maxquip

Oil & Gas Catalogue [2019]

R-Series Pumps
Model RC20 & RC25

Design

The Ebsray RC Series Regenerative Turbine Pumps are designed and precision-built for high-pressure transfer of LPG, autogas, propane, and butane.

Applications

- LPG Autogas dispensers, single or two hoses (RC25)
- Industrial dispensing
- Autogas refueling
- Marine dispensing
- Portable tanks
- Cylinder filling
- Forklift refueling
- Direct burner or vaporizer feed

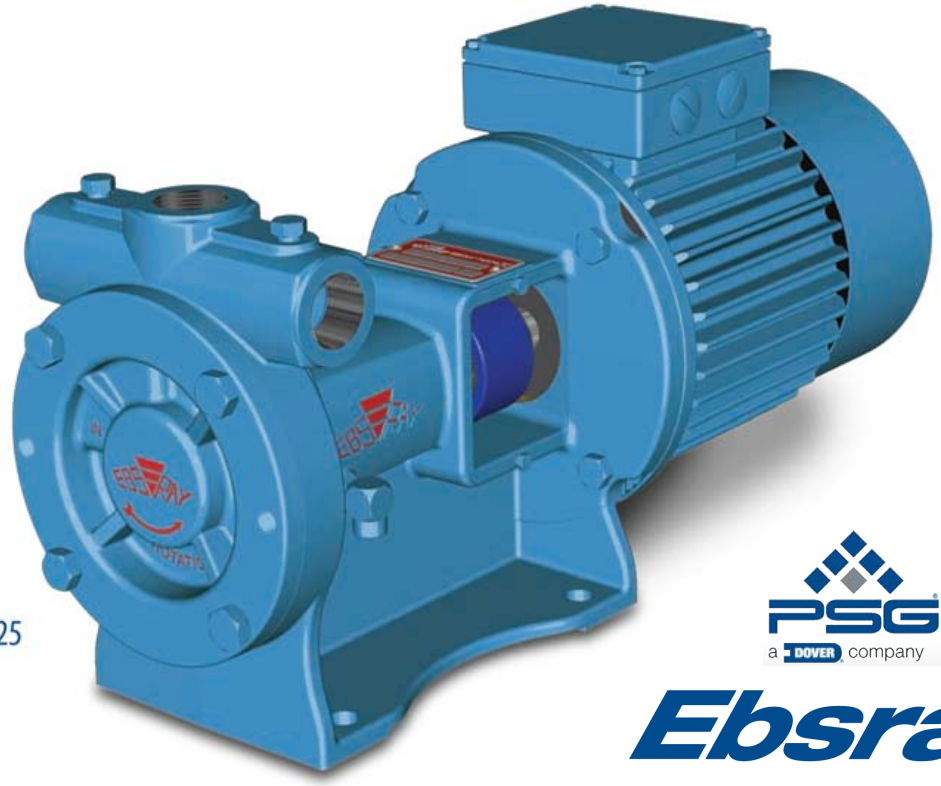
Features & Benefits

- Quiet, vibration-free operation
- Low maintenance, single-stage impeller
- Close coupled to standard NEMA C-face motors. IEC C-face adapters available.
- Simple installation with C-face close coupled mounting
- Versatile 3-port arrangement, self-venting design
- Bypass valve connection port direct on pump
- Balanced mechanical seal, unique cartridge design for simplicity of assembly/maintenance
- Throttle bushing for secondary sealing

Assured Quality & Performance

ISO 9001 Quality System assures compliance with the high safety and quality standards demanded by the LPG industry

Pumps are listed by Underwriters Laboratories for LP-gas service.



Model RC25

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Ebsray

Maximum Operating Limits

Pump Model	Flow Rate (at 3,500 rpm)		Differential Pressure (at 3,500 rpm)		Hydrostatic Test Pressure		Power		Pump Speed	Weight	
	gpm	L/min	psi	bar	psi	bar	HP	kW	rpm	lbs	kg
RC20	15.9	60	200	14	1,015	70	3.2	2.4	3,500	43	19.5
RC25	27.7	150	200	14	1,015	70	4.8	3.6	3,500	43	19.5

Porting:
Inlet: NPT 1" 90° and/or 180°
Discharge: NPT 1" 90° and/or 180°

PUMPS & COMPRESSORS

R-Series Pumps and By-Pass Valves

R Series: Model RC40

Market

The Ebsray RC Series Regenerative Turbine Pumps are single-stage regenerative turbine pumps designed for handling LPG and other gaseous liquids. The RC40 is suitable for the transfer of a wide variety of liquefied gases, including LPG, Autogas, DME, Aerosols, CO_2, Industrial refrigerants and Anhydrous ammonia.

Applications

- Transfer and industrial dispensing
- Cylinder filling
- Fleet refueling
- Forklift refueling
- Direct burner and vaporizer feed
- Above ground and underground tanks

Construction

The RC40 features a single-stage impeller providing high performance with low maintenance requirements. The close-coupled flange design mounts to both 50Hz and 60Hz (NEMA and IEC) electric motors. The unique 3-ported design (two discharge ports) allows flexibility with lowered installation costs. Featuring next-generation hydraulic design, the RC40 optimizes it's class-leading performance and efficiency by using the same sized motor for better performance than it's leading competitors. Cartridge design mechanical seals and bearings are interchangeable with RC20 and RC25. Flanged (ANSI #300 & DIN PN40) and NPT ports all in one body design.

Features & Benefits

- C-Face motor bracket fits NEMA and IEC B5 and B14 Motors
- Close-coupled design can also be long-coupled
- Three-ported design (two discharge ports)
- Simple single-stage design
- Ductile iron pressure retaining parts (Body/cover)
- Shaft: High tensile alloy steel
- Unique cartridge design mechanical seal
- Complies with ATEX, UL51, and AS1596 codes
- Versatile flange options: NPT, ANSI or DIN
- Motor speeds up to 3,500 rpm
- Flow rates to 52.8 gpm (200 L/min)
- Maximum differential pressure to 200 psi (14 bar)
- Hydrostatic test pressure 1,016 psi (70 bar)

Model RC40

Model RC40
with Bypass Valve

Operating Limits

Pump Model	Maximum Differential Pressure		Maximum Working Pressure		Hydrostatic Test Pressure		Minimum Temperature		Maximum Speed
	psi	bar	psi	bar	psi	bar	°F	°C	rpm
RC40	203	14	400	27.6	1015	70	-20.2	-29	3800

Porting:

Inlet: 1-1/2" NPT, Flanged to suit 1-1/2" ANSI Class 300 and DN40 DIN PN40

Outlet: 1" NPT, Flanged to suit 1" ANSI Class 300 and DN25 DIN PN40

Gauge: 1/4" NPT

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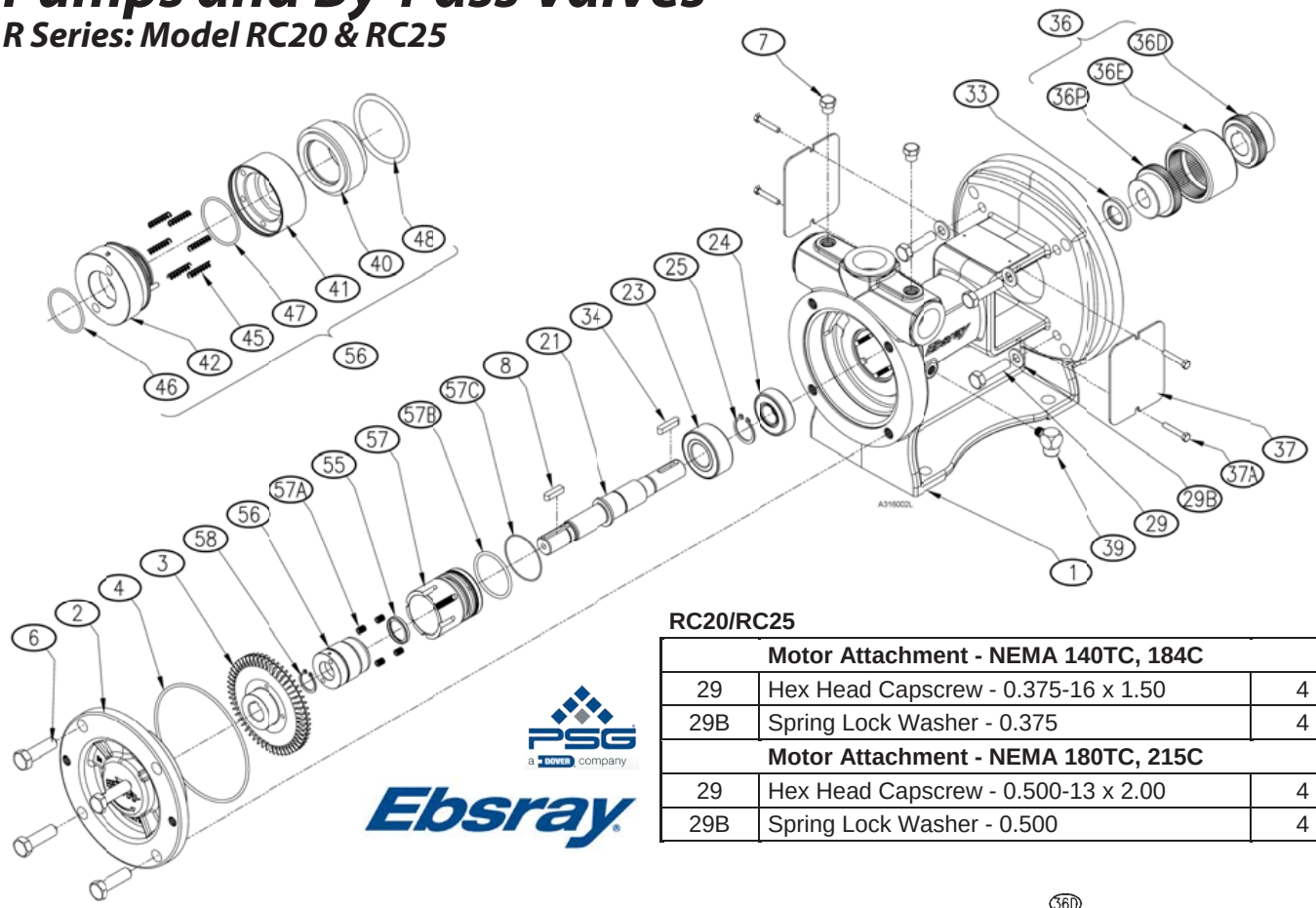
Pumps and By-Pass Valves

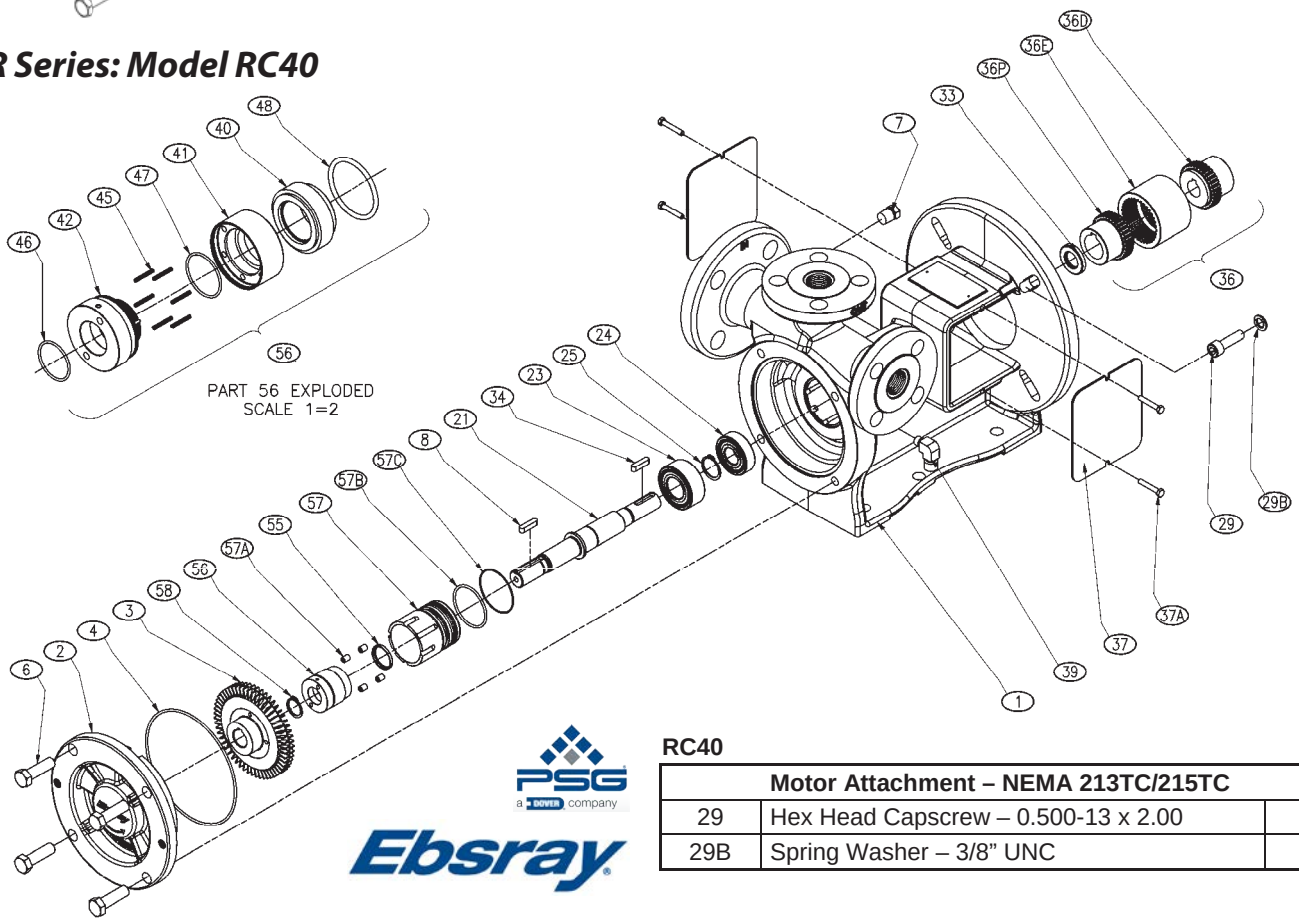
R Series: Model RC20 & RC25



RC20/RC25

	Motor Attachment - NEMA 140TC, 184C	
29	Hex Head Capscrew - 0.375-16 x 1.50	4
29B	Spring Lock Washer - 0.375	4
	Motor Attachment - NEMA 180TC, 215C	
29	Hex Head Capscrew - 0.500-13 x 2.00	4
29B	Spring Lock Washer - 0.500	4

R Series: Model RC40



RC40

	Motor Attachment – NEMA 213TC/215TC	
29	Hex Head Capscrew – 0.500-13 x 2.00	4
29B	Spring Washer – 3/8" UNC	4

PARTS LIST – EBSRAY MODELS: RC20, RC25 & RC40

Cat #	Description	Qty	RC20	RC25	RC40
1	Body - NEMA	1	EBSC317002-1031	EBSC316003-1031	EBSC319001-1037
2	Cover	1	EBSC317200-1031	EBSC316200-1031	EBSC319200-1037
3	Impeller	1	EBSC317300-3012	EBSC316300-3012	EBSC319300-3012
4	O-Ring – Cover	1	EBSD249-4029		EBSD252-4029
6	Hex Head Capscrew, M12-1.75x40	4			
7	Plug –Gauge Tap	2	BLK908198		
8	Key – Impeller, Steel 6x6x20	1			
21	Shaft	1	[1]815702 - EBSC316350-2152		[1]EBSC319350-2152
23	Ball Bearing – Impeller End	1	[1] 815703 - EBSB072		
24	Ball Bearing – Motor End	1	[1] 815704 - EBSB073		
25	Circlip – Bearing	1	[1] 815705 - EBS8177-025S		
33	Dust Seal - Bearing	1	815706 - EBSZ044-4011		
34	Key – Pump Shaft, Steel 6x6x20	1			
36	Coupling Assembly - 0.875 Motor Shaft, NEMA 140TC, 184C	1	EBSL575-028-019-087		
	Coupling Assembly - 1.125 Motor Shaft, NEMA 180TC, 215C	1	EBSL575-028-019-306		EBSL575-038-019-306
	Coupling Assembly - 1.375 Motor Shaft, NEMA 213TC, 215TC	1			EBSL575-038-019-297
	#36D Half Coupling – 0.875 Motor Shaft	0-1			
	#36D Half Coupling – 1.125 Motor Shaft	0-1			
	#36D Half Coupling – 1.375 Motor Shaft	0-1			
	#36E Coupling Element	1			
	#36P Half Coupling – Pump	1			
37	Coupling Guard	2	EBSC316700-3081		EBSC319700-3081
37A	Hex Head Capscrew – Coupling Guard, M5-0.8x30	4			
39	Seal Drain Elbow	1	EBS-8312-012S		
55	Lip Seal - Secondary Seal	1	[1] EBSZ043-4015		
56	Mechanical Seal Assembly	1	[1] EBSL751-25-096-05		
40	Seal Seat	1	EBSC310009-4035		
41	Rotating Seal Face	1	EBSC316625-1043		
42	Seal Sleeve	1	EBSC316650-2162		
45	Seal Spring	6	EBSC753001-2223		
46	O-Ring – Shaft	1	EBSD020-4029		
47	O-Ring – Seal Sleeve	1	EBSD020-4029		
48	O-Ring – Seal Seat	1	EBSD218-4029		
57	Cartridge - Mechanical Seal	1	[1] EBSC316676-1035		
57A	Oval Point Setscrew, 1/4-28x0.375	4			
57B	O-Ring – Cartridge Primary	1	[1] EBSD224-4029		
57C	O-Ring – Cartridge Secondary	1	[1] EBSD032-4029		
58	Circlip - Mechanical Seal	1	[1] EBS8177-020S		
	Quill Assembly, All items marked [1]	1	EBSL316376		EBSL319376

- All items marked [1] are included in the Quill Assembly.

Bypass Valves

Blackmer 1"RV18 & RV19 Inline Bypass Valves

TECHNOLOGY: REGENERATIVE TURBINE

RV Series: Models RV18 & RV19

Bypass/Pressure Relief Valve

The Ebsray Bypass/Pressure Relief Valves are specifically designed for a wide variety of industrial services. The easily adjustable differential-pressure settings provide accurate and repeatable performance that enables full pump flow while maintaining controlled preset maximum pressure.

Applications

- Autogas driveway dispensing
- Forklift refueling
- Aerosol industries
- Agricultural industries
- Marine dispensing
- Cylinder filling
- Direct burner or vaporizer feed

Features & Benefits

- 90° porting arrangement
- Flanged ANSI Class 300 or threaded (NPT) ports available for most models
- Adjustable pressure setting within spring range for optimum dispensing flow rates
- Low pressure rise

EBS RC20-PKG	Pump Kit RC20 Pump with 2 HP Motor & RV18 1" Bypass
EBS RC25-PKG	Pump Kit RC25 Pump with 3 HP Motor & RV18 1" Bypass

Optional valve types-application dependent:

- **CBS** - Constant Bleed System
- **VRS** - Vapour Removal System
- **NRV** - Non-Return Valve (refer Ebsray for details)

Technical Data

Materials:

- Pressure Casings: Ductile iron to ASTM A395
- Elastomers - Viton® – as standard
- Special materials to specification

Porting:

RV18: DN 25/1 in. flanged ANSI 300 screwed NPT(F)
RV19: DN 38/1-1/2 in. flanged ANSI 300 screwed NPT(F)

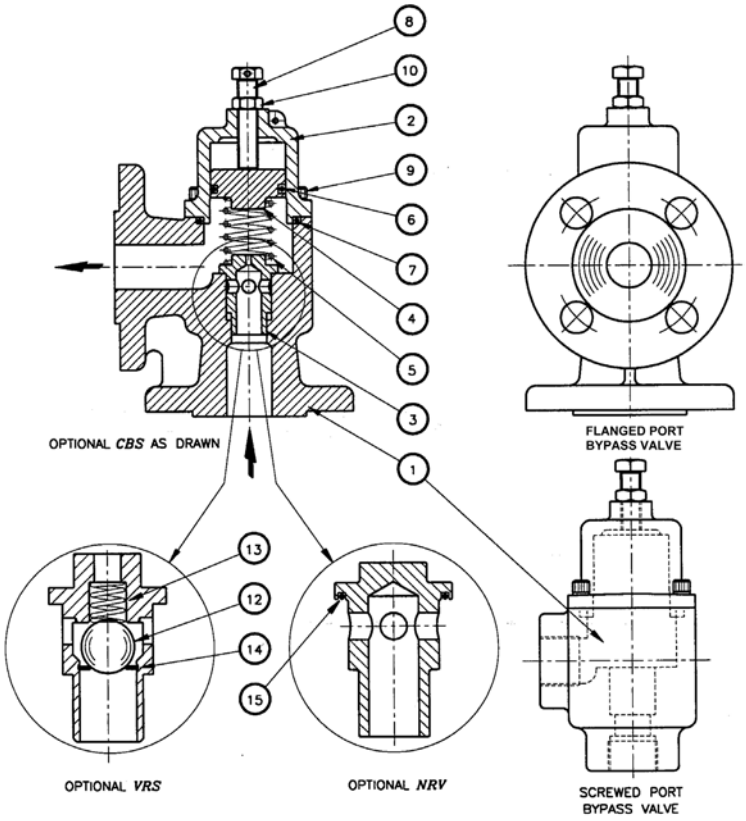
Performance Data

- Max. flows:
  RV18: 200 L/min (52.83 gpm)
  RV19: 600 L/min (158.5 gpm)
- Diff. pressures to 14 bar (200 psi)
- Hydrostatic test pressure: 70 bar (1,016 psi)

Certifications & Associations:

Certified System
Quality
ISO 9001
SAI GLOBAL

RV Series: Model RV18
In-line Bypass/Pressure Relief Valve



Cat#	Description	Qty
1	Housing (flanged/screwed)	1
2	Valve Cover	1
3	Valve	1
4	Spring Cap	1
5	Spring – Bypass	1
6	O-Ring – Spring Cap	1
7	O-Ring – Housing	1
8	Adjusting Screw	1
9	Set Screw	4
10	Lock Nut	1
11	Plug	1
12	Ball	1
13	Spring - Vent	1
14	Circlip	1
15	O-Ring - Valve	1

Note: Reference to drawing enables parts identification for all models (flanged or screwed ports) including valves fitted with CBS, NRV & VRS options.

V Series Pump for Transfer/Process Applications

Model V6000

Designed and precision built for efficient transfer of a variety of liquids over a wide range of viscosities and having lubricating or non-lubricating characteristics.

Features

- 3 Meets API 676 requirements.
- 3 Quiet operation, low NPSHR.
- 3 High overall efficiency.
- 3 Low maintenance - long life.
- 3 Internal wearing parts replaceable without removing pumpfrom system.
- 3 Vanes positively actuated, self compensating for wear.
- 3 Self priming, excellent vapour handling.
- 3 Integral/alternative top porting for Bypass/Relief valve.
- 3 Drive options available to suit many applications
- 3 Shaft Sealing - Balanced, fully retained, multi-spring standard shaft sealing ensures simple maintenance.
- Optional tandem or double arrangements available to suit your application.

Specifications

Flows to ..... 3,750 L/min
Differential pressures to ..... 1,100 kPa
Viscosity range ..... 0.1 to 20,000 cSt
Temperatures to..... 150˚C
Porting..... Flanged DN 150 (6") ANSI Class 150 (ANSI Class 300 Optional)

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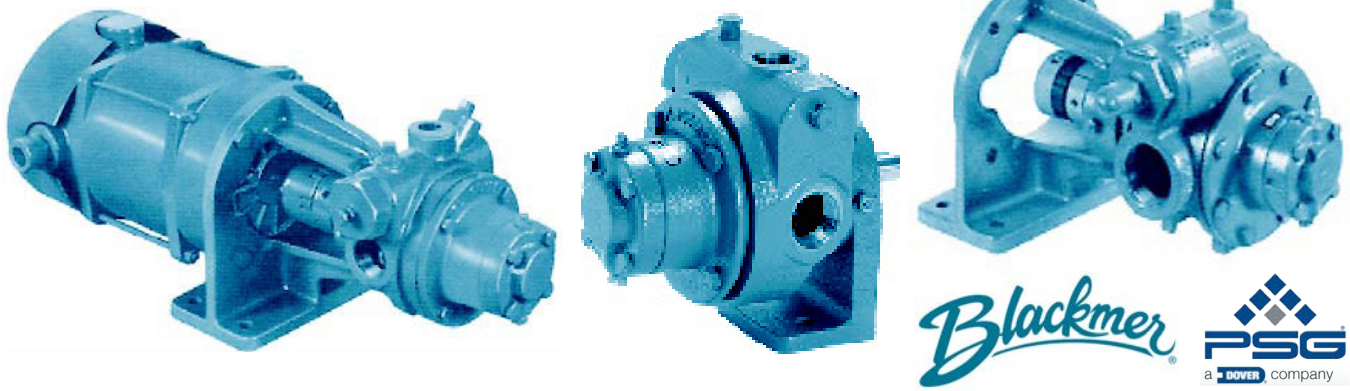
Pump, Motor and By-Pass Valve Packages

Blackmer 1" LPG Pumps

These 1-inch motor speed pumps have long been popular for cylinder filling, small volume motor fueling and supplying small vaporizers. They offer the same heavy-duty construction of larger Blackmer models and are available in two mounting styles and capacity ranges.

