



Industrial & Allied Service Ltd

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Fluid Processing & Transfer Pumps Sold & Serviced By IAS



Products

LGF1 & LGB1 PUMPS

MOTOR SPEED PUMPS FOR CYLINDER FILLING



LG1/LG1P cutaway

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 pumps 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 is closed.

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

mechanical seals and laminate vanes are also available. Maximum differential pressure is 125 psi (862 kPa) for both models

SELECTION DATA

When selecting a standard pump or assembled unit from the table below, check the pump's delivery and brake horsepower requirements in the performance curves. These pumps are rated for continuous duty, although such applications may accelerate pump wear rates particularly if vaporization occurs in the pump intake line. Pumps used on vaporizers should be mounted with inlet up, and sized for a capacity of at least 150% of the normal peak load to prevent system failure due to sudden pressure drop on start-up. Additional system requirements can be achieved by series or parallel staging

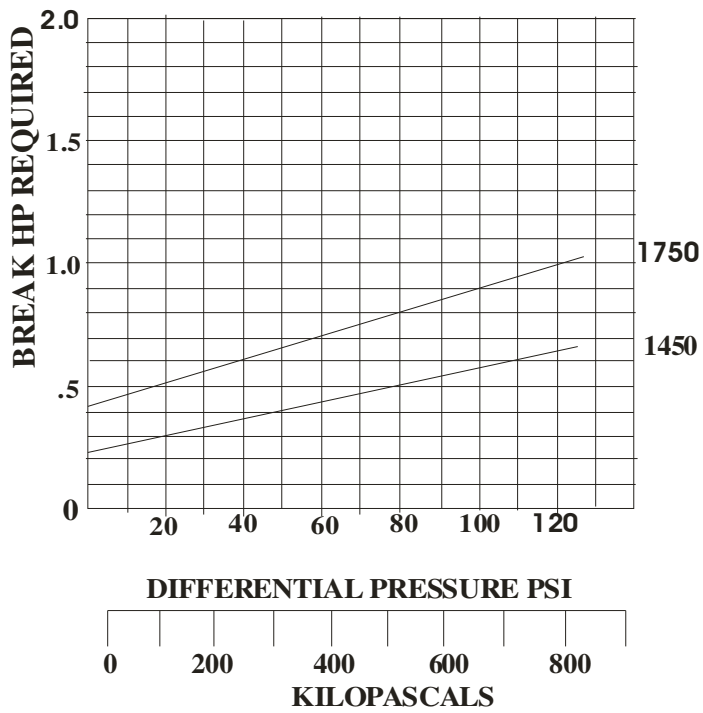
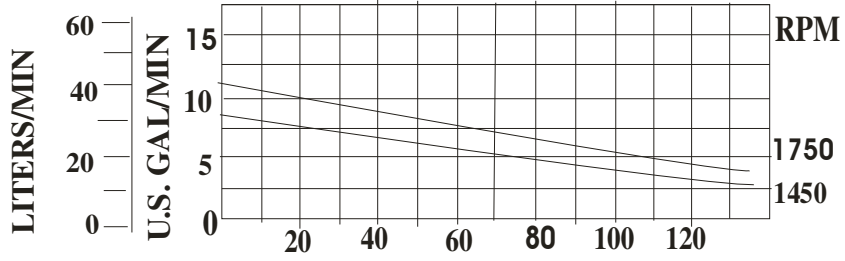
Assembled Pump Units		Pump and Motor speed RPM	Approximate Delivery of Propane @ Differential Pressures and pump Speeds shown ¹				Maximum Differential Pressure		Maximum Working Pressure ²		Normal Time To Fill LP Gas Cylinders in Minutes		Standard Motor	Motor Size for Mounting On Standard Base	
Model	Factory Relief Valve Setting		50 PSI (345 kPa)		100 PSI (689 kPa)		PSI	kPa	PSI	kPa	20 lb (9 kg) Cylinder	100 lb (45 kg) Cylinder	HP	Min. Frame Size	Max. Frame Size
		GPM	LPM	GPM	LPM										
LGF1	105 psi (724 kPa)	1750	8.0	30.3	6.0	22.7	125	862	350	2413	¾"	3	1	56C	184C ³
LGB1 - DM	105 psi (724 kPa)	1750	8.0	30.3	6.0	22.7	125	862	350	2413	¾"	3	1	56	184
LGF1P	120 psi (827 kPa)	1750	13.0	49.2	10.0	37.9	125	862	350	2413	½"	2	1 ½"	56C	184C ³
LGB1P -DM	120 psi (827 kPa)	1750	13.0	49.2	10.0	37.9	125	862	350	2413	½"	2	1 ½"	56	184

- 1 Check the pump's delivery and brake horsepower requirements in the performance curves below. See footnote with the curves which explains the factors that can cause delivery to vary.
- 2 Maximum rated working pressure is 350 psi (2413 kPa) for LPG and NH₃ (limited by U.L and N.F.P.A 58).
- 3 Pump flange accepts NEMA C-face motors with 5 7/8" bolt circle diameter. Pump flange will not accept 182TC or 184TC frames

