plate & Lever Arm Assy (4D-MT)
	87650-001	Mounting Plate & Lever Arm Assy (4-MT)
6	86661-001	Pin - Lever Arm Lock
7	86973-000	Cover Pin - 1/16 Dia. X 3/8 - Brass
8	86648-000	Pin - Thermostat
9	83784-000	Screw - 1/4-20 X 3/4 Hex Hd.
10	88721-000	Lockwasher - 1/4 Steel
11	400010-701	Cover & Thermostat
12	86646-000	Thermostat (Bellows)
13	100139-005	Gasket & O-Ring & Thermostat Cover
14	1001906	Thermometer Well Complete
15	600443-001	Cover & Thermometer Well
16	8302-107	Screw & 1/4-20 X 2 1/2 Fil Hd. Steel
17	88721-000	Lockwasher & 1/4 Steel & Small
18	88602-705	Adapter Unit Complete
19	82976-001	Driving Arm w/Setscrew
21	Gear Train Complete	
	83502-000	3.75 Reduc on U.S. Gal
22	83536-000	Stuffing Box Nut w/Bushing
23	100025-002	Seal & U-Cup Sha
24	83539-000	Expander Seal
25	83540-000	Spring & Stuffing Box
26	100138-003	Gasket & O-Ring & Gear Train
27	34-000	Nut Clamp
29	400081-002	Main Case Cover w/Locking Pin
30	1002043	Spacer
31	1002044	Screw 1/4-20 x 1 1/8 Socket Hex Hd. Steel



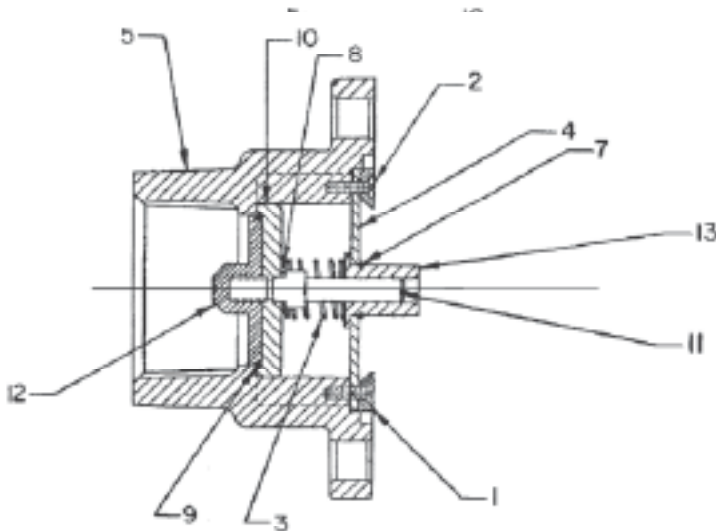
1 1/4" / 1 1/2"
84985-701

Differential Valve



Item	1 1/4" & 1 1/2" Parts	Description
1	400000-701	Cover
2	83775-000	Valve Spring
	1001571	Complete diaphragm Assy
3	83774-002	Diaphragm Screw
4	41012-002	Lockwasher
5	83773-000	Spring Retainer
6	83772-002	Diaphragm Retainer
7	1000624	Diaphragm
8	100139-001	Gasket - O-Ring
9	83768-002	Valve Stem
10	100067-051	Screw 3/8-16x1 hex hd steel
	100068-050	Screw 3/8-16x1 hex hd steel w/seal Hole
10A	45825-001	Lockwasher - 3/8 Steel
11	84986-701	Body
12	82060-000	Flange Gasket
13	84826-000	Straight Fitting
14	84825-001	Elbow Fitting
15	83937-000	Connecting Tube with Nuts

"Soft Seat" Inlet Check Valve

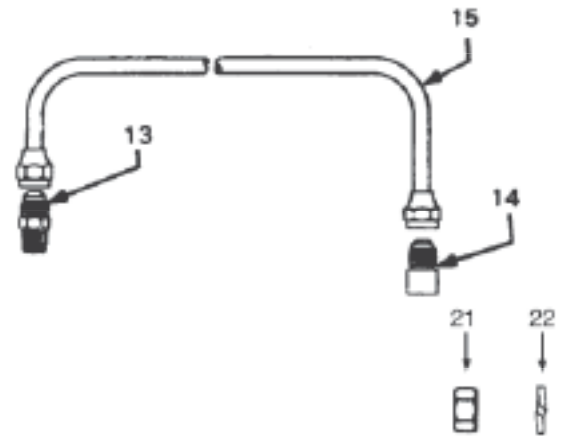
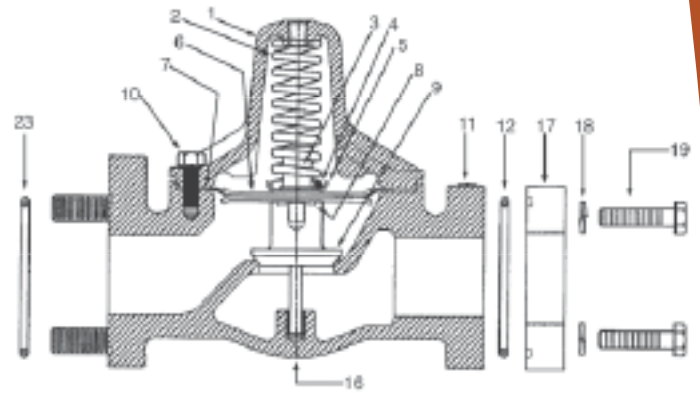


84983-704

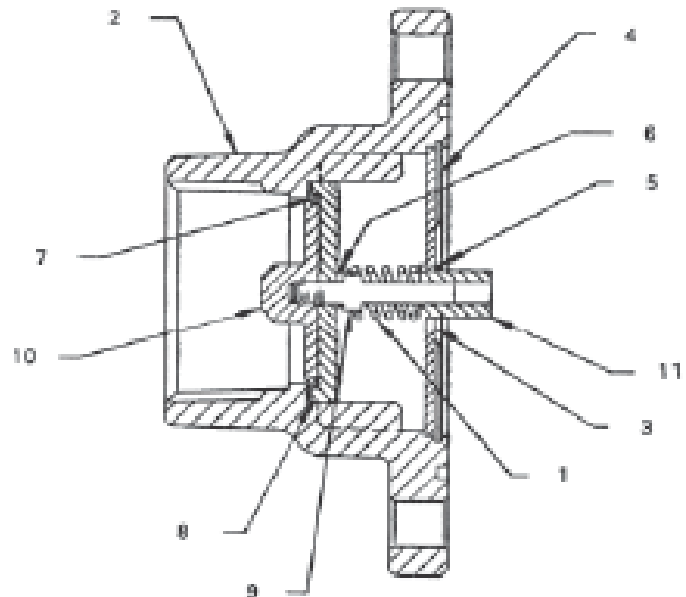
Item	1 1/4" & 1 1/2" Parts	Description
1	83441-000	Ring - Retaining
2	83442-000	Screw
3	83492-000	Spring
4	83493-003	Strap - Inlet Check
5	84984-005	Inlet Flange
7	86071-000	Ring - Retaining - Truarc
8	41117-000	Lockwahaer
9	100146-003	O-Ring
10	100423-002	Holder - Disk
11	100896-001	Shaft - Inlet Check
12	100897-001	Retainer - Disk
13	100899-001	Bearing

Item	2" Parts	Description
1	400000-701	Cover
2	83775-000	Valve Spring
	1001569	Complete diaphragm Assy
3	83774-002	Diaphragm Screw
4	41012-002	Lockwasher
5	83773-000	Spring Retainer
6	83772-002	Diaphragm Retainer
7	1000624	Diaphragm
8	100139-001	Gasket - O-Ring
9	83927-002	Valve Stem
10	100067-051	Screw 3/8-16x1 hex hd steel
	100068-050	Screw 3/8-16x1 hex hd steel w/seal Hole
10A	45825-001	Lockwasher - 3/8 Steel
11	400013-703	Body
12	100139-018	Flange Gasket
13	84826-000	Straight Fitting
14	84825-001	Elbow Fitting
15	84823-000	Connecting Tube with Nuts
16	8343-001	Bushing
17	86814-001	Flange — 2" NPT
		Flange — 1-1/2" NPT
18	41012-002	Lockwasher
19	100071-101	Screw
20	84828-000	Ventline Check Valve
21	41224-000	Nut 5/8-11
22	41395-000	Lockwasher
23	100139-013	Gasket - O-Ring

Differential Valve — Type 4D-MT

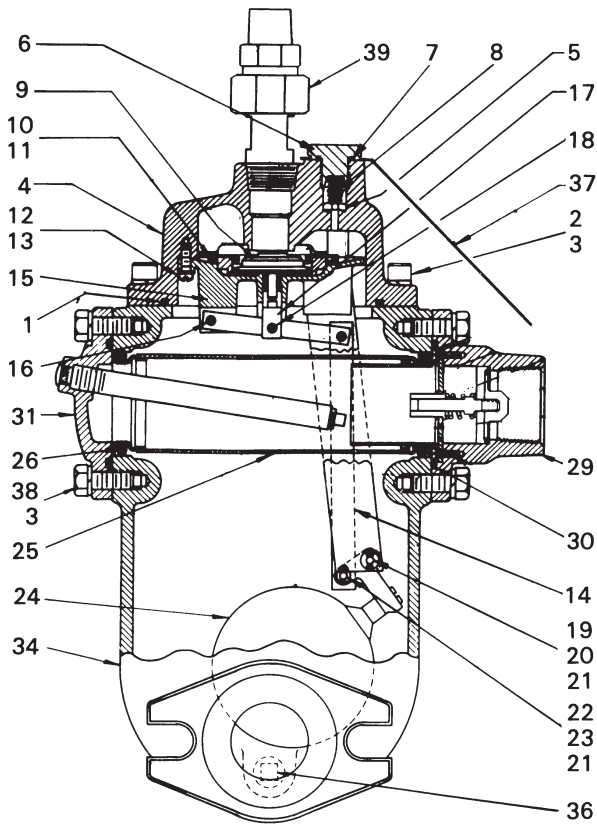


"Soft Seat" Inlet Check Valve Type 40-MT



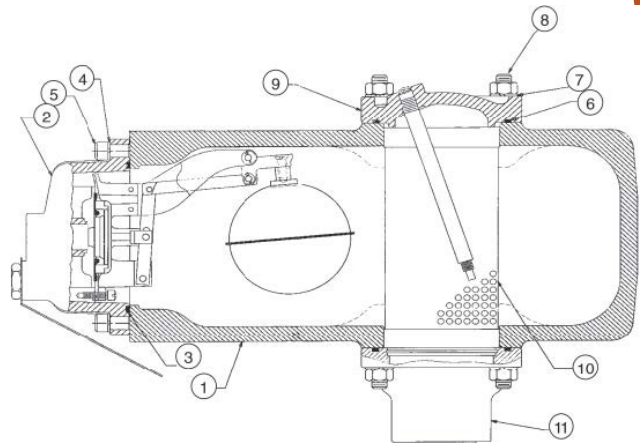
Item	2" Parts	Description
1	83441-000	Ring - Retaining
2	83442-000	Screw
3	83492-000	Spring
4	83493-003	Strap - Inlet Check
5	84984-005	Inlet Flange
7	86071-000	Ring - Retaining - Truarc
8	41117-000	Lockwasher
9	100146-003	O-Ring
10	100423-002	Holder - Disk
11	100896-001	Shaft - Inlet Check
12	100897-001	Retainer - Disk
13	100899-001	Bearing

1 1/4-inch / 1 1/2-inch
84982-701

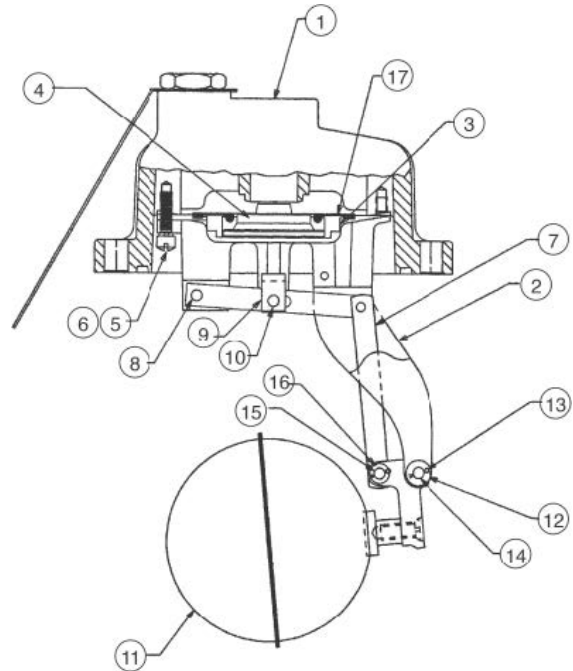


Item	1 1/4" & 1 1/2" Part#	Description
1	100139-022	Gasket O-ring
2	8325-014	Screw 3/8-16 X 1 Socket Hd.
3	45828-001	Lockwasher 3/8 Steel
	83481-701	Mounting Cover w/Float
4	400077-701	Vapor Release Cover Assy
5	100237-001	Valve Assembly Bypass
6	100333-001	Screw & Plate Assembly
7	100138-006	O-ring - 1/16 Sect X 11/16 ID
8	100024-003	Spring Compression
9	89274-006	Main Valve Complete
10	82446-005	Sleeve — Valve
11	83179-000	Piston — Seal
12	41211-000	Lockwasher — No. 10 Steel
13	41221-002	Screw — 10-32 X 5/8 Fil Hd Steel
	86797-001	Lower Valve Housing Complete
14	100334-001	Link Assembly
15	82455-000	Valve Housing w/Extensions
16	40819-002	Rivet — Valve Lever
17	83127-001	Stem — Valve
18	42941-000	Pin — Valve Stem
19	40820-003	Pin — Float Lever (Long)
20	40491-000	Washer — Float Lever Pin (Long)
21	41402-000	Cotter Pin — 1/16 Dia X 1/2 Brass
22	82633-000	Pin — Float Lever (Short)
23	41989-000	Washer — Float Lever Pin (Short)
24	82476-001	Float Assembly-Complete
25	101433-704	Strainer and Gasket Assy-80-Mesh
26	100139-032	O-ring Gasket for Strainer Screen
29	84783-704	Inlet Check Valve Complete Soft Seat
30	100139-010	Gasket — O-Ring
31	83485-702	Strainer Cover w/Thermometer Well
	83486-705	Strainer Cover w/o Thermometer Well
34	83495-701	Body — Vapor Release & Strainer
36	100075-003	Plug — Drain
	8384-101	Bushing 1 1/2 X 1 1/4 for 1 1/4" Meter
37	100322-001	Caution Tag
38	Cap Screw — 3/16 X 1 Hex Hd. Steel	
	100067-053	w/o Seal Hole
	100068-027	w/Seal Hole
39	84828-000	Valve Vapor Return Check Straight Type

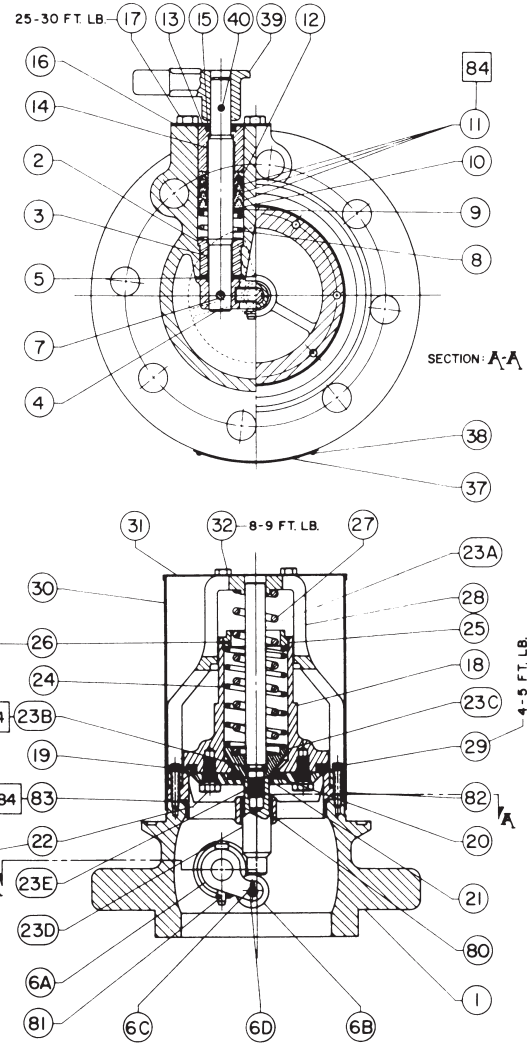
Item	2" Part#	Description
1	400086-701	Main Body Assy 4D-MT Vapor Release
	100085-048	Bolt — 5/8 11x1 3/4 (Not Shown)
	041395-000	Washer
	100075-010	Pipe Plug 3/8" Square Head
2	400078-001	Cover Complete - 2" 4D-MT Vapor Release
3	100139-022	O-Ring 1/8 Dia. X 4 1/2 ID BUNA
4	100440-001	Washer - 3/8 Lock Hel Spring Hi-Collar
5	008325-014	Screw - 3/8-16 X 1 Soc. Head Cap
6	100139-018	O-Ring 1/8 Dia. X 3 3/4 ID BUNA
7	041012-002	Washer - Lock 7/16 Bolt St. Stl.
8	000795-003	Bolt - 7/16-14 X 1 3/8 HRX
9	400074-001	Cover Complete 2" Type 4D-MT Strainer
10	101405-004	Strainer Complete 80 Mesh 2" Type 4D
11	084813-702	Valve - ASM Inlet Check 2" Type 4D
12	100139-013	O-Ring Outlet Flange (Not Shown)



Item	2" Part#	Description
1	400077-701	2" 4D-MT Vapor Release Cover Assembly
	004853-008	Screw - 5/8-18 Hex. Hd. Retainer
	100024-003	Spring - Compression
	100138-006	O-Ring - 1/16 Sect. X 11/16 ID Buna N
	100237-001	Valve Assy Bypass Aluminum w/Buna N Seat
	100322-001	Tag - Precaution
	2	083457-000
3	082446-005	Sleeve - Air Release - Aluminum
4	089274-006	Valve Assembly - Main A/R (BRZ-BUNA N)
5	041221-002	Screw - 10-32 X 5/8 Fil. Hd. 303 SST
6	041211-000	Lockwasher - No. 10 Spring Steel
7	080002-002	Link Assy. - Connect - Stl.
8	040819-002	Pin - 0.187 ODS 21/32 LG
9	083127-001	Stem - Valve PST Type A/Rel. BRZ
10	042941-000	Pin - Valve Lever & Stem Air Release
11	082476-001	Float Complete
12	040491-000	Spacer Drive Gear Hub VSB Reg. Brass
13	041402-000	Pin - Cover 1/16 Dia. X 1/2 Lg.
14	040820-003	Pin - Float Lever - A/R Valve
15	082633-000	Pin-V Connect on 3/16 OD x 11/16 Lg. Brz.
16	041989-000	Washer No. 10 Screw
17	083179-000	Seal - Piston Air Release Units