The LGF1 model is fitted with an integral bracket and coupling for direct flange mounting to a NEMA C-face motor. This bracket also allows the pump body to be rotated to simplify hookup to piping systems. The LGB1 model is equipped with a coupling and bracket for mounting to a conventional base. The LGF1 and LGB1 models will handle up to 10 U.S. gpm (38 lpm). The LGF1P and LGB1P models offer 50% greater capacity and will handle up to 15 U.S. gpm (57 lpm).
All models have 1-inch 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. This feature lowers installation costs by eliminating the need for a separate bypass valve.

It also assures pressure relief if the back-to-tank bypass line is closed. The valve's unique three-stage operation is shown in Figure 3.
Standard construction materials for these models include Buna-N mechanical seals and Duravanes for handling both LP gas and anhydrous ammonia.
Maximum differential pressure is 125 psi (862 kPa) for both models.



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Assembled Pump Units		Pump and Motor Speed RPM	Approximate Delivery of Propane at Differential Pressures and Pump Speeds Shown				Maximum Differential Pressure		Maximum Working Pressure		Normal Time To Fill LP Gas Cylinders in Minutes		Standard Motor[2]	Motor Size For Mounting on Standard Base	
			50 PSI (345 kPa)		100 PSI (689 kPa)										
Part Number	Factory Relief Valve Setting		GPM	LPM	GPM	LPM	PSI	kPa	PSI	kPa	20 LB (9KG) Cylinder	100 LB (45 KG) Cylinder	HP	Minimum Frame Size	Maximum Frame Size
BLA LGF1E	105 psi (724 kPa)	1,750	8.0	30.3	6.0	22.7	125	862	350	2,413	3/4	3	1	56C	184C
BLA LGB1-DM	105 psi (724 kPa)	1,750	8.0	30.3	6.0	22.7	125	862	350	2,413	3/4	3	1	56	184
BLA LGF1PE	120 psi (827 kPa)	1,750	13.0	49.2	10.0	37.9	125	862	350	2,413	1/2	2	1-1/2	56C	184C
BLA LGB1P-DM	120 psi (827 kPa)	1,750	13.0	49.2	10.0	37.9	125	862	350	2,413	1/2	2	1-1/2	56	184

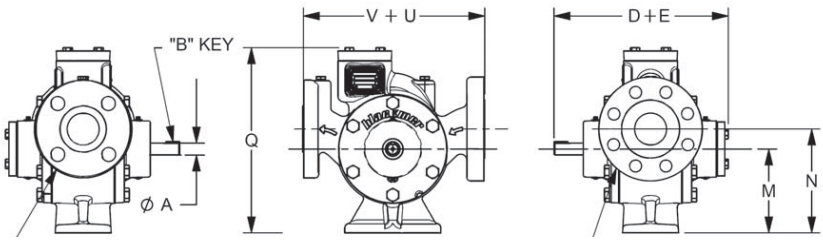
Blackmer LGL158 Continuous Duty High Pressure

1-1/2" Base Mount Pump

Applications
- Single and dual hose fuel dispensers
- Aerosol filling
- Vaporizer feed
- Underground tank applications
- Aboveground tank applications
- Other high differential pressure liquefied gas applications
- U.L. listed for use on propane, butane and butane/propane mixes

Features
- Designed for high differential pressure of 13.7 bar (200 psi)
- Sliding vane, positive displacement design for consistent performance
- Motor speed operation at 1,450 rpm (50Hz) or 1,750 rpm (60Hz) operation
- Suction lift up to 4 meters (13 foot)
- Cavitation suppression liner
- Replaceable liner and discs
- Ductile iron construction
- Flanged inlet and outlet connections
- Factory ISO-9001 certified

Performance at 150 psid (10.3 bar) differential pressure			Maximum Differential Pressure	Relief Valve Setting	Maximum Working Pressure
1,750 rpm	1,450 rpm	1,150 rpm			
32.3 gpm / 5.2 hp	2 gpm / 4.3 hp	17.8 gpm / 3.4 hp	200 psi	225 psi	425 psi
122 lpm / 4 kw	91 lpm / 3.2 kw	67 lpm / 2.5 kw	13.8 bar	15.5 bar	29.3 bar

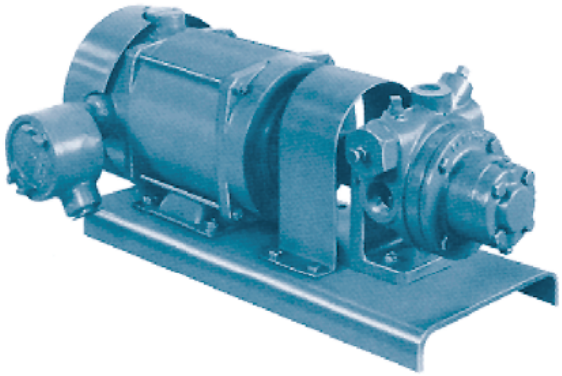


A	B	D + E	M	N	Q	V + U	Weight
3/4"	3/16"	10-15/16"	5-1/4"	6-1/2"	11-9/16"	11-3/8"	80 lb

DM Drive Style
Foot Mounting – Direct Motor Drive
Base mounted units are available, complete with pump, coupling and coupling guard, mounting on a common base, ready to accept a standard NEMA motor. DM units are available with and without electric motors.

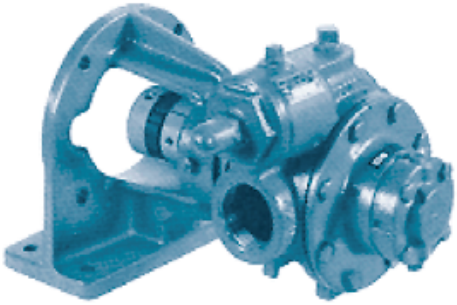
Pump and Motor Kits

All assembled pumps packages come mounted on a C-channel base with drive guard. All belts and sheaves are installed. Please specify pump inlet and outlet flanges as well as motor voltages required. Gear reduced models also available. Motor sizes and voltages may be ordered to fit your exact requirements - we carry pump and motor packages for 1-1/2" size pumps. Please contact your local Maxquip branch for more information.



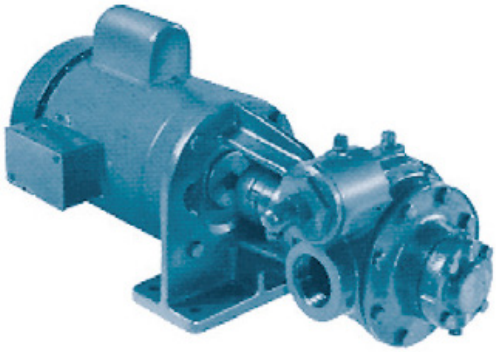
Blackmer 1-1/4 and 1-1/2 LPG Pumps

These durable motor speed pumps offer capacities from 9 to 35 U.S. gpm (34-132 lpm), and are ideal for motor fueling, multiple-station cylinder filling and a variety of small transfer jobs. The LGL models are designed for foot mounting to a common base-plate. The LGLF models are fitted with an integral bracket and coupling for direct flange mounting to a NEMA C-face motor. This bracket also allows the pump body to be rotated to simplify hookup to piping systems. Available with 1.25 or 1.5-inch NPT tapped ports, all models are equipped with an internal safety relief valve, and a replaceable casing liner and end discs for easy rebuilding of the pumping chamber if ever necessary. The LGRLF 1.25-inch model features a special liner, which offers lower flow rates than the LGL 1.25-inch pump. In addition, these pumps offer easy field inspection. Standard construction materials for these models include Buna-N mechanical seals and Duravanes for handling both LP gas and anhydrous ammonia.
Maximum differential pressure is 150 psi (1,034 kPa) for all models.



LGRLF 1.25/LGLF1.25

LGL 1.25/LGL1.5

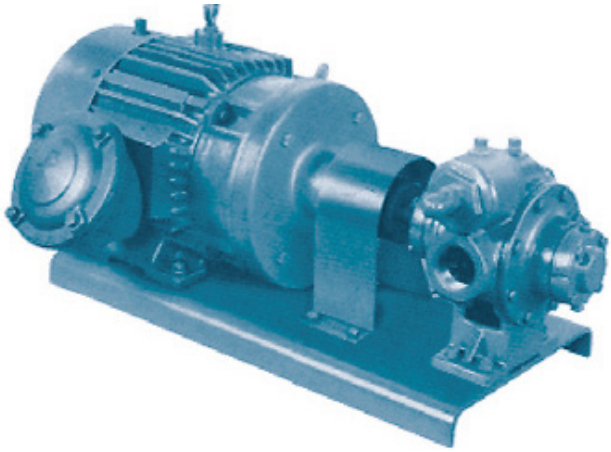


Assembled Pump Unit - LGF Drive Style

Assembled Pump Units		Pump and Motor Speed RPM	Approximate Delivery of Propane at Differential Pressures and Pump Speeds Shown[1]				Maximum Differential Pressure		Maximum Working Pressure		Motor Size For Mounting on Standard Base	
Model	Factory Relief Valve Setting		50 PSI (345 kPa)		100 PSI (689 kPa)		PSI	kPa	PSI	kPa	Minimum Frame Size	Maximum Frame Size
			GPM	LPM	GPM	LPM						
BLA LGRLF1.25A	105 psi (1,034 kPa)	1,750	16.0	60.6	14.0	53.0	150	1034	350	2,413	56C	184C
BLA LGLF1.25	150 psi	1,750	21.0	79.5	18.0	68.1	150	1,034	350	2,413	56C	184C
	(1,034 kPa0	1,150	13.0	49.2	10.0	37.9	150	1,034	350	2,413	56C	184C
BLA LGL1.25	150 psi	1,750	21.0	79.5	18.0	68.1	150	1,034	350	2,413	56	215
	(1,034 kPa)	1,150	13.0	49.2	10.0	37..9	150	1,034	350	2,413	56	215
BLA LGL1.5	150 psi	1,750	33.0	124.9	29.0	109.8	150	1,034	350	2,413	56	215
	(1,034 kPa)	1,150	20.0	75.7	17.0	64.4	150	1,034	350	2,413	56	215

Pump and Motor Packages

All assembled pumps packages come mounted on a C-channel base with drive guard. All belts and sheaves are installed. Please specify pump inlet and outlet flanges as well as motor voltages required. Gear reduced models also available. Motor sizes and voltages may be ordered to fit your exact requirements - we carry pump and motor packages for 1-1/4" to 1-1/2" size pumps. Please contact your local Maxquip branch for more information.



Blackmer®

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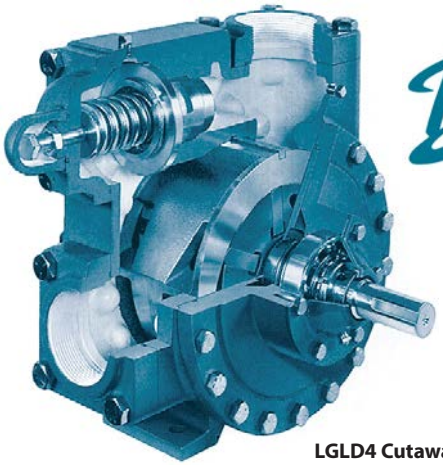
Blackmer 2, 3 and 4" Base Mounted LPG Pumps

These rugged pumps are ideal for bulk plant service, multiple cylinder filling applications, vaporizers, bobtails and transports.
Single or double-ended drive shaft models are offered in 2, 3 and 4-inch port sizes with capacities ranging from 30 to 300 U.S. gpm (114-1,135 lpm).
The LGLD2 and LGLD3 models have long been popular for bobtail service because of their double-ended drive shaft arrangement, which allows the pump to be easily positioned for clockwise or counter-clockwise shaft rotation.
All models have an internal safety relief valve, and a replaceable casing liner and end discs for easy rebuilding of the pumping chamber if ever necessary. Standard construction materials include Buna-N mechanical seals and Duravanes for handling both LP-gas and anhydrous ammonia. Maximum differential pressure for the 2 and 3-inch models is 150 psi (1,034 kPa), and 125 psi (862 kPa) for the 4-inch models. Ports are offered with NPT tapped companion flanges or weld flanges.

Assembled Pump Units		Pump Speed RPM (Using 1,750 RPM Motor)	Approximate Delivery of Propane at Differential Pressures and Pump Speeds Shown				Maximum Differential Pressure		Maximum Working Pressure		Drive Rating (Maximum Horsepower Drive Will Transmit)			Motor Size for Mounting on Standard Base	
			50 PSI (345 kPa)		100 PSI (689 kPa)										
Model	Factory Relief Valve Setting		GPM	LPM	GPM	LPM	PSI	kPa	PSI	kPa	0-3 Hour Duty	3-4 Hour Duty	8-24 Hour Duty	Minimum Frame Size	Maximum Frame Size
BLA LGLD2E	150 PSI (1034 kPa)	660 520 420 330	67 50 40 30	254 189 151 114	57 41 30 23	216 155 114 87	150	1,034	350	2,413	9.2 6.4 4.8 3.1	9.2 6.4 4.8 3.1	7.8 5.4 4.0 2.6	184T 182T 182T 182T	213T 184T 184T 182T
BLA LGLD3F	150 PSI (1034 kPa)	640 520 420 350	133 108 80 59	503 409 303 223	112 84 60 42	424 318 227 159	150	1,034	350	2,413	12.1 8.9 7.3 5.4	12.1 8.9 7.3 5.4	10.2 7.5 6.1 4.5	215T 213T 213T 184T	254T 215T 215T 184T
BLA LGLD4B	150 PSI (1034 kPa)	640 520 420 350	270 220 170 130	1,022 833 644 492	220 180 130 90	833 681 492 341	125	862	350	2,413	26.9 19.6 15.8 11.4	26.9 19.6 15.8 11.4	22.8 16.6 13.4 9.8	254T 254T 215T 213T	284T 256T 256T 215T

Optional Flanges

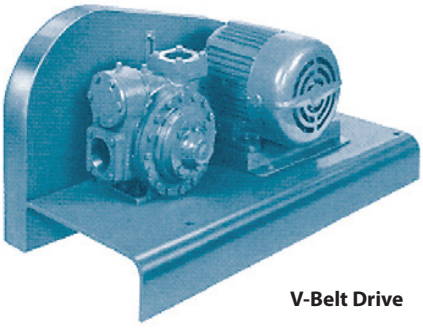
Pump Model	Standard or Optional	Intake	Discharge
BLA LGLD2E	Standard	2" NPT	2" NPT
	Optional	2" Weld	2" Weld
BLA LGLD3F	Standard	3" NPT	3" NPT
	Optional	3" Weld	3" Weld
BLA LGLD4B	Standard	4" Weld	3" Weld
	Optional	3" NPT	3" NPT
	Optional	3" Weld	3" Weld
	Optional	4" Weld	4" Weld



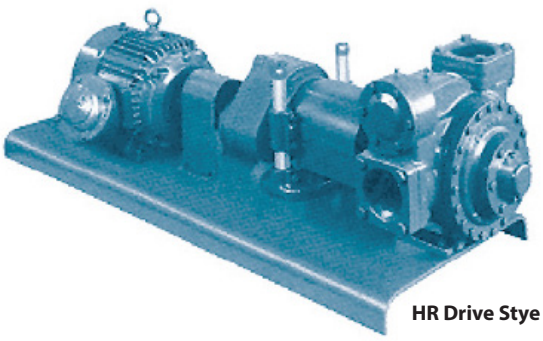
LGLD4 Cutaway

Pump and Motor Packages

All assembled pumps packages come mounted on a C-channel base with drive guard. All belts and sheaves are installed. Please specify pump inlet and outlet flanges as well as motor voltages required. Gear reduced models also available. Motor sizes and voltages may be ordered to fit your exact requirements - we carry pump and motor packages for 2" to 4" size pumps. Please contact your local Maxquip branch for more information.



V-Belt Drive



HR Drive Stye Helical Gear Reduction Drive

PUMPS & COMPRESSORS

Blackmer LGLH2 High Pressure

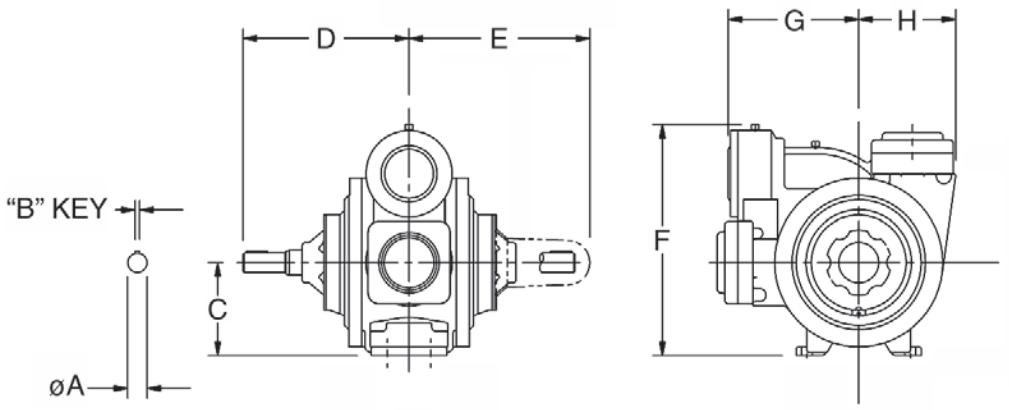
2" Base Mount Pump

Based on Blackmer's industry standard LGLD2 transfer pump, the LGLH2 has the muscle to handle the toughest jobs. Whether pumping from a bobtail to the top of an 8-story building or feeding a vaporizer in the middle of winter – the LGLH2 can do it.

Applications
- High differential pressure bobtail delivery trucks
- High capacity LPG fueling
- Aerosol filling
- Vaporizer feed
- Other high differential pressure liquefied gas applications
- U.L. listed for use on propane, butane and butane/propane mixes

Features
- Designed for high differential pressure of 165 psi (11.4 bar)
- Sliding vane, positive displacement design for consistent performance
- Dimensionally interchangeable with the LGLD2
- Up to 980 rpm operation
- Patented cavitation suppression liner
- Replaceable liner and discs
- Ductile iron construction
- Flanged inlet and outlet connections
- Factory ISO-9001 certified

Performance at 145 psid (10 bar) Differential Pressure			Maximum Differential Pressure	Relief Valve Setting	Maximum Working Pressure
780 rpm	640 rpm	520 rpm			
61 gpm / 11.7 hp	47 gpm / 9.2 hp	32.6 gpm / 7.1 hp	165 psi	190 psi	390 psi
231 lpm / 8.7 kw	178 lpm / 6.9 kw	123 lpm / 5.3 kw	11.4 bar	13.1 bar	26.9 bar



A	B	C	D	E	F	G	H	Weight
1-1/8"	1/4"	4"	8"	8-15/16"	10"	5-1/2"	4-3/16"	85 lb

BV Bypass Valves
U.L. listed BV1.25" and BV1.5" bypass valves with 165 psi (11.4 bar) setting are available for use with the LGLH2.

VB Drive Style
V-Belt Drive
Standard base-mounted VB units are available, complete with pump, hubs, sheaves, high-torque V-belts and belt guard, mounted on a common base, ready to accept a standard NEMA motor. All VB units are available with or without motors. Please contact your local MaX-Quip branch for horsepower and voltage ratings.

HR Drive Style
Helical Gear Reduction Drive
Standard base-mounted HR units are available, complete with pump, Blackmer Helical Gear Reducer, mounting brackets, couplings and coupling guards, mounted on a common base, ready to accept a standard NEMA motor. All HR units are available with or without motors, please contact your local Maxquip branch for ordering options.

Pump and Motor Packages

All assembled pumps packages come mounted on a C-channel base with drive guard. All belts and sheaves are installed. Please specify pump inlet and outlet flanges as well as motor voltages required. Gear reduced models also available. Motor sizes and voltages may be ordered to fit your exact requirements - we carry pump and motor packages for 2" size pumps. Please contact your local Maxquip branch for more information.

Blackmer 3 and 4" Truck Mount LPG Pump

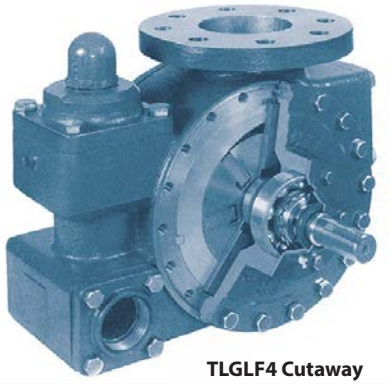
Blackmer TLGLF3 and TLGLF4 pumps are designed to flange mount directly to a commercial internal control valve, in combination with the tank of a bobtail or transport. Direct mounting eliminates the need for inlet pipes, shut-off valve and external strainer which can restrict flow and cause vaporization problems. The result is smoother operation and longer pump life.

Both models are equipped with a double-ended drive shaft for clockwise or counterclockwise rotation by simply changing position of the pump. Each model also has an auxiliary intake port which can be used for emergency unloading of another tank or transport. In addition, these 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.

Standard construction materials for both models include Buna-N mechanical seals and Duravanes for handling both LP-gas and anhydrous ammonia.

The TLGLF3 is widely used on bobtails because of its compact mounting arrangement, with a 3-inch ANSI intake flange and 2-inch auxiliary intake and discharge ports. Capacities range from 60 to 110 U.S. gpm (227 to 416 lpm).

The TLGLF4 offers maximum output rates, and fast turnaround time for transports. It is designed with 4-inch ANSI intake flange, a 3-inch auxiliary intake port, and twin 2-inch discharge ports which permit the use of two hoses, if necessary, to reduce pressure loss when unloading into restrictive receiving systems. Capacities range from 200 to 300 U.S. gpm (757 - 1,135 lpm). Maximum differential pressure for both models is 125 psi (862 kPa).

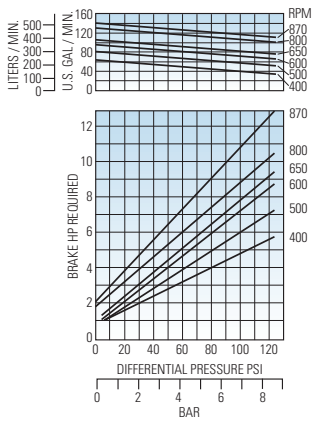


TLGLF4 Cutaway

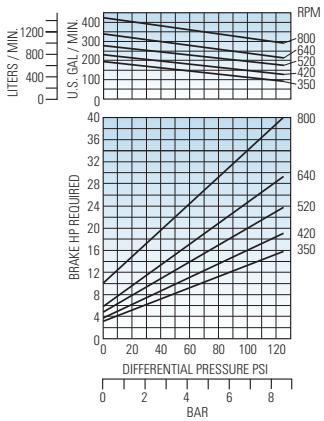
TLGLF3 Cutaway

Standard Pump		Pump Speed RPM	Approximate Delivery of Propane At Differential Presures and Pump Speeds Shown												Maximum Differential Pressure		Maximum Working Pressure	
Model	Factory Relief Valve Setting		50 PSI (345 kPa)						100 PSI (689 kPa)									
			GPM	LPM	BHP	KW	Torque		GPM	LPM	BHP	KW	Torque		PSI	kPa	PSI	kPa
							Ft./lbs	Kg/m					Ft./lbs	Kg/m				
BLA TLGLF3C	150 PSI (1,034 kPa)	870	129	488	6.5	4.8	45.9	6.3	119	450	10.9	8.1	72.5	10	125	8.62	350	24.13
		800	118	449	5.1	3.8	44.2	6.1	107	405	8.7	6.5	69.7	9.6				
		650	93	352	5.0	3.7	40.4	5.6	81	307	7.9	5.9	63.8	8.8				
		600	85	322	4.5	3.4	39.4	5.4	73	276	7.0	5.2	61.3	8.5				
		500	70	265	3.6	2.7	37.8	5.2	59	223	5.7	4.3	59.9	8.3				
		400	52	197	2.8	2.1	36.8	5.1	40	151	4.5	3.4	59.1	8.2				
BLA TLGLF4B	150 PSI (1,034 kPa)	800	350	1,325	22	16	143	20	309	1,158	34	25	223	31	125	8.62	350	24.13
		650	280	1,060	15.5	11.6	125.2	17.3	245	927	25.0	18.6	201.9	27.9				
		600	260	984	14.3	10.7	125.1	17.3	220	833	23.0	17.2	201.3	27.8				
		500	210	795	11.9	8.9	125.0	17.3	170	644	19.0	14.2	199.5	27.6				
		400	160	606	9.5	7.1	124.7	17.2	120	454	15.2	11.3	199.5	27.6				

TLGLF3



TLGLF4



Discharge and Auxiliary Intake Flange Options

Standard Pump	Standard or Optional	Discharge	Auxiliary Intake	Intake
BLA TLGLF3C	Standard	2" NPT Elbow	2" NPT	3" 300# ANSI Flange
	Optional	2" NPT Elbow	2" NPT	
	Optional	2"Weld Elbow	2"Weld	
	Optional	2"Weld Elbow	2"Weld Elbow	
BLA TLGLF4	Standard	Twin 2" NPT	Blank Flange	4" 300# ANSI Flange
	Optional	Twin 2" NPT	3" NPT	
	Optional	Twin 2"Weld	3"Weld	
	Optional	Twin 2"Weld	Blank Flange	
	Optional	Twin 2" NPT	4"Weld	

PUMPS & COMPRESSORS

Bypass Valves

Blackmer Differential Bypass Valves

Blackmer differential bypass valves are designed to protect pumps and system components from excessive pressure damage, and no LP gas pump installation is complete without one. Blackmer offers five different models that provide full-flow pressure control to 250 U.S. gpm (946 L/min) at 120 psid (8.27 Bar). Installation is easy with NPT tapped ports in sizes from 3⁄4" to 2". All models are suitable for both LP gas and anhydrous ammonia service.

