



Spec Sheet 501-010

Section: 501

Effective: September 2020

Replaces: May 2018



LGLD2, LGLD3 & LGLD4 Pumps

Multi-Purpose Pumps for Bulk Plants, Terminals and Truck Systems



LGLD2E

Applications

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 350 U.S. gpm (114–1,325 L/min). 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.

Design Features

All models have an internal relief valve, and a replaceable casing liner and end discs for easy rebuilding of the pumping chamber if ever necessary. In addition, these pumps feature cavitation suppression liners to reduce noise, vibration and wear.

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

Performance

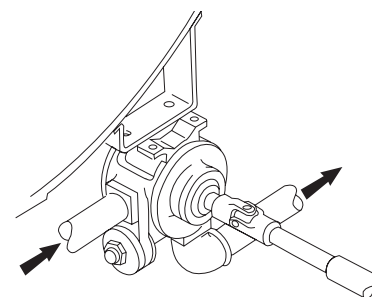
Maximum differential pressure for the 2- and 3-inch models is 150 psi (10.34 bar), and 125 psi (8.62 bar) for the 4-inch models. Ports are offered with NPT tapped companion flanges or weld flanges.

Truck Mounted Drive

Blackmer LGLD2 pumps are often mounted to the chassis of a bobtail, or to a steel pad that is welded to the tank.

The 3- and 4-inch models can be mounted to a transport in a number of different ways, generally near or between the tank landing gear brackets.

Truck mounted pumps are normally driven through a P.T.O. or hydraulic drive system. Refer to Blackmer's Liquefied Gas Handbook-Bulletin 500-001 for various types of bobtail and transport pump systems.

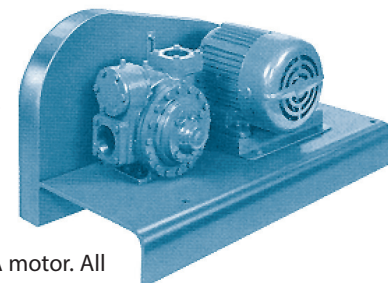


Assembled Pump Units

VB Drive Style

V-Belt Drive

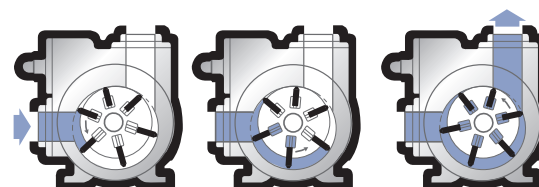
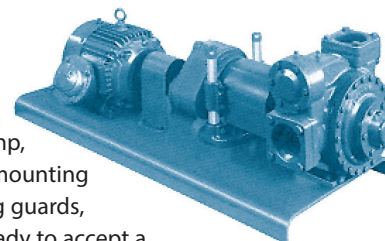
Standard base-mounted VB units are available, complete with pump, hubs, sheaves, high-torque V-belts and belt guard, mounted on a common base, ready to accept a standard NEMA motor. All VB units are available with or without motors.