Item	Part#	Description
1	T80199 T0012	Body
2	T11175 X0012	Bushing
3	T11177 06992	Liner Bushing
4	T11173 35162	Stub Shaft
5	T11163 01012	Washer
6	T11185 000A2	Cam Assembly (Key# 6A, 6B, 6C, & 6D)
6A	T11165 22012	Cam
6B	T10285 35132	Roller Subassembly
6C	T13054 T0022	Clevis Pin
6D	T11474 28982	Cotter Pin
7	T11473 T0012	Clevis Pin
8	T10732 37022	Packing Spring
9	1F1250 36042	Washer
10		Packing, See Repair Parts Kit
11		
12		
13	T11176 35132	Guide
14	T11178 06992	Liner Bushing
15	T11166 06832	Rod Wiper
16	T11180 25072	Stuffing Box Plate
17	T11187 24052	Cap Screw (4 required)
18	T20842 T0012	Disc Holder
19	T11167 03202	Disc
20	T11168 03202	Disc
21	T11162 T0012	Disc Retainer
22	T11187 T0012	Cap Screw (4 required)
23A	T11160 35132	Upper Stem
23B	T12944 T0012	O-ring
23C	T11161 35032	Plug
23D	T11172 35032	Lower Stem
23E	1N8825 35032	Roll Pin
24	T11170 37022	340 GPM Excess Flow Spring
	T12001 37022	400 GPM Excess Flow Spring
	T11171 37022	600 GPM Excess Flow Spring
	T12002 37022	800 GPM Excess Flow Spring
25	T11169 24102	Retainer
26	1A9184 T0012	Roll Pin
27	T11174 37022	Spring
28	T40422 T0012	Valve Cage
29	T13325 T0012	Cap Screw (6 required)

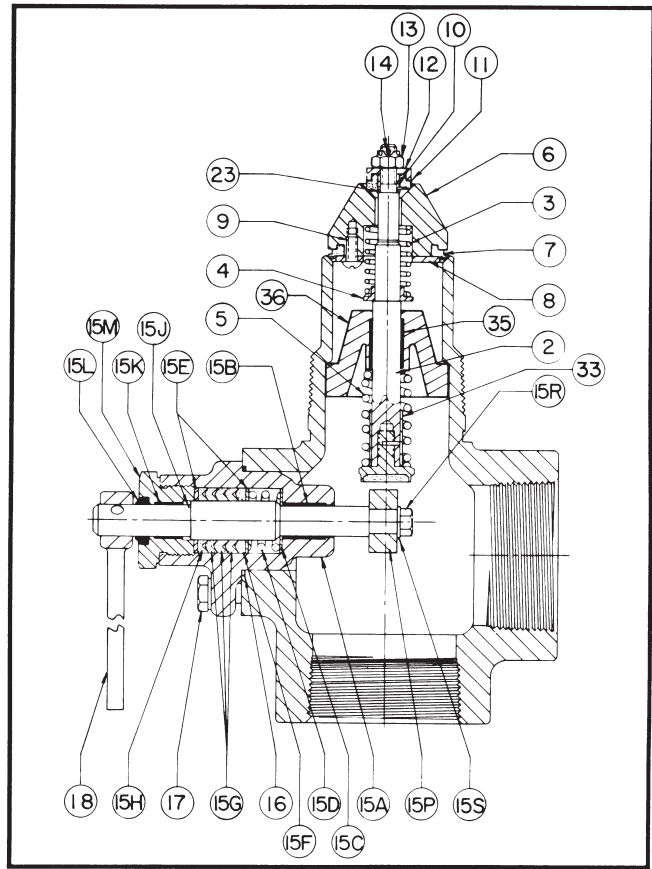


Item	Part#	Description
30	T20274 38992	Screen
31	T20273 38992	Retainer
32	1E6208 T0012	Cap Screw (3 required)
33	1P1107 99152	Upper Gasket (Not Shown)
34	T11182 99152	Lower Gasket (Not Shown)
35	T11181 31032	Stud Bolt (8 Required) (Not shown)
36	1A3681 24112	Nut (16 Required) (Not Shown)
37	T13379 T0012	Name Plate
39	T20309 19042	Operating Lever
40	T11335 28982	Roll Pin
80	T12498 06992	Liner Bushing
81	T11474 28982	Cotter Pin
82	T20843 T0012	Seat Ring

Repair Parts Kit T11396 000A2

Packing Assembly- Includes key# 2, 10, 11, 12, 14, 15, 16, & 17. (4 screws) Kit must be specified when replacing packing.

Item	Part#	Description
2	T11878 000A2	2" Stem Assembly
	T11887 000A2	3" Stem Assembly
3	T11886 37022	2" 100 GPM (Red) Excess Flow Spring
	T11535 37022	2" 150 GPM (Yellow) Excess Flow Spring
	T12005 37022	2" 250 GPM (Pink) Excess Flow Spring
	T11925 37022	3" 150 GPM (Yellow) Excess Flow Spring
	T11924 37022	3" 200 GPM (Orange) Excess Flow Spring
	T12152 37022	3" 250 GPM (Pink) Excess Flow Spring
	T11773 37022	3" 400 GPM (Black) Excess Flow Spring
	T12261 37022	3" 500 GPM (Cadmium) Excess Flow Spring
4	T11536 24102	Spring Seat
5	T11537 37022	Closing Spring
6	T20376 T0012	2" Disc Holder
	T20429 24102	3" Disc Holder
7	T11540 03202	2" Disc
	T11774 03202	3" Disc
8	T11541 25072	2" Disc Retainer
	T11775 25072	3" Disc Retainer
9	1B7839 28982	Screw (3 Required)
10	T11542 24102	Upper Disc Retainer
11	T11543 03032	Upper Disc
12	T11544 24102	Upper Disc Holder
13	T11883 28982	Nut
14	T12413 38992	Cotter Pin
15A	T20380 22012	Bonnet
15B	T11545 06992	Liner Bushing
15C	T11546 25072	Washer
15D	T11547 37022	Spring
15E	T11548 25072	Washer (2 Required)
15F	T11549 01012	Male Packing Adaptor
15G	T11550 01012	Packing Ring (3 required)
15H	1H9416 01012	Female Packing Adaptor
15J	T20378 35072	2" Stub Shaft
	T20431 35072	3" Stub Shaft



Repair Parts Kit Type C402, C421, & C427

Bonnet Assembly-Includes all key no. 15 parts completely assembled.

2" Size Valves-T20377 000A2

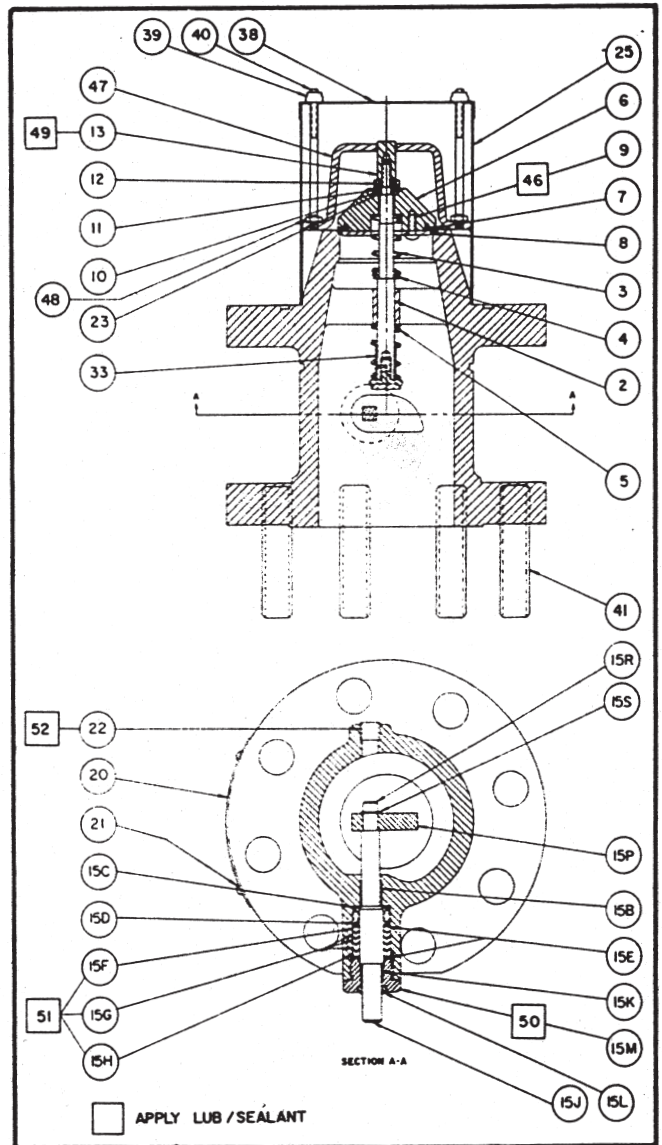
3" Size Valves-T20430 000A2

Parts kit including key nos 7, 11, 14, 15B, 15F, 15G, 15H, 15K, 16, 19, 23, & 26

2" Size Valves-RC40016T012

3" Size Valves-RC40024T012

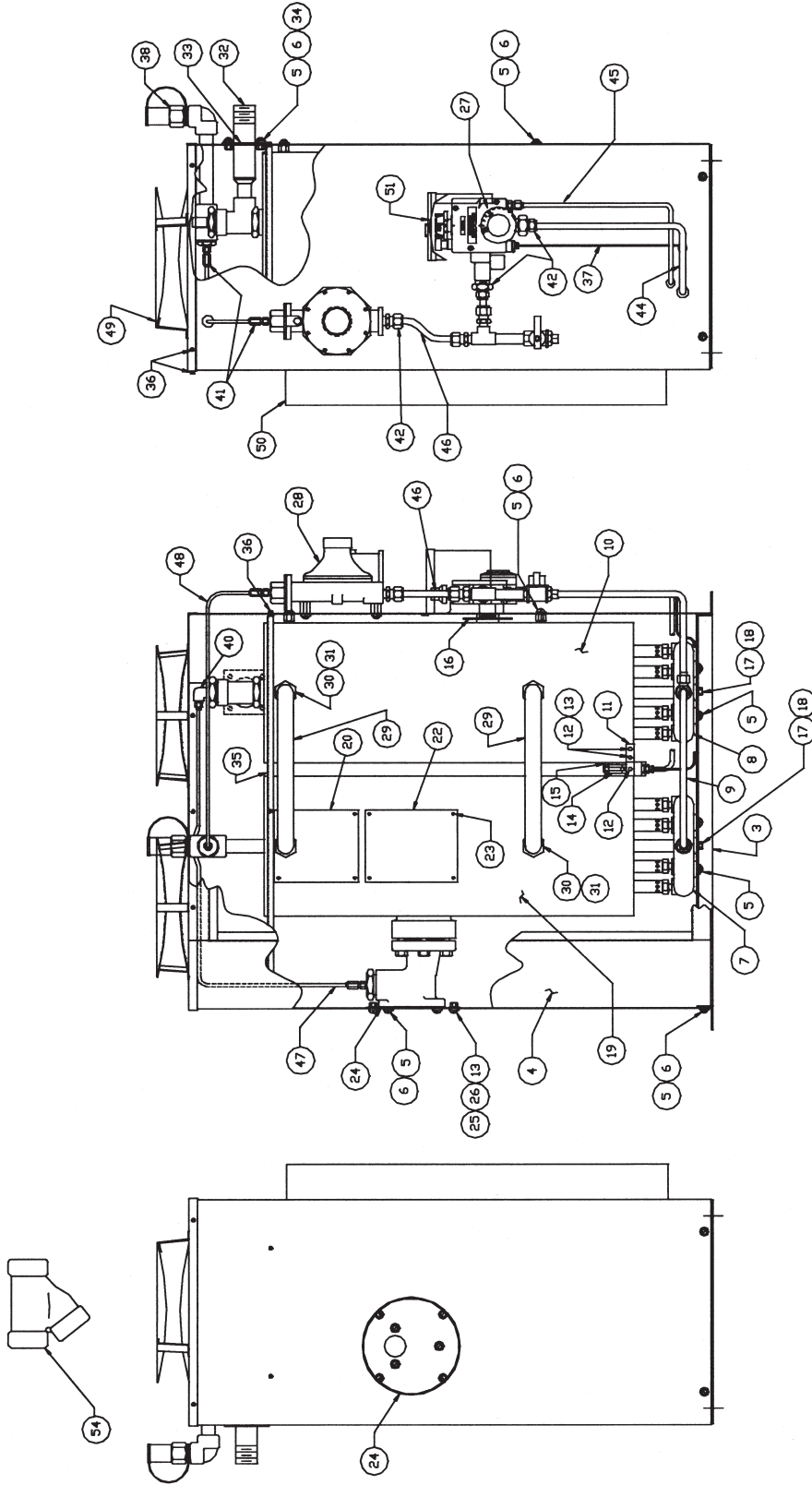
Item	Part#	Description
2	T11887 000A2	Type C403 Stem Assembly
	T12766 T00A2	Type C404
3	T11925 37022	150 GPM Excess Flow Spring
	T11924 37022	200 GPM Excess Flow Spring
	T12152 37022	250 GPM Excess Flow Spring
	T11773 37022	400 GPM Excess Flow Spring
4	T11536 24102	Type C403 Spring Seat
	T12764 T0012	Type C404 Spring Seat
5	T11537 37022	Closing Spring
6	T20429 24102	Disc Holder
7	T11774 03032	Main Disc (Nitrile)
8	T11775 25072	Disc Retainer
9	1B7839 28982	Screw (3 required)
10	T11542 24102	Disc Retainer
11	T11543 03032	Bleed Disc (Nitrile)
12	T11544 24102	Disc Holder
13	T13200 T0012	Nut C403
	T12765 T0012	Nut C404
15B	T11545 06992	Bushing C403
	T12762 T0012	Bushing C404
15C	T11546 25072	Washer
15D	T11547 37022	Spring
15E	T11548 25027	Washer (2 required)
15F	T11549 01012	Male Packing Adaptor
15G	T11550 01012	Packing Ring (3 Required)
15H	1H9416 01012	Female Packing Adaptor
15J	T20431 35072	Shaft
15K	T11551 06992	Bushing
15L	T11552 06992	Rod Wiper
15M	T11553 24102	Bonnet
15R	T12576 T0012	Cam
	T11579 24052	Cap Screw C403
15S	1A4988 28982	Cap Screw C404
18	T11559 19312	Operating Lever (Not Shown on C403)
19	1H8371 28982	Cotter Pin (Not Shown on C403)
20	T12314 36152	Nameplate
21	1A3682 28982	Drive Screw (2 required)
22	1C3335 28992	Pipe Plug (Type C403 Only)



**Repair Parts Kit
T13201 T0012**

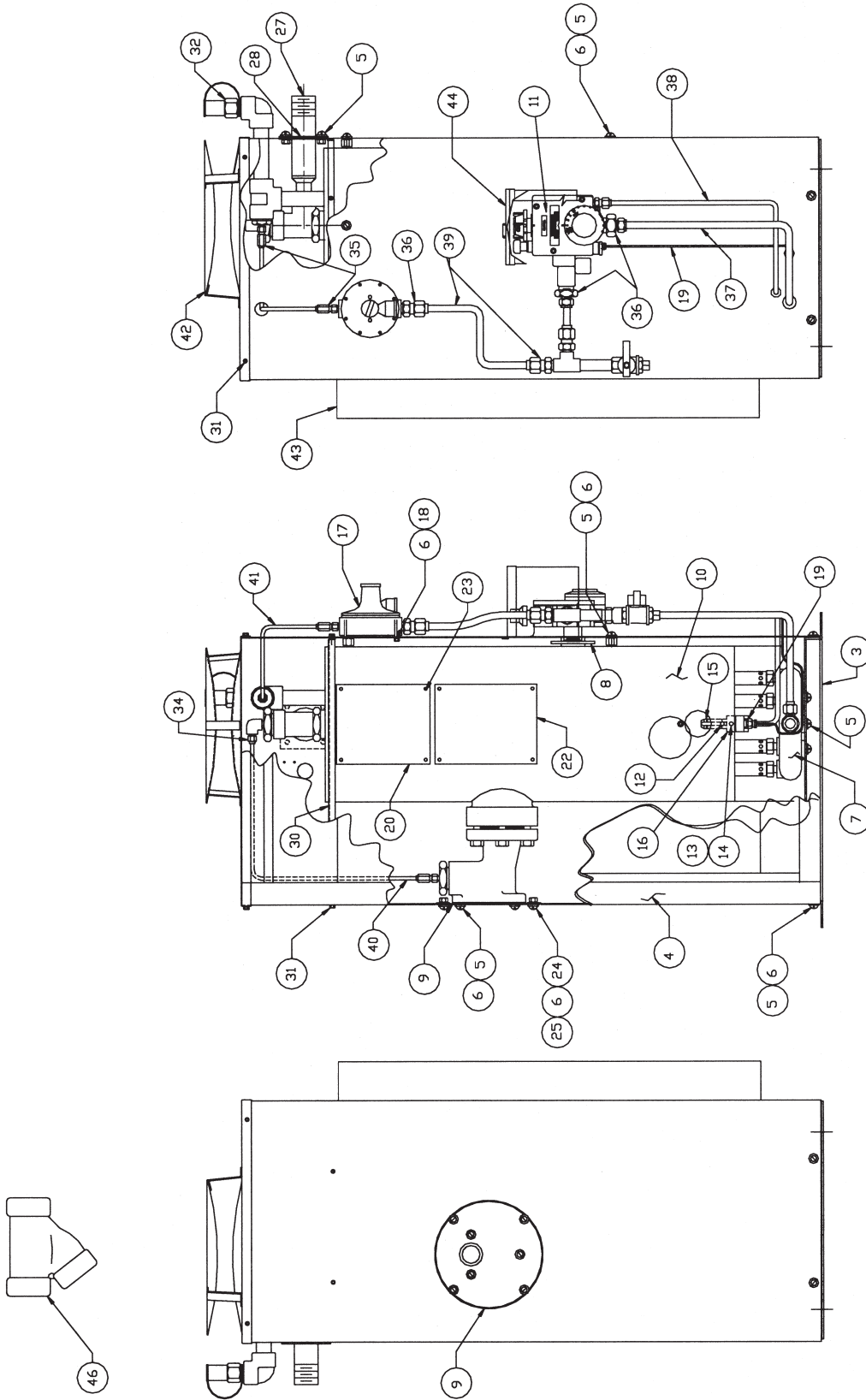
Disc Guide Kit for Type C403-Includes key nos. 13, 40(2), 47, 48(2), and Grade D Loctite.