In operation, Blackmer valves provide exceptionally close pressure control, even under widely varying bypass flow conditions. The performance curve in Figure 4 below shows how a Blackmer valve maintains a virtually constant pressure of 100 psi (6.89 Bar) even as the volume being bypassed rises from 10 gpm to 100 gpm (38-378 L/min). Although the curve is that of a BV1.5" valve, the precision it demonstrates is typical of any Blackmer valve.

Blackmer bypass valves have no small, easily plugged, sensing passages; and with only two moving parts, their operation is simple and reliable. They open precisely at the preset spring pressure, and they close smoothly and quietly, thanks to the dash-pot design. As shown in the diagram below, a small chamber in the valve stem fills with liquid when the valve opens. This liquid then provides a hydraulic cushion preventing the valve from slamming shut if pressure is suddenly released. It also minimizes chatter and valve seat wear when pressures hover around the crucial limit.

The BV0.75 , BV1, BV1.25, and BV1.5 are all UL Listed for 200 PSI differential.

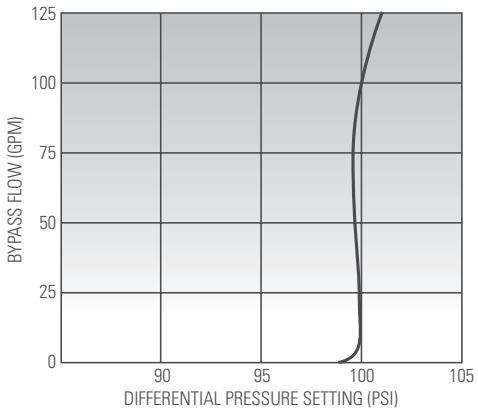
Selection Guide

Model Number	*Description*
Model BV3/4 **Model BV1**	These models are commonly used for cylinder-filling system. Either valve can be used with 1-1/4 or 1-1/2 Blackmer Pumps
Model BV1-1/4 **Model BV1-1/2**	These models are normally used for bobtail trucks and smaller bulk plant systems. Either valve can be used with 2 or 3" Blackmer pumps. Both valves are available with optional springs for use with the LGL 158 or LGLH2.
Model BV2	The BV2 model is widely used for transports or larger bulk plant systems. It is recommended for use with 3 and 4-inch Blackmer pump models. The BV2 is factory set at 125 psi. *(BV2 - Ports have 2-inch NPT companion flanges, 1-1/4-inch and 1-1/2-inch NPT and WELD bolt-on flanges are available)*

Model	Maximum Rated Flow* - GPM (L/PM)			
	20 PSI (138 kPa)	50 PSI (345 kPa)	80 PSI (552 kPa)	120 PSI (827 kPa)
BLA BV.075/BV1	25 (95)	40 (151)	50 (189)	50 (227)
BLA BV1-1/4/BV1-1/2	60 (227)	80 (303)	100 (379)	125 (473)
BLA BV2	150 (568)	180 (681)	220 (833)	250 (946)

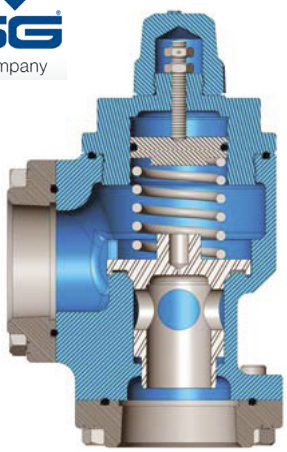
**Normal maximum bypass flow rates without significantly exceeding the set pressure limit.*

Bypass volume/pressure curve BV1.5



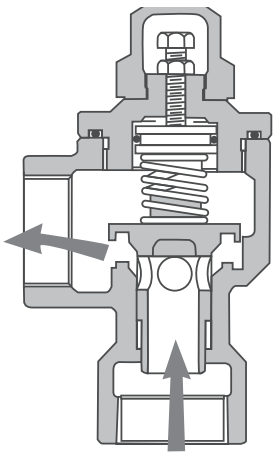
BV.075/BV1

BV2



BV2 cutaway

Bypass valve operation



Dash-pot chamber cushions closing of valve

SGLWD3 & SGLWD4

Sliding Vane Pumps with Double Mechanical Seals

The Double Mechanical Seals in the Blackmer® SGLWD3 and SGLWD4 pumps provide peace of mind and protection against unforeseen leakage of volatile liquids. Specially developed to provide zero leakage, Blackmer's exclusive cartridge type, double seal design is field proven to offer long life and reliable service in a wide range of critical and high vapour pressure applications.

Features & Benefits

- Available with Plan 52: Unpressurized Dual Seals or Plan 53 Pressurized Dual Seals
- Reduction of volatile organic compound (VOC) emissions
- Elimination of liquid leakage
- Eliminates problems experienced with gear pumps:
  - Provides increased pump life
  - Significantly improves offloading times
  - Offers line stripping
- Use the corresponding mechanical seal flush plan – 52, 53A, 53B or 53C
- Cartridge design allows for easy replacement without disturbing heads and internal pump components
- Hardened face next to rotor for axial space savings
- Double seal fits into same axial package as single seal

Performance Data

	SGLWD3			SGLWD4		
Speed (rpm)	640	520	420	640	520	420
U.S. gpm	133	108	80	270	220	170
L/min	503	409	303	1,022	833	643
hp	8.0	6.7	5.2	15.5	12.2	10.0

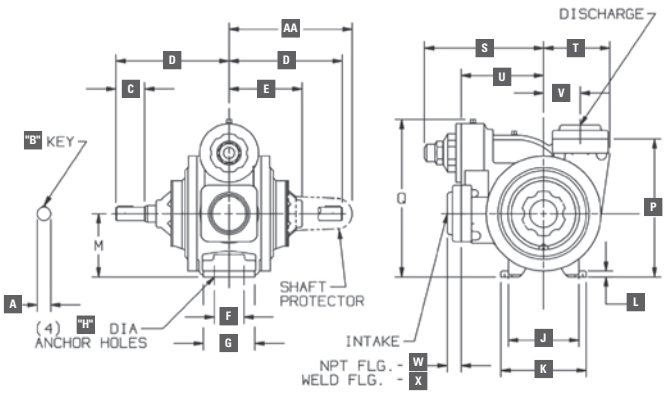
** Approximate data based on handling various liquefied gases as 50 psi (3.45 bar) differential pressure. Refer to characteristic curves for capacities and horsepower at other pressures.*

Maximum Operating Limits

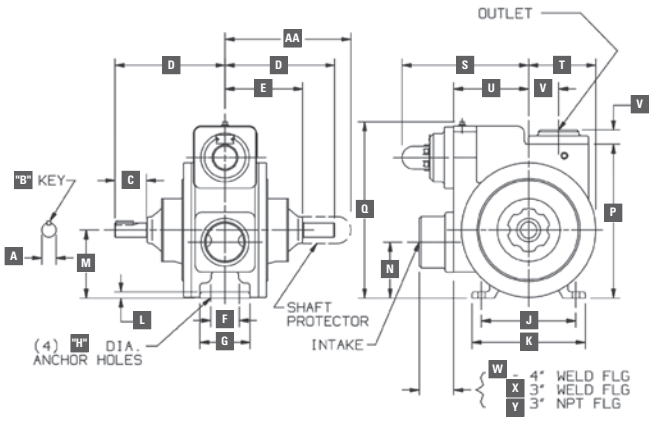
	Nominal Flowrate		Pump Speed	Differential Pressure		Working Pressure		Minimum Temperature	
	gpm	L/min	rpm	psi	bar	psi	bar	°F	°C
SGLWD3	133	503	640	150	10.3	525	36.2	-30	-34
SGLWD4	270	1,022	640	125	8.6	525	36.2	-30	-34

Note: Optional materials of construction may be required to meet specific application requirements – refer to Blackmer Material Specification Sheets.

Dimensions



SGLWD3



SGLWD4

Model		A	B	C	D	E	F	G	H	J	K	L	M	P	Q	S	T	U	V	W	X	AA	Approx. Weight
SGLWD3	in.	1 1/8	1/4	2 7/16	9 5/8	6 5/16	2 1/2	4 3/8	5/8	6	7 1/4	1/2	5 3/8	11 11/16	13 3/8	10 1/4	5 5/8	7	3 1/8	1 1/2	1 3/16	10 3/4	160 lbs.
	mm	28.6	6.4	61.9	244.5	160.3	63.5	111.1	15.9	152.4	184.2	12.7	136.5	269.9	339.7	260.4	142.9	177.8	79.4	38.1	30.2	282.6	72.6 kg

Model		A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	S	T	U	V	W	X	Y	AA	Approx. Weight
SGLWD4	in.	1 1/4	5/16	2 3/4	9 5/8	6 3/4	2 1/2	4 3/8	5/8	8 1/4	9 15/16	9/16	5 15/16	4 7/8	13 7/16	15 7/16	11 1/16	5 7/8	6 5/8	2 5/8	3	1 1/4	1 1/2	11 1/4	205 lbs.
	mm	31.8	7.9	69.9	244.5	171.5	63.5	111.1	15.9	209.6	252.5	14.3	150.9	123.8	341.4	392.2	281.0	149.2	188.3	66.7	76.2	31.8	38.1	285.8	93 kg

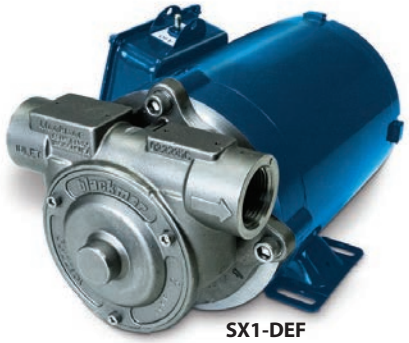
SX1-DEF Series

Sliding Vane Pump for Diesel Exhaust Fluid (DEF)

Recognizing both the opportunities and challenges inherent in the DEF marketplace, Blackmer® has produced a series of sliding vane-style pumps that are dedicated for DEF production and handling. The features and benefits make the SX1-DEF pump a superior solution to low-cost, short-service "throwaway" pumps, which utilize inadequate designs and, in many cases, are constructed of cheaper plastic materials. These competitive models just can't compete with the design, reliability, durability and overall performance of the Blackmer SX1-DEF Series Sliding Vane Pump.

The SX1-DEF pumps offer the following operational features and benefits when dispensing DEF from various sized totes:

- Maximum flow rate: 10 gpm (37.9 L/min)
- Maximum differential pressure: 25 psi (1.7 bar)
- Motor speed: 1,750 rpm
- All 316 stainless-steel construction, including pump shaft
- Duravanes®
- EPDM O-rings
- Commercial mechanical seal
- 180° porting with optional 1" NPT or 1" BSPP tapped ports
- Optional foot-mounted, 0.5-horsepower TENV, C-face close-coupled 12-volt or 110-volt motor
- Integral relief valve with stainless-steel spring
- Meets ISO 22241-3 certification for material compatibility



SX1-DEF

12-volt or 110-volt Motor Option

Characteristic Flow Rates

Pump Model	Pump Speed	Pump Capacity @ 10 psid (0.7 bar) with 30 ssu (1 cSt) Fluid			Maximum Fluid Viscosity at rpm Shown	
	rpm	US gpm	L/min	m^3/h	ssu	cSt
SX1-DEF	1750	8.5	32.2	1.93	30	2.0

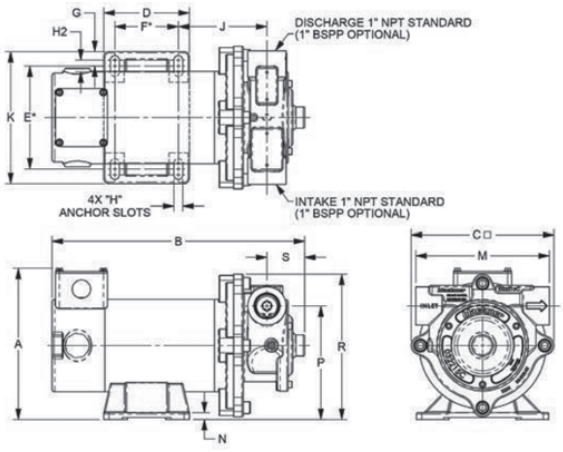
Maximum Operating Limits

Pump Model	Nominal Flow Rate			Pump Speed	Viscosity		Differential Pressure		Temperature	
	US gpm	L/min	m^3/h	rpm	ssu	cSt	psi	bar	°F	°C
SX1-DEF	7.5	28.4	1.7	1750	30	2.0	25	1.72	80	32

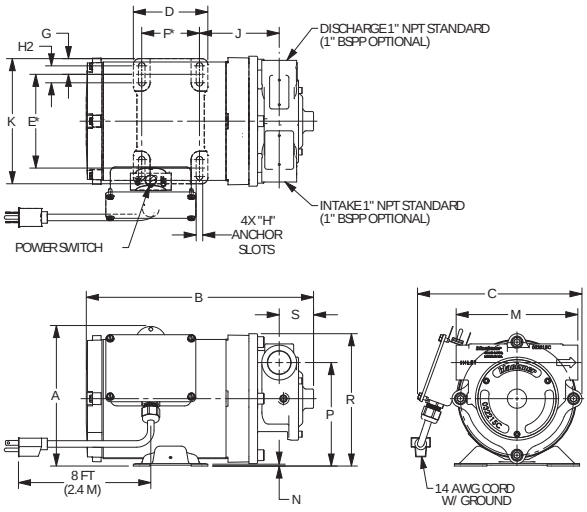
Motor Descriptions

12-Volt
Frame: 56C **Phase:** —
HP: 1/2 **Freq:** —
Volts: 12 DC **Encl:** TENV

110-Volt
Frame: 56CZ **Phase:** 1 PH
HP: 1/2 **Freq:** 60 HZ
Volts: 115 AC **Encl:** TENV



12-Volt



110-Volt

Pump Model		A	B	C	D	E	F	G	H	H2	J	K	M	N	P	R	S	Pump Weight
SX1-DEF 12-Volt	in.	7 1/8	11 15/16	6 3/4	4 1/16	4 7/8	3	11/16	7/16	9/16	4 3/16	6 1/4	6 5/16	5/16	5 3/8	6 7/8	1 13/16	27 lbs,
	mm	181.0	303.2	171.5	103.2	123.8	76.2	17.5	11.1	14.3	106.4	158.8	160.3	7.9	136.5	174.6	46.0	12 kg
SX1-DEF 110-Volt	in.	7 5/16	11 13/16	8 9/16	3 7/8	4 7/8	3	13/16	11/32	7/8	4 1/8	6 1/2	6 5/16	1/8	5 3/8	6 7/8	1 13/16	36 lbs.
	mm	185.7	300.0	217.5	98.4	123.8	76.2	20.6	8.7	22.2	104.8	165.1	160.3	3.2	136.5	174.6	46.0	16.3 kg

GNX & GNXH Series

Alignment Free, Heavy Duty Sliding Vane Pumps

Blackmer GNX and GNXH Series pumps are designed to handle a wide range of non-corrosive, clean industrial liquids and petroleum products. Typical applications include fuel oils, lube oils, jet fuels, gasoline, edible oils and a variety of solvents and thinners such as esters, ketones, naphthas, ethers, amines, aromatics, alcohols, terpenes, glycols and other similar liquids. Blackmer GNX and GNXH Series models are available in 2-, 2.5-, 3- and 4-inch flanged port sizes with capacities from 20 to 500 U.S. gpm (76 - 1,893 L/in). Industrial features include: nozzles porting in both 90° and 180° orientations, alignment-free no coupling design, and commercial grade gear reducer with many ratios to allow for precise flow selections. Provides extended mechanical seal life with locked rotor between bearing design. GNX and GNXH series pumps utilize selfadjusting vane technology to maintain excellent volumetric and mechanical efficiency as well as providing self priming and line stripping capabilities. Zero alignment design makes GNX(H) an Industry first portable solution.

Features & Benefits

- 2", 2.5", 3" and 4" sizes
- Robust commercial-grade gear reducer with expanded ratio options
- Locked rotor between bearing design extends mechanical seal life
- Compact footprint utilizing close coupled, in-line design
- Alignment free design reduces downtime and simplifies maintenance
- Flexible porting – 90° and 180° options
- Advantages of vane technology:
  - More efficient than competitive technologies
  - Sustained high level performance
  - High suction lift and line stripping capabilities
  - Low maintenance and low life cycle costs

Performance Data[1]

60 Hz Data, 1750 rpm motor speed

Pump Model	GNX2, GNXH2							GNX2.5, GNXH2.5							GNX3, GNXH3	GNX4, GNXH4
Rated Pump Speed (rpm)[2]	814	660	518	467	423	353	323	814	660	518	467	423	353	323	TBA	TBA
U.S. gpm	86	69	54	48	43	36	32	155	125	97	87	78	64	58	TBA	TBA
L/min	325	261	203	182	164	135	123	587	472	366	327	295	242	220	TBA	TBA
hp	3.4	2.8	2.2	2.0	1.8	1.5	1.4	6.1	4.8	3.6	3.2	2.9	2.4	2.1	TBA	TBA

50 Hz Data, 1450 rpm motor speed

Pump Model	GNX2, GNXH2							GNX2.5, GNXH2.5							GNX3, GNXH3	GNX4, GNXH4
Rated Pump Speed (rpm)[2]	674	547	429	387	350	292	268	674	547	429	387	350	292	268	TBA	TBA
U.S. gpm	71	57	44	39	35	29	26	127	102	79	71	63	52	47	TBA	TBA
L/min	267	215	166	149	134	110	100	482	387	299	268	240	197	179	TBA	TBA
hp	2.8	2.3	1.8	1.6	1.5	1.2	1.1	5.0	3.9	3.0	2.6	2.3	1.8	1.6	TBA	TBA

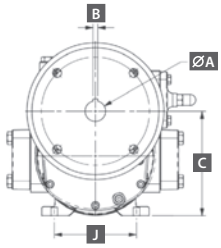
[1] Approximate capacities and horsepower (hp) are based on a 100 ssu (22 cSt) fluid at a 50 psi (3.45 bar) differential pressure. Refer to Characteristic Curves for capacities and horsepower at other pressures and viscosities. Centipoise (cP) = Centistokes (cSt) at fluid specific gravity of 1.0

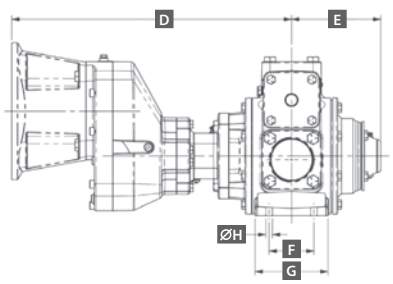
[2] Rated Pump Speed is shown at the seven catalog gear ratios. Five additional ratio options are available upon request: 6.23, 7.69, 8.5, 10.3, & 13.1

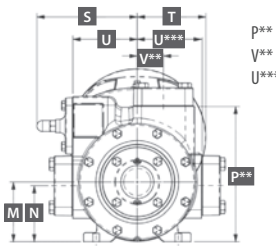
Dimensions

Pump Model		C	E	F	G	H	J	M	N	P	S	T	U	V	W	X	Max. Weight Pump & Gearbox
GNX(H)2	in.	7	5 1/4	1 5/8	3 1/2	7/16	5	4	3 1/2	8 1/8	5 7/8	4 9/16	4	1 1/2	3/4	1 3/16	118 lbs.
	mm	177.8	133.3	41.3	88.9	11.1	127	101.6	88.9	206.4	149.2	115.9	101.6	38.1	19.1	30.2	54 kg
GNX(H)2.5	in.	7	6	3	4 7/8	7/16	5 1/2	4	3 3/4	9 1/16	6 13/16	4 9/16	4 5/16	1 3/4	1 3/16	1 1/4	143 lbs.
	mm	177.8	152.4	76.2	123.8	11.1	139.7	101.6	95.3	230.2	173	115.9	109.5	44.4	30.2	31.8	65 kg
GNX(H)3	in.	TBA															
	mm																
GNX(H)4	in.	TBA															
	mm																

Motor Size	Ø A	B	D GNX(H)2	D GNX(H)2.5
NEMA 140TC	7/8	3/16	16 15/16	N/A
NEMA 180TC	1 1/8	1/4	17 1/4	18
NEMA 210TC	1 3/8	5/16	18	18 3/4
NEMA 250TC	1 5/8	3/8	N/A	18 3/4
IEC 100/112	28mm	8mm	21 5/16	16 13/16







P** dimension applies to GNX models only
V** dimension applies to GNX models only
U*** dimension applies to GNXH models only

PUMPS & COMPRESSORS

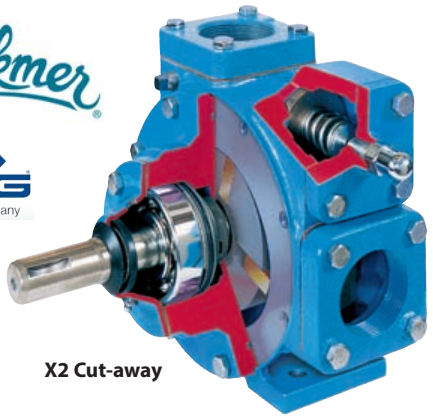
X Series

General Duty Pumps

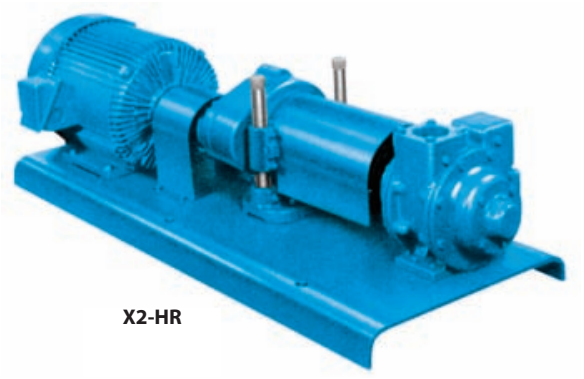
Blackmer's X series models are available in 2, 2.5, 3 and 4-inch flanged port sizes with capacities from 30 to 520 U.S. gpm (114-1,855 L/min). Cast iron construction is standard on all models except the X4 model which is ductile iron construction. All models have external ball bearings isolated from the pumpage by mechanical seals.

X type pumps are designed to handle a wide range of non-corrosive, non-abrasive industrial liquids and petroleum products. Typical applications include fuel oils, lube oils, jet fuels, gasoline, edible oils and a variety of solvents and thinners such as esters, ketones, naphthas, ethers, amines, aromatics, alcohols, terpenes, glycols and many other similar liquids.

Blackmer's positive displacement rotary pumps utilizing their unique sliding vane design offers the best combined characteristics of sustained high level performance, energy efficiency, trouble-free operation and low maintenance cost. Also, the high suction lift capability of these pumps makes them especially suitable for pumping from underground tanks, bulk plant service and aircraft refueling.



X2 Cut-away



X2-HR

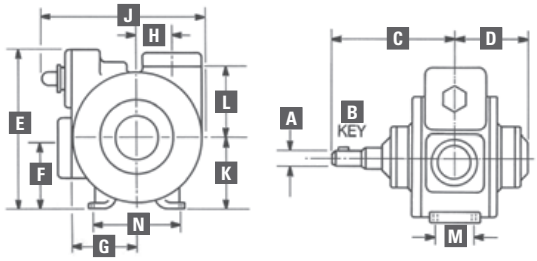
Performance Data*

Pump Model	X2				X2.5				X3				X4				
Rated Pump Speed (rpm)	640	520	420	350	640	520	420	350	640	520	420	350	500	400	300	230	190
U.S. gpm	67	54	43	35	121	97	77	63	270	220	177	146	507	404	299	225	190
L/min	253	204	163	134	457	367	292	240	1023	835	671	544	1919	1532	1135	855	695
hp	2.7	2.2	1.8	1.5	4.7	3.7	2.9	2.3	11.2	8.5	6.5	5.2	20.8	15.9	11.5	8.6	7.0

* Approximate capacities and horsepower (HP) are based on a 100 ssu (22 cSt) fluid at a 50 psi (3.45 bar) differential pressure. Refer to Characteristic Curves for capacities and horsepower at other pressures and viscosities.