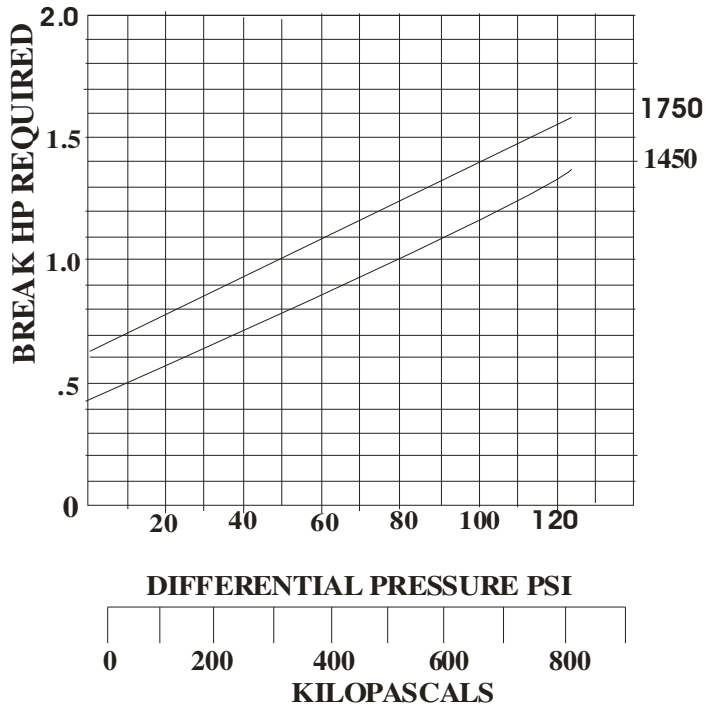
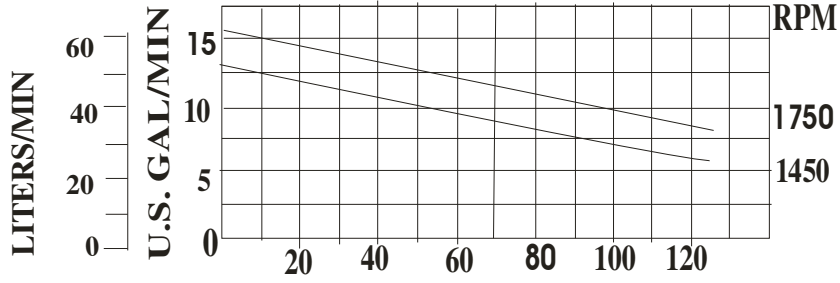
Performance Curves

These curves are based on approximate delivery rates when handling propane or anhydrous ammonia at 80° F (26.7° c). Line restrictions such as excess flow valves, elbows, etc., will adversely affect deliveries. For propane at 32° F (0° C), actual delivery will be further reduced to about 80% of nominal. Delivery to butane at 80° (26.7° C) will be 60% to 70% of these valves, and may run as low as 35% to 45% at 32° F (0° C). This loss of delivery is not a pump characteristic but is caused by natural thermodynamic phenomena of liquefied gases.

LGF1/LGB1



LGF1P/LGB1P



LGRL1.25, LGL1.25 & LGL1.5 PUMPS

MOTOR SPEED PUMPS FOR MOTOR FUELING AND MULT-CYLINDER FILLING

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 coupled for direct flange mounting to a NEMA C-face motor. This bracket also allows the pumps body to be rotated to simplify hookup to piping systems.



LGL1.25/LGL1.5 cutaway

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 disc for easy rebuilding of the pumping chamber if

ever necessary. The LGRLF1.25-inch model features a special liner which offers lower flow rates than the LGL1.25-inch pump. In addition, these pumps after easy field inspection and service with their doweled head design, which allows for precise alignment of the pump heads to original factory tolerances.

Standard construction material for these models include Buna-N mechanical seals and Duravanes for handling both LP-gas and anhydrous ammonia. Optional viton fitted mechanical seals, laminate vanes and a corrosion-resistant relief valve are also available. Maximum differential pressure is 150 psi (1034 kPa) for all models

SELECTION DATA

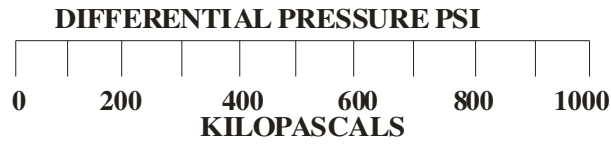
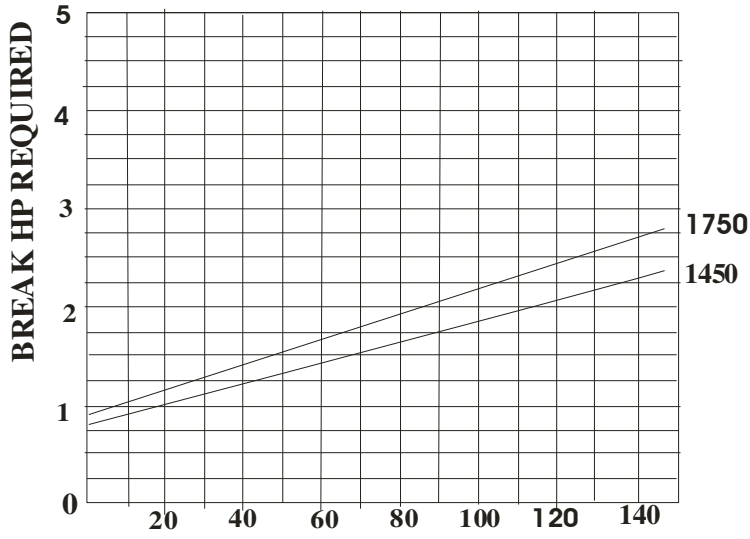
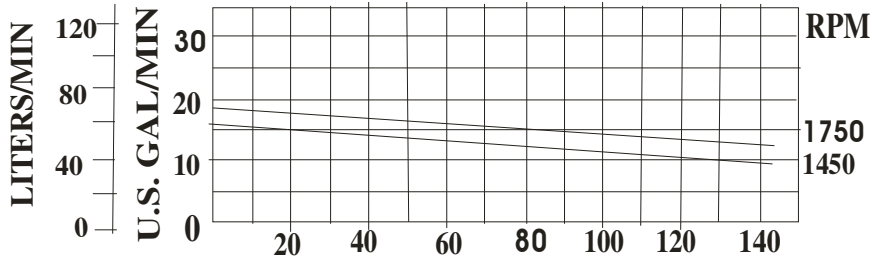
When selecting a standard pump or assembled unit from the table below, check the pump's delivery and brake horsepower requirements in the performance curves. These pumps are rated for continuous duty, although such applications may accelerate pump wear rates particularly if vaporization occurs in the pump intake line. Pumps used on vaporizers should be mounted with inlet up, and sized for a capacity of at least 150% of the normal peak load to prevent system failure due to sudden pressure drop on start-up. Additional system requirements can be achieved by series or parallel staging.