Item	Part#	Description
23	T11882 28982	Washer
25	T12317 T0012	Screen
29	T12775 T0012	Cap Screw (4 required)(C404 Only)



Item	Part#	Description	Qty
1	80/40H	80/40H Direct Fired Vaporizer	
3	3-0557	Base Assembly	1
4	3-0541	Case, Body Assembly	1
5	8022-181	¼"-28 X ¾" LG Screw	23
6	8031-101	¼ Flat Washer	29
7	40C39	Burner Manifold Assembly (LH)	1
8	80C99	Burner Manifold Assembly (RH)	1
9	3-0783	Tube, Burner Manifold Connection	1
10	80A98	Heat Exchanger and Flue Assembly (RT)	1
11	3-0643	Pilot Bracket	1
12	8021-689	10-32 X ¼" LG Screw	4
13	8034-111	10-32 Hex Nut	6
14	3-0645	Pilot Assembly	1
15	3-0642	Flame Guide	1
16	40C42	Heat Shield	1
17	8024-325	5/16"-18 X ½" Hex HD Bolt	2
18	8031-102	5/16" Flat Washer	2
19	80A97	Heat Exchanger and Flue Assembly (LFT)	1
20	3-0885	Name Plate 80/40H	1
22	3-0634	Start-Up Instruction Plate	1
23	2204-2	Pop Rivet	8
24	3-0517	Cover Liquid Inlet	1
25	8021-691	10-32 X ½" LG Screw	4
27	3-3540B	Thermostat	1
28	8151-102A	Burner Fuel Regulator	1
29	3-0792	Tube, Heat Exchanger Conn/ with Fittings	2

Item	Part#	Description	Qty
30	7105X12	Tube Nut, ¾"	4
31	3-1022	Sleeve, ¾"	4
32	3-0549	Reducer Assembly	1
33	3-0548	Lock Plate	1
34	8034-112	¼"-28 Hex Nut	4
35	3-0556	Baffle Plate	1
36	8025-625B	#8 X ½" Hex Sheet Metal Screw	12
37	46-1	Thermocouple	1
38	8121-107	Relief Valve	1
40	3-1011	3/16" T X 1/8" P X90 Elbow	1
41	31060	¼" T X ¼" MNPT Conn. (3-1003)	2
42	31080	3/8" T X 3/8" MNPT Conn. (3-1041)	3
44	3-0782	Tube, Burner Supply	1
45	3-0781	Tube, Pilot	1
46	452-501-01	Tube, Thermostat Supply and Drip Leg	1
47	3-0786	Tube, Capacity Control Valve	1
48	3-0779	Tube, Burner Regulator Supply	1
49	3-0560	Top Cover Assembly	1
50	3-0550	Door Assembly	1
51	451-402-01	Thermostat Cover Assembly	1
54	8138-104	¾" Strainer, Shipped Loose	1

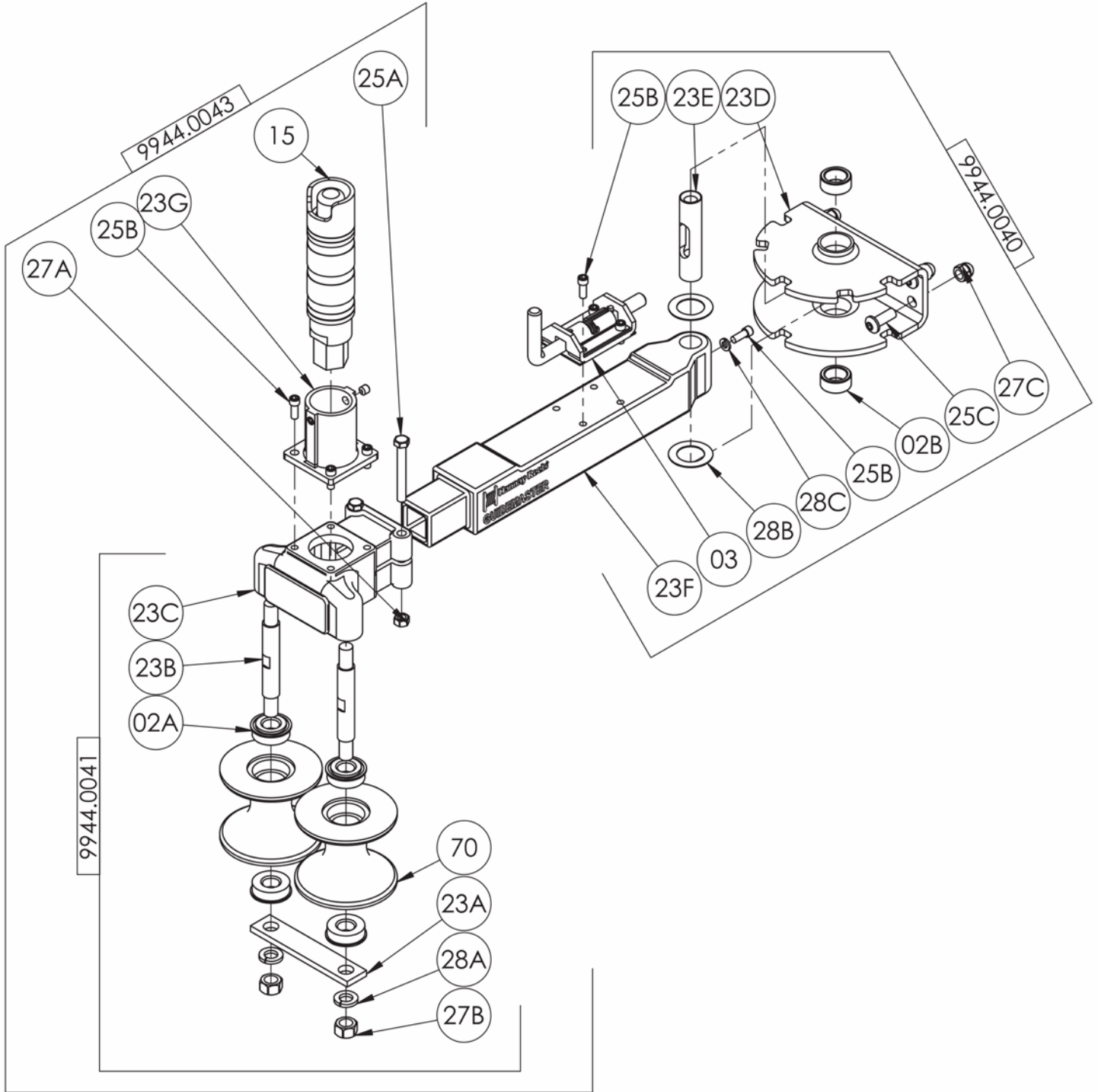


Item	Part#	Description	Qty
1	40/40H	40/40H Direct Fired Vaporizer	
3	3-0519	Base Assembly	1
4	3-0508	Case, Body Assembly	1
5	8022-181	¼"-28 X ¾" LG Screw	14
6	8031-101	¼ Flat Washer	19
7	40C39A	Burner Manifold Assembly	1
8	40C42	Heat Shield	1
9	3-0517	Cover, Liquid Inlet	1
10	40A38	Heat Exchanger and Flue Assembly	1
11	3-3540B	Thermostat	1
12	8021-695	Screw Fillister Head 10-32 X 1" LG	1
13	8021-689	Screw Fillister Head, #10-32 X ¼" LG	1
14	2328	Lock Washer # 06	1
15	3-0649	Pilot Assembly	1
16	3-0632	Pilot Bracket	1
17	8122-176	Burner Fuel Regulator	1
18	8025-692	Screw, Pan HD, #10-32 X 5/8"	2
19	46-5	Thermocouple	1
20	3-0441	Name Plate	1
22	3-0634	Start-Up Instruction Plate	1
23	2204-2	Pop Rivet	8
24	8034-111	Nut, Hex #10-32	4
25	8021-691	10-32 X ½" LG Screw	4
27	3-0549	Reducer Assembly	1
28	3-0548	Lock Plate	1
29	8034-112	¼" -28 Hex Nut	4
30	3-0518	Baffle Plate	1

Item	Part#	Description	Qty
31	8025-625B	#8 X ½" LG SHT. Meal Screw	8
32	8121-106	Relief Valve	1
34	3-1011	¾" T X ⅛" P X 90 Elbow	1
35	31060	¼" T X ¼" MNPT Conn (3-1003)	2
36	31080	¾" T X ¾" MNPT Conn (3-1041)	3
37	3-0782	Tube, Burner Supply with Fittings	1
38	3-0777	Tube, Pilot with Fittings	1
39	451-501-01	Tube, Thermostat Supply & Drip Leg	1
40	3-0778	Tube, Capacity Control Valve	1
41	3-0776	Tube, Burner Regulator Supply	1
42	3-0522	Top Cover Assembly	1
43	3-0502	Door Assembly	1
44	451-402-01	Thermostat Cover Assembly	1
46	8138-132	¾" Strainer, Shipped Loose	1



**MODEL GM-700
GUIDEMASTER®**



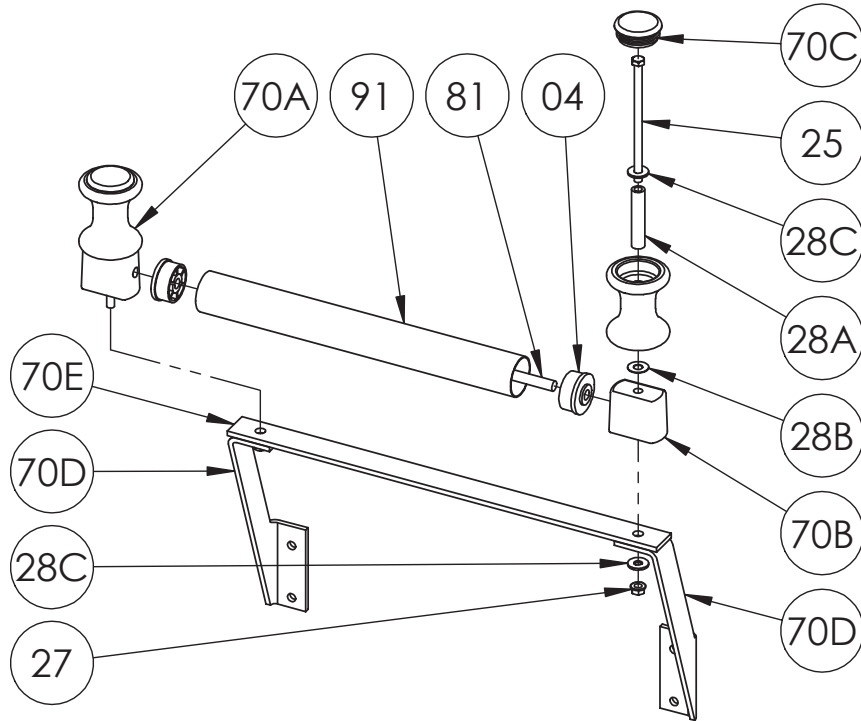
PARTS LIST
ISO 195
Model GM-700 Guidemaster®

When Ordering Parts
BE SURE TO SPECIFY COMPLETE MODEL NUMBER and SERIAL NUMBER OF REEL
USE PART NUMBER!

<u>Item No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantity</u>
2A	GM Ball Bearing (5/8" I.D.), per P02A-00510	9945.0026	4
2B	Oil-impregnated Bronze Bushing, per P02A-00500	9945.0011	2
3	Guidemaster® Pinlock Ass'y (SST), per P23A-00140.....	9945.1003	1
15	EPS-1 Explosion-Proof Switch	9917.0200	1
23A	Guidemaster® Bottom Roller Plate, per P23A-00220	9945.1004	1
23B	Guidemaster® Roller Mounting Bolt, per P23A-00270 (Stainless Steel) ..	9945.1005	2
23C	Roller Body Casting w/ 2 Item 25A, per P23A-00120.....	9945.1001	1
23D	Mounting Yoke w/ 2 Item 2A Installed, per P23A-00440	9945.0009	1
23E	SST Pivot Pin w/ Item 25B, per P23A-00060	9945.0024	1
23F	Guide Arm Casting, per P23A-00110	9945.1002	1
23G	Switch Mounting Bracket w/ Hardware, per P23A-00380.....	9917.0207	1
25A	5/16"-24 x 2-1/2" Stainless Steel Hex Bolt.....	9945.0013	2
25B	1/4"-20 x 5/8" SST Socket Head Cap Screw	9945.0055	9
25C	3/8"-16 x 7/8" Button Socket Head	9904.9201	4
27A	5/16"-24 Stainless Steel Hex Nut	9945.0027	2
27B	1/2"-13 Stainless Steel Hex Nut	9960.0018	2
27C	3/8"-16 Hex Acorn Nut	9904.5290	4
28A	1/2" Lock Washer	9954.0030	2
28B	SST Spacer 1" I.D. x 1-5/8" O.D. x 20 GA.....	9954.0037	2
28C	1/4" Lock Washer	9954.0028	1
70	GM (Polished) Roller w/ 2 Item 2A Installed	9945.0019	2



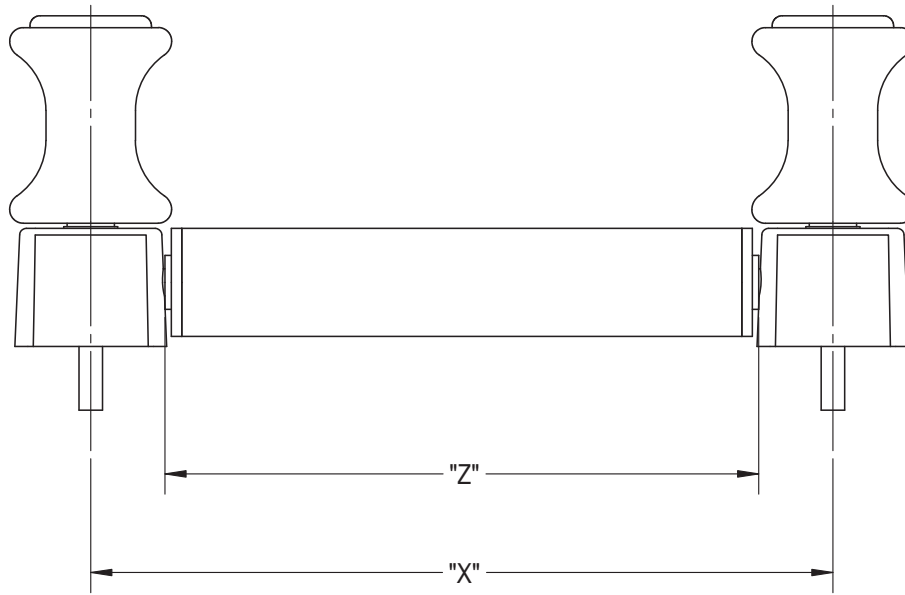
FH3 ROLLER & SPOOL ASSEMBLY



**When Ordering Parts
BE SURE TO SPECIFY COMPLETE MODEL NUMBER and SERIAL NUMBER OF REEL
USE PART NUMBER!**

<u>Item No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Quantity</u>
04	FH-302-2 (2" Trunnion Bearing)	9940.0008	2
25	3/8"-16 x 6-1/2" Hex Head Bolt.....	9940.0017	2
27	3/8"-16 Spinlock Nut.....	9904.6200	2
28A	FH-3 Roller Bushing	9940.0018	2
28B	Nylon washer (1" OD x 7/16" ID x 0.032" thick)	9940.0014	2
28C	3/8" Flat Washer.....	9954.0007	2
70A	FH-301 Spool (chrome-plated), per P70A-01610.....	9940.0005	2
70B	FH-302 Block (chrome-plated)	9940.0006	2
70C	FH-309-P Black Plastic Cap	9940.0002	2
70D	FH-3 Top-Wind Mounting Bracket Steel Pair, per P70A-01150	9940.0060	1
70D	FH-3 Top-Wind Mounting Bracket Aluminum Pair, per P70A-01150	9940.0061	1
70E	FH-3 Center Mounting Bracket Steel (Specify Model).....	9940.0062	1
70E	FH-3 Center Mounting Bracket Aluminum (Specify Model).....	9940.0066	1
81	FH-304 SST Roller Rod (Specify Length)	9940.0009	1
91	FH-305 2" SST Roller Tubing (Polished) (Specify Length).....	9940.0010	1
Complete Assemblies (Mounting brackets (70D and 70E) must be ordered separately)			
N/A	FH Spool Assembly (Pair) (Less SST Roller, Rod & Trunnion Bearings)	9940.0013	1
N/A	FH-3 Complete Roller & Spool Assembly (Specify Length, up to 30" Drum)	9939.0042	1
N/A	FH-3 Complete Roller & Spool Assembly (Specify Length, 31" to 50" Drums)	9939.0043	1

FH-3 ROLLER MODELS

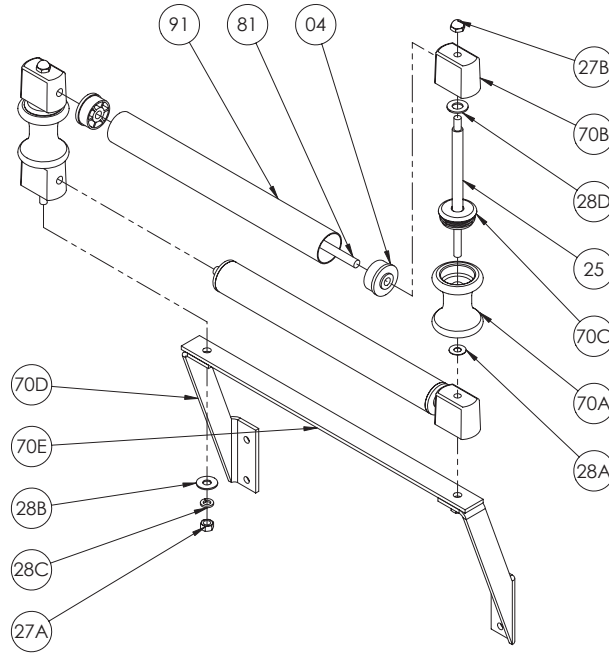


FH Roller Model	Hannay Part Number	Drum Length (in)	Roller Length "Z" w/bushings (in)	Mtg. Hole "X" Dimension (in)
FH-306	9939.0027	6.0	6.5	9.25
FH-307.5	9939.0029	7.5	8.0	10.75
FH-308	9939.0021	8.0	8.5	11.25
FH-309.5	9939.0030	9.5	10.0	12.75
FH-310	9939.0022	10.0	10.5	13.25
FH-311.5	9939.0031	11.5	12.0	14.75
FH-312	9939.0028	12.0	12.5	15.25
FH-313.5	9939.0032	13.5	14.0	16.75
FH-314	9939.0024	14.0	14.5	17.25
FH-315.5	9939.0033	15.5	16.0	18.75
FH-316	9939.0025	16.0	16.5	19.25
FH-317.5	9939.0034	17.5	18.0	20.75
FH-318	9939.0026	18.0	18.5	21.25
FH-320	9939.0035	20.0	20.5	23.25
FH-322	9939.0036	22.0	22.5	25.25
FH-324	9939.0037	24.0	24.5	27.25
FH-326	9939.0038	26.0	26.5	29.25
FH-328	9939.0039	28.0	28.5	31.25
FH-329.5	9939.0040	29.5	30.0	32.75
FH-330	9939.0020	30.0	30.5	33.25
FH-338	9939.0041	38.0	38.5	41.25
All other lengths	9939.0042	---	---	---

NOTES: 1) Actual roller tubing cut length is 5/8" less than "Z" dimension.
 2) FH cross-bracket piece is always 6" longer than drum length of reel.