Centipoise (cP) = Centistokes (cSt) at fluid specific gravity of 1.0

Dimensions



X Pump Models

Pump Model		A	B	C	D	E	F	G	H	J	K	L	M	N	Approx. Wt. with Std. Flanges
GX2	in.	3/4	3/16	11 9/16	5 3/8	8 11/16	3 1/2	4	1 1/2	9 3/4	4	4 1/8	1 5/8	5	110 lbs.
	mm	–	–	294	137	221	89	102	38	248	102	105	41	127	50 kg
GX2.5	in.	3/4	3/16	12 5/16	6	9 5/8	3 3/4	4 5/16	1 3/4	10 11/16	4	5 1/16	3	5 1/2	130 lbs.
	mm	–	–	313	152	244	95	110	44	271	102	129	76	140	59 kg
GX3	in.	1	1/4	14 1/2	6 1/2	12 3/16	4 5/8	5	2 1/2	13 3/8	5 3/8	5 1/4	2 1/2	6	230 lbs.
	mm	–	–	368	165	310	117	127	64	340	137	133	64	152	104 kg
GX4	in.	1 1/8	1/4	18 5/8	8 1/8	15 1/2	5	7 3/8	2 1/2	16 7/8	6 3/8	8	4 1/2	8	430 lbs.
	mm	–	–	473	206	394	127	187	64	429	162	203	114	203	195 kg

TX & TXD Series

Sliding Vane Pumps

Durable pumps for fast and quiet operation. Sliding vane design provides sustained performance and trouble free operation.

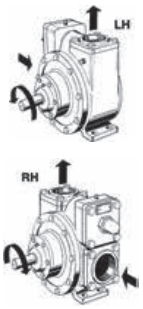
Adjustable relief valve protects pump from excessive pressure. Optional air operated relief valve offers easy hose and nozzle handling. T-type strainers are available to protect pumping systems from damage caused by welding slag and foreign matter in the piping and tanks.

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.

Available in 1.5, 2, 2.5, 3, and 4-inch port sizes with flow rates from 10 to 500 U.S. gpm (2 to 113 m3/h) and pressures up to 125 psi (8.6 bar).

Applications

- Fuel oil delivery truck
- Fleet refueling
- Lube oil
- Aviation refuelers
- Transport of :
  - Petro chemicals
  - Gasoline
  - Biofuels
  - Solvents and many more



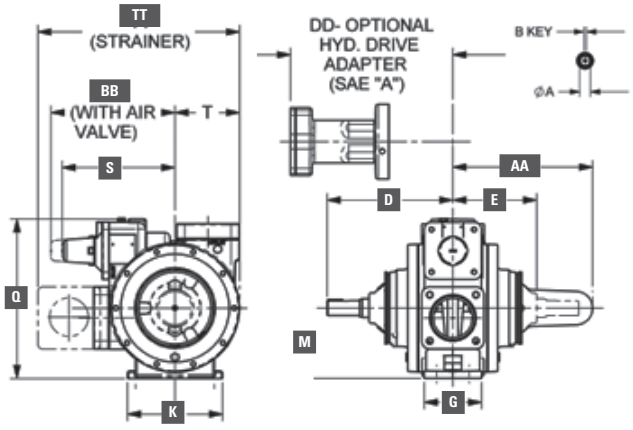
Pump Rotation

Blackmer TXD models are equipped with a double-ended drive shaft for either clockwise (RH) or counterclockwise (LH) rotation. Standard rotation for the TX1.5 is counterclockwise (LH) when viewed from the drive shaft. Standard rotation for the TX4 model is clockwise (RH).

Options

- Buna or PTFE O-rings
- Pneumatic relief valve
- Hydraulic Motor Adapters
- Strainers

Dimensions



Performance Data

Pump Model	TX1.5			TXD2		TXD2.5		TXD3		TX4	
Rated Pump Speed	780	600	400	640	520	640	520	640	520	500	400
gpm	52	40	25	72	58	120	98	263	211	505	405
L/min	197	151	95	273	220	454	371	995	799	1,911	1,533
m^3/h	12	9	6	16	13	27	22	60	48	115	92
hp	2.4	1.9	1.3	3.0	2.5	5.0	3.8	11.1	8.6	18.2	15
kW	1.8	1.4	1.0	2.2	1.9	3.7	2.8	8.3	6.4	13.6	11.2

* Appropriate capacities and horsepower (hp) are based on a 100 ssu (22 cP) fluid a 50 psi (3.4 bar) delivered pressure. Refer to Characteristic Curves for flow rates and torque requirements at other pressures and viscosities.

Model		A	B	D	E	G	K	M	Q	S	T	AA	BB	DD		TT	Approx. Weight	
TX1.5	in.	1 1/8	1/4	7 13/16	5 1/16	3 1/8	6 1/2	4	8 1/2	7	3 9/16	–	–	10 3/8		–	61	lbs.
	mm	–	–	198	129	79	165	102	216	178	90	–	–	264		–	28	kg
														1 1/4" HYD Motor Shaft	1" HYD Motor Shaft			
TXD2	in.	1 1/8	1/4	8	5 1/4	3 1/2	6 1/2	4	8 11/16	6 1/8	3 7/8	8 3/4	8 5/16	10 7/8	10 9/16	12 1/8	70	lbs.
	mm	–	–	203	133	89	165	102	221	156	98	222	211	276	268	308	32	kg
TXD2.5	in.	1 1/8	1/4	8 3/4	6	4 7/8	7	4	9 5/8	6 13/16	3 15/16	9 1/2	8 11/16	11 5/8	11 5/16	13 5/16	94	lbs.
	mm	–	–	222	152	124	178	102	244	173	100	241	221	295	287	338	43	kg
TXD3	in.	1 1/8	1/4	9 5/8	6 7/16	4 3/8	7 1/4	5 3/8	12 13/16	8 9/16	4 15/16	10 11/16	9 7/16	12 3/8		15 3/8	152	lbs.
	mm	–	–	244	164	111	184	137	325	217	125	271	240	314		391	69	kg
TX4	in.	1 1/2	3/8	11	8 1/4	7	9 1/2	6 3/8	15 1/2	8 1/2	6 3/8	–	–	–		–	295	lbs.
	mm	–	–	279	210	178	241	162	394	217	162	–	–	–		–	134	kg

PUMPS & COMPRESSORS

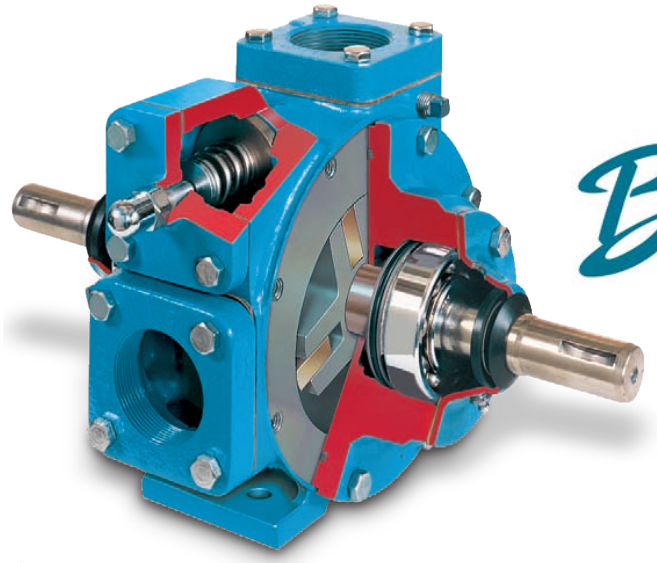
TXV Series

High Temperature, Rotary Vane Pumps dor Asphalts and Viscous Fluids

Blackmer TXV pumps provide high volume, low speed transfer of clean fluids compatible with a cast iron construction. For fluids that do not work well with mechanical seals, a TXV pump is the answer. They are well suited for thick, viscous fluids that can solidify when exposed to the air. The TXV pump models are available in 2 1/2 and 3-inch port sizes. Standard construction includes a special open rotor design that offers easy flushing, bronze vanes, FKM elastomers, PTFE lip seals, high temperature grease lubricated ball bearings isolated from the pumpage and high temperature gasket materials. The TXV pump delivers more fluid per revolution than comparably ported gear pumps. And slower operating speeds mean longer service life and reduced maintenance requirements. The TXV's internal relief valve protects the pump from pressure build-up.

TXV pumps are ideal for handling viscous or shear sensitive fluids. The key to the TXV series' versatility is Blackmer's unique sliding vane rotor design that provides sustained, high level performance over a wide viscosity range. Slow operating speeds and non-pulsating flow minimizes shear and agitation of the fluid. TXV pumps are self-priming, and the self-adjusting vanes help maintain this capability. TXV pumps can run dry for short periods of time for priming.

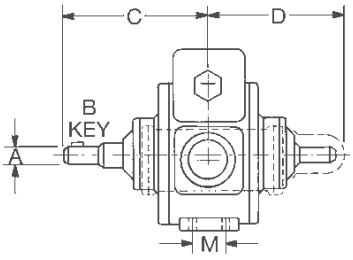
Typical applications for the TXV pumps include: asphalts, greases, lube oils, resins, molasses, bunkered fuels, inks and adhesives.



Characteristic Flow Rates

Pump Model	Pump Speed	Pump Capacity @ 50 psid (345 kPa)					
		1,000 ssu (220 cSt)		5,000 ssu (1,050 cSt)		10,000 ssu (2,200 cSt)	
	rpm	gpm	L/min	gpm	L/min	gpm	L/min
TXV 2.5	640	123	465	—	—	—	—
	520	99	374	99	374	—	—
	420	80	302	80	302	80	302
TXV 3	640	268	1,013	—	—	—	—
	520	218	824	218	824	—	—
	420	175	661	175	661	175	661

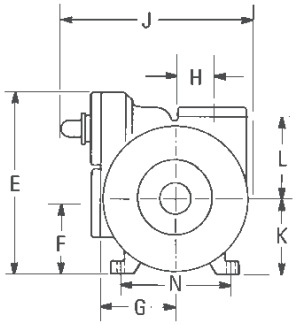
**Refer to Characteristic Curves for flow rates and torque requirements at other pressures and viscosities.*



Pump Dimensions

Pump Model		A	B	C	D	E	F	G	H	J	K	L	M	N	Approx. Wt. with Std. Flanges
TXV 2.5	in.	1 1/8	1/4	8 3/4	9 1/2	9 5/8	3 3/4	4 5/16	1 3/4	12 7/16	4	5 1/16	3	5 1/2	96 lbs.
	mm	–	–	222	241	244	95	110	44	316	102	129	76	140	44 kgs
TXV 3	in.	1 1/8	1/4	9 5/8	10 3/8	12 1/4	4 3/8	5	2 1/2	15 1/4	5 3/8	5 1/4	2 1/2	6	138 lbs.
	mm	–	–	244	270	311	117	127	64	387	137	133	64	152	63 kgs

Refer to catalog dimension sheets for pumps equipped with hydraulic motor adaptors.



STX Series

Stainless Steel Transport Pumps

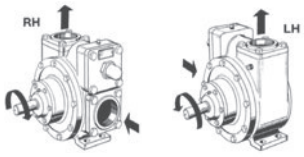
Blackmer's STX Series pumps are made from 316 stainless steel with external ball bearings, non-metallic Duravanes, PTFE elastomers, and Blackmer chemical mechanical seals. The pumps feature an adjustable relief valve, weld flanges and are self-priming. The STX3 has a versatile mounting bracket.

Typical applications are solvents, chemicals, sulfates, vegetable oils, urea and many acids. The STX3 offers flow rates up to 250 gpm (946 L/min) with differential pressures up to 125 psi (8.6 bar) and maximum speed of 800 rpm. The STX1220A offers flow rates up to 92 gpm (348 L/min) and maximum speed of 1,200 rpm, and the STX2A provides flow rates to 60 GPM (227 L/min) and maximum speed of 780 rpm.

Blackmer's STX3 offers fast fluid off-loading. A typical off-loading of a 6,000 gallon (22,700 liter) tanker can be unloaded as quickly as 24 minutes. Blackmer's non-metallic vanes self-compensate for wear and allow the STX Series pumps to run dry for short periods of time for self-priming and blowing lines clean, without pump damage. The STX Series is designed to offer easy maintenance because the internal wear is limited almost completely to the sliding vanes, which can be replaced with ordinary hand tools.

STX2A & STX1220A

STX3



Pump Rotation

Blackmer's STX pump models are equipped with a double-ended straight-keyed drive shaft for either clockwise (RH) or counterclockwise (LH) rotation.

Pump Horsepower Requirements

Pump Model	Pump Speed	30 ssu (1 cSt) Viscosity		100 ssu (21 cSt) Viscosity		1,000 ssu (210 cSt) Viscosity		4,600 ssu (970 cSt) Viscosity	
	rpm	50 psi (3.45 bar)	100 psi (6.9 bar)	50 psi (3.45 bar)	100 psi (6.9 bar)	50 psi (3.45 bar)	100 psi (6.9 bar)	50 psi (3.45 bar)	100 psi (6.9 bar)
STX2A	780	2.4	4.3	–	–	–	–	–	–
	520	1.5	2.9	1.7	3.1	2	3.3	–	–
	350	1	1.9	1	1.9	1.2	2.1	1.6	2.5
STX1220A	1,200	4	6.9	4.2	7.3	–	–	–	–
	1,000	3.4	5.6	3.6	6	–	–	–	–
	700	2.3	3.8	2.4	4.1	–	–	–	–

Pump Model	Pump Speed	30 ssu (1 cSt) Viscosity		50 ssu (13 cSt) Viscosity		500 ssu (105 cSt) Viscosity		5,000 ssu (1,050 cSt) Viscosity		10,000 ssu (2,200 cSt Viscosity		20,000 ssu (4,250 cSt) Viscosity	
	rpm	50 psi (3.45 bar)	100 psi (6.9 bar)	50 psi (3.45 bar)	100 psi (6.9 bar)	50 psi (3.45 bar)	100 psi (6.9 bar)	50 psi (3.45 bar)	100 psi (6.9 bar)	50 psi (3.45 bar)	100 psi (6.9 bar)	50 psi (3.45 bar)	100 psi (6.9 bar)
STX3	800	9.5	17.5	9.8	17.9	11	19.0	–	–	–	–	–	–
	600	6.7	12.8	6.9	13.2	7.6	13.5	10	16.3	–	–	–	–
	400	4.2	8.0	4.3	8.3	4.7	8.5	6.1	10.3	6.9	11.1	8.3	12.4

Refer to Blackmer Characteristic Curves for flow rates and torque requirements for your specific conditions.

Maximum Operating Limits

Pump Model	Nominal Flow Rate			Pump Speed	Viscosity		Differential Pressure		Working Pressure		Temperature	
	US gpm	L/min	m^3/h	rpm	ssu	cSt	psi	bar	psi	bar	°F	°C
STX2A	60	227	13.6	780	4,600	970	125	8.6	200	13.8	240	115
STX1220A	92	348	21	1,200	100	22	125	8.6	200	13.8	240	115
STX3	250	946	57	800	20,000	4,250	125	8.6	200	13.8	240	115

For pump dimensions, refer to Blackmer dimension page 203-101 and 203-103. Pages can be found in the literature section on Blackmer.com.

NP Series

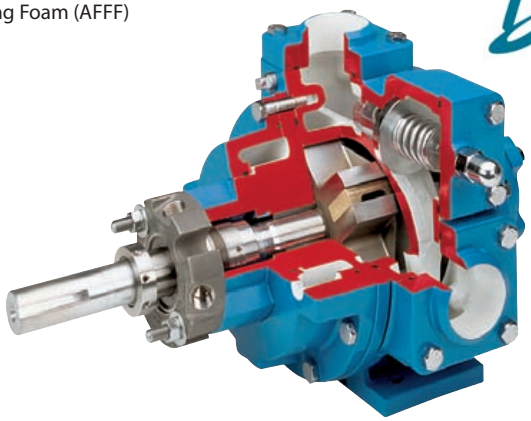
Fluid Processing and Transfer Sliding Vane Pumps

The NP type positive displacement sliding vane pumps are specially designed to offer maximum versatility for handling a wide range of clean, noncorrosive fluids. The high volumetric efficiency and symmetrical bearing support of the NP pumps means they require less horsepower than other PD pumps and up to 50% less power when handling viscous fluids. This means cost savings on both motors and electricity to operate the pumps. The NP pumps are self-priming, and the self-adjusting vanes help maintain this capability. NP pumps can run dry for short periods of time for priming and line stripping. The NP pumps are ideal for handling viscous or shear sensitive fluids. The key to the NP series' versatility is Blackmer's unique sliding vane rotor design that provides sustained, high level performance over a wide viscosity range. Slow operating speeds and nonpulsating flow minimizes shear and agitation of the fluid. Optional Heating Jackets are available if required.

The unique head and bearing design allows a small quantity of fluid to flow from the discharge side of the pump to the bearings. The pumpage is then drawn to the suction side of the pump through passages in the heads. The small, continuous flow of fluid over the bearing surfaces provides a hydrodynamic film, which minimizes temperature rise for longer bearing life.

Applications

- Aqueous Film Forming Foam (AFFF)
- Refined
- FuelsWax
- Greases
- Glues
- Solvents (VOCs)
- Adhesives
- Chocolate
- Creosote
- Syrup
- Asphalt
- Molasses
- Edible Oils
- Black Liquor
- Sodium Silicate
- Tallow



NP2 with Cartridge Mechanical Seal

NP2 with Steam Jackets

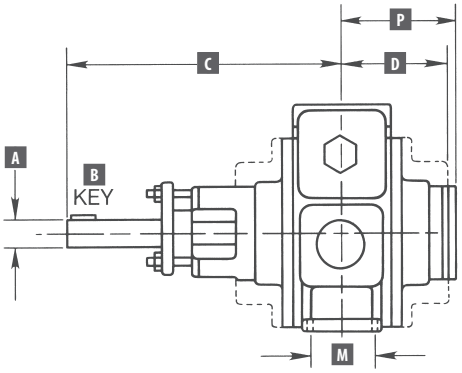
Pump Performance Data*

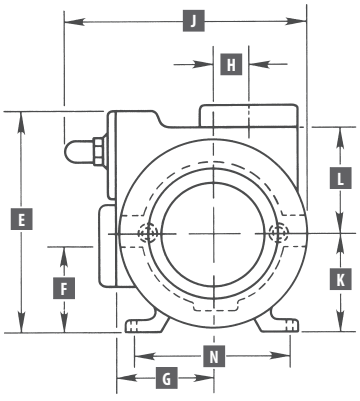
Pump Model	NP1.5				NP2				NP2.5			
ssu	31	1,000	20,000	50,000	31	1,000	20,000	50,000	31	1,000	20,000	50,000
cP	1	210	4,200	11,000	1	210	4,200	11,000	1	210	4,200	11,000
gpm	38	45	24	10	60	70	38	16	110	122	64	28
L/min	144	170	91	38	227	265	144	61	416	462	242	106
Max rpm	640	640	350	155	640	640	350	155	640	640	350	155
bhp	1.7	2.2	2.2	0.9	2.8	2.8	2.6	1.2	4.7	5.1	4.3	2.1
kW	1.3	1.6	1.6	0.7	2.1	2.1	1.9	0.9	3.5	3.8	3.2	1.6

Pump Model	NP3				NP4			
ssu	31	1,000	20,000	50,000	31	1,000	20,000	50,000
cP	1	210	4,200	11,000	1	210	4,200	11,000
gpm	252	268	135	61	512	525	355	155
L/min	954	1,014	511	231	1,938	1,987	1,344	587
Max rpm	640	640	350	155	640	640	350	155
bhp	11.5	12.1	8.8	3.8	20	27	22	9
kW	8.6	9	6.6	2.8	14.9	20.1	16.4	6.7

** Approximate capacities and horsepower (bhp) are for the conditions specified at 50 psi (3.45 bar) differential pressure. Refer to Blackmer Characteristic Curves for capacities and horsepower at other operating conditions.*

Dimensions





Pump Dimensions

Pump Model		A	B	D	E	G	K	N	Q	S	T	V	Approx. Wt. with Std. Flanges
NP1.5	in.	1	¼	3¾	3¾	3⅛	6½	4	8½	7	3⁹⁄₁₆	2¼	47 lbs.
	mm	–	–	95	95	79	165	102	216	178	90	57	21 kg
NP2	in.	1	¼	11¼	4⅞	3½	6½	3½	8¾	5⅞	3⅞	1½	65 lbs.
	mm	–	–	286	124	89	165	89	221	149	98	38	30 kg
NP2.5	in.	1¼	¼	13	5⅞	4⅞	7	3¾	9¹⁰⁄₁₆	6¹³⁄₁₆	3⅞	1¾	92 lbs.
	mm	–	–	330	149	124	178	95	244	173	98	44	42 kg
NP3	in.	1¼	¼	13	5⅞	4⅜	7¼	4¹⁰⁄₁₆	12¼	8⁹⁄₁₆	4⅞	2½	134 lbs.
	mm	–	–	330	149	111	184	117	311	217	124	64	61 kg
NP4	in.	2	½	18	8⅛	7	9½	5	15½	10⁹⁄₁₆	6⅜	2½	314 lbs.
	mm	–	–	457	206	178	241	127	394	268	162	64	142 kg

Note: Please refer to Blackmer catalog Dimension Sheets for optional jacketed head dimensions and NPT, weld neck, ANSI or DIN compatible companion flange dimensions.

V Series Pump for Transfer/Process Applications

Model V6000

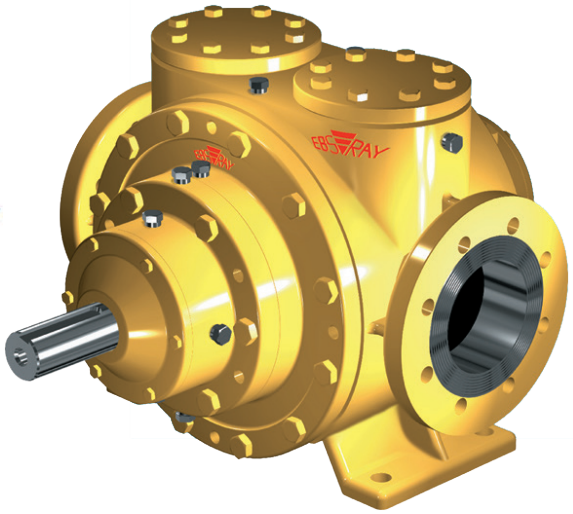
Designed and precision built for efficient transfer of a variety of liquids over a wide range of viscosities and having lubricating or non-lubricating characteristics.

Features

- 3 Meets API 676 requirements.
- 3 Quiet operation, low NPSHR.
- 3 High overall efficiency.
- 3 Low maintenance - long life.
- 3 Internal wearing parts replaceable without removing pumpfrom system.
- 3 Vanes positively actuated, self compensating for wear.
- 3 Self priming, excellent vapour handling.
- 3 Integral/alternative top porting for Bypass/Relief valve.
- 3 Drive options available to suit many applications
- 3 Shaft Sealing - Balanced, fully retained, multi-spring standard shaft sealing ensures simple maintenance.
- Optional tandem or double arrangements available to suit your application.

Specifications

Flows to ..... 3,750 L/min
Differential pressures to ..... 1,100 kPa
Viscosity range ..... 0.1 to 20,000 cSt
Temperatures to..... 150˚C
Porting..... Flanged DN 150 (6") ANSI Class 150 (ANSI Class 300 Optional)



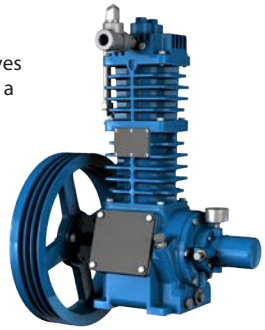
Compressors

LB081 Compact Oil-Free Gas Compressors for Liquid Transfer and Vapour Recovery

Blackmer oil-free gas compressors deliver high efficiency in handling propane, butane, anhydrous ammonia and other liquefied gases.

At about half the capacity of the Blackmer LB161, the LB081 is well suited to small plants or vessels. Equipped with high efficiency valves, steel pistons, self-adjusting piston rod seals and other robust features, these compressors are designed to provide maximum performance and reliability under the most severe service conditions and offer the best combined characteristics of sustained high level performance, energy efficiency, trouble-free operation and low maintenance cost.

High efficiency valves that move more gas volume, the heart of any compressor is its valve assembly and Blackmer valves are specifically designed for non-lubricated gas applications. With precisely engineered clearances, spring tension, and a special finish, these valves seat more positively so more gas is moved with each piston stroke.
Blackmer valves offer greater strength, quiet operation, and long life.