Assembled Pump Units		Pump and Motor speed RPM	Approximate Delivery of Propane @ Differential Pressures and pump Speeds shown ¹				Maximum Differential Pressure		Maximum Working Pressure ²		Motor Size for Mounting On Standard Base	
Model	Factory Relief Valve Setting		50 PSI (345 kPa)		100 PSI (689 kPa)		PSI	kPa	PSI	kPa	Min. Frame Size	Max. Frame Size
			GPM	LPM	GPM	LPM						
LGRLF1.25	150 PSI (1034 kPa)	1750	16.0	60.6	14.0	53.0	150	1034	350	2413	56C	184C ³
LGLF1.25	150 PSI (1034 kPa)	1750	21.0	79.5	18.0	68.1	150	1034	350	2413	56C	184C ³
		1150	13.0	49.2	10.0	37.9	150	1034	350	2413	56C	184C ³
LGL1.25-DM	150 PSI (1034 kPa)	1750	21.0	79.5	18.0	68.1	150	1034	350	2413	56	215
		1150	13.0	49.2	10.0	37.9	150	1034	350	2413	56	215
LGL1.5 -DM	150 PSI (1034 kPa)	1750	33.0	124.9	29.0	109.8	150	1034	350	2413	56	215
		1150	20.0	75.7	17.0	64.4	150	1034	350	2413	56	215

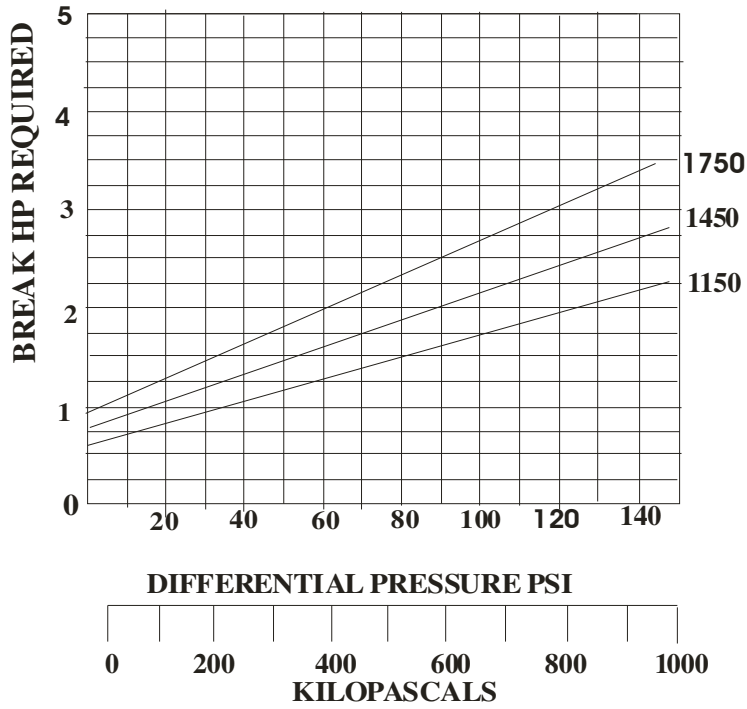
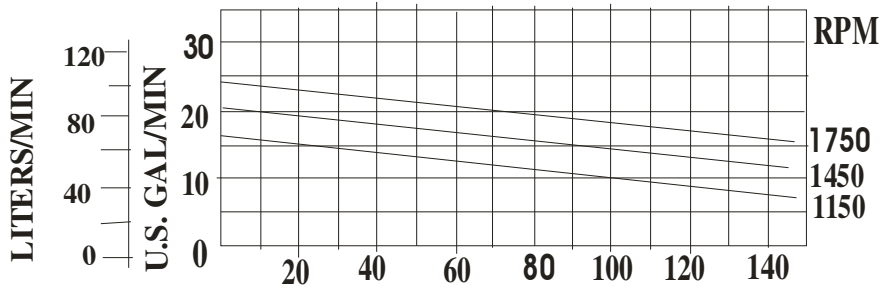
1. Check the pump's delivery and brake horsepower requirements in the performance curves below. See footnote with the curves which explains the factors that can cause delivery to vary.
2. Maximum rated working pressure is 350 psi (2413 kPa) for LPG and NH₃ (limited by U.L and N.F.P.A 58).
3. Pump flange accepts NEMA C-face motors with 5 7/8" bolt circle diameter. Pump flange will not accept 182TC or 184TC frames