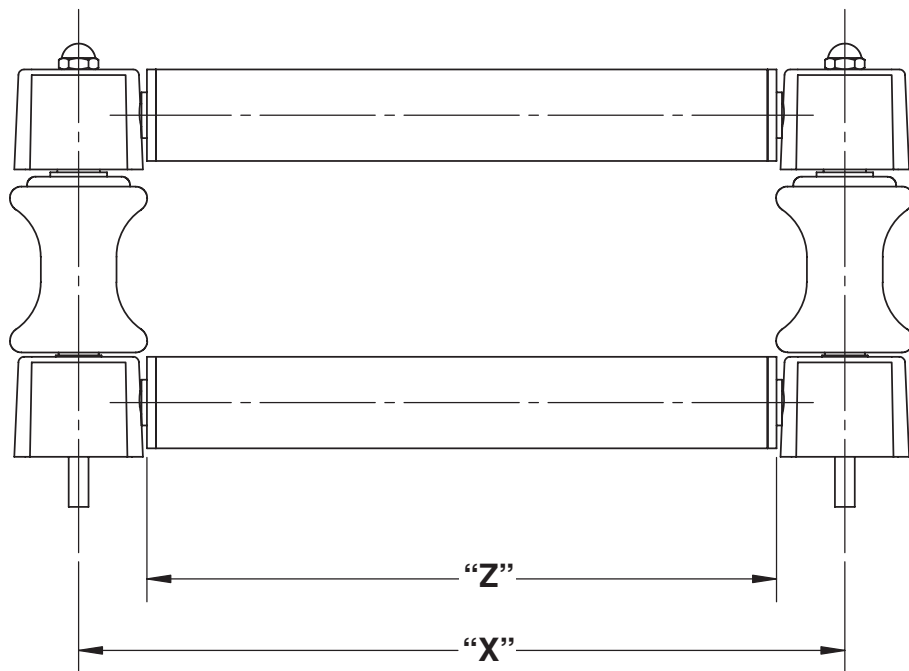
**FH-3
DOUBLE CAPTIVE
ROLLER & SPOOL
ASSEMBLY**



When ordering parts
BE SURE TO SPECIFY COMPLETE MODEL NUMBER and SERIAL NUMBER OF REEL.
USE PART NUMBER!

Item No.	Description	PART NUMBER	Quantity
04	FH-302-2 (2" Trunnion Bearing)	9940.0008	4
25	Step bolt for Double Captive Roller.....	9940.0020	2
27A	FH-306 hex nut (7/16"-14).....	9940.0011	2
27B	7/16"-14 Chrome Acorn Nut	9958.0050	2
28A	Nylon washer (1" OD x 7/16" ID x 0.032" thick)	9940.0014	2
28B	7/16" Flat Washer	9954.0009	2
28C	7/16" Lock Washer	9954.0029	2
28D	5/8" Flat Washer.....	9954.0004	2
70A	FH-301 Spool (chrome-plated), per P70A-01610.....	9940.0005	2
70B	FH-302 Block (chrome-plated)	9940.0006	4
70C	Double captive FH-3 Black Plastic Cap W/ Hole for Step Bolt	9940.0001	2
70D	FH-3 Top-Wind Mounting Bracket Steel Pair, per P70A-01150.....	9940.0060	1
70D	FH-3 Top-Wind Mounting Bracket Aluminum Pair, per P70A-01150.....	9940.0061	1
70E	FH-3 Center Mounting Bracket Steel (Specify Model)	9940.0062	1
70E	FH-3 Center Mounting Bracket Aluminum (Specify Model)	9940.0066	1
81	FH-304 SST Roller Rod (Specify Length).....	9940.0009	2
91	FH-305 2" SST Roller Tubing (Polished) (Specify Length).....	9940.0010	2
Complete Assemblies (Mounting brackets (70D and 70E) must be ordered separately)			
N/A	FH Double Captive Spool Assembly (Pair) (Less SST Roller, Rod & Trunnion Bearings)	9940.0093	1
N/A	FH-3 Complete Double Captive Roller & Spool Assembly (Specify Length)	9939.0070	1

FH-3 Roller Models



FH Roller Model	Hannay #	Drum Length (in)	Roller Length "Z" w/bushings (in)	Mtg. Hole "X" Dimension (in)
FH-306	9939.0027	6.0	6.5	9.25
FH-307.5	9939.0029	7.5	8.0	10.75
FH-308	9939.0021	8.0	8.5	11.25
FH-309.5	9939.0030	9.5	10.0	12.75
FH-310	9939.0022	10.0	10.5	13.25
FH-311.5	9939.0031	11.5	12.0	14.75
FH-312	9939.0028	12.0	12.5	15.25
FH-313.5	9939.0032	13.5	14.0	16.75
FH-314	9939.0024	14.0	14.5	17.25
FH-315.5	9939.0033	15.5	16.0	18.75
FH-316	9939.0025	16.0	16.5	19.25
FH-317.5	9939.0034	17.5	18.0	20.75
FH-318	9939.0026	18.0	18.5	21.25
FH-320	9939.0035	20.0	20.5	23.25
FH-322	9939.0036	22.0	22.5	25.25
FH-324	9939.0037	24.0	24.5	27.25
FH-326	9939.0038	26.0	26.5	29.25
FH-328	9939.0039	28.0	28.5	31.25
FH-329.5	9939.0040	29.5	30.0	32.75
FH-330	9939.0020	30.0	30.5	33.25
FH-338	9939.0041	38.0	38.5	41.25
All other lengths	9939.0042	---	---	---

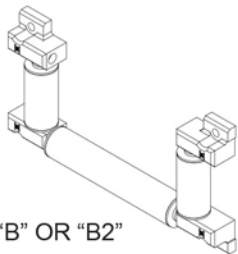
NOTES: 1) Actual roller tubing cut length is 5/8" less than "Z" dimension.
 2) FH cross-bracket piece is always 6" longer than drum length of reel.



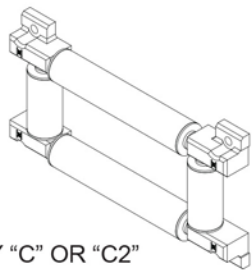
UTILITY HOSE ROLLERS
Assembly A / B / C & A2 / B2 / C2



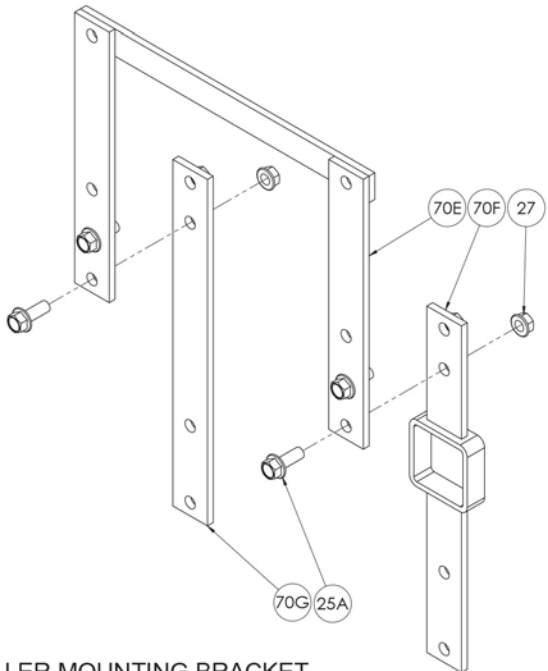
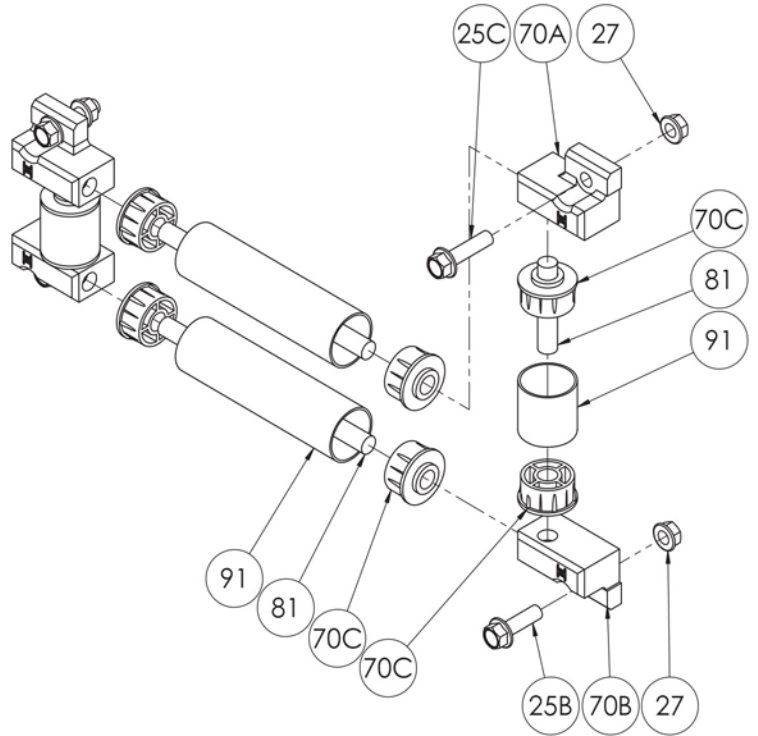
ASSEMBLY "A" OR "A2"



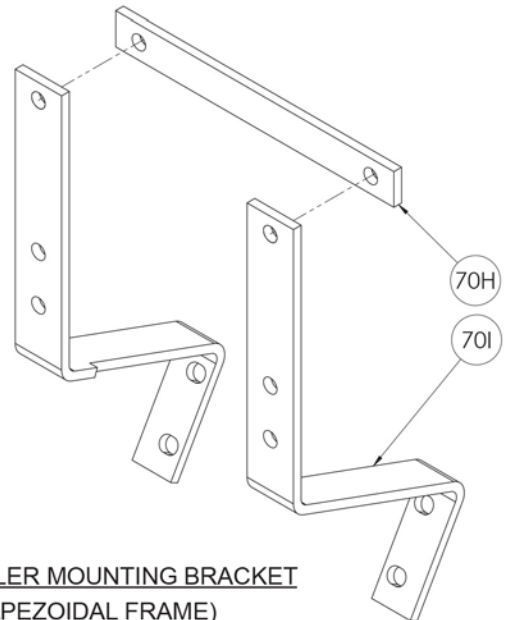
ASSEMBLY "B" OR "B2"



ASSEMBLY "C" OR "C2"



ROLLER MOUNTING BRACKET
 (PRESSED FRAME & ROLL FORM FRAME)
 (ITEM 71A FOR "B/B2" ROLLER COMPLETE BRACKET ASSEMBLY)
 (ITEM 71B FOR "C/C2" ROLLER COMPLETE BRACKET ASSEMBLY)



ROLLER MOUNTING BRACKET
 (TRAPEZOIDAL FRAME)
 (ITEM 71C FOR COMPLETE BRACKET ASSEMBLY)

**PARTS LIST
ISO 115
UTILITY HOSE ROLLERS
Assembly A / B / C & A2 / B2 / C2**

**When Ordering Parts
BE SURE TO SPECIFY COMPLETE MODEL NUMBER and SERIAL NUMBER OF REEL
USE PART NUMBER!**

<u>Item No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Quantity</u>
<u>Utility Roller Parts:</u>			
25B	3/8"-16 x 1-1/4" Spinlock Bolt	9904.2203	2
25C	3/8"-16 x 1-1/2" Spinlock Bolt	9904.2204	2
27	3/8"-16 Spinlock Nut	9904.6200	4
70A	Left Hand Assembly "C2" Roller Mounting Block, per P70A-01540	9940.0071	2
70B	Right Hand Assembly "C2" Roller Mounting Block, per P70A-01550	9940.0072	2
--	Assembly "C" Mounting Block (plated), per P70A-01160 (Not Shown)	9940.0076**	4
70C	Trunion Bearing - 1-1/2"	9940.0007	8
81	1/2" x (Specify Roller Length) SST Roller Rod	9940.0009	4
91	1-1/2" O.D. x (Specify Roller Length) SST Roller Tubing	9940.0003	4
 <u>Complete Utility Roller Assemblies:</u>			
	Assembly "A" Rollers- Complete (Specify Model)	9939.0060	
	Assembly "B" Rollers- Complete (Specify Model)	9939.0061	
	Assembly "C" Rollers- Complete (Specify Model)	9939.0062	
	Assembly "A2" Rollers- Complete (Specify Model)	9939.1060	
	Assembly "B2" Rollers- Complete (Specify Model)	9939.1061	
	Assembly "C2" Rollers- Complete (Specify Model)	9939.1062	
 <u>Roller Mounting Bracket Parts (Pressed Frame & Roll Form Frame):</u>			
25A	3/8"-16 x 1" Spinlock Bolt	9904.2202	4
27	3/8"-16 Spinlock Nut	9904.6200	4
70E	Top Wind Welded Cross Brace (Specify Model)	9941.0046	1
70F	Top Wind Vertical Upright w/ prevision for crank (Specify Model)	9941.0037	1
70G	Top Wind Vertical Upright w/ no prevision for crank (Specify Model)	9941.0036	1
71A	Assy B & B2 Top Wind Mounting Bracket- Complete (Specify Model)	9941.0041	
71B	Assy C & C2 Top Wind Mounting Bracket- Complete (Specify Model)	9941.0040	
 <u>Roller Mounting Bracket Parts (Trapezoidal Frame):</u>			
70H	Top Wind Cross Member Brace (Specify Model)	9941.0034	1
70I	Top Wind Mounting Brackets per P70A-01500 (Pair)	9941.0033	1
71C	Assy C & C2 Top Wind Mounting Bracket- Complete (Specify Model)	9941.0035	

****NOTE:** If Assembly "A", "B", or "C" is chosen instead of Assembly "A2", "B2", or "C2", the mounting block part number changes to 9940.0076.

TECHNICAL INFORMATION

Description	Propane	Butane
Formula	C3H8	C4H10
Boiling Point ° F	-44	32
Specific Gravity of Gas (Air-1.00)	1.53	2.00
Specific Gravity of Liquid (Water=1.00)	0.51	0.58
Lbs per Gallon of Liquid at 60°F	4.24	4.81
BTU per Gallon of Liquid at 60°F	91,690	102,032
BTU per LB of Gas	21,591	21,221
BTU per Cu Ft of Gas at 60°F	2516	3280
Cu Ft of Vapor at 60°F from Gallon of liquid at 60°F	36.39	31.26

Guide for Installing 100# Cylinders

For continuous draws where temperatures may reach 0°F, assume the vaporization rate of a 100# cylinder as approximately 50,000 BTU per hour.

Lbs of Propane in Cylinder	Max BTU Draw at 0°F	Max BTU Draw at 20°F
100	113,000	167,000
90	104,000	152,000
80	94,000	137,000
70	83,000	122,000
60	75,000	109,000
50	64,000	94,000
40	55,000	79,000
30	45,000	66,000
20	36,000	51,000
10	28,000	38,000

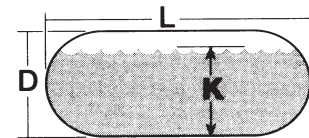
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www.fairbankequipment.com

Temperature (°F)	Propane	Butane
-40	1.2	
-30	5.5	
-20	10.7	
-10	16.7	
0	23.5	
10	31.3	
20	40.8	
30	51.6	
40	63.3	3.0
50	77.1	6.9
60	92.5	11.5
70	109.3	16.5
80	128.1	22.0
90	149.3	29.0
100	172.3	37.0
110	197.3	46.0

Minimum Methanol Requirements	
100# Cylinder	1/8 Pts
500 Gallon Tank	5 Pts
1,000 Gallon Tank	10 Pts
2,000 Gallon Tank	20 Pts

Propane Vaporization Capacity Guide for ASME LP-Gas Containers



Where:

D= Outside diameter in inches

L= Overall length in inches

K= Constant for % volume of liquid in container

% of Container Filled	K Equals	Fomula for Vaporization Capacity
60	100	D X L X 100
50	90	D X L X 90
40	80	D X L X 80
30	70	D X L X 70
20	60	D X L X 60
10	45	D X L X 45

The purpose of this paper is to describe the use of a simple method to assure the selection of the correct sizes of piping and tubing for LP-Gas vapor systems. Piping between first and second stage regulators is considered, as well as low pressure (inches water column) piping between second, single, or integral twin-stage regulators and appliances.

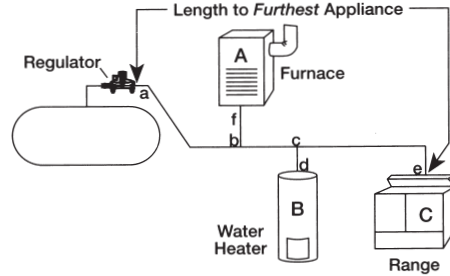
The First Stage pipe sizing data, Tables 1, 2, and 3, is based on regulator settings of 10 and 5 PSIG, with a maximum pressure loss of 1 PSIG

between the first and second stage. (Factors for 20 and 15 PSIG regulator settings and a 2 PSIG pressure loss are included.)

The second, single, or integral twin-stage pipe sizing data, Table 4, is based on a regulator setting of 11 inches water column with a maximum pressure loss of 1/2 inch water column between regulator outlet and appliance.

Instructions:

1. Determine the total gas demand for the system, by adding up the BTU/hr input from the appliance nameplates, and adding demand as appropriate for future appliances.
2. For second, single, or integral twin stage piping.
 - A. Measure length of piping required from outlet of regulator to the appliance furthest away. No other length is necessary to do the sizing.
 - B. Make a simple sketch of the piping, as shown.
 - C. Determine the capacity to be handled by each section of piping. For example, the capacity of the line between a and b must handle the total demand of appliances A, B, and C; the capacity of the line from c to d must handle only appliance B, etc.
 - D. Using Table 4 select proper size of tubing or pipe for each section of piping, using values in BTU/hr for the length determined from step #2-A. If exact length is not on chart, use next longer length. Do not use any other length for this purpose! Simply select the size that shows at least as much capacity as needed for each piping section.
3. For piping between first and second stage regulator(s).
 - A. For a simple system with only one second stage regulator, merely measure length of piping required between outlet of first stage

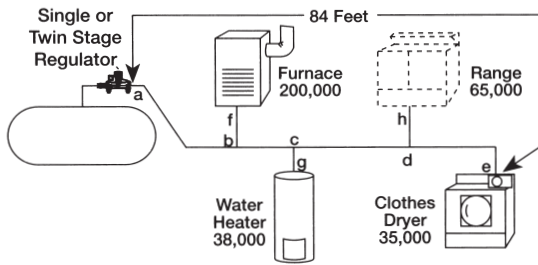


regulator and inlet of second stage regulator. Select piping or tubing required from Table 1, 2, or 3.