Applications well suited for the LB081 include:

- Small tank unloading
- Portable evacuation skids
- Line stripping
- Vapour recovery

Compressor Selection Data: Propane and Anhydrous Ammonia

Model	Speed	Approximate Liquid Transfer Delivery[1]		Piston Displacement		Driver Size[2]		Pipe Diameter[3]			
								Vapor		Liquid	
	rpm	U.S. gpm	L/min	CFM	M³/H	hp	kW	in.	mm	in.	mm
LB081	425	25	93	4.2	7.2	1.5	1.1	0.75	19	1.5	38
	560	32	123	5.6	9.5	3	2	0.75	19	1.5	38
	715	41	157	7.2	12.2	3	2	1	25	1.5	38
	780	45	171	7.8	13.3	5	4	1	25	1.5	38
	810	46	174	8.1	13.8	5	4	1	25	1.5	38

1 Delivery will depend on proper system design, pipe sizing and valve capacity.

2 Horsepower is for liquid transfer and vapor recovery in moderate climates.
For liquid transfer without vapor recovery, horsepower will be lower.
For severe climates, contact your Blackmer representative for horsepower required.

3 Use next larger pipe size if piping exceeds 100 feet (30 meters).

Compressors

LB161, LB361, LB601 & LB942 Compressors

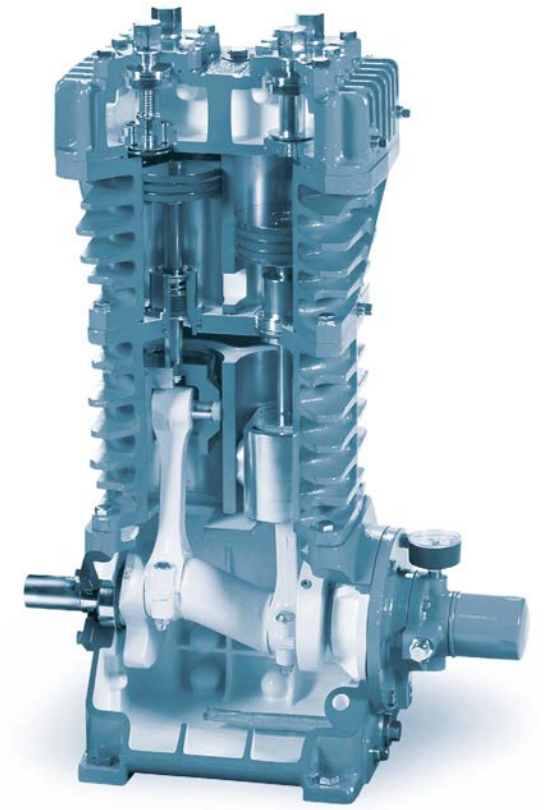
Oil-Free Gas Compressors for Liquid Transfer and Vapour Recovery

Blackmer oil-free gas compressors deliver high efficiency in handling propane, butane, anhydrous ammonia and other liquefied gases. They are ideal for rail car unloading and vapour recovery applications.
The single-stage, reciprocating compressors are designed to give maximum performance and reliability under the most severe service conditions. All pressure parts are of ductile iron construction for greater resistance to both thermal and mechanical shock. They are designed for ease of maintenance, with all components readily accessible.

Models are available with capacities from 7 to 125 CFM (11.9 to 212 m3/h) with working pressure up to 425 psia (2,931 kPa).

Standard Compressor Packages
Blackmer offers a variety of factory assembled compressor packages to fit most application requirements. Standard base mounted units are available in the following styles:
CO - COMPRESSOR ONLY Includes basic compressor with flywheel.
B - BASE MOUNTED UNIT
Includes compressor, pressure gauges, formed steel base, V-belt drive with belt guard, and adjustable motor base motor.
E - EXTENDED SHAFT Includes compressor with flywheel and extended crankshaft.
TU - TRANSFER UNIT Includes compressor, pressure gauges, formed steel base, liquid trap assembly with a mechanical float, V-belt drive with belt guard, and adjustable motor base, less motor.
TC or TW - TRANSFER UNIT Includes compressor, pressure gauges, formed steel base, ASME code stamped liquid trap assembly (complete with relief valve and a NEMA 7 electric float switch for Propane service), V-belt drive with belt guard, and adjustable motor slide base.
LU - LIQUID TRANSFER/VAPOR RECOVERY UNIT Includes compressor, pressure gauges, formed steel base, liquid trap assembly with a mechanical float, inlet strainer, interconnecting piping, 4-way valve, V-belt drive with belt guard, and adjustable motor base, less motor.
LC or LW - LIQUID TRANSFER/VAPOUR RECOVERY UNIT Includes compressor, pressure gauges, steel base, ASME code stamped liquid trap assembly (complete with relief valve and a NEMA 7 electric float switch for Propane service), inlet strainer, interconnecting piping, 4-way valve, V-belt drive with belt guard, and adjustable motor base, less motor.

All Compressor models are available with or without motors or accessories. Special engine drives, control panels and custom emergency evacuation units can be furnished on a special order basis. Maxquip can also provide custom bases and drive systems. Please contact your local Maxquip branch for all available options.

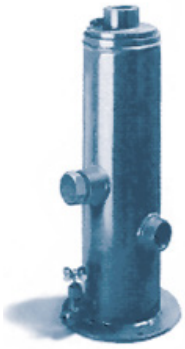


Multiple Seal Options
For applications that require maximum leakage control, double piston rod seals and a distance piece chamber are available for all Blackmer LB compressors. Blackmer also offers a line of singe and two-stage industrial gas compressors with double or triple piston rod seals and air or water cooling.

Consult your Maxquip branch for more information and specifications.

Optional Accessories

Motors:	Standard voltage and sizes in stock.
Motor slide rails:	Offer easy adjustment for standard motor frame sizes.
Engines:	Diesel, propane or gasoline fueled engines available.
Pressure gauges:	Standard 1⁄4-inch NPT liquid-filled for head mounting.
Extended crankshaft:	For direct drive mounting, or V-belt drive applications.
Base plates:	Formed steel or fabricated skid type.
Belt guards:	Heavy-duty 14-gauge steel, stainless steel or non-sparking aluminum construction.



Liquid traps:
Available with a mechanical float or electric float switch, or both. ASME construction also available.

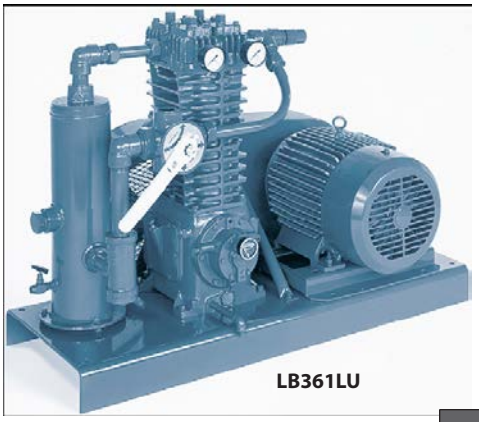
Vapour strainer assembly:
Features a 30-mesh replaceable stainless steel screen and ductile iron body.

Four-way valve:
With handle and easy-to-read flow direction indicator. Ductile iron construction.

Compressor Packages

To select a compressor that best fits your application requirements, use the charts shown. The data provided is based on approximate delivery rates when handling propane or anhydrous ammonia. Actual capacities will depend upon line restrictions, size and length of piping. Horsepower requirements for both liquid transfer and vapor recovery applications are based on moderate climatic conditions.

NG/NGS/NGH Series also available - contact us for more information.
Contact us with your specifications and we can create a custom package to meet your project needs.



LB361LU

HD 942

Blackmer

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LB601

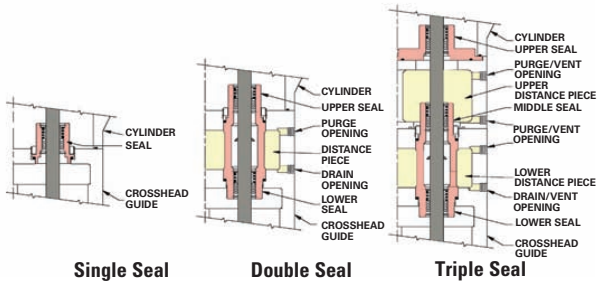
Eningeering Specifications	Compressor Model			
	LB161 LB162	LB361 LB362	LB601 LB602	LB942
Bore - Inches (mm)	3.0 (76.2)	4.0 (101.6)	4.625 (117.4)	4.625 (117.4)
Stroke - Inches (mm)	2.5 (63.5)	3.0 (76.2)	4.0 (101.6)	4.0 (101.6)
Piston Displacement CFM (m^3/h) @ 100 rpm @825 rpm	2.0 (3.4) 16.5 (28.0)	4.3 (7.3) 35.5 (60.3)	7.7 (13.1) 63.5 (107.9)	14.9 (25.38) 123 (209)
Compressor Speed Minimum rpm Maximum rpm	 350 825	 350 825	 350 825	 350 825
Maximum Working Pressure - psia (kPa)	350 (2,413)	350 (2,413)	350 (2,413)	350 (2,413)
Maximum Brake Horsepower (kw)	7.5 (6)	15 (11)	30 (22)	50 (37)
Max. Discharge Temperature F (C)	350 (177)	350 (177)	350 (177)	350 (177)
Max. Compression Ratio Continuous Duty Intermittent Duty	 5 9	 5 9	 5 9	 5 9

Model	Speed	Approximate Liquid Transfer Delivery		Piston Displacement		Driver Size		Pipe Diameter			
								Vapor		Liquid	
	RPM	US GPM	LPM	CFM	M^3H	HP	KW	In.	mm	In.	mm
BLA LB161 BLA LB162	425	49	186	8.5	14.4	3	2	1	25	2	50
	560	65	246	11.2	19.0	5	4				
	715	83	314	14.3	24.3	5	4	1-1/4	32		
	780	90	341	15.6	26.5	7.5	6				
	825	95	360	16.5	28.0	7.5	6				
BLA LB361 BLA LB362	495	123	466	21.3	36.2	7.5	6			2-1/2	65
	540	134	507	23.2	39.5	10	6				
	650	161	609	28.0	47.5	10	7	1-1/2 - 2	38-50	3	80
	780	194	734	33.5	57.0	15	7				
	825	205	776	35.5	60.3	15	11				
BLA LB601 BLA LB602	550	245	927	42.4	72.0	15	11	2 - 2-1/2	50-65	4	100
	640	285	1,079	49.3	83.7	20	11				
	735	327	1,238	56.6	96.2	20	15				
	790	351	1,329	60.8	103.4	25	19				
BLA LB942	470	400	1,514	70	119	25	19	3 - 4	76-102	6	152
	656	480	1,817	84	143	30	22				
	750	640	2,422	112	190	40	30				
	825	700	2,650	123	209	50	37				

Oil Free HD Compressors

Blackmer process compressors provide efficient and quiet delivery of oil-free gas or air. These heavy-duty single and two-stage stationary compressors combine advanced design technology and state of the art materials to give maximum performance with minimum maintenance. HD Models are air-cooled and HDL Models have liquid-cooled head and cylinders. Complete custom packages are available, contact Maxquip for more information!

Duplex HD613
two-stage triple-seal compressors with control panel for natural gas pressure boosting operation.



Single-Stage Models

Single-Seal Double-Seal Triple-Seal	HD161 HD162 HD163	HDL322	HDL342 HDL343	HD361 HD362/HDL362 HD363/HDL363	HDL642 HDL643	HD602/HDL602 HD603/HDL603	HD942/HDL942 HD943/HDL943
Number of Cylinders	2	2	2	2	2	2	2 (Double Acting)
Bore - in. (mm)	3.0 (76)	2.0 (51)	2.69 (68)	4.0 (102)	3.25 (83)	4.625 (117)	4.625 (117)
Stroke in. (mm)	2.5 (64)	3.0 (76)	3.0 (76)	3.0 (76)	4.0 (102)	4.0 (102)	4.0 (102)
Maximum Allowable Working Pressure - psia (bara)	350 (24.1)	1,000 (69)	750 (51.7)	350 (24.1)	750 (51.7)	350 (24.1)	350 (24.1)
Minimum/Maximum rpm	350 / 825	350 / 825	350 / 825	350 / 825	350 / 825	350 / 825	350 / 825
Piston Displacement @100 rpm - CFM (m^3/hr) @Min rpm - CFM (m^3/hr) @Max rpm - CFM (m^3/hr)	 2.05 (3.48) 7.16 (12.2) 16.9 (28.7)	 1.09 (1.85) 3.81 (6.49) 9.00 (15.3)	 1.97 (3.34) 6.89 (11.71) 16.25 (27.61)	 4.36 (7.41) 15.3 (26.0) 36.0 (61.2)	 3.84 (6.5) 13.4 (22.8) 31.7 (53.8)	 7.78 (13.2) 27.2 (46.3) 64.2 (109.0)	 14.99 (25.47) 52.46 (89.1) 125.2 (212)
Max. bph (kW)	10 (7.5)	15 (11)	15 (11)	15 (11)	40 (30)	40 (30)	50 (37)
Wt. w/Flywheel - lb. (kg)	~225 (102)	~385 (175)	~375 (170)	~365 (166)	~705 (320)	~705 (320)	~905 (410)
Inlet / Outlet Connections	0.75" NPT	1.5" 600# ANSI	1.5" 600# ANSI	1.5" 300# ANSI	2" 600# ANSI	2" 300# ANSI	2" 300# ANSI

Two-Stage Models

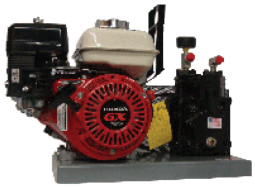
Double-Seal Triple-Seal	HD172 / HDL172 HD173 / HDL173		HD372 / HDL372 HD373 / HDL373		HD612 / HDL612 HD613 / HDL613	
	1st Stage	2nd Stage	1st Stage	2nd Stage	1st Stage	2nd Stage
# Cyl. per Stage	1	1	1	1	1	1
Bore - in. (mm)	3.0 (76.2)	1.75 (44.5)	4.625 (117)	2.687 (68)	6 (152)	3.25 (.83)
Stroke in. (mm)	2.5 (63.5)		3.0 (76)		4.0 (102)	
Maximum Allowable Working Pressure - psia (bara)		615 (42.4)		615 (42.4)		415 (28.6)
Minimum/Maximum rpm	350 / 825		350 / 825		350 / 825	
Piston Displacement @100 rpm - CFM (m^3/hr) @Min rpm - CFM (m^3/hr) @Max rpm - CFM (m^3/hr)	 1.02 (1.73) 3.57 (6.07) 8.42 (14.3)		 2.92 (4.96) 10.2 (17.3) 26.1 (40.8)		 6.54 (11.1) 22.9 (38.9) 53.7 (91.2)	
Max. bph (kW)	10 (7.5)		15 (11)		40 (30)	
Wt. w/Flywheel - lb. (kg)	~290 (132)		~405 (184)		~775 (352)	
Inlet / Outlet NPT - in.	0.75/0.75		1.25/1.00		2.00*/1.50* *Weld type flanges available	

Compression Ratios are normally limited by discharge temperature. High compression ratios and certain gases can cause excessive heat, i.e. over 350°F (177°C). The duty cycle must provide for adequate cooling time between periods of operation to prevent excessive operating temperature.

Krug Vapor Compressors

The Krug vapor compressor saves your truck pump from damage when used for tank evacuation. For efficient transfer of butane, propane or anhydrous ammonia capacities from 18 to 50 gpm depending on speed & piping. Compressor packages available with Gas, LP and Explosion proof electric engines.

Part No.	Description
Compressor Packages	
KRU 25459B	Compressor only for H50LP
KRU H50LPL	Transfer Compressor c/w LP Lauson Engine

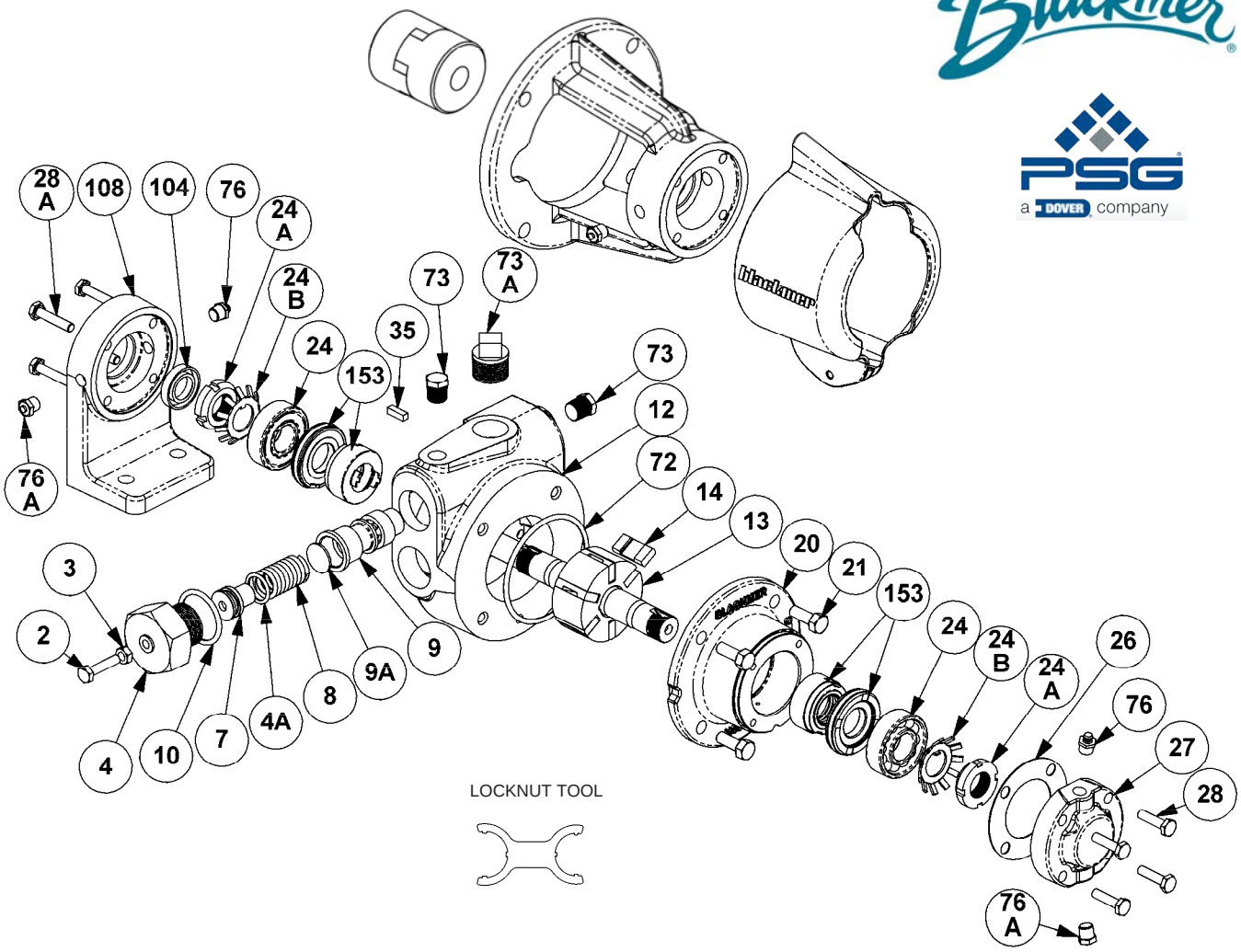


H50LPL LP Lauson Engine

PUMPS & COMPRESSORS

Blackmer Parts List

Pump Models: LGF1E, LGB1E, LGF1PE, LGB1PE



Ref. No.	Description	Parts per Pump	Part No.	Ref. No.	Description	Parts per Pump	Part No.
2	Adjusting Screw – Relief Valve (R/V)	1	[2] 432901	24A	Locknut – Bearing	2	903531
3	Locknut – Adjusting Screw	1	[2] 922811	24B	Lockwasher – Bearing	2	[1] 903532
4	Cover – R/V	1	412901	26	Gasket – Bearing Cover	1	[1] 383075
4A	O-Ring – Spring Guide	1	[1, 2] 711940	27	Bearing Cover	1	043071
7	Spring Guide – R/V	1	[2] 422901	28	Capscrews – Bearing Cover	4	920080
8	Spring – R/V	1	[2] 472901	28A	Bracket Mounting Screws	4	920090
9	Valve – R/V	1	[2] 452901	35	Key – Shaft, Square	1	[1, 4] 909152
9A	Disc – R/V	1	[2] 442901	72	O-Ring – Head	1	[1] 711941
10	O-Ring – R/V Cover	1	[1, 2] 701965	73	Gage Plug (1/4")	2	908198
12	Cylinder – LGF1, LGB1	1	022914	73A	Gage Plug (3/4")	1	908225
	Cylinder – LGF1P, LGB1P		022915	76	Grease Fitting	2	317815
13	Rotor & Shaft Assembly, Six Vane (Includes Ref. Nos. 24A & 24B)	1	262907	76A	Grease Relief Fitting	2	701992
				104	Grease Seal	1	[1] 331934
14	Vane – Duravane	6	[1,3] 092913	108	Mounting Foot - LGB1(P)E	1	832913
20	Head	1	032905		Tool - Locknut		903090
21	Capscrews – Head	4	920178		Kit – RV Maintenance		899094
24	Ball Bearing	2	[1] 903405		Kit – Maintenance (6-Vane)		898994

[1] Included in Maintenance Kit. [2] Included in RV Kit [3] Install the vanes with the slot facing the direction of rotation.
[4] Maintenance Kit also includes Woodruff Key 909126 used previously

Mechanical Seals and Bracket

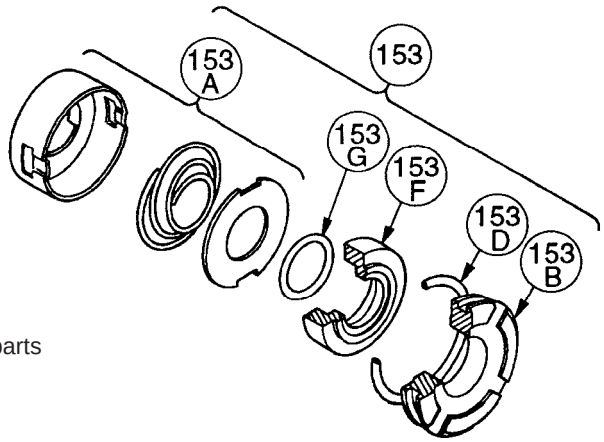
for LGF1E, LGB1E, LGF1PE, LGB1PE

MECHANICAL SEAL

Ref. No.	Part Name	Parts Per Pump	Part No.
153	Mechanical Seal Assembly	2	[1] 332920
153A**	Jacket Assembly – Seal	2	**
153B**	Stationary Seat (Steel)	2	**
153D	O-Ring – Stationary Seat (Buna-N)	2	711916
153F**	Seal Face (Carbon)	2	**
153G	O-ring – Rotating (Buna-N)	2	711939

[1] Included in Maintenance Kit

** Ref. Nos. 153A, 153B & 153F are not available as separate repair parts



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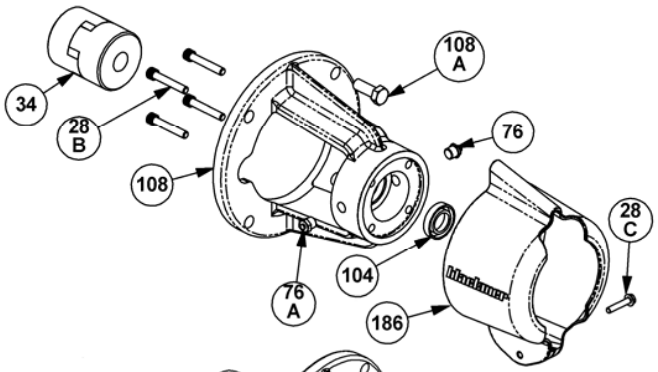
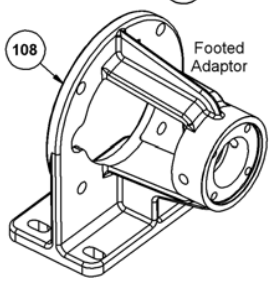
NEMA C-Faced Motor Adaptors – LGF Models

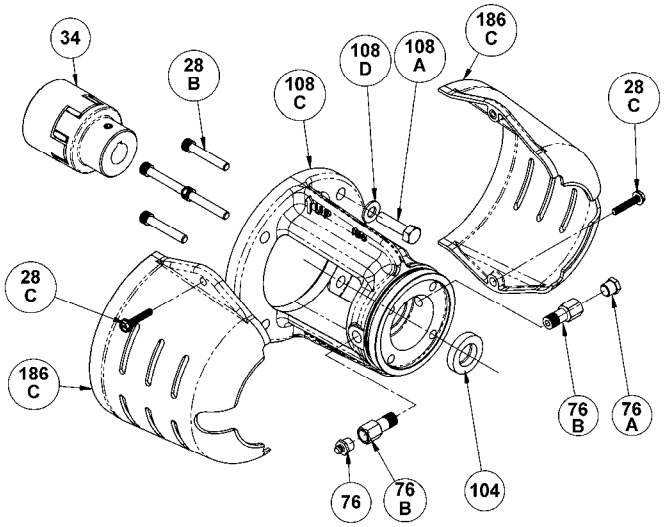
Ref. No.	Part Name	Parts Per Pump	Part No.
28B**	Motor Adaptor Mounting Screws	4	920101
28C	Guard Screw	1	920026
34	Coupling Half – Pump	1	906150
	Coupling Half – Motor 56C		906151
	Coupling Half – Motor 143/145TC,184C		906147
	Coupling Spider		906155
108	Motor Adaptor – Unfooted	1	832912
	Motor Adaptor- Footed		833000
108A	Capscrew – Motor Adaptor	4	920331
186	Guard	1	804120