PERFORMANCE CURVE

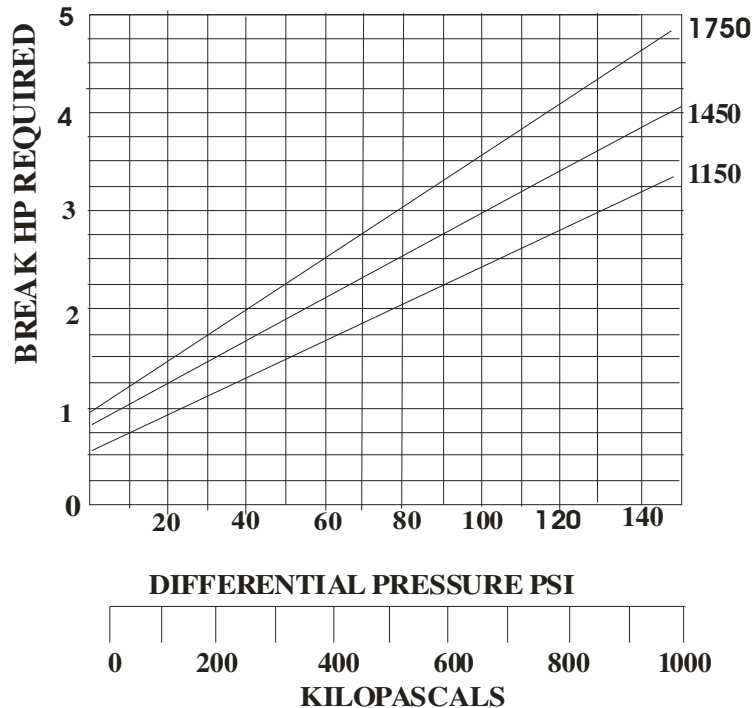
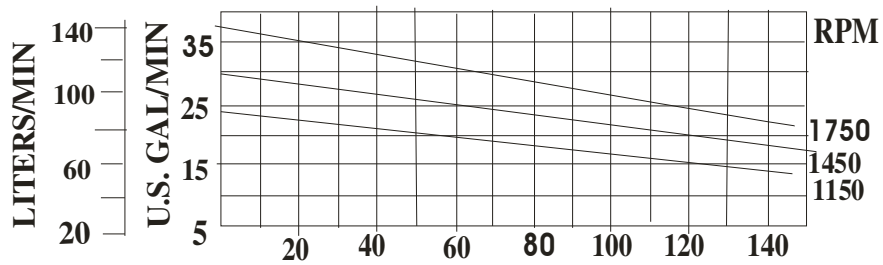
LGRLF1.25



LGF1.25/LGL1.25



LGL1.5



LGLD2, LGLD3 & LGLD4 PUMPS

MULTI-PURPOSE PUMPS FOR BULK PLANTS TERMINAL AND TRUCK SYSTEM



LGLD4 cutaway

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 – 1135 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 anhydrous ammonia. Optional viton fitted mechanical seals, laminate vanes and a corrosion-resistant relief valve are also available.

Maximum differential pressure for the 2 and 3 inch models is 150 psi (1034 kPa) and 125 psi (862 kPa) for the 4-inch models. Ports are offered with NPT tapped companion flanges or weld flanges

SELECTION DATA

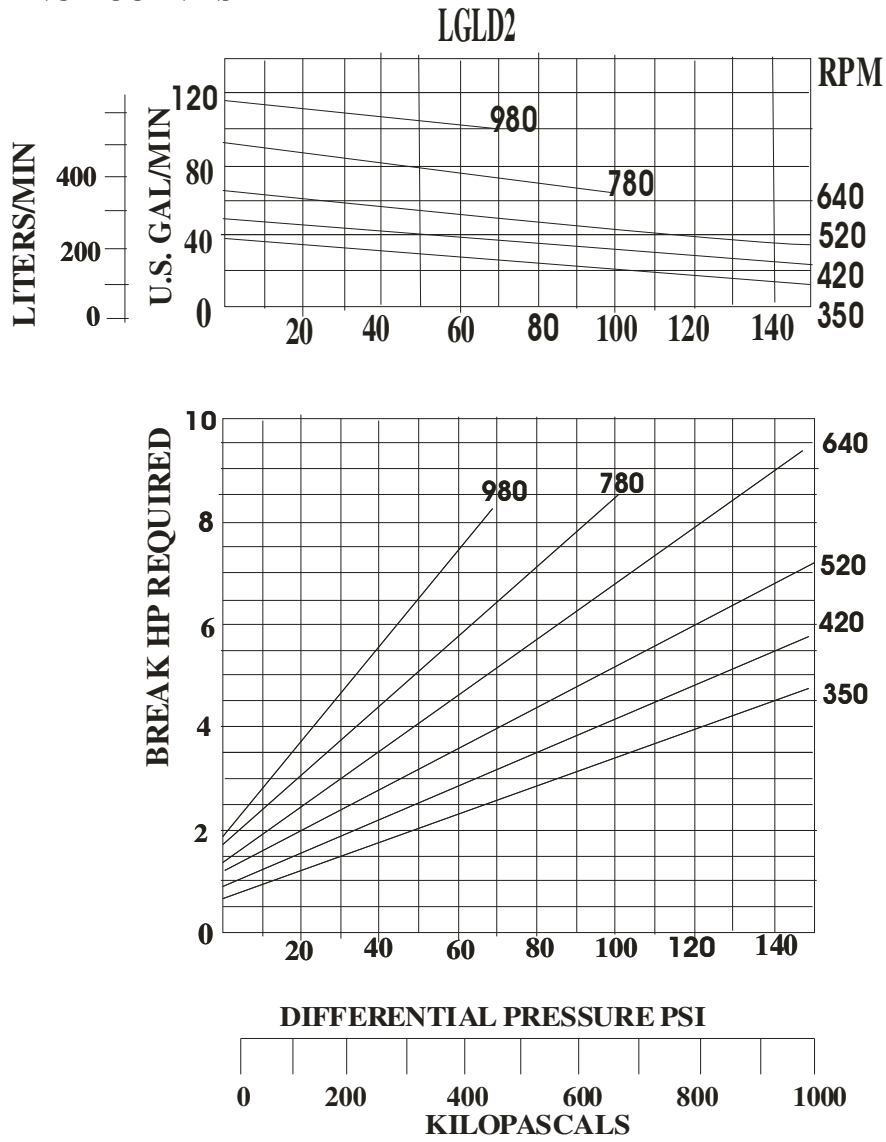
When selecting a standard pump or assembled unit from the table below, check the pump's delivery and brake horsepower requirements in the performance curves. These pumps are rated for continuous duty, although such applications may accelerate pump wear rates particularly if vaporization occurs in the pump intake line. Pumps used on vaporizers should be mounted with inlet up, and sized for a capacity of at least 150% of the normal peak load to prevent system failure due to sudden pressure drop on start-up. Additional system requirements can be achieved by series or parallel staging.