- B. For systems with multiple second stage regulators, measure lengths of piping required to reach the second stage regulator that is furthest away. Make a simple sketch, and size each leg of piping using Table 1, 2, or 3, using values shown in column corresponding to the length as measured above — the same as when handling second stage piping.

Example 1

Determine the sizes of piping or tubing required for the single stage LP-Gas installation shown. The piping required from the outlet of the regulator to the clothes dryer (furthest away) is 84 feet.

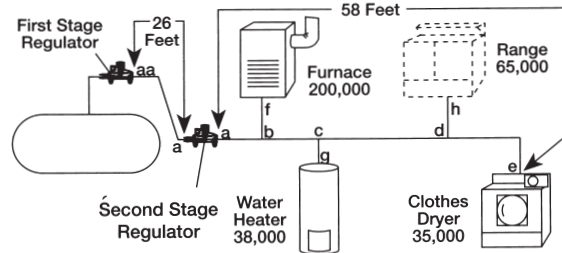


Total piping length = 84 feet (use table 4, @ 90 feet)

- From a to b, demand = 200,000
38,000
65,000
35,000
338,000 BTU/hr: use 1" pipe
- From b to c, demand = 38,000
65,000
35,000
138,000 BTU/hr: use 3/4" pipe or 7/8" tubing.
- From c to d, demand = 65,000
35,000
100,000 BTU/hr: use 3/4" pipe or 3/4" tubing.
- From d to e, demand = 35,000 BTU/hr: use 1/2" pipe or 5/8" tubing.
- From b to f, demand = 200,000 BTU/hr: use 1" pipe.
- From c to g, demand = 38,000 BTU/hr: use 1/2" pipe or 5/8" tubing.
- From d to h, demand = 65,000 BTU/hr: use 1/2" pipe or 3/4" tubing.

Example 2

Determine the sizes of piping or tubing required for two-stage LP-Gas installation shown. Piping required between first and second stage regulator is 26 feet long. The first stage regulator is set at 10 PSIG. Distance from outlet of second stage regulator to appliance furthest away is 58 feet. Determine both first and second stage piping.



Total first stage piping length = 26 feet; first stage regulator setting is 10 PSIG (use Table 1 or 3, @ 30 feet)

From aa to a, demand = 338,000 BTU/hr; use 1/2" pipe, 1/2" tubing, or 1/2" T plastic pipe.

Total second stage piping length = 58 feet (use table 4, @ 60 feet)

- From a to b, demand = 338,000 BTU/hr: use 1" pipe.
- From b to c, demand = 138,000 BTU/hr: use 3/4" pipe or 7/8" tubing.
- From c to d, demand = 100,000 BTU/hr: use 1/2" pipe or 3/4" tubing.
- From d to e, demand = 35,000 BTU/hr: use 1/2" pipe or 1/2" tubing.
- From b to f, demand = 200,000 BTU/hr: use 3/4" pipe.
- From c to g, demand = 38,000 BTU/hr: use 1/2" pipe or 5/8" tubing.
- From d to h, demand = 65,000 BTU/hr: use 1/2" pipe or 5/8" tubing.

Table 1 — First Stage Pipe Sizing
10 PSIG inlet with a 1 PSIG pressure drop

Maximum capacity of pipe or tubing, in thousands of BTU/hr of LP-Gas.

Size of Pipe or Copper Tubing, Inches		Length of Pipe or Tubing, Feet*																			
		10	20	30	40	50	60	70	80	90	100	125	150	175	200	225	250	275	300	350	400
Copper Tubing (O.D.)	¾	558	383	309	265	235	213	196	182	171	161	142	130	118	111	104	90	89	89	82	76
	½	1387	870	700	599	531	481	443	412	386	365	323	293	269	251	235	222	211	201	185	172
	¾	2360	1622	1303	1115	988	896	824	767	719	679	601	546	502	467	438	414	393	375	345	321
	¾	3993	2475	2205	1887	1672	1515	1394	1297	1217	1149	1018	923	843	790	740	700	664	634	584	543
Pipe Size	½	3339	2295	1843	1577	1398	1267	1165	1084	1017	961	852	772	710	660	619	585	556	530	488	454
	¾	6982	4799	3854	3298	2923	2649	2437	2267	2127	2009	1780	1613	1484	1381	1296	1224	1162	1109	1020	949
	1	13153	9040	7259	6213	5507	4989	4590	4270	4007	3785	3354	3039	2796	2601	2441	2305	2190	2089	1922	1788
	1¼	27004	18560	14904	12756	11306	10244	9424	8767	8226	7770	6887	6240	5741	5340	5011	4733	4495	4289	3945	3670
	1½	40461	27809	22331	19113	16939	15348	14120	13136	12325	11642	10318	9349	8601	8002	7508	7092	6735	6426	5911	5499
	2	77924	53556	43008	36809	32623	29559	27194	25299	23737	22422	19871	18005	16564	15410	14459	13658	12971	12375	11385	10591

*Total length of piping from outlet of first stage regulator to inlet of second stage regulator (or to inlet of second stage regulator furthest away). Data calculated per NFPA #54 & 58.

NOTES: 1) To allow 2 PSIG pressure drop, multiply total gas demand by .707 and use capacities from table.
2) For 20 PSIG inlet pressure, multiply total gas demand by .844; for 15 PSIG inlet pressure, multiply total gas demand by .912.

Table 2 — First Stage Pipe Sizing
5 PSIG inlet with a 1 PSIG pressure drop

Maximum capacity of pipe or tubing, in thousands of BTU/hr of LP-Gas.

Size of Pipe or Copper Tubing, Inches		Length of Pipe or Tubing, Feet*																			
		10	20	30	40	50	60	70	80	90	100	125	150	175	200	225	250	275	300	350	400
Copper Tubing (O.D.)	¾	454	312	251	215	190	172	159	148	138	131	116	105	97	90	84	80	76	72	66	62
	½	938	644	518	443	393	356	327	304	286	270	239	217	199	185	174	164	156	149	137	127
	¾	1907	1311	1053	901	799	724	666	619	581	549	486	441	405	377	354	334	318	303	279	259
	¾	3334	2291	1840	1575	1396	1265	1163	1082	1015	959	850	770	709	659	619	584	555	529	487	453
Pipe Size	½	2946	2025	1626	1392	1233	1118	1028	957	897	848	751	681	626	583	547	516	490	468	430	400
	¾	6161	4234	3400	2910	2579	2337	2150	2000	1877	1773	1571	1424	1310	1218	1143	1080	1026	978	900	837
	1	11605	7976	6405	5482	4859	4402	4050	3768	3535	3339	2956	2682	2467	2295	2153	2034	1932	1843	1696	1577
	1¼	23826	16376	13150	11255	9975	9038	8315	7735	7258	6856	6076	5505	5065	4712	4421	4176	3966	3784	3481	3238
	1½	35699	24536	19703	16863	14946	13542	12458	11590	10875	10272	9104	8249	7589	7060	6624	6257	5943	5669	5216	4852
	2	68753	47253	37946	32477	28784	26080	23993	22321	20943	19783	17533	15886	14615	13597	12757	12051	11445	10919	10045	9345

*Total length of piping from outlet of first stage regulator to inlet of second stage regulator (or to inlet of second stage regulator furthest away). Data calculated per NFPA #54 & 58.

NOTE: To allow 2 PSIG pressure drop, multiply total gas demand by .707, and use capacities from table.

Table 3 — First Stage Plastic Tubing Sizing
10 PSIG inlet with a 1 PSIG pressure drop

Maximum capacity of plastic tubing, in thousands of BTU/hr of LP-Gas.

Size of Plastic Tubing, NPS SDR		Length of Pipe Tubing, Feet*																				
		10	20	30	40	50	60	70	80	90	100	125	150	175	200	225	250	275	300	350	400	
½T	7.00	1387	954	766	655	581	526	484	450	423	399	354	321	295	274	257	243	231	220	203	189	
	9.33	3901	2681	2153	1843	1633	1480	1361	1267	1188	1122	995	901	829	772	724	684	649	620	570	530	
	¾	7811	5369	4311	3690	3270	2963	2726	2536	2379	2248	1992	1805	1660	1545	1449	1369	1300	1241	1141	1062	
	1T	11.50	9510	6536	5249	4492	3981	3607	3319	3088	2897	2736	2425	2197	2022	1881	1765	1667	1583	1510	1389	1293
1	12.50	10002	6874	5520	4725	4187	3794	3490	3247	3046	2878	2551	2311	2126	1978	1856	1753	1665	1588	1461	1359	
	1	11.00	14094	9687	7779	6658	5901	5346	4919	4578	4293	4055	3594	3257	2996	2787	2615	2470	2346	2238	2059	1916
	1¼	10.00	24416	16781	13476	11534	10222	9262	8521	7927	7438	7026	6226	5642	5190	4829	4531	4280	4064	3878	3567	3318
	2	11.00	66251	45534	36566	31295	27737	25131	23120	21509	20181	19063	16895	15308	14084	13102	12293	11612	11028	10521	9680	9005

*Total length of piping from outlet of first stage regulator to inlet of second stage regulator (or to inlet of second stage regulator furthest away). Data Calculated per NFPA #54 & 58.

Table 4 — Second, Single, or Integral Twin Stage Pipe Sizing
11 inches water column inlet with a 1/2 inch water column drop

Maximum capacity of pipe or tubing, in thousands of BTU/hr of LP-Gas.

Size of Pipe or Copper Tubing, Inches		Length of Pipe or Tubing, Feet*																			
		10	20	30	40	50	60	70	80	90	100	125	150	175	200	225	250	275	300	350	400
Copper Tubing (O.D.)	¾	49	34	27	23	20	19	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	½	110	76	61	52	46	42	38	36	33	32	—	—	—	—	—	—	—	—	—	—
	¾	206	141	114	97	86	78	71	67	62	59	—	—	—	—	—	—	—	—	—	—
	¾	348	239	192	164	146	132	120	113	105	100	—	—	—	—	—	—	—	—	—	—
	¾	536	368	296	253	224	203	185	174	161	154	—	—	—	—	—	—	—	—	—	—
Pipe Size	½	291	200	161	137	122	110	102	94	87	84	74	67	62	58	54	51	48	46	43	40
	¾	608	418	336	287	255	231	212	198	185	175	155	141	129	120	113	107	101	97	89	83
	1	1146	788	632	541	480	435	400	372	349	330	292	265	244	227	213	201	191	182	167	156
	1¼	2353	1617	1299	1111	985	892	821	764	717	677	600	544	500	465	437	412	392	374	344	320
	1½	3525	2423	1946	1665	1476	1337	1230	1144	1074	1014	899	815	749	697	654	618	587	560	515	479
	2	6789	4666	3747	3207	2842	2575	2369	2204	2068	1954	1731	1569	1443	1343	1260	1190	1130	1078	992	923

*Total length of piping from outlet of regulator to appliance furthest away. Data calculated per NFPA #54 & 58.

Pressure Relief Valves

Surface area = Total outside surface area of container in square feet.

When the surface area is not stamped on the name plate or when the marking is not legible, the area can be calculated by using one of the following formulas:

- (1) Cylindrical container with hemispherical heads
Area = Overall length X outside diameter X 3.1416
- (2) Cylindrical container with semi-ellipsoidal heads
Area = (Overall length + .3 outside diameter) X outside diameter X 3.1416
- (3) Spherical container
Area = Outside diameter squared X 3.1416

Flow Rate-CFM Air = Required flow capacity in cubic feet per minute of air at standard conditions, 60°F. and atmospheric pressure (14.7 psig).

The rate of discharge may be interpolated for intermediate values of surface area. For containers with total outside surface area greater than 2000 square feet, the required flow rate can be calculated using the formula:

$$\text{Flow Rate - CFM Air} = 53.632 A^{0.82}$$

Where A = total outside surface area of the container in square feet.

Valves not marked "Air" have flow rate marking in cubic feet per minute of liquefied petroleum gas. These can be converted to ratings in cubic feet per minute of air by multiplying the liquefied petroleum gas ratings by the factors listed below. Air flow ratings can be converted to ratings in cubic feet per minute of liquefied petroleum gas by dividing the air ratings by the factors listed below.

Air Conversion Factors

Container Type	<u>100</u>	<u>125</u>	<u>150</u>	<u>175</u>	<u>200</u>
Air Conversion Factor	1.162	1.142	1.113	1.078	1.010

See RegO* Products Safety Warning WB-6 for important warning information.

Pressure Relief Valves

Minimum required rate of discharge in cubic feet per minute of air at 120% of the maximum permitted start-to-discharge pressure for safety relief valves to be used on containers other than those constructed in accordance with Department of Transportation specification.

Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air
20 or less	626	170	3620	600	10170
25	751	175	3700	650	10860
30	872	180	3790	700	11550
35	990	185	3880	750	12220
40	1100	190	3960	800	12880
45	1220	195	4050	850	13540
50	1330	200	4130	900	14190
55	1430	210	4300	950	14830
60	1540	220	4470	1000	15470
65	1640	230	4630	1050	16100
70	1750	240	4800	1100	16720
75	1850	250	4960	1150	17350
80	1950	260	5130	1200	17960
85	2050	270	5290	1250	18570
90	2150	280	5450	1300	19180
95	2240	290	5610	1350	19780
100	2340	300	5760	1400	20380
105	2440	310	5920	1450	20980
110	2530	320	6080	1500	21570
115	2630	330	6230	1550	22160
120	2720	340	6390	1600	22740
125	2810	350	6540	1650	23320
130	2900	360	6690	1700	23900
135	2990	370	6840	1750	24470
140	3080	380	7000	1800	25050
145	3170	390	7150	1850	25620
150	3260	400	7300	1900	26180
155	3350	410	7450	1950	26750
160	3440	420	7600	2000	27310
165	3530	430	7750		

Converting Volumes of Gas

(CFH to CFH or CFM to CFM)

Multiply Flow Of:	By	To Obtain Flow Of:
Air	0.707	Butane
	1.290	Natural Gas
	0.808	Propane
Butane	1.414	Air
	1.826	Natural Gas
	1.140	Propane
Natural Gas	0.775	Air
	0.547	Butane
	0.625	Propane
Propane	1.237	Air
	0.874	Butane
	1.598	Natural Gas

Temperature Conversion

Degrees F	Degrees C	Degrees F	Degrees C
- 50	- 46	60	15.6
- 40	- 40	70	21.1
- 30	- 34	80	26.7
- 20	- 29	90	32.2
- 10	- 23	100	37.8
0	- 17.8	110	43
+10	- 12.2	120	49
20	- 6.7	130	54
30	- 1.1	140	60
32	0	150	66
40	+ 4.4	160	71
50	+ 10.0	170	77

Formula: Degrees C = (°F-32) X 5/9
 Degrees F = 9/5 X °C + 32

Line Sizing Chart for Liquid Propane

(Based on Pressure Drop of 1 PSI)

Liquid Propane Flow GPH	Iron Pipe (Feet)															
	1/4"		3/8"		1/2"		3/4"		1"		1-1/4"		1-1/2"		2"	
	Schedule 40	Schedule 80	Schedule 40	Schedule 80	Schedule 40	Schedule 80	Schedule 40	Schedule 80	Schedule 40	Schedule 80	Schedule 40	Schedule 80	Schedule 40	Schedule 80	Schedule 40	Schedule 80
10	729	416														
15	324	185														
20	182	104	825	521												
40	46	26	205	129	745	504										
60	20	11	92	58	331	224										
80	11	6	51	32	187	127	735	537								
100	7	4	33	21	119	81	470	343								
120			23	15	83	56	326	238								
140			15	9	61	41	240	175	813	618						
160			13	8	47	32	184	134	623	473						
180					37	25	145	106	491	373						
200					30	20	118	86	399	303						
240					21	14	81	59	277	211						
280					15	10	60	44	204	155						
300					13	9	52	38	177	135	785	623				
350							38	28	130	99	578	459				
400							30	22	99	75	433	344	980	794		
500							19	14	64	49	283	225	627	508		
600									44	33	197	156	435	352		
700									32	24	144	114	320	259		
800									25	19	110	87	245	198	965	795
900									19	14	87	69	194	157	764	630
1000									16	12	71	56	157	127	618	509
1500											31	25	70	57	275	227
2000											18	14	39	32	154	127
3000											8	6	17	14	69	57
4000													10	8	39	32
5000															25	21
10000															6	5

To Use Chart

- Having determined the required flow at point of use, locate this flow in the left hand column. If this falls between two figures, use the larger of the two.
- Determine total length of piping required from source to point of use.
- Read across chart from left (required flow) to right to find the total length which is equal to or exceeds the distance from source to use.
- From this point read up to find the correct size of pipe required.

Determining the Age of Products

All ECII® products are mechanical devices that will eventually become inoperative due to wear, contaminants, corrosion and aging of components made of material such as metal and rubber.

The environment and conditions of use will determine the safe service life of these products. Periodic inspection and maintenance are essential.

Because ECII® products have a long and proven record of quality and service, LP-Gas dealers may forget the hazards that can occur because products are used beyond their safe service life.

The life of a product is determined by the environment in which it "lives." The LP-Gas dealer knows better than anyone what this environment is.

Since 1960, most RegO® / ECII® products are identified with an alphabetical code indicating the month and the year they were manufactured.

Check the product for this code to determine age. If valves or regulators are repainted, take care to keep the date code clear for later identification and inspection.

1960 to 1985 — Two-Letter Date Code

First letter in date code is the month

A — January	G — July
B — February	H — August
C — March	I — September
D — April	J — October
E — May	K — November
F — June	L — December

Second letter in date code is the year

R — 1960	A — 1969	J — 1978
S — 1961	B — 1970	K — 1979
T — 1962	C — 1971	L — 1980
U — 1963	D — 1972	M — 1981
V — 1964	E — 1973	N — 1982
W — 1965	F — 1974	O — 1983
X — 1966	G — 1975	P — 1984
Y — 1967	H — 1976	Q — 1985
Z — 1968	I — 1977	

Relief valves used on ASME tanks carry a numerical code indicating month and year such as 1-75 means January, 1975.