IEC Motor Adaptors – LGF Models

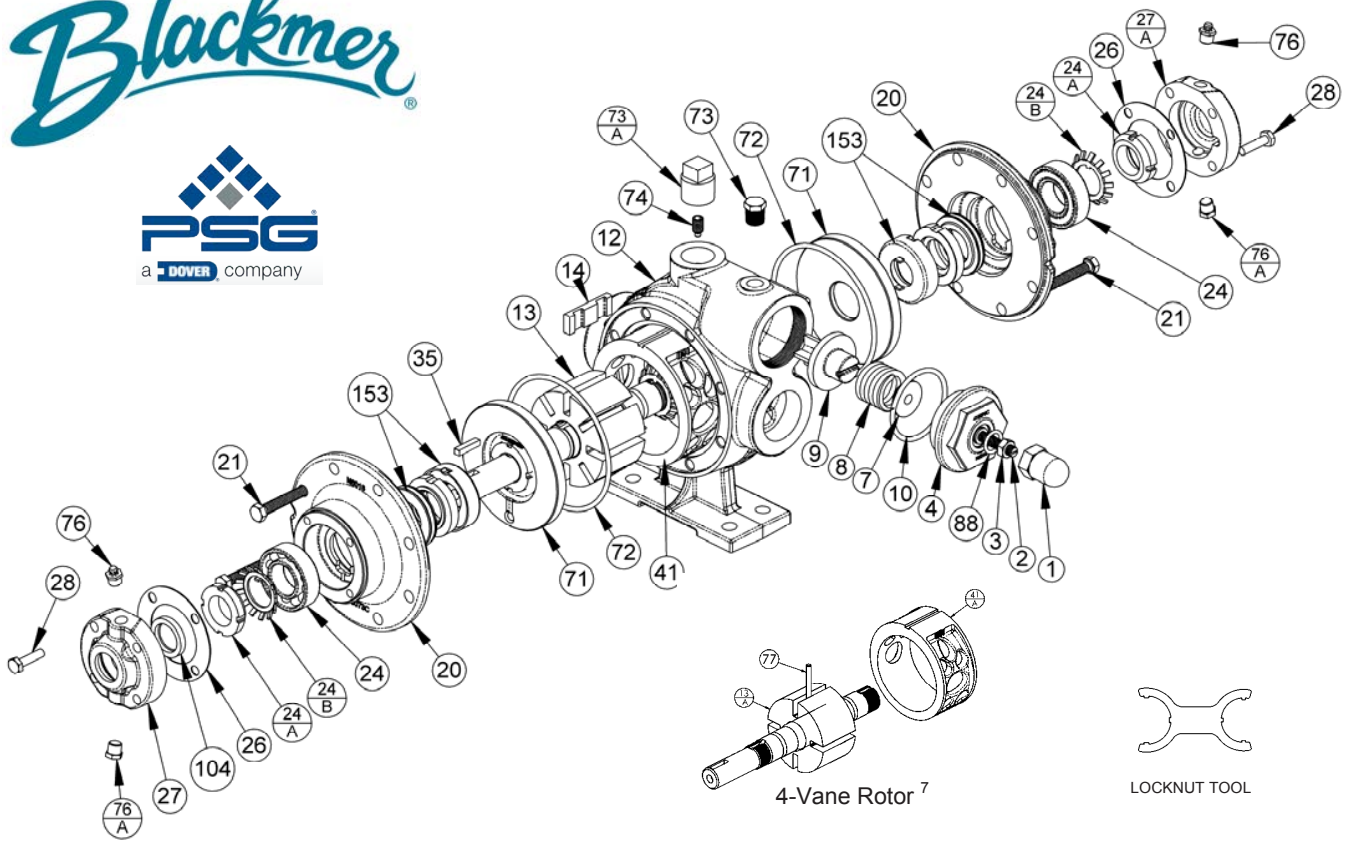
Ref. No.	Description	Parts per Pump	Part No.
28B	Motor Adaptor Mounting Screws	4	920101
28C	Guard Screw	2	920026
34	Coupling Half – Pump	1	906183
	Coupling Spider		906176
	Coupling Half – Motor (IEC 90)		906186
76	Grease Fitting	1	317815
76A	Grease Relief Fitting	1	701992
76B	Extension Coupling	2	701905
104	Grease Seal	1	331934
108A	Capscrew – Motor Adaptor to Motor	4	920043
108C	Motor Adaptor (IEC90 B14A) Includes Ref. Nos. 76, 76A & 76B	1	832920
108D	Washer	4	792094
186C	Guard Half	2	804196



PUMPS & COMPRESSORS

Blackmer Parts List

Pump Models: LGRL1.25, LGL1.25, LGL1.5, LGRLF1.25A, LGLF1.25A, LGLF1.5A



Ref. No.	Description	Parts per Pump	Part No.	Ref. No.	Description	Parts per Pump	Part No.
1	Cap – Relief Valve (R/V)	1	413200	27A	Bearing Cover – Outboard	1	043071
2	Adjusting Screw – R/V	1	433909	28	Capscrews – Bearing Cover	8	920080
3	Locknut – Adjusting Screw	1	922923	35	Shaft Key [8]	1	[1] 909152
4	Cover – R/V	1	413076	41	Liner – LGRL(F)1.25 [8 - Vane Only]	1	[2] 183019
7	Spring Guide – R/V	1	423955		Liner – LGL(F)1.25 [8 - Vane Only]		[2] 183020
8	Spring – R/V (81 – 150 psi)	1	471428		Liner – LGL(F)1.5 [8 - Vane Only]		[2] 183310
9	Valve - R/V	1	453077	71	Disc	2	[1] 063075
10	O-Ring – R/V Cover	1	[1] 711924	72	O-Ring – Head	2	[1] 701918
12	Casing with feet (1.25)	1	013075	73	Gage Plug (1/4")	1	908198
	Casing with feet (1.5)		013376	73A	Gage Plug (3/4")	1	[6] 908225
13	Rotor & Shaft Assembly, Eight Vane (with Ref. Nos. 24A & 24B)	1	[2] 262300	74	Setscrew – Liner	1	922088
				76	Grease Fitting	2	317815
14	Vane – Duravane	8	[1] 093088	76A	Grease Relief Fitting	2	701992
20	Head	2	033073	88	O-Ring – R/V Cap	1	[1] 701949
21	Capscrews – Head	16	920276	104	Grease Seal	1	[1] 331927
24	Ball Bearing	2	[1] 903114	—	Tool - Locknut	—	903090
24A	Locknut – Bearing	2	[2] 903534	—	Kit - Maintenance [8 Vane]	—	898976
24B	Lockwasher – Bearing	2	[1] 903533	—	Kit - Rebuild LGRL(F)1.25(A) [8 Vane]	—	899076
26	Gasket - Bearing Cover	2	[1] 383075	—	Kit - Rebuild LGL(F)1.25(A) [8 Vane]	—	899077
27	Bearing Cover – Inboard	0-1	043070	—	Kit - Rebuild LGL(F)1.5(A) [8 Vane]	—	899078

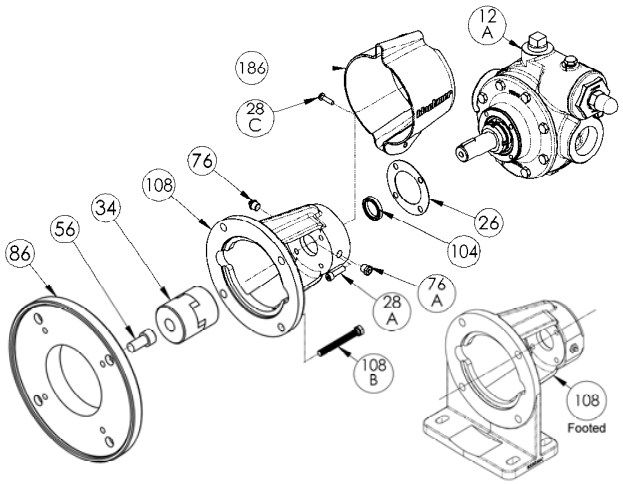
[1] Included in Maintenance Kits and Rebuild Kits [2] Included in Rebuild Kits.
[6] Ref. No. 73A: Older pumps may use a 1/4" plug (pn 908198) or 1/2" plug (pn 908215).
[7] See page 4 re parts for older pumps fitted with a 4-vane rotor.
[8] Ref. No. 35: Early pumps used Woodruff Key 909125

Mechanical Seal and Bracket

for Pump Models LGRL1.25, LGRLF1.25A, LGL1.25, LGLF1.25A, LGL1.5,LGLF1.5A

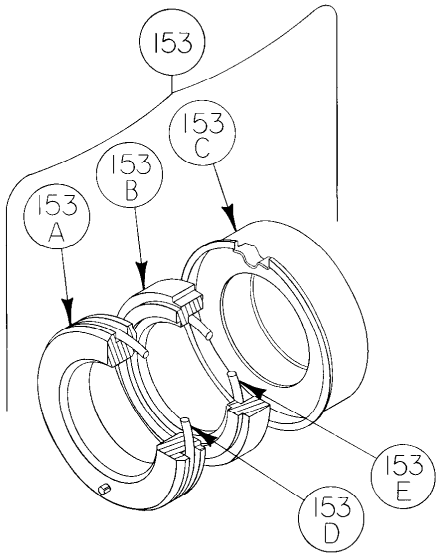
NEMA C-Face Motor Adaptors
Models: LGRLF1.25A, LGLF1.25A, LGLF1.5A

Ref. No.	Description	Parts per Pump	Part No.
12A	Casing without Feet – LG(R)LF1.25	1	013077
	Casing without Feet – LGLF1.5		013377
26	Gasket - Bearing Cover	1	383075
28A	Motor Adaptor Mounting Screws	4	920101
28C	Guard Screw	1	920026
34	Coupling Half – Pump	1	906147
	Coupling Spider		906155
	Coupling Half – Motor (56C)		906151
	Coupling Half – Motor (143TC,145TC,184C)		906147
	Coupling Half – Motor (182TC,184TC,215C)		906146
56	Capscrews – Adapter Ring Mounting	4	920480
76	Grease Fitting	1	317815
76A	Grease Relief Fitting	1	701992
86	Motor Adapter Ring - 182TC,184TC,215C	1	832914
104	Grease Seal	1	331927
108	Motor Adaptor – Unfooted Motor Adaptor – Footed (Both include Ref. 76 & 76A)	1	832912 833000
108B	Capscrews - Motor Adaptor	4	920331
186	Guard	1	804120



4-VANE ROTOR/SHAFT PARTS

Part Name	Parts Per Pump	Part No.
Rotor & Shaft Assembly, Four Vane (Includes Ref. Nos. 24A & 24B)	1	[2] 263076
Vane – Duravane	4	[1] 093088
Liner – LGRL(F)1.25 [4 - Vane Only]	1	[2] 183003
Liner – LGL(F)1.25 [4 - Vane Only]		[2] 183004
Liner – LGL(F)1.5 [4 - Vane Only]		[2] 183301
Push Rod – LGRL(F)1.25	2	[1] 123004
Push Rod – LGL(F)1.25		[1] 123076
Push Rod LGL(F)1.5		[1] 123401



Part Name	Part No.
Kit – Maint LGRL(F)1.25A [4 Vane]	898917
Kit - Maint LGL(F)1.25(A) [4 Vane]	898918
Kit - Maint LGL(F)1.5(A) [4 Vane]	898919
Kit - Rebuild LGRL(F)1.25A [4 Vane]	899017
Kit - Rebuild LGL(F)1.25(A) [4 Vane]	899018
Kit - Rebuild LGL(F)1.5(A) [4 Vane]	899019

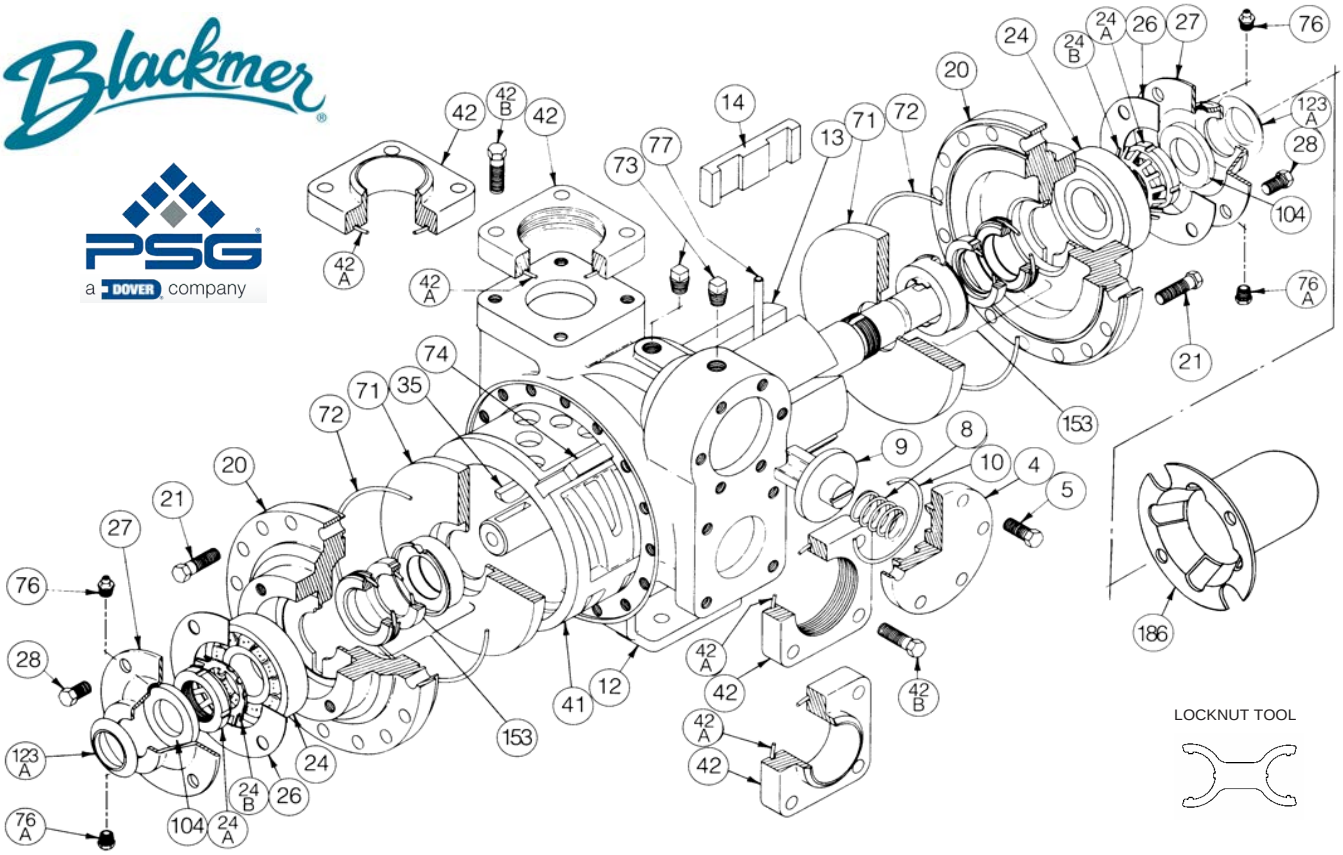
MECHANICAL SEAL

Ref. No.	Part Name	Parts Per Pump	Part No.
153	Mechanical Seal Assembly	2	[1] 333045
153A	Stationary Seat (Hardened Steel)	2	**
153B	Seal Face (Carbon)	2	**
153C	Jacket Assembly	2	**
153D	O-Ring – Stationary (Buna-N)	2	711916
153E	O-Ring – Rotating (Buna-N)	2	711915

[1] Included in Maintenance Kits and Rebuild Kits
** Not available as separate replacement parts.

Blackmer Parts List

for Pump Models LGLH2A



Ref. No.	Description	Parts Per Pump	Part No.	Ref. No.	Description	Parts Per Pump	Part No.
4	Cover - Relief Valve (R/V)	1	414401	42	Flange - NPT	2	654401
5	Capscrews - R/V Cover	6	920331		Flange - Weld		654405
8	Spring - R/V (190 psi)	1	471621	42A	O-Ring - Flange	2	[1] 702004
9	Valve - R/V	1	454405	42B	Capscrew - NPT Flange	8	920384
10	O-Ring - R/V Cover	1	[1] 701919		Capscrew - Weld Flange		920351
12	Casing	1	014405	71	Disc	2	[1] 064412
13	Rotor & Shaft Asy. (Includes Ref. Nos. 24A & 24B)	1	[2] 264445	72	O-Ring - Head	2	[1] 702022
				73	Gage Plug	2	908198
14	Vane - Duravane (Std.)	6	[1] 091419	74	Key - Liner	1	[2] 183991
20	Head	2	034416	76	Grease Fitting	2	317815
21	Capscrews - Head	32	920351	76A	Grease Relief Fitting	2	701992
24	Spherical Roller Bearing	2	[1] 903191	77	Push Rod	3	[1] 123905
24A	Locknut - Bearing	2	[2] 903521	104	Grease Seal	2	[1] 331918
24B	Lockwasher - Bearing	2	[1] 903522	123A	Dirt Shield	2	[1] 701480
26	Gasket - Bearing Cover	2	[1] 383940	186	Shaft Protector	1	341601
27	Bearing Cover	2	041431	—	Tool - Locknut	—	903091
28	Capscrews - Bearing Cover	8	920285	—	Kit – Maintenance	—	899221
35	Key - Shaft	1	[1] 909130	—	Kit – Rebuild	—	899121
41	Liner	1	[2] 184405				

[1] Included in Maintenance Kit and Rebuild Kit

[2] Included in Rebuild Kit

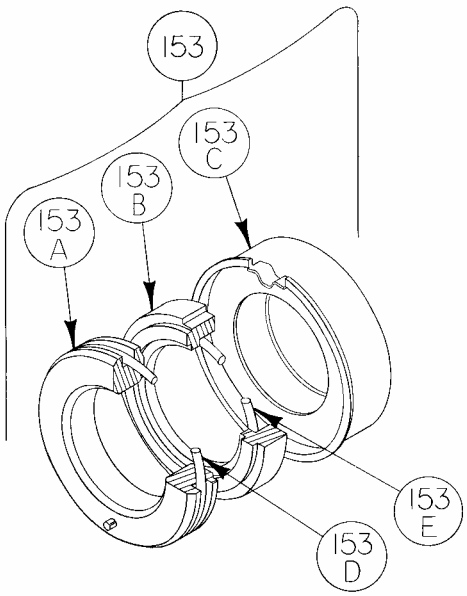
PUMPS & COMPRESSORS

Mechanical Seal and Bracket
for Pump Model LGLH2A

MECHANICAL SEAL – NH_3 OR DUAL SERVICE – SNCN (ID Code = QA)

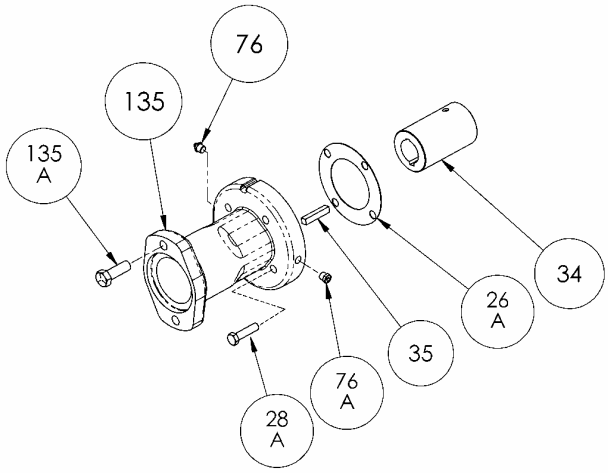
Ref. No.	Part Name	Parts Per Pump	Part No.
153	Mechanical Seal Assembly	2	[1] 334439
153A	Stationary Seat (Steel)	2	**
153B	Seal Face (Carbon)	2	**
153C	Jacket Assembly	2	**
153D	O-Ring - Stationary (Buna-N)	2	711924
153E	O-Ring Rotating (Buna-N)	2	711918

[1] Included in Maintenance Kit and Rebuild Kit
** NOTE: Mechanical Seal Ref. No. 153 is only sold as a complete assembly. Ref. Nos. 153A, 153B & 153C are not available as separate replacement parts.



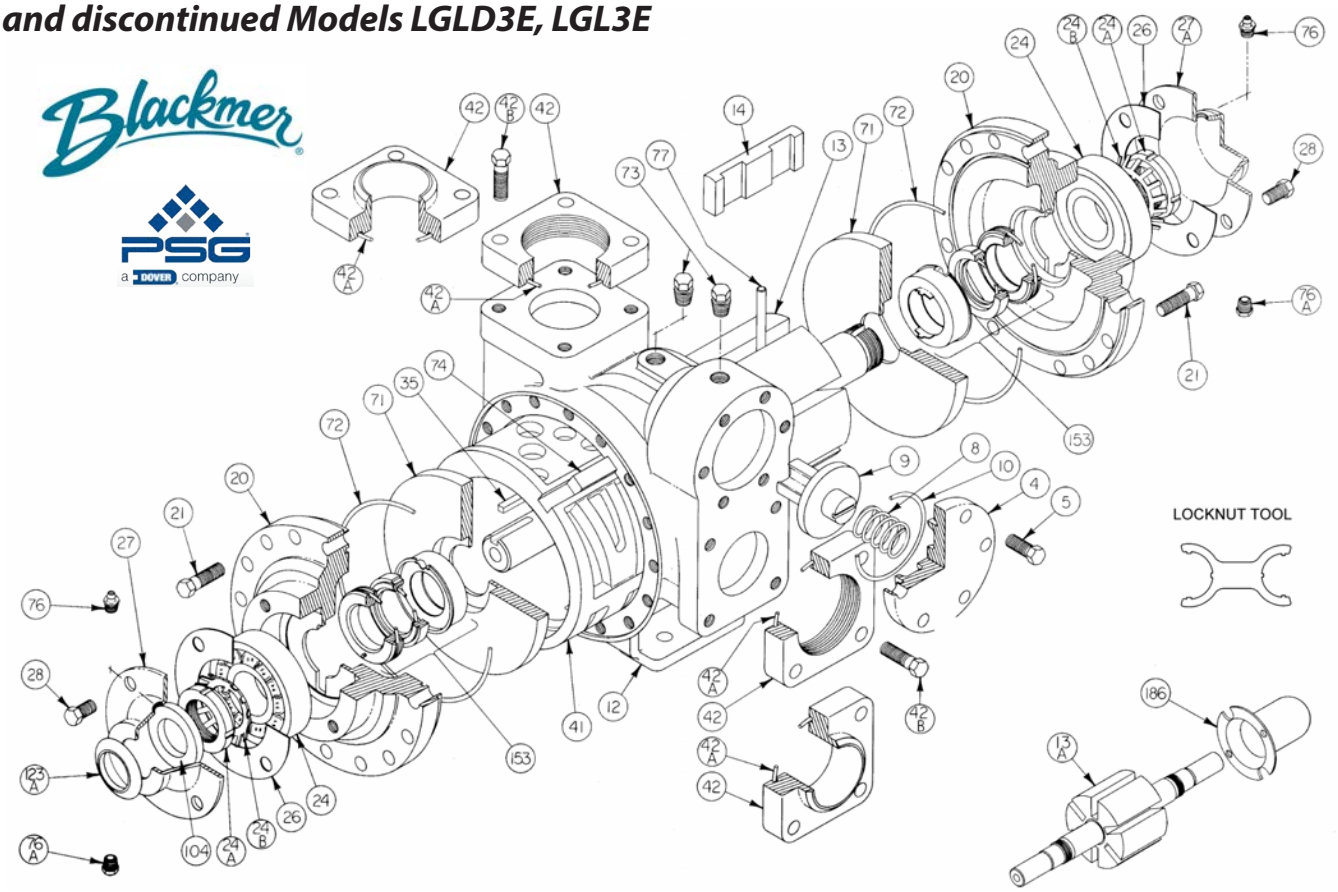
OPTIONAL HYDRAULIC MOTOR ADAPTER PARTS

Ref. No.	Part Name	Parts Per Pump	Part No.
	Hydraulic Motor Adapter Kit		894425
26A	Gasket- Hydraulic Motor Adapter	1	383940
28A	Capscrew – Hydraulic Motor Adapter / Head	4	920369
34	Coupling w/ Setscrew – 1.25" straight key hydraulic motor shaft	1	906967
35	Key – Coupling	1	909184
76	Grease Fitting	1	317185
76A	Grease Relief Fitting	1	701992
135	Hydraulic Motor Adapter – SAE A Flange)	1	041827
135A	Capscrew – Adapter / Motor	2	920510



Blackmer Parts List

for Pump Models LGLD2E, LGL2E, LGLD3F, LGL3F and discontinued Models LGLD3E, LGL3E

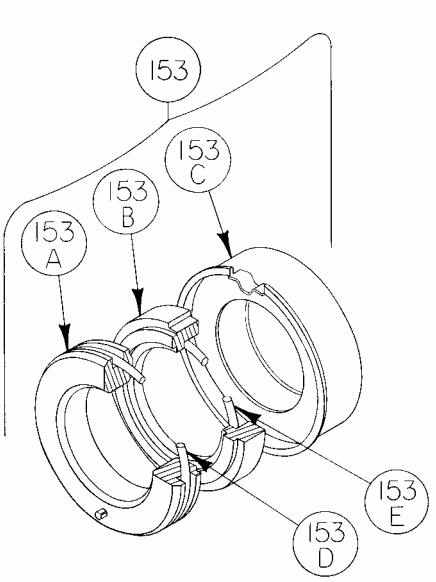


Ref. No.	Description	Parts Per Pump	Size 2 Part No.	Size 3 Part No.	Ref. No.	Description	Parts Per Pump	Size 2 Part No.	Size 3 Part No.
4	Cover - Relief Valve (R/V)	1	414401	415113	35	Key – Shaft, 1/4" Square	1	[1,7] 909209	[1,7] 909209
5	Capscrews - R/V Cover	6	920331	920331	41	Liner	1	[2] 184405	[2] 185111
8	Spring - R/V	1	471423	475135	42	Flange - NPT	2	654401	655112
9	Valve - R/V	1	454405	455129		Flange - Weld		654405	655102
10	O-Ring - R/V Cover	1	[1] 701919	[1] 701925	42A	O-Ring - Flange	2	[1] 702004	[1] 702002
12	Casing	1	014405	015127	42B	Capscrew - NPT Flange	8	920384	920547
13	Rotor & Shaft Asy. - LGL (Includes Ref. Nos. 24A & 24B)	1	264443	265149		Capscrew - Weld Flange		920351	920510
					71	Disc	2	[1] 064412	[1] 065112
13A	Rotor & Shaft Asy. – LGLD [5] (Includes Ref. Nos. 24A & 24B)	1	[2] 264445	[2] 265148	72	O-Ring - Head	2	[1] 702022	[1] 702041
					73	Gage Plug	2	908198	908198
14	Vane - Duravane (Std.)	6	[1] 091419	[1] 095131	74	Key – Liner	1	[2,6] 183991	[2] 185191
20	Head	2	034416	035128	76	Grease Fitting	2	317815	317815
21	Capscrews - Head (Size 2)	32	920351	N/A	76A	Grease Relief Fitting	2	701992	701992
	Capscrews - Head (Size 3)	40	N/A	920369	77	Push Rod	3	[1] 123905	[1] 125110
24	Ball Bearing	2	[1] 903156	[1] 903166	104	Grease Seal	1	[1,3] 331918	[1,3] 331908
24A	Locknut - Bearing	2	[2] 903521	[2] 903523	123A	Dirt Shield	1	[1,3] 701480	N/A
24B	Lockwasher - Bearing	2	[1] 903522	[1] 903524	186	Shaft Protector (LGLD Models Only)	1	341601	341801
26	Gasket - Bearing Cover	2	[1] 383940	[1] 385125					
27	Bearing Cover (Inboard) [3]	1	041431	041815	—	Tool - Locknut	—	903091	903091
27A	Bearing Cover (Outboard) [4]	1	041433	041817	—	Kit – Maintenance	—	898979	898981
28	Capscrews - Bearing Cover	8 - 12	920285	920285	—	Kit – Rebuild	—	899079	899081

[1] Included in Maintenance Kit and Rebuild Kit [2] Included in Rebuild Kit 909130
The following applies to double end shaft pumps (LGLD): [3] Use Two [4] Use None
[5] Double-Ended Rotor & Shaft. [6] Pump before 1995 require liner key 184407.
[7] Pumps prior to April 2008 used Woodruff key 909130, included in Maintenance kits.