Assembled Pump Units		Pump speed RPM (using 1750 RPM Motor)	Approximate Delivery of Propane @ Differential Pressures and pump Speeds shown				Maximum Differential Pressure		Maximum Working Pressure ²		Drive rating (Maximum Horsepower Drive will Transmit) ³			Motor Size for Mounting On Standard Base	
Model	Factory Relief Valve Setting	RPM	50 PSI (345 kPa)		100 PSI (689 kPa)		PSI	kPa	PSI	kPa	0-3 Hour Duty	3-8 Hour Duty	8-24 Hour Duty	Min. Frame Size	Max. Frame Size
			GPM	LPM	GPM	LPM									
LGLD2-VB	150 PSI (1034 kPa)	660	67	254	57	216	150	1034	350	2413	9.2	9.2	7.8	184T	213T
		520	50	189	41	155	150	1034	350	2413	6.4	6.4	5.4	182T	184T
		420	40	151	30	114	150	1034	350	2413	4.8	4.8	4.0	182T	184T
		330	30	114	23	87	150	1034	350	2413	3.1	3.1	2.6	182T	182T
LGLD2-HROF	150 PSI (1034 kPa)	640	65	246	55	208	150	1034	350	2413	8.9	7.1	5.7	143T	215T
		520	50	189	41	155	150	1034	350	2413	7.0	5.6	4.5	143T	215T
		420	40	151	30	114	150	1034	350	2413	5.4	4.3	3.4	143T	215T
		350	32	121	24	91	150	1034	350	2413	4.1	3.3	2.6	143T	215T
LGLD3-VB	150 PSI (1034 kPa)	640	133	503	112	424	150	1034	350	2413	12.1	12.1	10.2	215T	254T
		520	108	409	84	318	150	1034	350	2413	8.9	8.9	7.5	213T	215T
		420	80	303	60	227	150	1034	350	2413	7.3	7.2	6.1	213T	215T
		330	59	233	42	159	150	1034	350	2413	5.4	5.4	4.5	184T	184T
LGLD3-HRA	150 PSI (1034 kPa)	640	133	503	112	424	150	1034	350	2413	25.0	25.0	20.0	182T	256T
		520	108	409	84	318	150	1034	350	2413	24.3	19.4	15.5	182T	256T
		420	80	303	60	227	150	1034	350	2413	17.8	14.3	11.4	182T	256T
		350	63	238	45	170	150	1034	350	2413	14.4	11.5	9.2	182T	256T
LGLD4-VB	150 PSI (1034 kPa)	640	270	1022	220	833	125	862	350	2413	26.9	26.9	22.8	254T	284T
		520	220	833	180	681	125	862	350	2413	19.6	19.6	16.6	254T	256T
		420	170	644	130	492	125	862	350	2413	15.8	15.8	13.4	215T	254T
		330	130	492	90	341	125	862	350	2413	11.4	11.4	9.8	213T	215T
LGLD4-HRA	150 PSI (1034 kPa)	640	270	1022	220	833	125	862	350	2413	25.0	25.0	20.0	213T	256T
		520	220	833	180	681	125	862	350	2413	24.3	19.4	15.5	213T	256T
		420	170	644	130	492	125	862	350	2413	17.8	14.3	11.4	213T	256T
		350	138	522	95	360	125	862	350	2413	14.4	11.5	9.2	213T	256T
LGLD4-HRB	150 PSI (1034 kPa)	640	270	1022	220	833	125	862	350	2413	30.0	30.0	26.9	182T	286T
		500	220	795	170	644	125	862	350	2413	30.0	30.0	24.0	182T	286T
		400	160	606	120	454	125	862	350	2413	30.0	24.1	19.3	182T	286T

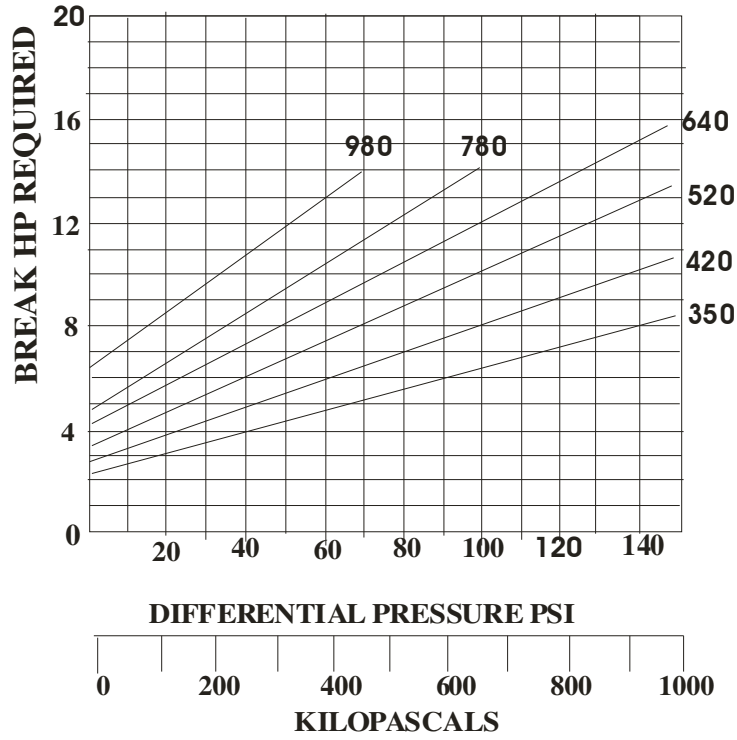
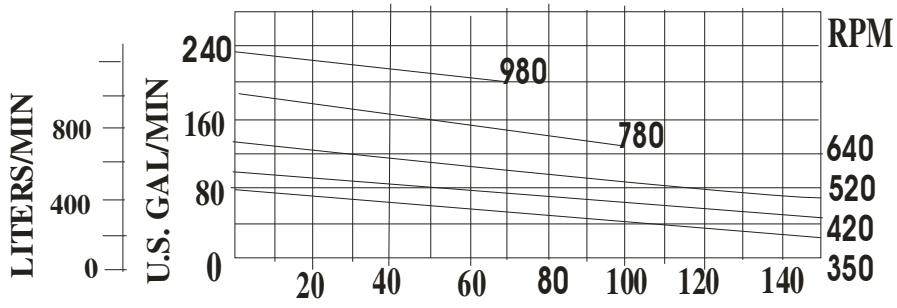
1. Check the pump's delivery and brake horsepower requirements in the performance curves on the opposite page. See footnote with the curves which explains the factors that can cause delivery to vary