EXAMPLE: DL = April of 1980

From 1985 to 1990 — Digit Date Code

First digit in date code is the month

1 — January	7 — July
2 — February	8 — August
3 — March	9 — September
4 — April	10 — October
5 — May	11 — November
6 — June	12 — December

Second 2 digits in date code are the year

86 — 1986	89 — 1989
87 — 1987	90 — 1990
88 — 1988	

EXAMPLE: 5-87 = May of 1987

After 1990 — Digit-Letter-Digit Date Code

First digit in date code is the month

1 — January	7 — July
2 — February	8 — August
3 — March	9 — September
4 — April	10 — October
5 — May	11 — November
6 — June	12 — December

Letter in date code is the week

A — 1 st week
B — 2 nd week
C — 3 rd week
D — 4 th week
E — 5 th week

Second 2 digits in date code are the year

91 — 1991	96 — 1996
92 — 1992	97 — 1997
93 — 1993	98 — 1998
94 — 1994	etcetera . . .
95 — 1995	

EXAMPLE: 6A92 = First week of June, 1992

Regulator Color Coding

ECII® Domestic first stage, second stage, single stage, and integral twin stage LP-Gas regulators are easy to identify. In addition to the standard part number marking which indicates the proper application, each regulator is color coded to help minimize misapplication

in the field that can lead to accidents and costly service callbacks. The color coding system is standard on all 404, LV404, 2302, LV2302, 2403, 2503, LV4403, and LV5503 series domestic LP-Gas regulators manufactured after May of 1986.

Classic Gold — Indicates a single stage regulator that is designed to be used alone in single stage systems.

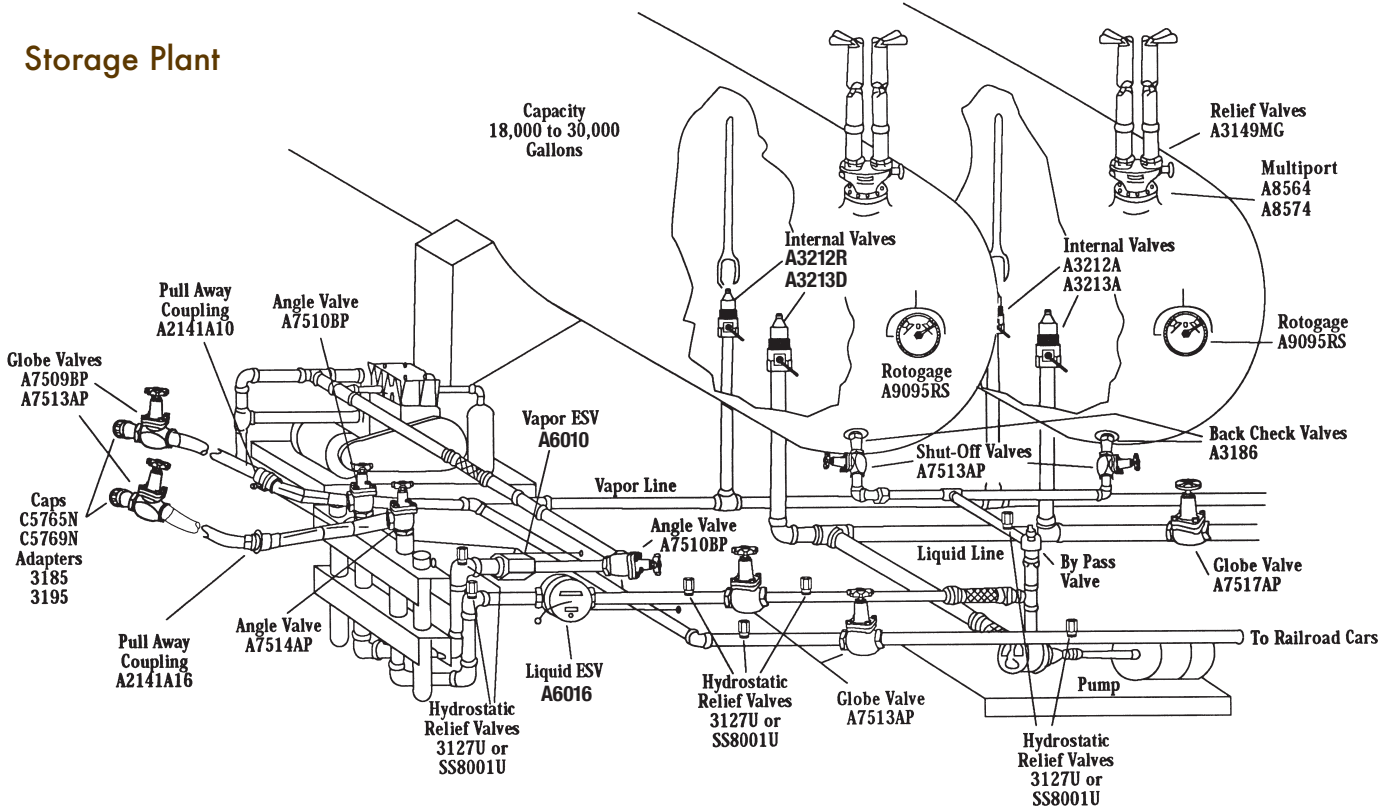
Brilliant Red — Denotes a first stage high pressure regulator, normally used in two-stage applications in conjunction with a select brown second stage regulator.

Select Brown — Signifies second stage low pressure regulators, designed for use in two-stage systems in conjunction with a brilliant red high pressure regulator—

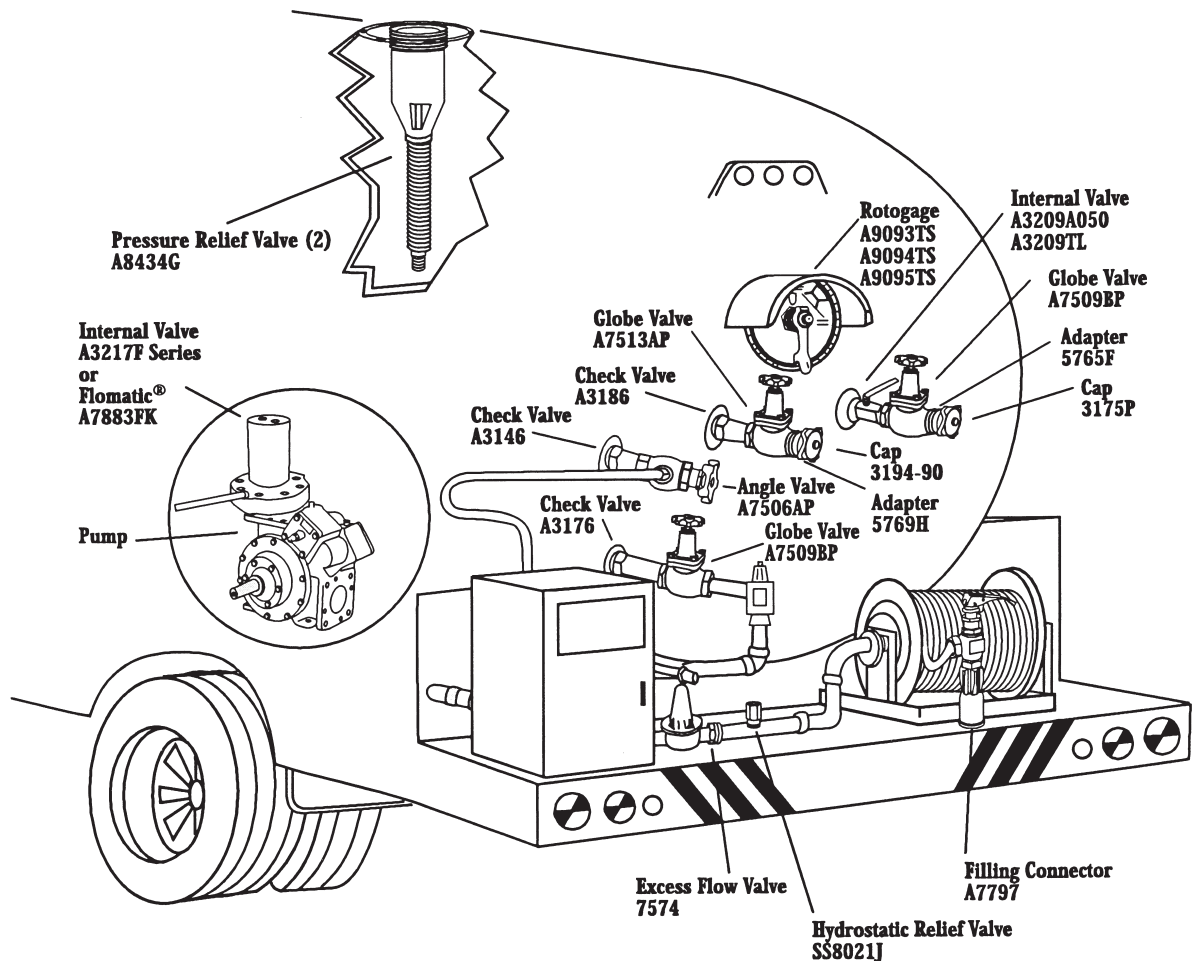
also

signifies integral twin stage regulators designed to provide benefits of two-stage regulation in one compact unit.

Storage Plant



Bobtail



Natural - 1050 BTU - 0.65 SP . GR
 LP - 2500 BTU - 1.53 SP . GR

NO	SIZE	NATURAL					LP
		3.0	3.5	4.0	4.5	7.0	11.0
80	.0135	428	463	495	525	654	1273
79	.0145	494	534	571	605	755	1469
1/64	.0156	572	618	661	701	874	1700
78	.0160	602	650	695	737	919	1788
77	.0180	762	823	879	933	1163	2263
76	.0200	940	1016	1086	1152	1436	2794
75	.0210	1037	1120	1197	1270	1583	3081
74	.0225	1190	1285	1374	1457	1818	3536
73	.0240	1354	1462	1563	1658	2068	4024
72	.0250	1469	1587	1696	1799	2244	4366
71	.0260	1589	1716	1835	1946	2427	4722
70	.0280	1843	1991	2128	2257	2815	5476
69	.0292	2004	2165	2314	2455	3062	5956
68	.0310	2259	2440	2608	2767	3451	6713
1/32	.0313	2303	2487	2659	2820	3518	6843
67	.0320	2407	2600	2779	2948	3677	7153
66	.0330	2560	2765	2956	3135	3910	7607
65	.0350	2880	3110	3325	3527	4399	8557
64	.0360	3046	3291	3518	3731	4654	9053
63	.0370	3218	3476	3716	3941	4916	9563
62	.0380	3394	3666	3919	4157	5185	10087
61	.0390	3575	3862	4128	4379	5461	10625
60	.0400	3761	4062	4343	4606	5745	11176
59	.0410	3951	4268	4563	4840	6036	11742
58	.0420	4147	4479	4788	5078	6334	12322
57	.0430	4346	4695	5019	5323	6639	12916
56	.0465	5083	5490	5869	6225	7764	15104
3/64	.0469	5171	5585	5970	6333	7898	15365
55	.0520	6356	6865	7339	7785	9709	18888
54	.0550	7111	7680	8211	8709	10862	21131
53	.0595	8322	8989	9609	10192	12712	24730
1/16	.0625	9182	9918	10603	11246	14026	27286
52	.0635	9478	10238	10945	11609	14479	28167
51	.0670	10552	11398	12184	12924	16119	31357
50	.0700	11518	12441	13300	14107	17594	34228
49	.0730	12527	13530	14464	15342	19135	37225
48	.0760	13577	14665	15678	16629	20740	40347
5/64	.0781	14338	15487	16556	17560	21902	42608
47	.0785	14485	15646	16726	17741	22127	43045
46	.0810	15423	16658	17809	18889	23558	45831
45	.0820	15806	17072	18251	19358	24144	46969
44	.0860	17385	18778	20075	21293	26557	51663
43	.0890	18620	20111	21500	22804	28442	55331
42	.0935	20550	22197	23729	25168	31391	61067
3/32	.0938	20682	22339	23882	25330	31592	61460
41	.0960	21664	23399	25015	26532	33092	64377
40	.0980	22576	24384	26068	27649	34485	67087

NO	SIZE	NATURAL					LP
		3.0	3.5	4.0	4.5	7.0	11.0
39	.0995	23272	25137	26872	28502	35549	69156
38	.1015	24217	26157	27963	29660	36992	71964
37	.1040	25425	27462	29358	31139	38837	75553
36	.1065	26662	28798	30786	32654	40726	79229
7/64	.1094	28133	30388	32486	34456	42975	83603
35	.1100	28443	30722	32843	34835	43447	84522
34	.1110	28962	31283	33443	35472	44241	86066
33	.1130	30015	32420	34659	36761	45849	89195
32	.1160	31630	34165	36524	38739	48316	93994
31	.1200	33849	36562	39086	41457	51706	100588
1/8	.1250	36729	39672	42411	44984	56104	109145
30	.1285	38815	41924	44819	47538	59290	115343
29	.1360	43478	46961	50204	53249	66413	129200
28	.1405	46402	50120	53581	56831	70881	137892
9/64	.1406	46469	50192	53657	56912	70982	138088
27	.1440	48743	52649	56284	59698	74456	144847
26	.1470	50795	54865	58653	62211	77591	150946
25	.1495	52538	56747	60665	64345	80253	156123
24	.1520	54309	58661	62711	66515	82959	161389
23	.1540	55748	60215	64372	68277	85157	165664
5/32	.1563	57426	62027	66309	70332	87719	170649
22	.1570	57941	62584	66905	70963	88507	172181
21	.1590	59427	64188	68620	72783	90776	176596
20	.1610	60931	65813	70357	74625	93074	181066
19	.1660	64775	69965	74795	79332	98945	192487
18	.1695	67535	72946	77982	82713	103161	200690
11/64	.1719	69461	75026	80206	85072	106103	206413
17	.1730	70353	75990	81236	86164	107465	209063
16	.1770	73644	79544	85036	90195	112492	218843
15	.1800	76161	82263	87943	93278	116338	226324
14	.1820	77863	84102	89908	95362	118938	231381
13	.1850	80451	86897	92897	98532	122891	239072
3/16	.1875	82640	89261	95425	101213	126235	245577
12	.1890	83968	90695	96957	102839	128263	249522
11	.1910	85754	92625	99020	105027	130992	254831
10	.1935	88014	95066	101629	107794	134443	261546
9	.1960	90303	97538	104272	110598	137940	268348
8	.1990	93088	100547	107489	114009	142194	276625
7	.2010	94969	102578	109660	116312	145067	282213
13/64	.2031	96963	104732	111964	118755	148114	288141
6	.2040	97825	105663	112958	119810	149430	290701
5	.2055	99269	107222	114626	121579	151635	294991
4	.2090	102679	110906	118563	125755	156844	305125
3	.2130	106647	115192	123145	130615	162906	316916
7/32	.2188	112534	121550	129943	137825	171898	334411
2	.2210	114808	124007	132569	140611	175372	341169
1	.2280	122196	131987	141100	149659	186658	363124

Gas Pressure: 11 in. W.C. Pressure Drop: 0.5 in. W.C. (based on a 1.52 Specific Gravity Gas)

Size (EHD)	TUBING LENGTH (FEET)																	
	5	10	15	20	25	30	40	50	60	70	80	90	100	150	200	250	300	
3/8"	15	99	69	55	49	42	39	33	30	26	25	23	22	20	15	14	12	11
1/2"	19	211	150	121	106	94	87	74	66	60	57	52	50	47	36	33	30	26
3/4"	25	456	325	267	232	209	191	166	149	136	126	118	112	106	87	76	68	62
1"	31	863	605	490	425	379	344	297	265	241	222	208	197	186	143	129	117	107

see notes below*

EHD (Effective Hydraulic Diameter) A relative measure of Low Capacity; This number is used to compare individual sizes between different manufacturers. The higher the EHD number the greater flow capacity of the piping.

Gas Pressure: 1/2 psi Pressure Drop: 2.5 psi (based on a 1.52 Specific Gravity Gas)

Size (EHD)	TUBING LENGTH (FEET)																		
	5	10	15	20	25	30	40	50	60	70	80	90	100	150	200	250	300		
3/8"	15	222	159	131	114	102	93	81	73	67	62	58	55	52	43	37	33	30	3/8"
1/2"	19	491	353	353	254	228	209	182	164	150	140	131	124	118	97	85	76	70	1/2"
3/4"	25	1094	782	782	559	501	459	399	358	328	304	285	269	256	210	183	164	136	3/4"
1"	31		1863	1720	1343	1106	976	883	825	771	719	673	632	596	470	398	352	320	1"

* NOTES: Tables above include losses for four 90-degree bends and two end fittings. Tubing runs with larger numbers of bends and/or fittings shall be increased by an equivalent length of tubing to the following equation: L= 1.3n where L is additional length of tubing and n is the number of additional fittings and/or bends.

Gas Pressure: 2 psi Pressure Drop: 1 psi (based on a 1.52 Specific Gravity Gas)

Size (EHD)	TUBING LENGTH (FEET)															
	10	25	30	40	50	75	80	100	150	200	250	300	400	500		
3/8"	15	558	347	316	271	243	196	189	169	137	118	105	96	82	72	3/8"
1/2"	19	1106	701	640	554	496	406	393	350	287	248	222	203	175	158	1/2"
3/4"	25	2282	1464	1340	1165	1046	859	833	713	614	534	479	439	381	342	3/4"
1"	31	4720	2954	2692	2323	2072	1685	1629	1454	1182	1019	910	829	716	638	1"

* NOTES: Table does not include effect of pressure drop across the line regulator. If regulator loss exceeds 3/4 PSI (based on 8 inch outlet pressure) Do not use this chart. Pressure drops across a regulator vary with flow rate. FGP-REG-3P has a 3/4 PSI pressure drop at a flow of 250 cubic feet per hour. CAUTION: Capacities shown in table may exceed maximum capacity for a selected regulator. EHD (Effective Hydraulic Diameter) A relative measure of Flow Capacity; This number is used to compare individual sizes between different manufacturers. The higher the EHD number the greater flow capacity of the piping.

Gas Pressure: 5 psi Pressure Drop: 3.5 psi (based on a 1.52 Specific Gravity Gas)

Size (EHD)	TUBING LENGTH (FEET)															
	10	25	30	40	50	75	80	100	150	200	250	300	400	500		
3/8"	15	1065	664	603	520	463	376	363	324	262	226	202	183	158	140	3/8"
1/2"	19	2061	1307	1193	1033	926	757	731	656	535	464	416	379	328	294	1/2"
3/4"	25	4189	2686	2459	2139	1920	1577	1529	1310	1127	980	880	805	700	629	3/4"
1"	31	8945	5600	5102	4404	3929	3194	3090	2756	2241	1934	1726	1572	1356	1210	1"

* NOTES: Table does not include effect of pressure drop across the line regulator. If regulator loss exceeds 3/4 PSI (based on 8 inch outlet pressure) Do not use this chart. Pressure drops across a regulator vary with flow rate. Maxitrol FGP-REG-5 has a 1 PSI pressure drop at a flow of 673 cubic feet per hour. CAUTION: Capacities shown in table may exceed maximum capacity for a selected regulator.