Mechanical Seal and Accessories

for Pump Models LGLD2E, LGLD3F



MECHANICAL SEAL – NH_3 OR DUAL SERVICE – SNCN (ID Code = QA)

Ref. No.	Part Name	Parts Per Pump	Size 2 Part No.	Size 3 Part No.
153	Mechanical Seal Assembly	2	[1] 334439	[1] 335225
153A	Stationary Seat (Steel)	2	**	**
153B	Seal Face (Carbon)	2	**	**
153C	Jacket Assembly	2	**	**
153D	O-Ring - Stationary (Buna-N)	2	711924	702025
153E	O-Ring Rotating (Buna-N)	2	711918	711912

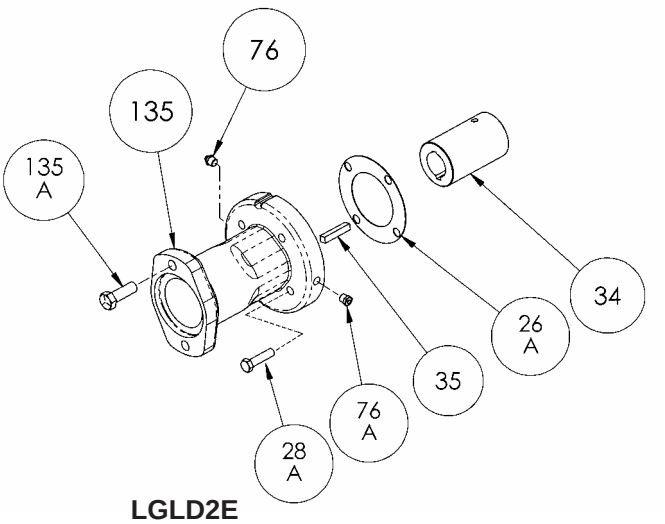
[1] Included in Maintenance Kit and Rebuild Kit

** NOTE: Mechanical Seal Ref. No. 153 is only sold as a complete assembly. Ref. Nos. 153A, 153B & 153C are not available as separate replacement parts.

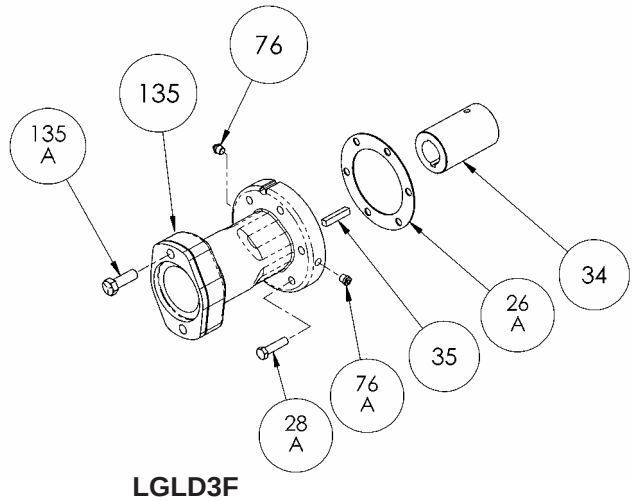
OPTIONAL HYDRAULIC MOTOR ADAPTER PARTS

Ref. No.	Part Name	Parts Per Pump	Size 2 Part No.	Size 3 Part No.
See Below	**Hydraulic Motor Adapter Kit ***	See Below	894425	895140
26A	Gasket- Hydraulic Motor Adapter	1	383940	381817
28A	Capscrew – Hydraulic Motor Adapter / Head	4 / 6	920369	920369
34	Coupling w/ Setscrew – 1.25" straight key hydraulic motor shaft	1	906967	906967
35	Key – Coupling	1	909184	909184
76	Grease Fitting	1	317185	317815
76A	Grease Relief Fitting	1	701992	701992
135	Hydraulic Motor Adapter – SAE A Flange	1	041827	041831
135A	Capscrew – Adapter / Motor	2	920510	920510

* Hydraulic Motor Adapter Kits shipped prior to Spring 2002 were of a two piece design –



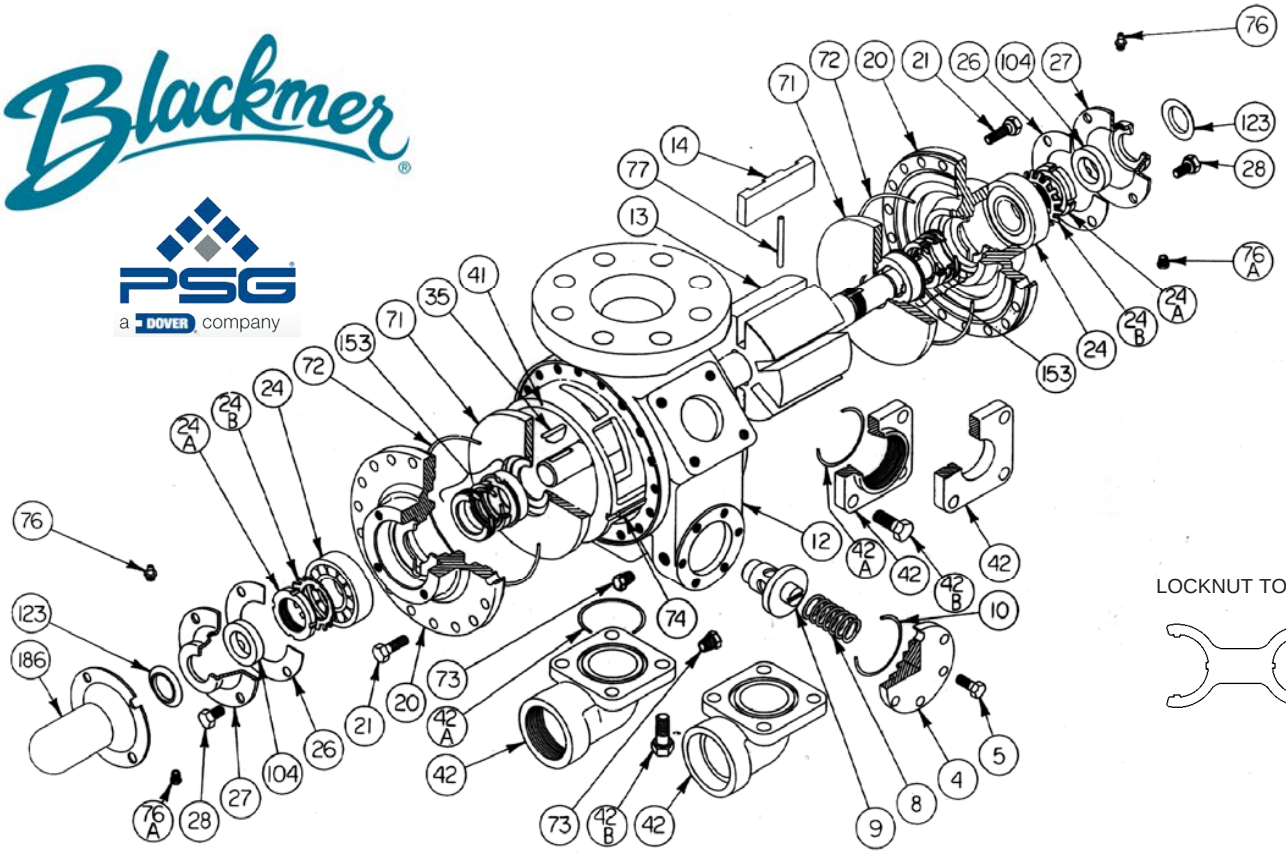
LGLD2E



LGLD3F

Blackmer Parts List

for Pump Model TLGLF3C



LOCKNUT TOOL

Ref. No.	Description	Parts Per Pump	Part No.
4	Cover - Relief Valve (R/V)	1	415108
5	Capscrew - R/V Cover	6	920331
8	Spring - R/V	1	[1] 471428
9	Valve - R/V	1	[4] 451460
10	O-Ring - R/V Cover	1	[1] 701919
12	Casing	1	015128
13	Rotor & Shaft Assembly [5]	1	[2] 265147
14	Vane - Duravane	6	[1] 095132
20	Head	2	035132
21	Capscrews - Head	36	920351
24	Ball Bearing	2	[1] 903156
24A	Locknut - Bearing	2	[2] 903521
24B	Lockwasher - Bearing	2	[1] 903522
26	Gasket - Bearing Cover	2	[1] 383940
27	Bearing Cover	2	041431
28	Capscrews - Bearing Cover	8	920285
35	Key - Shaft	1	[1] 909130
41	Liner	1	[2] 185101
42	Flange - 2" NPT	1-2	652010
	Flange - 2" Slip-on Weld		652024
	Flanged Elbow - 2" NPT		655100
	Flanged El - 2" Socket Weld		655109
	Blank Flange for Auxiliary Inlet		652036

Ref. No.	Description	Parts Per Pump	Part No.
42A	O-Ring – Flange 2 5/8" x 2 7/8" (current)	2	[1,3] 702004
	O-Ring – Flange 2 1/2" x 2 3/4" (older pumps)	2	[1] 701919
42B	Capscrew - Flanges	8	920491
71	Disc	2	[1] 065121
72	O-Ring – Head	2	[1] 711923
73	Gage Plug	2	908198
74	Key - Liner	1	[2] 185193
76	Grease Fitting	2	317815
76A	Grease Relief Fitting	2	701992
77	Push Rod	3	[1] 121607
104	Grease Seal	2	[1] 331918
123	Dirt Shield	2	[1] 701480
186	Shaft Protector	1	341601
—	Tool - Locknut	—	903091
—	Kit – Maintenance	—	898980
—	Kit – Maintenance with R/V	—	899225
—	Kit – Rebuild	—	899080
—	Kit – Rebuild with R/V	—	899125

[1] Included in Maintenance Kit and Rebuild Kit
[2] Included in Rebuild Kit
[3] Larger O-Ring introduced October 2002
[4] Additional parts Included in Kits with R/V
[5] Includes Ref. No. 24A & 24B

PUMPS & COMPRESSORS

Mechanical Seal and Accessories

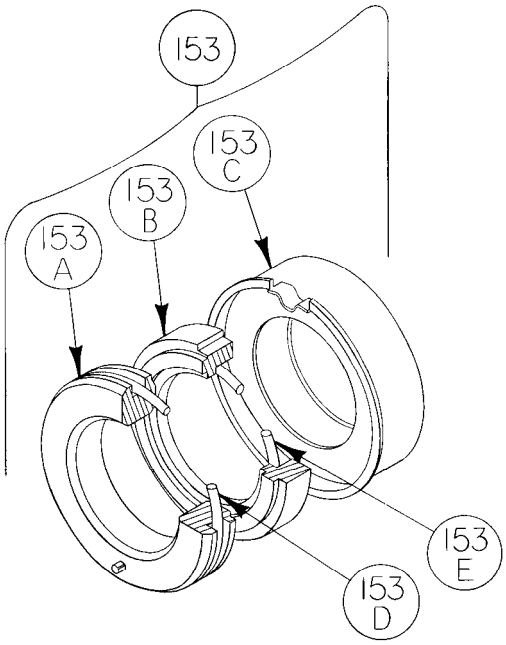
for Pump Model TLGLF3C

MECHANICAL SEAL – NH_3 OR DUAL SERVICE – SNCN (ID Code = QA)

Ref. No.	Part Name	Parts Per Pump	Part No.
153	Mechanical Seal Assembly	2	[1] 334439
153A	Stationary Seat (Steel)	2	**
153B	Seal Face (Carbon)	2	**
153C	Jacket Assembly	2	**
153D	O-Ring - Stationary (Buna-N)	2	711924
153E	O-Ring - Rotating (Buna-N)	2	711918

[1] Included in Maintenance Kit and Rebuild Kit

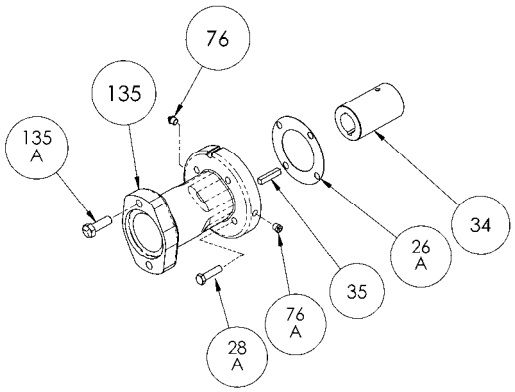
** NOTE: Mechanical Seal Ref. No. 153 is only sold as a complete assembly. Ref. Nos. 153A, 153B & 153C are not available as separate replacement parts.



Optional Hydraulic Motor Adapter Parts

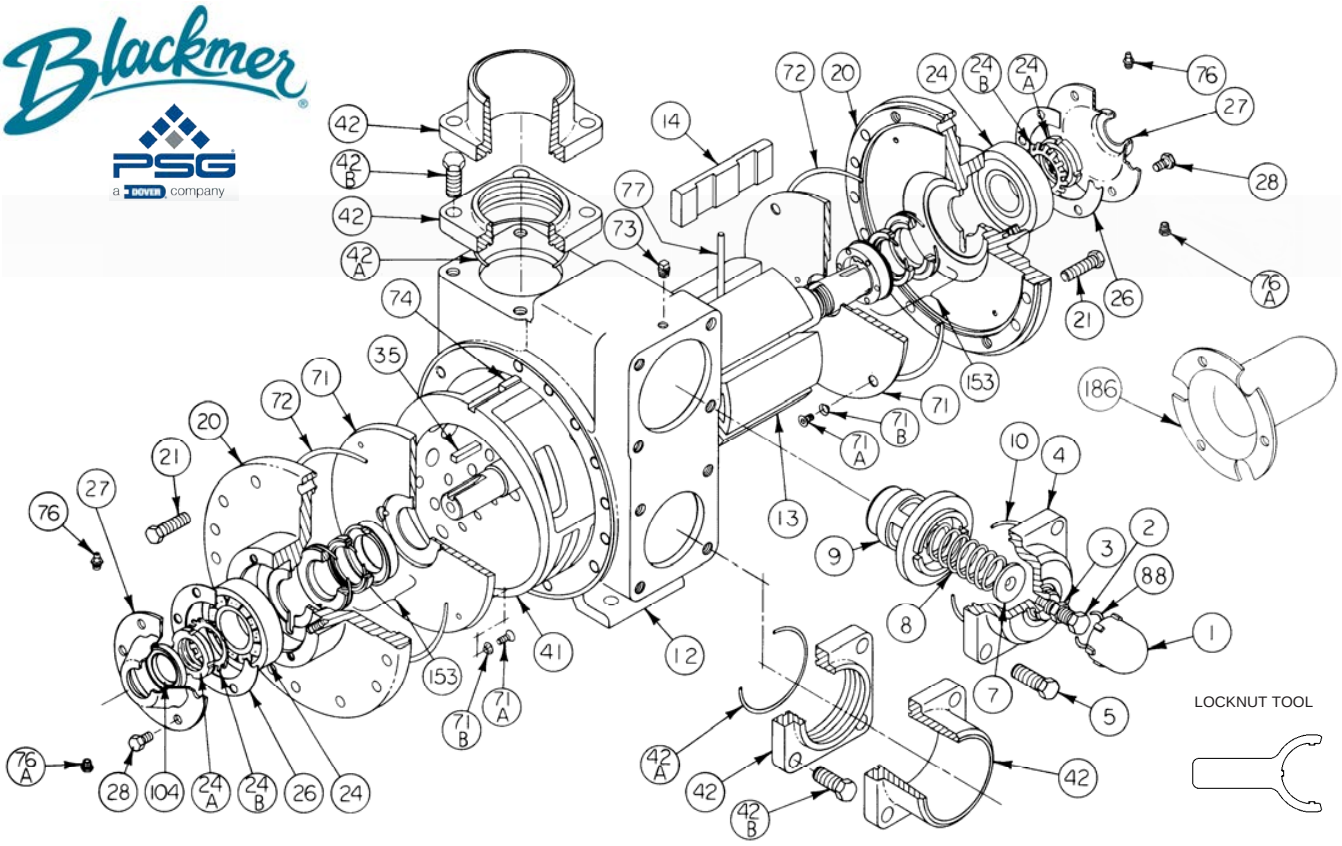
REF. NO.	PART NAME	PARTS PER PUMP	PART NO. 1-¼" Hyd Motor Shaft	PART NO. 1" Hyd Motor Shaft .
See Below	**Hydraulic Motor Adapter Kit** *	See Below	891458	891205
26A	Gasket – Hydraulic Motor Adapter	1	383940	383940
28A	Capscrew – Hydraulic Motor Adapter / Head	4	920369	920369
34	Coupling w/ Setscrew – straight key hyd. motor shaft	1	906967	906966
35	Key – Coupling	1	909184	N/A
76	Grease Fitting	1	317815	317815
76A	Grease Relief Fitting	1	701992	701992
135	Hydraulic Motor Adapter – SAE A Flange	1	041828	041827
135A	Capscrew – Adapter / Motor	2	920510	920510

* Hydraulic Motor Adapter Kits shipped prior to Spring 2002 were a two two piece design – refer to page 206-C00.



Blackmer Parts List

for Pump Model LGLD4B



Ref. No.	Description	Parts Per Pump	Part No.	Ref. No.	Description	Parts Per Pump	Part No.
1	Cap - Relief Valve (R/V)	1	413957	41	Liner	1	[2] 182000
2	Adjusting Screw - R/V	1	436310	42	Flange - 3" NPT	1 - 2	652012
3	Locknut - Adjusting Screw	1	432039		Flange - 3" Weld		652007
4	Cover - R/V	1	412001		Flange - 4" Weld		652005
5	Capscrew - R/V Cover	4	920663	42A	O-Ring - NPT, Weld Flange	2	[1] 701937
7	Spring Guide - R/V	1	426355	42B	Capscrew - NPT Flange	8	920663
8	Spring - R/V	1	[1] 472039		Capscrew - Weld Flange		920640
9	Valve - R/V	1	452001	71	Disc	2	[1] 062039
10	O-Ring - R/V Cover	1	[1] 701946	71A	Machine Screw - Disc	8	[2] 920015
12	Casing	1	012019	71B	Lockwasher - Machine Screw	8	[2] 909634
13	Rotor & Shaft Asy, Dbl. End (Includes Ref. No. 24A & 24B)	1	[2] 262041	72	O-Ring - Head	2	[1] 702039
				73	Gage Plug	2	908198
14	Vane - Duravane	6	[1] 092019	74	Key - Liner	1	[2] 182040
20	Head	2	032041	76	Grease Fitting	2	317815
21	Capscrews - Head	28	920532	76A	Grease Relief Fitting	2	701992
24	Ball Bearing	2	[1] 903166	77	Push Rod – composite - LGLD4B	3	[1] 122009
24A	Locknut – Bearing	2	[2] 903541	88	O-Ring - R/V Cap	1	[1] 701926
24B	Lockwasher – Bearing	2	[1] 903542	104	Grease Seal – LGLD4B	2	[1] 331908
26	Gasket - Bearing Cover	2	[1] 385125	186	Shaft Protector	1	341801
27	Bearing Cover – LGLD4B	2	041815		Tool – Locknut		903092
28	Capscrews - Bearing Cover	12	920285		Kit – Maintenance		898922
35	Key – Shaft	1	[1] 909183		Kit – Rebuild -LGLD4B		899022

[1] Included in Maintenance Kit and Rebuild Kit [2] Included in Rebuild Kit only

Mechanical Seal and Accessories

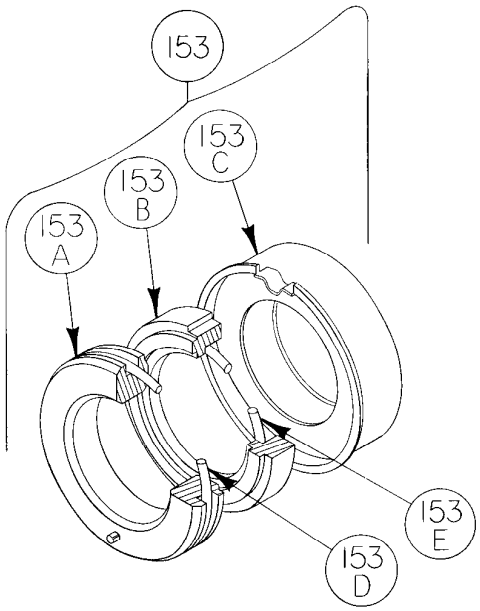
for Pump Model LGLD4A

MECHANICAL SEAL - STANDARD

Ref. No.	Part Name	Parts Per Pump	Part No.
153	Mechanical Seal Assembly	2	[1] 332050
153A	Stationary Seat (Hardened Steel)	2	**
153B	Seal Face (Carbon)	2	**
153C	Jacket Assembly	2	**
153D	O-Ring - Stationary (Buna-N)	2	701934
153E	O-Ring - Rotating (Buna-N)	2	711912

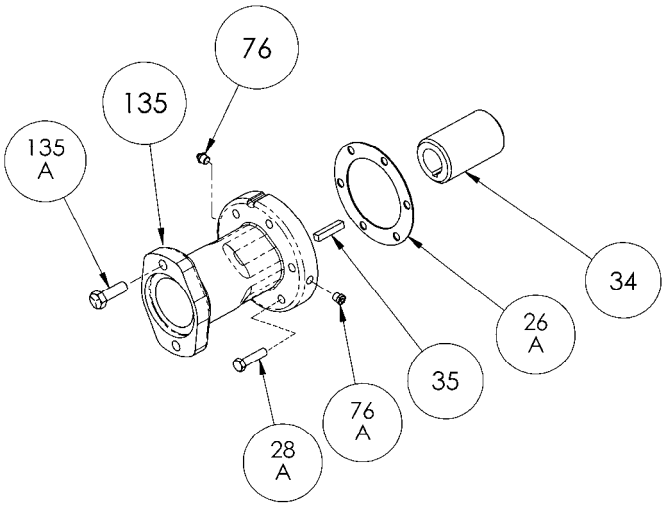
[1] Included in Maintenance Kit and Rebuild Kits

** NOTE: Mechanical Seal Ref. No. 153 is only sold as a complete assembly. Ref. Nos. 153A, 153B & 153C are not available as separate replacement parts.