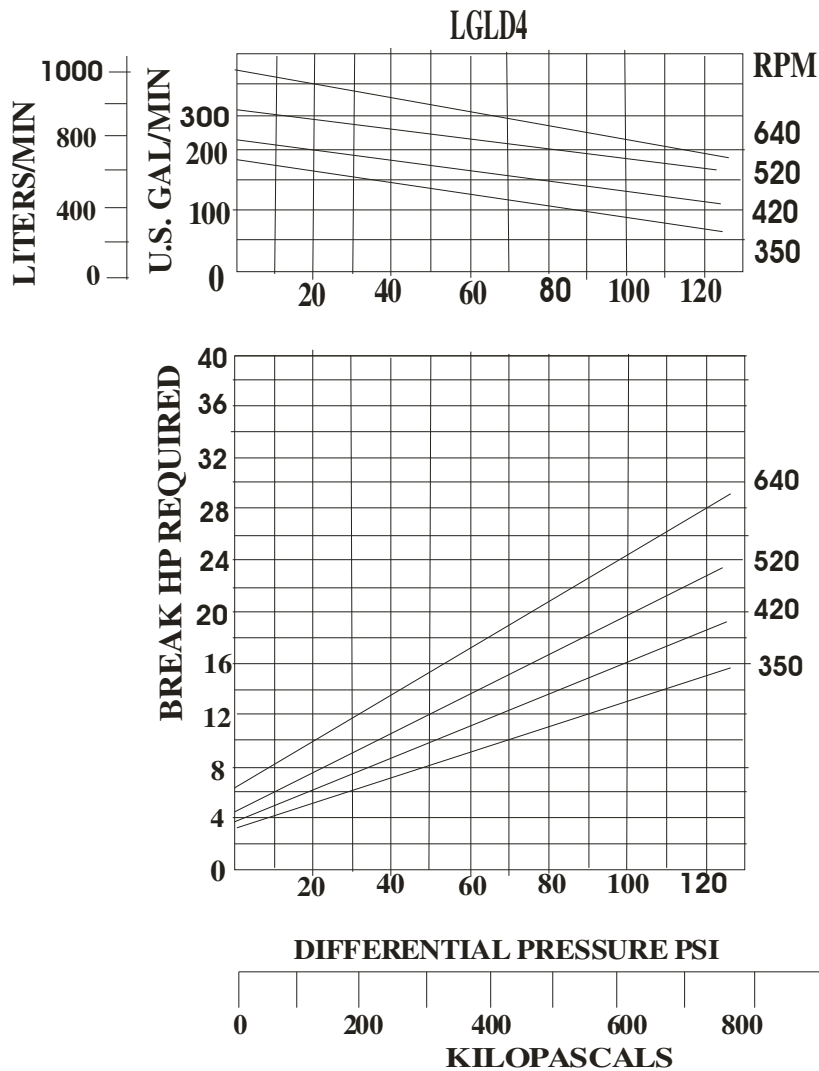
2. Maximum rated working pressure is 350 psi (2413 Kpa) for LPG and NH₃ (limited by U.L and N.F.P.A 58).
3. Maximum horsepower that standard drive (V-belt/gearbox and base) will transmit.

PERFORMANCE CURVES



LGLD3





TLGLF3 & TLGLF4 PUMPS

FLANGE MOUNTED PUMPS FOR BOBTAILS AND TRANSPORTS



TLGLF3 cutaway

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 counter-clockwise rotation by simply changing position of the pump. Each model also has an auxiliary intake

port which can be used for emergency unloading or another tank



TLGLF4 cutaway

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. Optional viton-fitted mechanical seals, laminate vanes and a corrosion-resistant relief valve are also available. The TLGLF3 is widely used on bobtrails because of its compact mounting arrangement, with a 3-inch ANSI intake flange, a discharge ports. Capacities range from 60 to 110 U.S. gpm (227 to 416 lpm).

The TLGLF4 offers maximum output rates, and fast turn-around time for transports. It is designed with a 4-inch ANSI intake flange, a 3-inch auxiliary intake 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 (757-1135 lpm). Maximum differential pressure of both models is 125 psi (862 kPa).

HYDRAULIC DRIVE PACKAGES

Blackmer two-inch through four-inch pump models are offered with complete factory engineered hydraulic drive packages. Blackmer highly recommends the use of hydraulic drive systems to maximize pump performance and extend equipment life, especially on truck mounted bobtail and transport pumps.

The Blackmer Hydraulic cooler/controller forms the heart of a hydraulic drive system, and offers up to 21 horsepower (15.75 kW) of actual heat dissipation. The Hydrive has a compact design with stainless steel construction, and weighs only 48 lbs. (22 kgs). It protects the system on/off control, and provides both system cooling and monitoring of oil filtration.