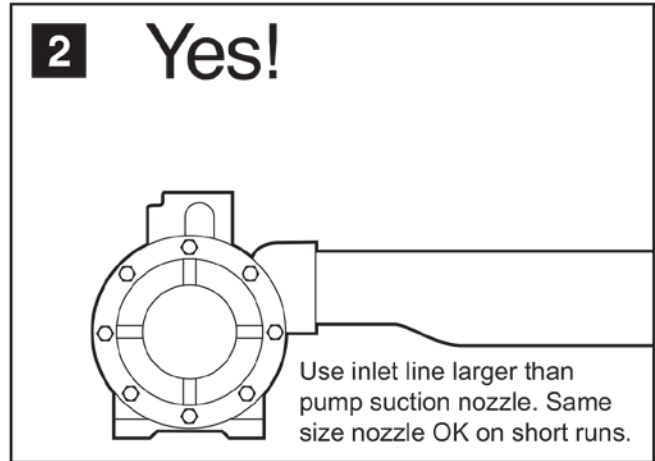
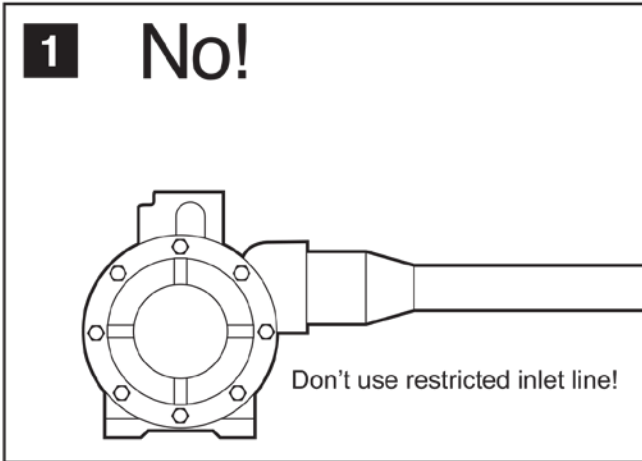
Model	Switch Types	Motor Part No.	Hp	Phase	Voltage	Approximate Full Load Amperage	Minimum Wire Size, AWG Length of Run in Feet			Heater Element Part No.	Wiring Connections	
							0-100	to 200	to 300			
C10 C12	S-20 SM-20	2556 (Obs.)	1	1	115 230	18 9	8 12	6 12	4 10	2610 (P32)	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px dashed black; padding: 5px;"> <p>115V 2277-X1 or 2277-X2 Switch Assy (uses switch 2275)</p> </div> <div style="border: 1px dashed black; padding: 5px;"> <p>208-230V 2277-X1 or 2277-X2 Switch Assy (uses switch 2275)</p> </div> </div>	
C10 C12 C13	— (Rep. by 4261)	3760 (Rep. by 4261)	2	1	115 230	24 12	8 12	4 10	2 8	4250 (P36)	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px dashed black; padding: 5px;"> <p>115V (uses switch 2275)</p> </div> <div style="border: 1px dashed black; padding: 5px;"> <p>208-230V (uses switch 2275)</p> </div> </div>	
C10 C12 C13	S-30 SM-30	4261	2	1	115 230 230	20 10 10	8 12 12	4 10 10	2 8 8	No overload	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px dashed black; padding: 5px;"> <p>115V 2277-X3 or 2277-X4 Switch Assy (uses switch 3784)</p> </div> <div style="border: 1px dashed black; padding: 5px;"> <p>230V 2277-X3 or 2277-X4 Switch Assy (uses switch 3784)</p> </div> </div>	
C10 C12	S-25 SM-25	4261-1	1	1	208 230	10	12	10	8	4250 (P36)	<p>208-230V (uses switch 2275)</p>	
C14 C16	—	2557 ^a	3	3	230 460	10 5	12 12	12 12	12 12	—	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px dashed black; padding: 5px;"> <p>208-230V</p> </div> <div style="border: 1px dashed black; padding: 5px;"> <p>460V</p> </div> </div>	
C14 C16	—	4885	3	1	115 230	29 14.5	6 12	4 8	2 8	—	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px dashed black; padding: 5px;"> <p>115V</p> </div> <div style="border: 1px dashed black; padding: 5px;"> <p>230V</p> </div> </div>	

Notes:

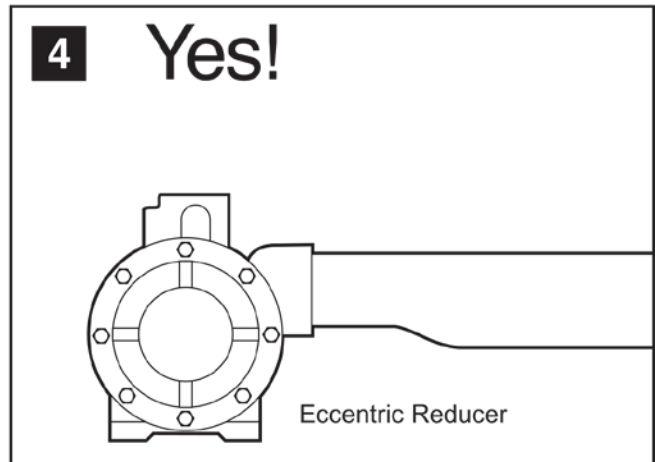
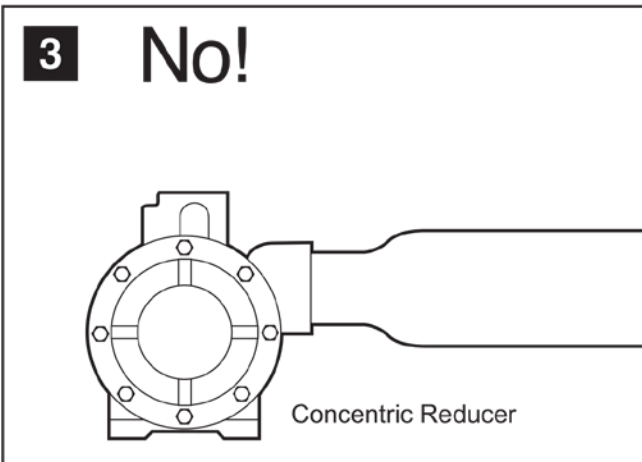
1. Green wire, if present, should be grounded.
2. For Coro-Flo units with oversized motors, follow the wiring information for the appropriate motor and operating voltage.
3. Any differences on the motor nameplate should take precedence over the data presented on this sheet.
4. All electrical work should be done by a qualified electrician familiar with local codes.

^a Pump must rotate in the direction shown on pump case. If not, switch any two of the three incoming 3 phase lines.

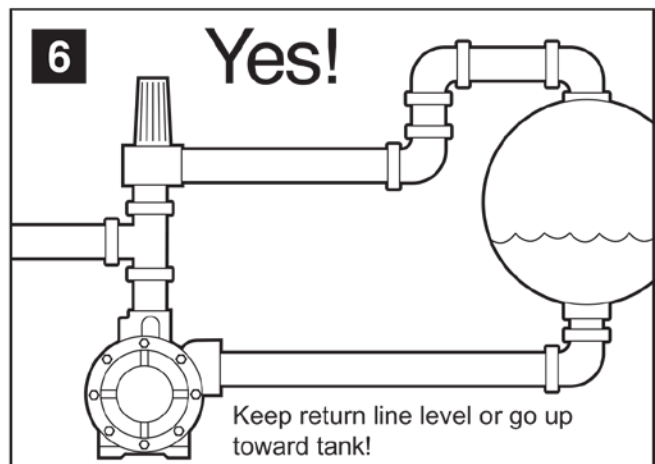
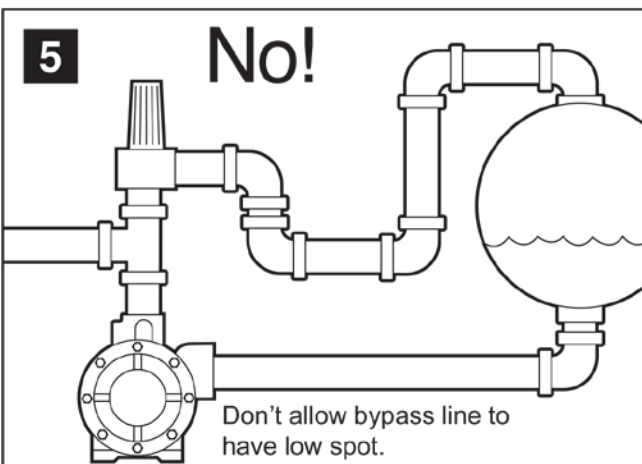
Piping Instructions



Pressure drop caused by restriction in suction line will cause vaporization and cavitation.



An eccentric reducer should always be used when reducing into any pump inlet where vapor might be encountered in the pumpage. The flat upper portion of the reducer prevents an accumulation of vapor that could interfere with pumping action.



Low spots in bypass line can collect liquid which prevents normal vapor passage for priming purposes just like the P trap in the drain of a kitchen sink. This is not a problem for bypass lines where vapor elimination is not required.

Piping Instructions

7 Yes!

Always locate pump below tank level ...the lower the better!

8 No! Never locate pump above level of liquid feeding pump. Product must be able to flow by gravity into pump.

Since liquefied gases boil when drawn into a pump by its own suction, the pump must be fed by gravity flow to give stable, trouble-free operation.

9 No!

Back Check Valve
Positive closure of back check valve prevents proper vapor return for pump priming.

10 Yes!

Excess Flow Check Valve
Necessary for proper vapor elimination when using priming type bypass valves.

11 No!

Don't pipe bypass line back into suction piping! Heat Building in recirculated products causes flashing of liquid to vapor with immediate cavitation and ultimate dry-running. This is why the bypass relief valves which are built into many positive displacement pumps should not be used for normal bypass action when handling liquefied gases. The internal valve should be considered to be a back-up safety relief in addition to a back-up safety relief in addition to a back-to-tank bypass valve and should be set to relieve at pressure 10 to 20 psi higher than the working bypass. Some built-in bypass valves have the capability of being piped back-to-tank so check with the pump manufacturer.

12 Yes!

Always pipe bypass back to tank! Make sure bypass line is large enough to handle full pump flow without excessive pressure build-up. Note that bypass line must be capable of bypassing full pump capacity without excessive pressure build-up. High pressure rise can cause bypass valve to chatter and vibrate.

Pumping systems on bobtail trucks, truck transports or bulk plants all contain similar components; vapor return lines, bypass piping, suction and discharge piping which can affect the liquid transfer delivery rates. Proper pump suction design is a common

consideration for any propane installation and is particularly critical for motor speed pumps, underground pumping and cold weather pumping.

Vapor Return Line

The vapor return line from the top of the receiving tank to the supply tank helps to keep the pressure up in the supply tank and reduces the amount of boiling. Also, relieving vapor pressure in the receiving tank as the liquid rises in the tank equalizes pressures in both tanks and reduces the differential pressure across the pump. Consequently, the pump can deliver more product at the lower differential pressures.

The effect of this vaporization can be demonstrated on a bobtail delivery truck by attaching the hose to the supply tank and recirculating the liquid. The flow rate when recirculating is always more than when delivering to another tank because the pressure in the supply tank does not drop. The amount of flow reduction will indicate how much vaporization has occurred in the tank and inlet line.

Vaporization in the intake line imposes a rather rigid limit on the maximum delivery rate when no vapor return line is used. This limit is about 2 to 2 1/2% of the tank's capacity per minute, but will vary somewhat with temperatures of liquid and atmosphere and intake line restrictions.

For example, a 1,000 gallon (3,785 liter) tank will be limited to a 25 gpm (95 L/min), maximum withdrawal rate. **Overspeeding**

the pump or using a larger pump will have little or no effect once this barrier has been reached.

Quite often, vapor return lines are too small to be effective. To check the efficiency of existing return lines, observe the pressure gage on the supply tank during a delivery. If it shows a drop of more than two or three psi, vaporization can be seriously affecting the delivery rate. A more exact check would be to time the delivery rate during the first minute of pumping with a stopwatch, then wait several minutes and time the rate again.

The second reading will typically be less than the first.

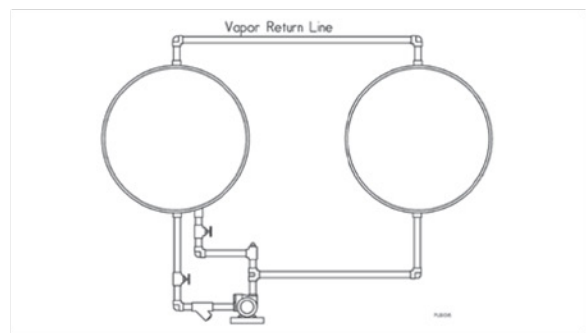


Figure 12

Bypass Piping System

All pump installations must be fitted with a bypass line back to the supply tank. All PD pumps deliver a fixed volume of fluid with each revolution. Therefore, provisions must be made to route any excess flow back to the tank.

If a bypass piping system is not present, fluid will recirculate within the pump. The liquid recirculating in the pump will rapidly heat up and vaporize. The pump may run completely dry, greatly decreasing vane and seal life.

A bypass line routed to the suction line will have the same effect. A back-to-tank bypass line extends the recirculation loop allowing the recirculated liquid to cool. The back-to-tank bypass line may go either to the bottom of the tank, the liquid section, or the top of the tank.

Set the bypass valve at least 25 psi (1.7 bar) lower than the pump's internal relief valve setting. This will ensure the bypass valve opens first. The pump's internal relief valve should open only as a final system protection device.

The pump's internal relief valve routes discharge fluid back to the pump inlet, which will quickly cause wear and tear on the pump if used excessively.

The "Alternate Discharge to Storage Tank" line and manual valve may be used to unload transports without pumps into the storage tank. The manual valve in this line must remain closed during all other transfer operations.

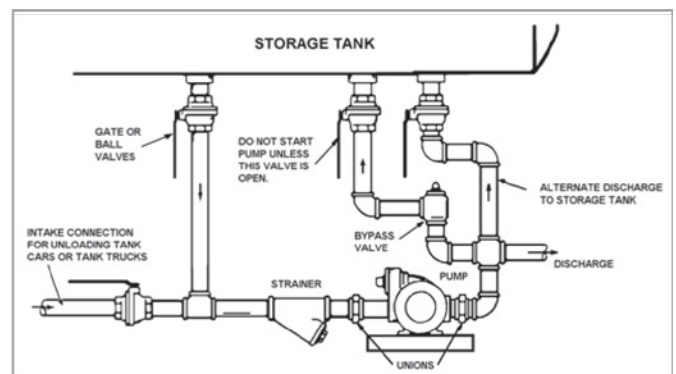


Figure 13

Watch Out For Liquid

Allowing liquid to enter a compressor can result in an extremely expensive failure. As mentioned earlier, a liquid trap must always be used with a LPG compressor system.

If the distance between the two vessels is longer than normal, a larger liquid trap should be considered. For most installations,

the optional ASME trap will provide sufficient volume, although in some cases, an even larger vessel may be required.

Whenever possible, place the compressor so that it is physically slightly higher than most of the piping used in the system. This will cause any liquid that does collect in the lines to drain away from the compressor.

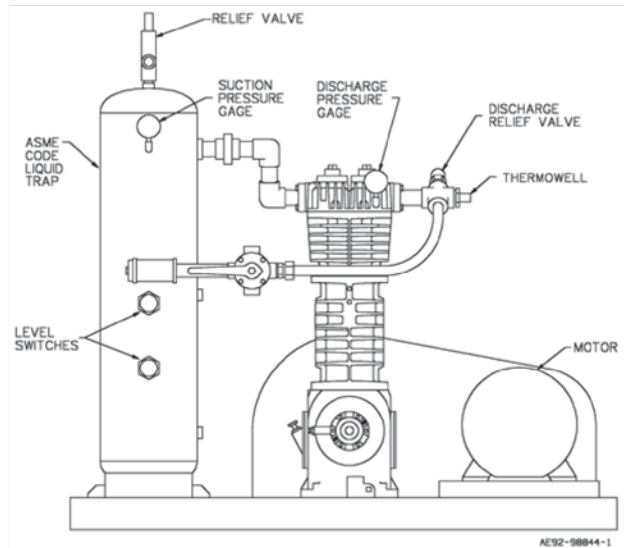


Figure 9

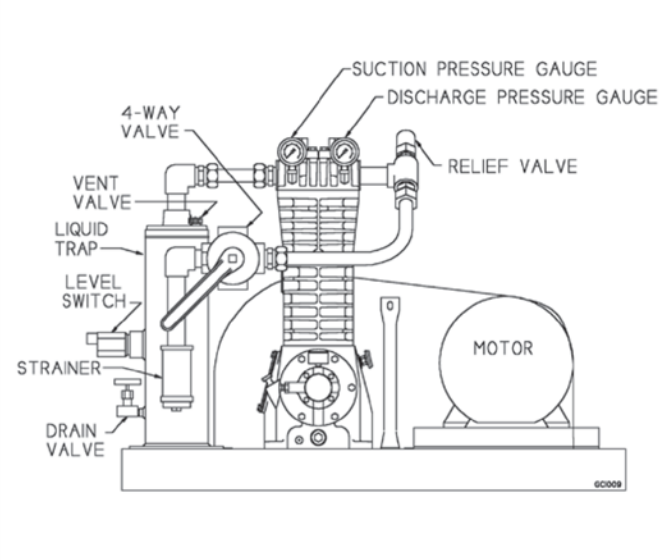


Figure 10

Installation Guidelines

Figure 11 shows a typical compressor installation. Since Blackmer compressors are reciprocating rather than a rotating devices, a proper foundation for the compressor and support for the piping is very important. A 8-10-inch (20 to 25 cm) foundation depth is recommended.

The compressor baseplate must be well supported, along with its entire length, and be firmly bolted to the concrete foundation. Pipes leading to and from the compressor should be well supported as near to the compressor as feasible. Flex connectors may be used to help dampen any vibration induced by the compressor.

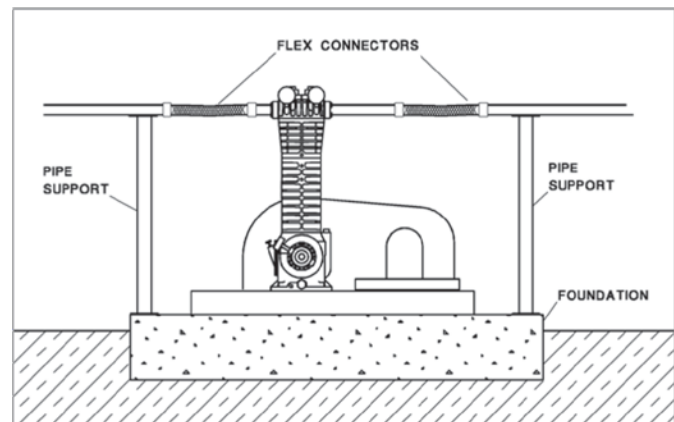


Figure 11

Bobtail Trucks are trucks used for local delivery to fill end- use tanks. They generally provide a metered delivery and have tanks of 3,000 to 5,000 gallons (11,000 to 19,000 liters).