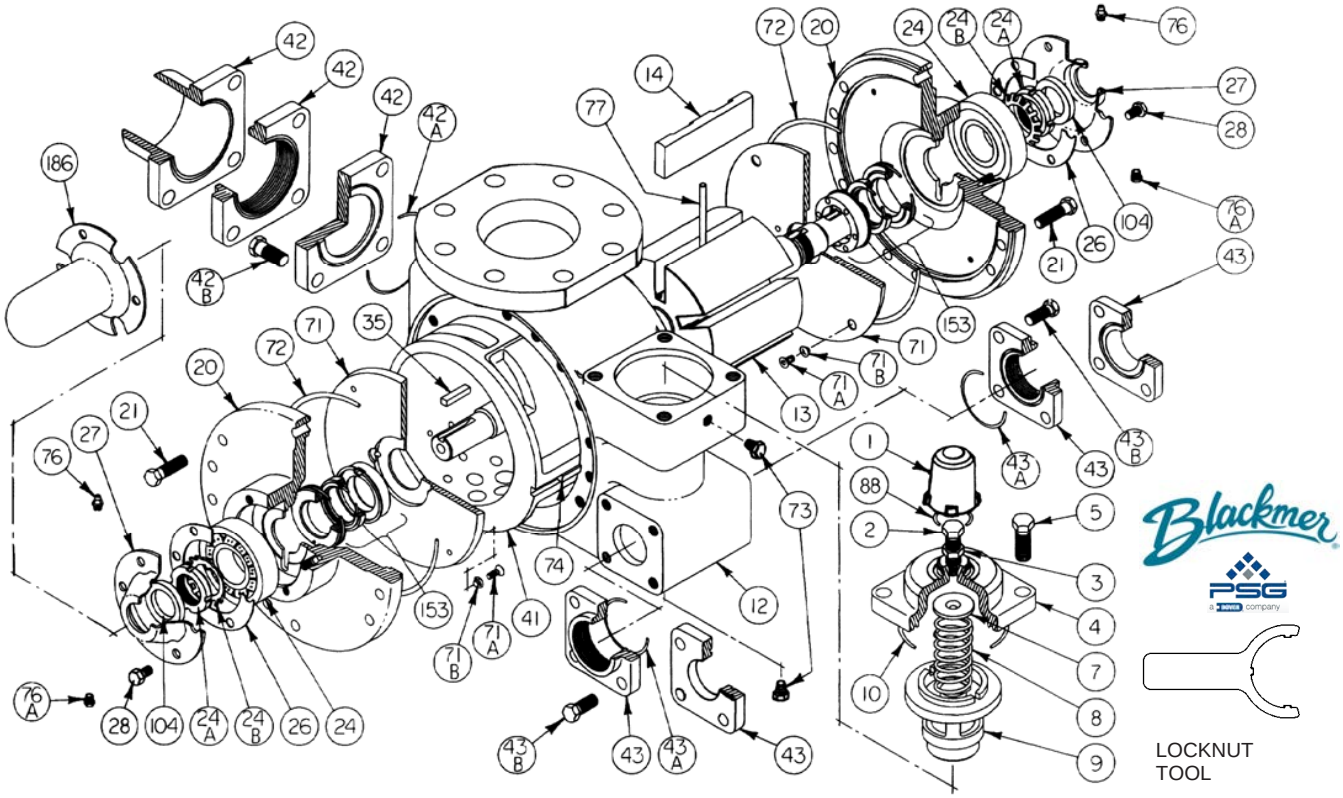
HYDRAULIC MOTOR ADAPTER PARTS

REF. NO.	PART NAME	PARTS PER PUMP	PART NO.
See Below	**Hydraulic Motor Adapter Kit** *	See Below	892037
26A	Gasket – Hydraulic Motor Adapter	1	381817
28A	Capscrew – Hydraulic Motor Adapter / Head	6	920369
34	Coupling w/ Setscrew – 1.25" straight key hyd. motor shaft	1	906970
35	Key – Coupling	1	909184
76	Grease Fitting	1	317815
76A	Grease Relief Fitting	1	701992
135	Hydraulic Motor Adapter – SAE A Flange	1	041829
135A	Capscrew – Adapter / Motor	2	920510



Blackmer Parts List

for Pump Model TLGLF4B



Ref. No.	Description	Parts Per Pump	Part No.
1	Cap - Relief Valve (R/V)	1	413957
2	Adjusting Screw - R/V	1	436310
3	Locknut - Adjusting Screw	1	432039
4	Cover - R/V	1	412001
5	Capscrews - R/V Cover	4	920663
7	Spring Guide - R/V	1	426355
8	Spring - R/V	1	[1] 472039
9	Valve - R/V	1	452001
10	O-Ring - R/V Cover	1	[1] 701946
12	Casing	1	012041
13	Rotor & Shaft Asy. (includes Ref. No. 24A & 24B)	1	[2] 262041
14	Vane - Duravane	6	[1] 092019
20	Head	2	032041
21	Capscrews - Head	28	920532
24	Ball Bearing	2	[1] 903166
24A	Locknut - Bearing	2	[2] 903541
24B	Lockwasher - Bearing	2	[1] 903542
26	Gasket - Bearing Cover	2	[1] 385125
27	Bearing Cover	2	041815
28	Capscrews - Bearing Cover	12	920285
35	Key - Shaft	1	[1] 909183
41	Liner	1	[2] 182000
	AUXILIARY INLET OPTIONS		
42	Flange - 3" NPT	1	652012
	Flange - 4" Weld		652005
	Flange - 3" Weld		652007
	Flange - Blank		652000

Ref. No.	Description	Parts Per Pump	Part No.
42A	O-Ring – Aux. Inlet Flanges	1	701937
42B	Capscrew - 3" NPT Flange	4	920663
	Capscrew - 3", 4" Weld Flange; Blank Flange		920640
	TWIN DISCHARGE PORT OPTIONS		
43	Flange - 2" NPT	2	652010
	Flange - 2" Slip-on Weld		652024
43A	O-Ring - 2" Discharge Flanges	2	[1] 702004
43B	Capscrew - Discharge Flange	8	920491
71	Disc	2	[1] 062039
71A	Machine Screw - Disc	8	[2] 920015
71B	Lockwasher - Machine Screw	8	[2] 909634
72	O-Ring - Head	2	[1] 702039
73	Gage Plug	2	908198
74	Key - Liner	1	[2] 182040
76	Grease Fitting	2	317815
76A	Grease Relief Fitting	2	701992
77	Push Rod - Composite	3	[1] 122009
88	O-Ring - R/V Cap	1	[1] 701926
104	Grease Seal	2	[1] 331908
186	Shaft, Protector	1	341801
	Tool - Locknut		903092
	Kit – Maintenance		898922
	Kit – Rebuild		899022

[1] Included in Maintenance Kit and Rebuild Kit
[2] Included in Rebuild Kit

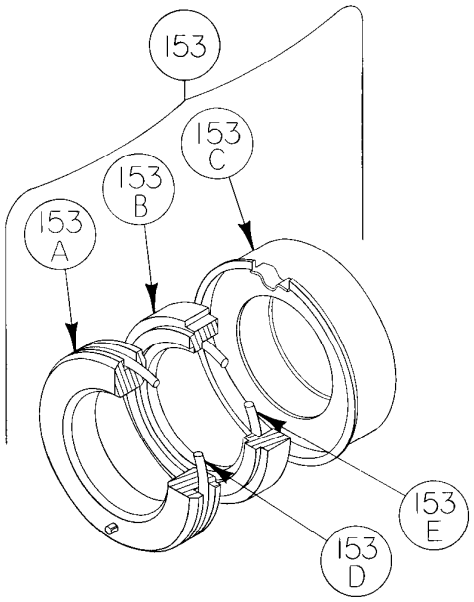
PUMPS & COMPRESSORS

Mechanical Seal and Accessories
for Pump Model TLGLF4B

MECHANICAL SEAL

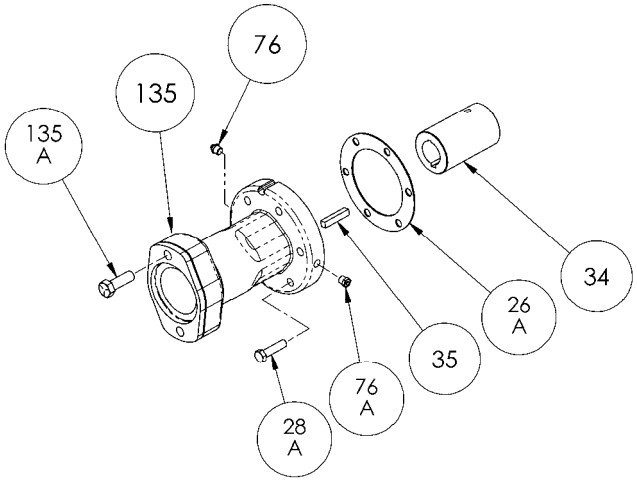
Ref. No.	Part Name	Parts Per Pump	Part No.
153	Mechanical Seal Assembly	2	[1] 332050
153A	Stationary Seat (Hardened Steel)	2	**
153B	Seal Face (Carbon)	2	**
153C	Jacket Assembly	2	**
153D	O-Ring - Stationary (Buna-N)	2	701934
153E	O-Ring - Rotating (Buna-N)	2	711912

[1] Included in Maintenance Kit and Rebuild Kit
** NOTE: Mechanical Seal Assy. (Ref. 153) is only sold as a complete assembly. Ref. Nos. 153A, 153B & 153C are not available as separate replacement parts.



OPTIONAL HYDRAULIC MOTOR ADAPTER PARTS

Ref. No.	Part Name	Parts Per Pump	Part No.
See Below	**Hydraulic Motor Adapter Kit**	See Below	892037
26A	Gasket – Hydraulic Motor Adapter	1	381817
28A	Capscrew – Hydraulic Motor Adapter / Head	6	920369
34	Coupling w/ Setscrew – 1.25” straight key hyd. motor shaft	1	906970
35	Key – Coupling	1	909184
76	Grease Fitting	1	317815
76A	Grease Relief Fitting	1	701992
135	Hydraulic Motor Adapter – SAE A Flange	1	041829
135A	Capscrew – Adapter / Motor	2	920510



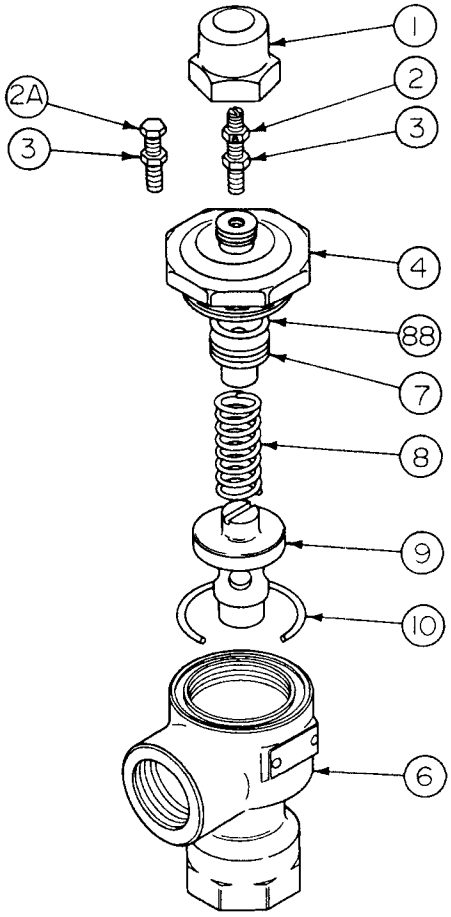
Blackmer Differential Bypass Valves

for Models BV0.75A, BV1A and discontinued BV0.75, BV 3/4 and BV1

PARTS LIST

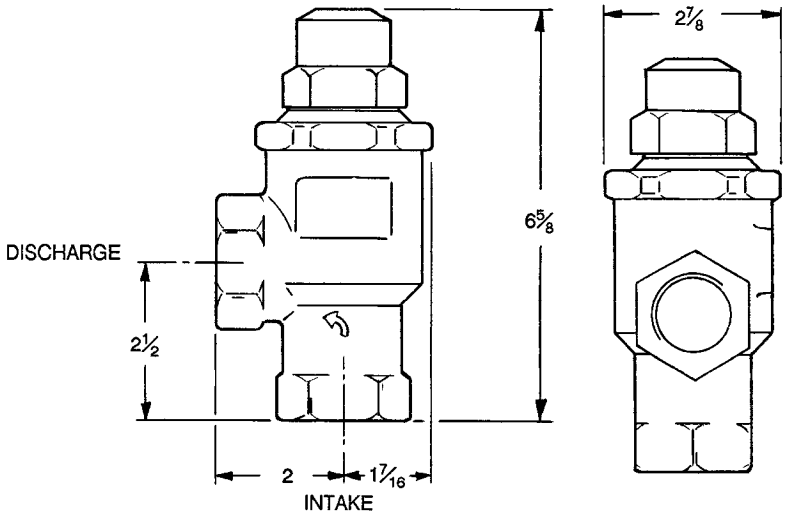
Ref. No.	Description	Parts Per Unit	Part No.
1	Cap	1	414402
2	Adjusting Stud & Nut Asy. (71 - 100 psi) (Std.)	1	*
	Adjusting Stud & Nut Asy. (101 - 200 psi)		*
2A	Adjusting Screw (20 - 40 psi) [1]	1	431808
	Adjusting Screw (41 - 70 psi)		431808
3	Locknut	1	922923
4	Cover	1	412845
6	Body - 3/4" NPT	1	402845
	Body 1", NPT		402846
7	Spring Guide		422853
8	Spring (20 - 40 psi) [1]	1	471411
	Spring (41 - 70 psi)		471412
	Spring (71 - 100 psi) (Std.)		471415
	Spring (101 - 125 psi) & (126 - 150 psi [3])		471420
	Spring (151 - 200 psi) [4]		471428
9	Valve	1	452841
10	O-Ring - Cover (Buna-N) (Std.)	1	701933
	O-Ring - Cover (FKM) [2]		701967
88	O-Ring - Spring Guide (Buna-N) (Std.)	1	711917
	O-Ring - Spring Guide (FKM) [2]		701979

* Assembly is not a saleable part; preset at factory.
[1] Used on BV1 only
[2] Not U.L. listed.
[3] For use with pumps rated over 125 psi differential pressure.
[4] For use with pumps rated over 150 psi differential pressure.



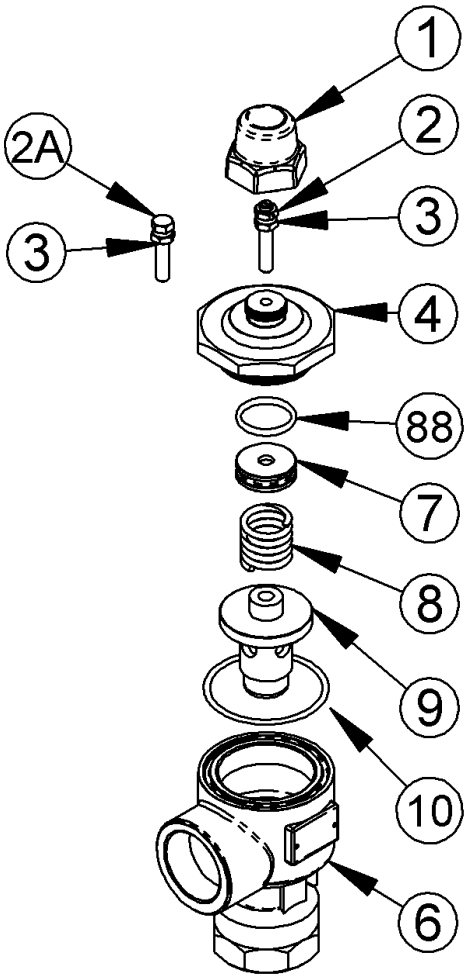
PUMPS & COMPRESSORS

DIMENSIONS



Blackmer Differential Bypass Valves

for Models BV1.25A, BV1.50A and discontinued BV1-1/4, BV11/2

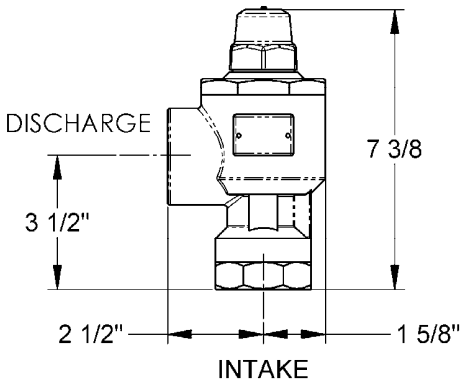


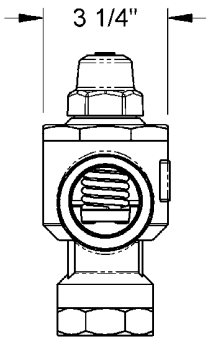
PARTS LIST

Ref. No.	Description	Parts Per Unit	Part No.
1	Cap	1	414402
2	Adjusting Stud & Nut Asy. (springs over 70 psi)	1	*
2A	Adjusting Screw (20 - 40 psi)	1	437803
	Adjusting Screw (41 - 70 psi)		437803
3	Locknut	1	922923
4	Cover	1	413045
6	Body - 1 ¼ " NPT	1	403045
	Body - 1 ½ ", NPT		403345
7	Spring Guide		422853
8	Spring (20 - 40 psi)	1	471415
	SS Spring (20 - 40 psi) (BV 1.50A only) [3]	1	471417
	Spring (41 - 70 psi)		471420
	Spring (71 - 125 psi) (Std.)		471428
	Spring (126 - 165 psi) [1]		471428
	Spring (166 - 200 psi) [2]		471426
9	Valve	1	453042
10	O-Ring - Cover (Buna-N) (Std.)	1	701934
	O-Ring - Cover (FKM) [3, 4]		701921
88	O-Ring - Spring Guide (Buna-N) (Std.)	1	711917
	O-Ring - Spring Guide (FKM) [3, 4]		701979

* Assembly is not a saleable part; preset at factory.
[1] For use with pumps rated over 125 psi differential pressure.
[2] For use with pumps rated over 165 psi differential pressure.
[3] Not U.L. Listed.
[4] For MAPP Gas; to be used with stainless steel (SS) spring only.

DIMENSIONS





FLOW RATING - BV1.25A & BV1.50A

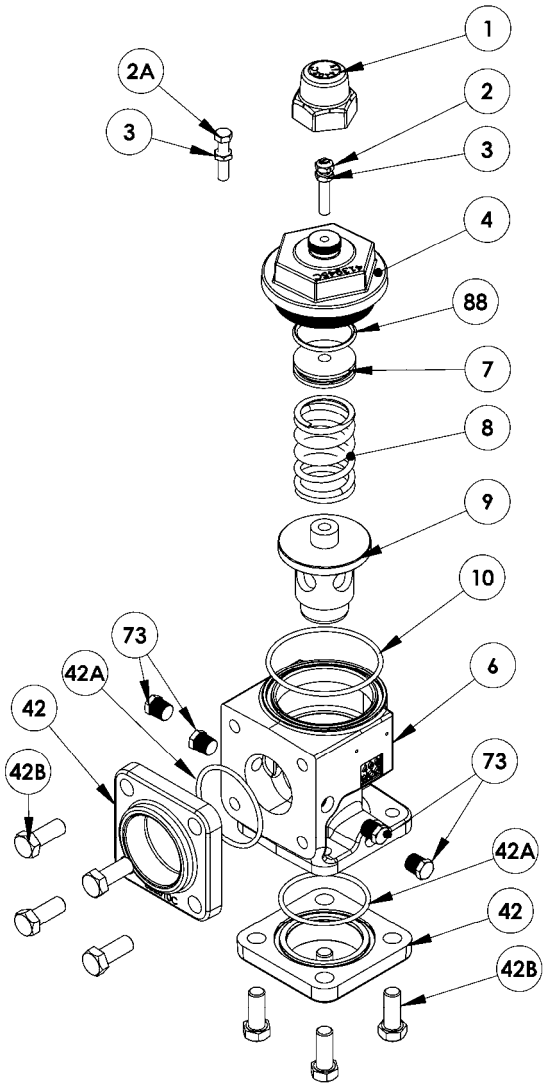
Liquid Viscosity	*Normal Max. Rated Flow - GPM (LPM) at 20 psi (1.38 bar)	at 50 psi (3.45 bar)	at 80 psi (5.52 bar)	at 120 psi (8.27 bar)
100 SSU (22 Cs) - Propane, Gasoline	60 (227)	80 (303)	100 (379)	125 (473)
500 SSU (105 Cs)	50 (189)	70 (265)	90 (341)	100 (379)
1000 SSU (220 Cs)	40 (151)	60 (227)	80 (303)	90 (341)
3000 SSU (630 Cs)	30 (114)	50 (189)	70 (265)	80 (303)
5000 SSU (1050 Cs)	20 (76)	40 (151)	60 (227)	70 (265)

* This is the maximum flow that will pass through the bypass valve without an increase in pressure over the valve differential pressure setting.

PUMPS & COMPRESSORS

Blackmer Differential Bypass Valves

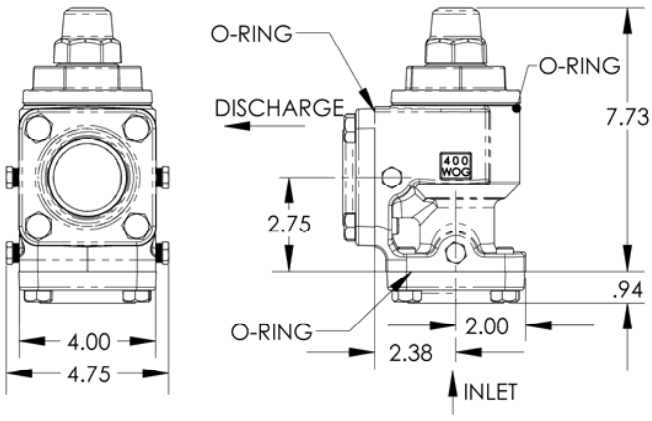
for Models BV2A and discontinued BV2



PARTS LIST

Ref. No.	Description	Parts Per Unit	Part No.
1	Cap	1	414402
2	Adjusting Stud & Nut Asy. (91-125 psi) (std)	1	*
2A	Adjusting Screw (20 - 40 psi)	1	437803
	Adjusting Screw (41 - 70 psi)		437803
	Adjusting Screw (71 - 90 psi)		437803
	Adjusting Screw (126 - 150 psi)		433905
3	Locknut	1	922923
4	Cover	1	413945
6	Body	1	403945
7	Spring Guide	1	423953
8	Spring (20 - 40 psi)	1	471803
	Spring (41 - 70 psi)		471805
	SS Spring (41 - 70 psi)[1,3]		471815
	Spring (71 - 90 psi)		471811
	Spring (91 - 125 psi) (Std.)		471806
	Spring (126 - 150 psi)		471810
9	Valve (with pressure equalizing hole)	1	453942
10	O-Ring - Cover (Buna-N) (Std.)	1	701916
	O-Ring - Cover (FKM)[1,3]		711959
42	Flange - 2" NPT (Std.)	2	652010
	Flange - 2" Slip-on Weld **		652024
	Flange - 2" Socket Weld El		655109
	Flange – 1.25" NPT		652029
	Flange – 1.5" NPT		652028
	Flange – 1.25" Slip-on Weld		652027
	Flange – 1.5" Slip-on Weld		652026
42A	O-Ring – Flange (Buna-N) (Std.) **	2	702004
	O-Ring – Flange (FKM)[1,3]		702086
42B	Capscrews – Flange	8	920491
73	Pipe Plug – ¼" NPT	4	908198
88	O-Ring Spring Guide (Buna-N)	1	711916
	O-Ring - Spring Guide (FKM)[1,3]		711908

* Assembly is not a saleable part; preset at factory.
** Weld Flange O-rings before Nov 2002: 701919 Buna-N, 711929 FKM[1]
[1] Not-U.L. Listed.
[3] For MAPP Gas; use FKM O-rings and SS spring together.



Bypass valve with welded connections

The bypass valve contains three O-ring seals that will be damaged if welding is done with these O-rings installed.

Prior to welding the piping, remove the O-rings from the inlet and outlet flanges and the bypass cover (see Figure 1). Reinstall the inlet and outlet flanges and weld the piping. Then reinstall the three O-rings.

PUMPS & COMPRESSORS