A typical hydraulic drive package includes a P.T.O, hydraulic pump, Hydrive cooler/controller, cargo pump control valve, speed control valve, hydraulic motor, and mounting hardware. Hydraulic motor adapter kits are also available to retrofit existing Blackmer LP-gas pumps for hydraulic drive operation

SELECTION DATA

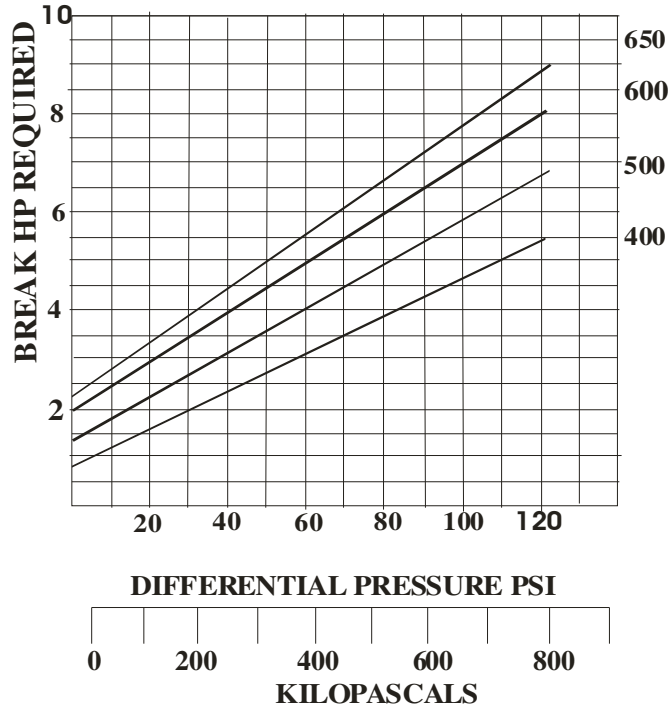
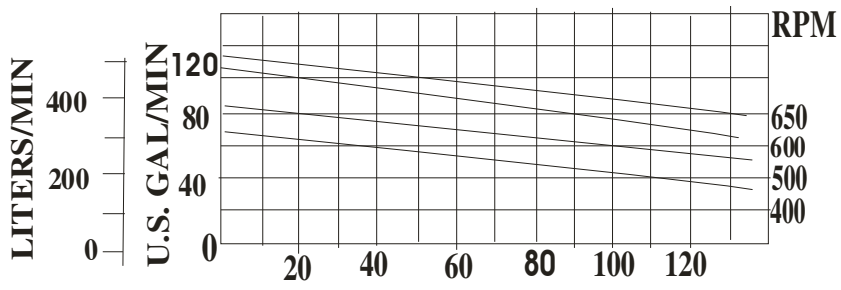
Pump delivery and brake horsepower requirement are listed in the table below for various differential pressure. The same data for all pressures is provided in the performance curves below.

Standard Pump		Pump speed RPM	Approximate Delivery of Propane @ Differential Pressures and pump Speeds shown ¹												Maximum Differential Pressure		Maxi. Working Pressure ²	
Model	Factory Relief Valve Setting		50 PSI (345 kPa)						100 PSI (689 kPa)						PSI	kPa	PSI	kPa
			GPM	LPM	BHP	KW	Torque		GPM	LPM	BHP	KW	Torque					
FT. lbs	Kg/m	FT. lbs					Kg /m											
TLGLF3	150 psi (1034 kPa)	650	93	352	5.0	3.7	40.4	5.6	81	307	7.9	5.9	63.8	8.8	125	862	350	2413
		600	85	322	4.5	3.4	39.4	5.4	73	276	7.0	5.2	61.3	8.5	125	862	350	2413
		500	70	265	3.6	2.7	37.8	5.2	59	223	5.7	4.3	59.9	8.3	125	862	350	2413
		400	52	197	2.8	2.1	36.8	5.1	40	151	4.5	3.4	59.1	8.2	125	862	350	2413
TLGLF4	150 psi (1034 kPa)	650	280	1060	15.5	11.6	125.2	17.3	245	927	25.0	18.6	201.9	27.9	125	862	350	2413
		600	260	984	14.3	10.7	125.1	17.3	220	833	23.0	17.2	201.3	27.8	125	862	350	2413
		500	210	795	11.9	8.9	125.0	17.3	170	644	19.0	14.2	199.5	27.6	125	862	350	2413
		400	160	606	9.5	7.1	124.7	17.2	120	454	15.2	11.3	199.5	27.6	125	862	350	2413