Pump Drive

Pumps on bobtails are commonly driven by the power take-off through a jackshaft connected by universal joints.

A well lubricated, splined slip joint is recommended for the drive shaft. Also note that the PTO and pump's shafts must always be parallel, that the universal yokes at the ends of the jackshaft must be parallel and in phase, and that the angularity between two adjacent shafts must not exceed 15 degrees. Failure to heed these suggestions will result in a "gallup" or uneven turning of the pump rotor, which will result in a premature bearing, shaft or seal failure. Figure 19 illustrates the correct mounting of the driveline when universal joints are used.

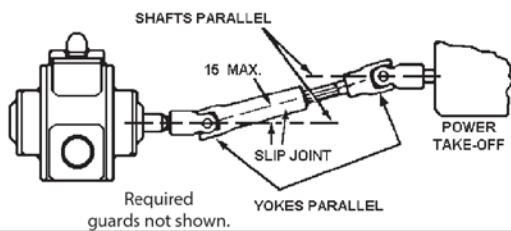


Figure 19

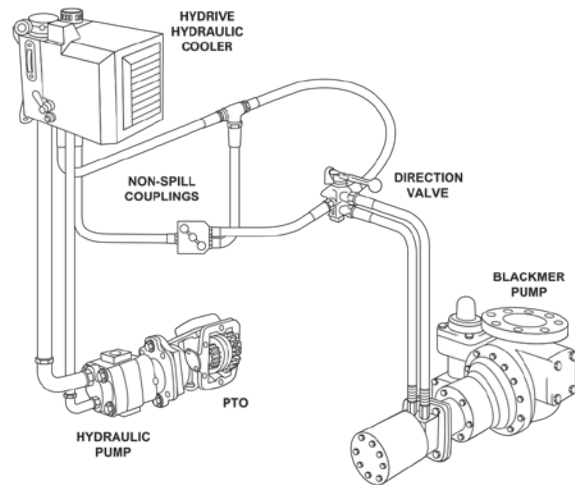


Figure 20

Hydraulic driven units are becoming more prevalent. They increase pump service life by eliminating the external loading on the pump shaft, which is inherent with a power take-off. They also provide, for more consistent speed control and "soft starting" of the pump.



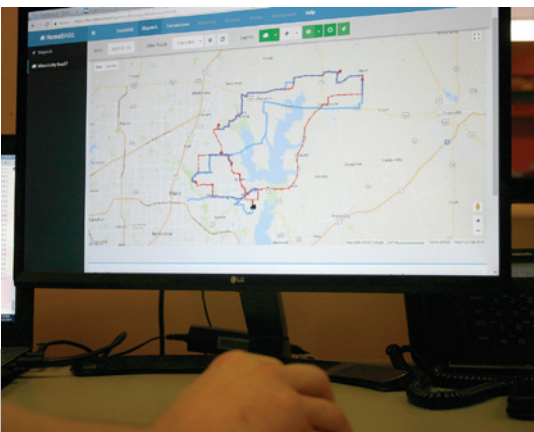
ProControl3 NEW FEATURES

- Internal GPS for accurate customer tank location capture
- Preset delivery volume before you pump, from the end of the hose
- Alpha/Numeric keypad for enhanced hose-end data entry and invoicing (requires on-board computer for invoicing)
- Communicates with multiple meters simultaneously
- Operator control of up to 12 custom remote functions and custom delivery screens specific to your operations
- Able to select up to 15 different products or compartments from display, in addition to the existing 12 functions of the handheld
- Perform pre-trip truck inspections and produce printed report (requires onboard computer interface)
- Hose-end product selection: allows the operator complete end-of-hose control of the electronic register's product selection functionality, paving the way for automatic compartment selection / fluid routing through preselected meters
- System status indicators including PTO, Throttle, Product, Preset, Meter, Compartment and Electronic Register state, along with real-time volume identification
- Brilliant 3.5" color display with heater for optimal performance regardless of climate
- In-cab charging cradle with interlock to prevent drive away without remote
- Shock, weather and explosion proof IP67 design
- Radio signal strength and low battery indicator
- Vibration and audible buzzer feedback and messaging
- Designed to work seamlessly with optional BASEstation Android and other in-cab automation systems
- Intuitive menu driven user interface including automated meter dedication and on-board diagnostics



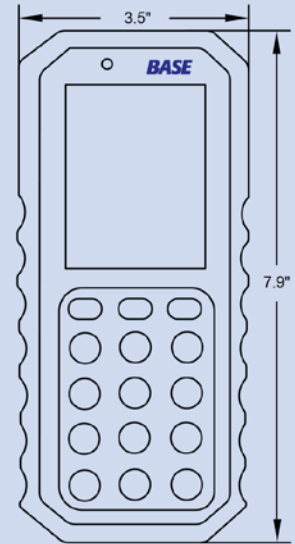
STANDARD ProControl FEATURES:

- 'Pump & Print' from end of hose
- Shows the exact meter reading to 1/10th of a unit in real time
- Direct serial interface with meter register shows a mirror image volume identical to the truck mounted register
- RFID 'Scan & Pump' technology helps prevent theft, tracks tank assets, and ensures the right customer gets invoiced (requires on-board computer interface)
- Kits available for all types of electronic and mechanical registers, including dual metered trucks – reads in gallons or liters
- Ideal for "will call" deliveries and monitoring delivery volume while pumping
- Hose Reel remote control allows operator to unwind or rewind delivery hose saving hose wear and tear, and possible injury
- Tank Valves can be opened with automatic "delay" feature to engage PTO/ Cargo Pumps. Allows piping to charge and prevents internal valve slugging with one button push. Saves pump wear by engaging pump only when product line is charged and nozzle is connected to tank
- Engine RPM can be remotely controlled to increase or decrease pump volume
- Emergency-Stop feature closes all tank valves and stops truck engine
- Available with 5-minute 'Query' automatic emergency shutdown feature if radio signal is lost



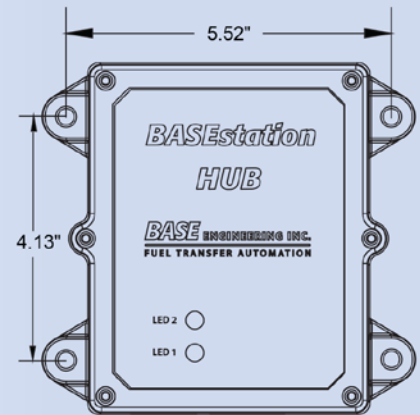
ProControl³ HANDHELD SPECIFICATIONS

SCREEN.....	3.5" color LCD, 240 X 320 (OVGA)
FREQUENCY OF OPERATION	2.4GHz DSS or 900MHz FHS
TRANSMITTER POWER.....	Up to 60mW
METHOD OF TRANSMISSION	56 bit DES encryption key
ANTENNA.....	Internal (no visible antenna to damage)
NOMINAL RANGE.....	1000ft (300m)
FCC APPROVAL #	OUR-XBEEPRO
CONSTRUCTION.....	Designed to IP67 and explosion-proof standards
TEMPERATURE SPECIFICATION	Minus 20°F to 125°F
BATTERY LIFE.....	Up to 12 hours of continuous transmission, with low battery indicator
BATTERY TYPE	Rechargeable Lithium Ion supplied with 12/24VDC charging cradle
ROHS LEAD-FREE COMPLIANT FCC approved system meets US and Canadian DOT requirements for "Off Truck" remote controls.	



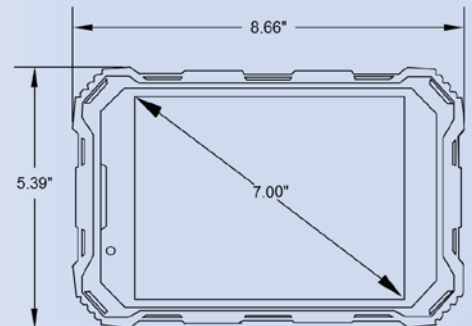
BASEstation HUB SPECIFICATIONS

FREQUENCY OF OPERATION	WiFi: Dual frequency 2.4GHz/5GHz GPS: 1575.42MHz with PC3 RX: 2.4GHz
POWER SUPPLY	12/24VDC
CURRENT LOAD	Up to 3A without RX power. Up to 13A with PC3 RX.
CONSTRUCTION.....	Dust-proof plastic enclosure (water-proof on request)
ANTENNA.....	External combo antenna included
WIRING CONNECTIONS.....	Pre-wired to meet customer requirements, quick connect fittings supplied
TOTAL SYSTEM WEIGHT.....	2.2 lb, 4.2 lb with PC3 RX



BASEstation ANDROID TABLET SPECIFICATIONS

FREQUENCY OF OPERATION	WiFi: Dual frequency 2.4GHz/5GHz GPS: 1575.42MHz
POWER SUPPLY	5V USB
CURRENT LOAD	1.5A when charging
CONSTRUCTION.....	Rugged 7" IP68 water-proof Android tablet
ANTENNA.....	Internal antenna
WIRING CONNECTIONS.....	USB charging cable included
TOTAL SYSTEM WEIGHT.....	1.25 lb
ROHS LEAD-FREE COMPLIANT	



ASKW E-Stop

WIRELESS EMERGENCY STOP SYSTEMS - PORTABLE TRANSMITTERS

The ASKW Emergency Stop handheld is rugged, weather-proof and reliable, even in the most hazardous environments. Providing a mobile, out of cab safety solution, this handheld is the result of over 20 years' worth of industry expertise and real world experience.



- US DOT and Transport Canada Compliant
- Compact polycarbonate receiver units are easily installed using pre-wired electrical harness (supplied)
- Max operating range of 1000ft
- Runs for 300 hours of continuous operation and warns you when batteries are low
- Uses state of the art encryption technology to ensure an interference free, fail-safe signal
- Lightning fast response time - everything stops so you stay safe
- Receivers are energized only during operation and have built-in fail-safe feature, activating E-Stop with any loss of receiver power

● EMERGENCY STOP

EMERGENCY STOP feature closes all tank valves, and kills the truck engine and pump. BASE's 'safety latched' signal causes the tank valve and pump to remain inoperative until a manual system reset is performed. This system meets international regulatory requirements and is available for all types of pneumatic, cable operated or "Flowmatic" type tank valves, and all truck engines.

● QUERY

QUERY option is required on LPG delivery vehicles in some countries and is available on all ASKW systems. This feature requires that the operator periodically press a 'QUERY' button on the remote control to keep the pumping system active. If the operator fails to press the QUERY button within a factory specified time, an audible warning is first sounded followed by activation of the truck's Emergency Stop system. The operator must press the 'QUERY' button during the delivery or audible warning period to reset the timer.

● PTO

PTO or PUMP option extends pump life and increases safety by allowing operator to engage and disengage the PTO and PUMP from hose end at the customer's storage tank. Truck PTO shaft is not turning, pump is not running in bypass, and hose is not charged unless connected to the customers tank. PTO connection can be electric, pneumatic, "hot shift" or "clutch shift". Remote PTO DELAY option automatically opens the tank internal valve 5 seconds prior to engaging PTO, allowing pump and product lines to equalize pressure. This feature prevents an excess flow 'slug' situation which starves the pump of product and may lead to pump failure.

● HOSE REEL

HOSE REEL(s) option allows remote unwind and/or rewind control, greatly reducing effort required to pull the hose off the reel or replace it at the end of the delivery. Potential injury is reduced and productivity is increased through easier hose handling. Easy to install pre-wired hose reel motor solenoid and 70Amp breaker included with this option. System design prevents unwind and rewind circuits from being energized at the same time.

BASE ENGINEERING INC.
 FUEL TRANSFER AUTOMATION

an MEC company

LDS

TRANSPORT LEAK DETECTION SYSTEMS



Designed specifically for propane, anhydrous ammonia and butane transports. DCE certified to meet or exceed all US DOT CFR49 and Transport Canada B620-14 regulations. These systems continually monitor the off-loading process, looking for a rapid change in discharge pressure. These systems detect a separated hose or failed connection and close the tank internal valve within 1/2 second.

Auxiliary control panel available for LDS100 and LDS200 systems to allow driver's side unloading control. Multiple configuration options available for Canadian operations requiring "off truck remote" functionality, optional handheld remote with Query and Emergency Stop.

● **LDS60**

This system has been designed & tested by Design Certified Engineers to meet the compliance requirements of US DOT 49CFR. The low powered control unit continually monitors piping and hose assemblies during the off-loading process. A failed pipe or hose separation will cause the tanks internal valve to close instantly and sound an audible alarm. A simple "reset" button returns the unit to the monitoring state.

LDS60 TECHNICAL SPECIFICATIONS

SYSTEM TYPE	Low powered micro-computer controlled leak detection and shut down
INSTALLATION	"Plug & Play" components (2 hrs)
POWER/GROUND CONNECTIONS	12 volts DC
SYSTEM ACTIVATION	Air supply to internal valve
LEAK DETECTION METHOD	Intrinsically safe pressure transducer
PROBE LOCATION	1/4" NPT coupling in pump discharge pipe
DETECTION CAPABILITY	Partial and complete hose/pipe
RESPONSE TIME	One half (.5) seconds
EMERGENCY STOP METHOD	Closes any tank or all tank internal valves (cable or air)
CALIBRATION	None required
CALIBRATION SELF TEST	Included
OPERATOR SET UP	None required
SELF TEST FEATURE	Included
CONSTRUCTION	Non-sparking, waterproof
WEIGHT	10 lbs

Base Engineering Replacement Parts

Replacement Remotes

Please provide model and serial number on receiver unit



ASK Series



ProControl 2 Series



ProControl 3 Series



CAS1000 - ASK Case
CAS3000 - PC2 Case
CAS4000 - PC3 Case



SOL300
 GT Air Solenoid



REL1150
 Reel Reversing Relay



ASK100-400-UGK-RVC to ASK Upgrade Kit
 Provide Model & Serial Number on Receiver



ENC10ECS
 Electric Actuator for Cabled Bobtails



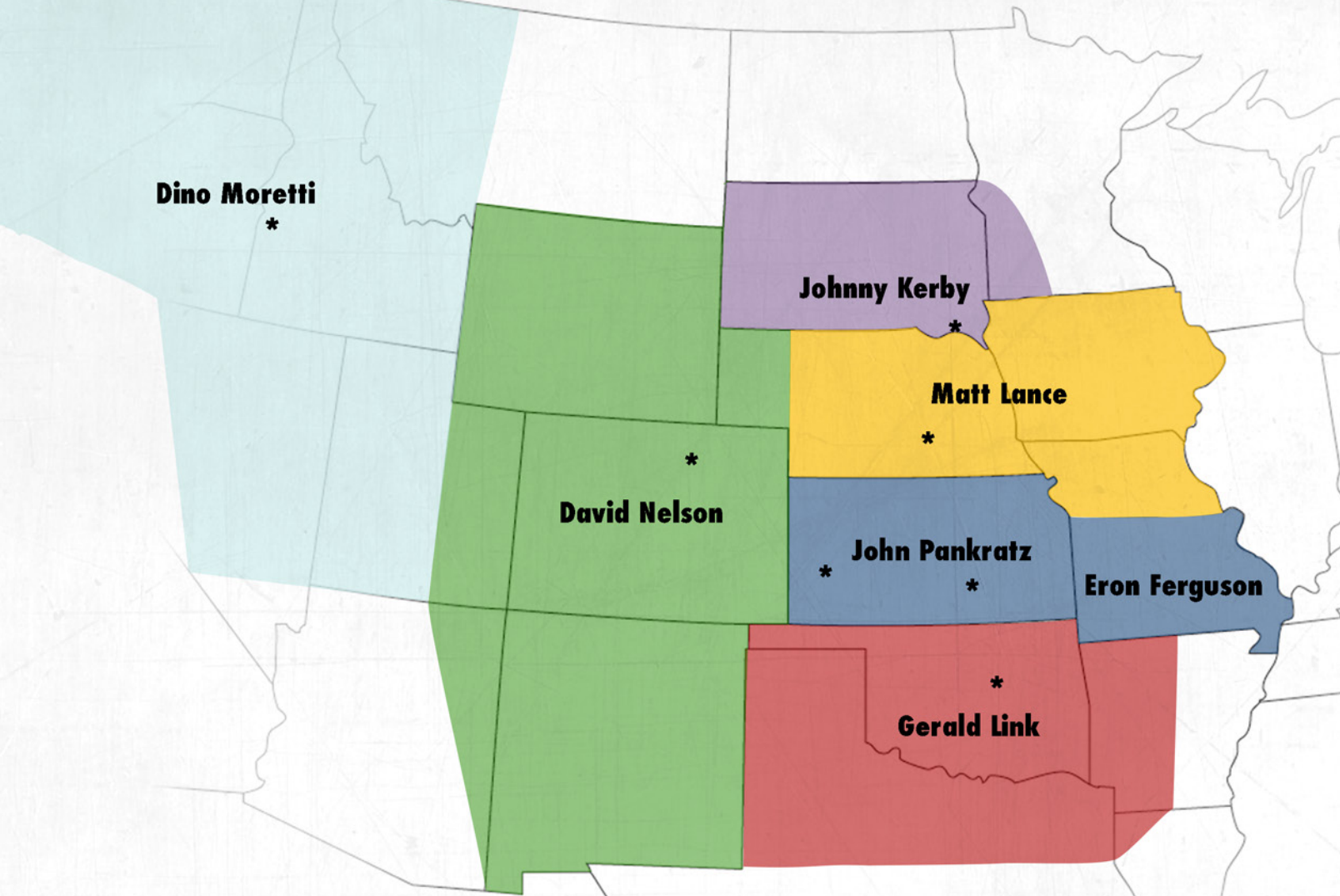
SOL1000
 Air Solenoid



LDS60BUA-UPGRADE
 LDS60 REPLACEMENT HORN



AIR1000
 Norgren Air Solenoid

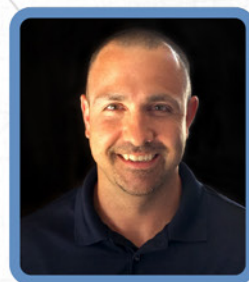


* indicates a Fairbank Location

Meet the LP Guys & Their Territories



David Nelson
 davidn@fairbankequipment.com
 Cell: 970-616-2255



Eron Ferguson
 eronf@fairbankequipment.com
 Cell: 308-379-3141



John Pankratz
 johnp@fairbankequipment.com
 Cell: 316-217-1295



Dino Moretti
 dinom@fairbankequipment.com
 Cell: 208-650-2194



Johnny Kerby
 johnnyk@fairbankequipment.com
 Cell: 605-464-5282



Matt Lance
 mattl@fairbankequipment.com
 Cell: 308-267-8164



Gerald Link
 gerald@fairbankequipment.com
 Cell: 405-820-2032



Fairbank EQUIPMENT

Wichita
KANSAS
(800) 666-5764

Yankton
SOUTH DAKOTA
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