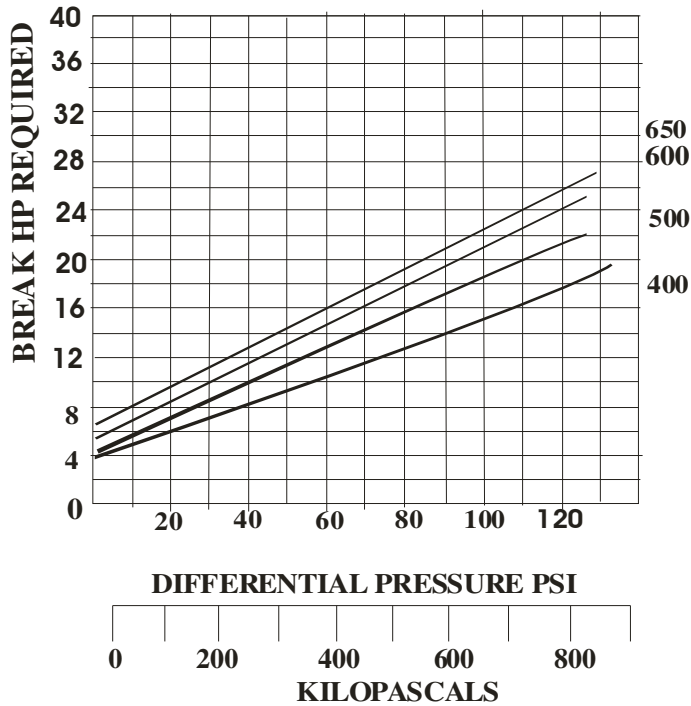
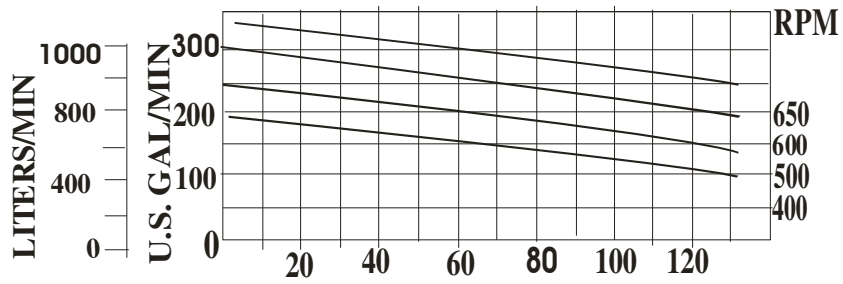
1. Check the pump's delivery and brake horsepower requirements in the performance curves below. See footnote with the curves which explains the factors that can cause delivery to vary
2. Maximum rated working pressure is 350 psi (2413 kPa) for LPG and NH₃ (limited by U.L and N.F.P.A 58).
Note: Refer to back cover for external bypass value information

PERFORMANCE CURVES

TLGLF3



TLGLF4



Magnetically-Coupled Vane Pumps (MVP)

MVP and stainless steel SMVP pumps combine a seal-less magnetic coupling with Blackmer's sliding -vane design. So they are ideal for applications that require zero shaft leakage – like **EPA- monitored liquids, VOC's and other hazardous or hard – to – seal fluids**. Port sizes and capacities available are listed below:



Port Sizes	Capacities	Pressure	Temperature	Viscosity
1/4" – 4"	5-300gpm (19 1135lpm)	To 150psi (1034kPa)	To 440°F (225°C)	1050cP to 5250 cP



Heavy – Duty Process Pumps

A full range of models can handle fluids ranging from thin non-lubricating solvents to highly viscous liquids. Available in ductile iron or cast steel construction, with ball or roller bearings and mechanical seals. These type of pumps are used in the **construction industry** (for handling cement and concrete admix, asphalt, coal tar etc), **paints industry, establishments engaged in the production of pharmaceutical and medical chemicals and the petroleum industry**. Port sizes and capacities available are

listed below:

Port Sizes	Capacities	Pressure	Temperature	Viscosity
1½” – 10”	5-2200gpm (19 - 8803lpm)	To 200psi (1379kPa)	To 400°F (204°C)	110cP to 108000 cP

General – Duty Pumps

Blackmer X, GX and NP pumps have long been popular for transferring a wide range of non-corrosive, non-abrasive industrial liquids and petroleum products. Construction options include ball bearings or sleeve bearings, with mechanical seals or shaft packing. These pumps are capable of handling **fuel oils, grease and lubricating greases and oils, alcohol, coal tar, varnish, alkyd resins, starch, fatty acids, latex, brine** etc. Port sizes and capacities available are listed below:

Port Sizes	Capacities	Pressure	Temperature	Viscosity
1½” – 4”	10-565gpm (38 - 2139lpm)	To 150psi (1034kPa)	To 500°F (260°C)	1050cP to 108000 cP



Eccentric Disc pumps

- Uses an eccentric disc according to the Mouvex principle, which enables self-priming even under dry suction conditions.
- Types available are the A- series and the C – series.
- Maintains a constant output independent of delivery pressure even if the viscosity changes.
- The C – series pumps are direct coupled to gear reduction units and no magnets are required.
- The C – series is designed to be flushed and cleaned in

place without disassembly. The stainless steel models are ideal for sanitary applications and carry a 3A approval certification.

- Shear sensitive materials are safe when pumped with the A- or the C – series.
- Designed without mechanical seals, packing or magnets the eccentric disc pump eliminates leakage and reduces maintenance time.
- The eccentric disc pumps are designed to meet a wide variety of industrial applications namely:

Chemicals, pharmaceuticals and cosmetics, agrochemicals, petrochemicals, road works (asphalt, emulsions etc), **Para – chemistry** (detergents, glue, inks, paints etc.) and the **food industry** (molasses, oils, fatty substances, tallow etc).

Port sizes and capacities available are listed below:

Port Sizes	Capacities	Pressure	Temperature	Viscosity
1” – 4”	0.4 – 50 m ³ /h	3 – 10 bar	To 500°F (260°C)	1000cP to 5000 cP

Peristaltic Hose Pump



- The peristaltic hose pump can handle your toughest pumping needs – from and aggressive fluids to shear sensitive and viscous fluids.
- Seal free design eliminates leaks and contamination. Fluids are contained within the hose. The hose is the primary maintenance component.
- The peristaltic hose pump is self – priming to 25.5 ft(9 meters) manometric lift. The pump can run dry continuously without any detrimental effects. The pump is capable of running in forward or reverse.

Applications:

Chemical process industry

Food industry

Industrial and municipal water treatment

Mining

Port sizes and capacities available are listed below:

Port Sizes	Capacities	Pressure	Temperature	Viscosity
¼" – 5"	15 – 2667 lpm	3 – 10 bar	100 ⁰ C	1000cP to 5000 cP

Technical Assistance

Selecting the right pump may require more detailed information than presented. We can help you find the correct equipment to ensure the best performance possible for your specific application. Don't hesitate to contact us if you have a unique fluid-handling problem.

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