HR Drive Style

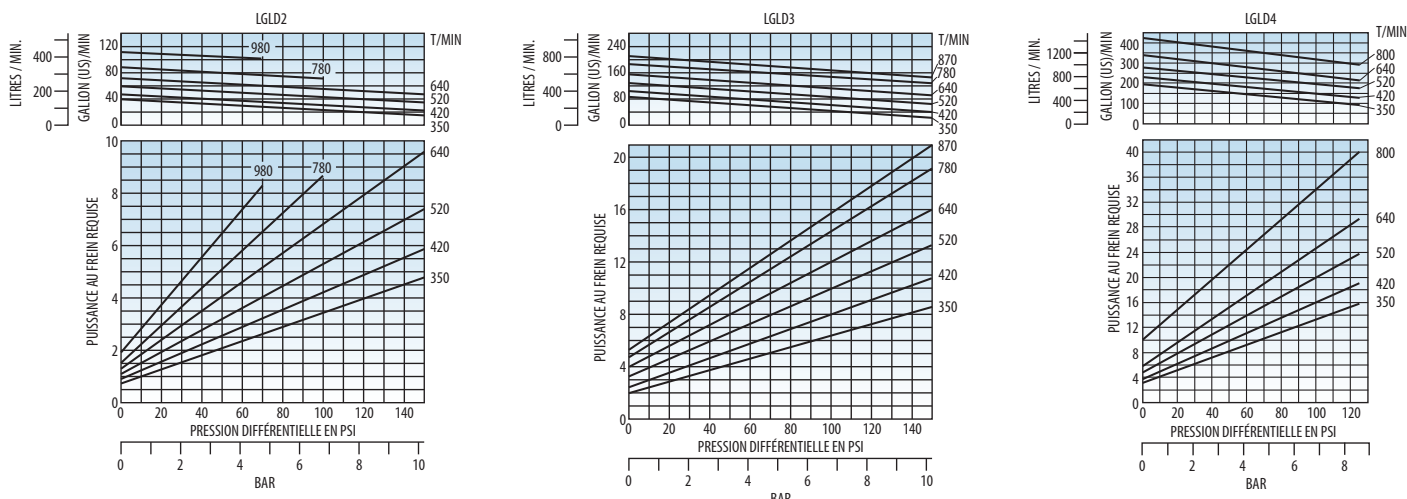
Helical Gear Reduction Drive

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.



How Blackmer's sliding vane action works

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 of butane at 80°F (26.7°C) will be 60% to 70% of these values, 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.

Selection Data

When selecting a pump for truck or transport systems, use the performance curves on this page. For a standard pump or assembled unit, use the table shown. The table shows brake horsepower limitations for the unit's drive and base. Check these limits against the pump brake horsepower requirements, as shown in the curves. For continuous duty applications, it is generally advisable to use pump speeds of 400 rpm or less. Peak shaving plant systems, for example, involve continuous pump duty. Moreover, pumps used in peak shaving plant systems should be sized for a capacity of at least 150% of the normal peak load to prevent system failure due to abnormal vaporization in the intake line.

Assembled Pump Units		Pump Speed rpm (Using 1,750 rpm Motor)	Approximate Delivery of Propane at Differential Pressures and Pump Speeds ¹				Maximum Differential Pressure psi (Bar)	Maximum Working Pressure ² psi (Bar)	Motor Sizing			
Model	Factory Relief Valve Setting		50 psi (3.45 Bar)		100 psi (6.89 Bar)				Power at 50 psi (3.45 Bar)	Power at 150 psi (10.3 Bar)	Frame Size Range of Standard Bases	
			gpm	L/min	gpm	L/min						
LGLD2-VB	150 psi (10.34 Bar)	980	100	378	97*	367*	150 (10.34 Bar)	350 (24.13 Bar)	6.3 hp	15.6 hp	184T	215T
		660	67	254	57	216						
		420	40	151	30	114						
		330	30	114	23	87						
LGLD2-HRA	150 psi (10.34 Bar)	980	100	378	97*	367*	150 (10.34 Bar)	350 (24.13 Bar)	6.3 hp	15.6 hp	182T	215T
		640	65	246	55	208						
		420	40	151	30	114						
		350	32	121	24	91						
LGLD3-VB	150 psi (10.34 Bar)	980	208	787	201*	760*	150 (10.34 Bar)	350 (24.13 Bar)	11.8 hp	23.4 hp	215T	256T
		640	132	499	112	424						
		420	77	291	58	219						
		340	59	223	42	159						
LGLD3-HRA	150 psi (10.34 Bar)	980	208	787	201*	760*	150 (10.34 Bar)	350 (24.13 Bar)	11.8 hp	23.4 hp	182T	256T
		640	132	499	113	428						
		420	77	291	58	219						
		350	62	235	45	170						
LGLD4-VB	150 psi (10.34 Bar)	800	370	1,400	320	1,211	125 (8.62 Bar)	350 (24.13 Bar)	22.0 hp	40.2 hp	254T	286T
		640	280	1,059	243	919						
		420	185	700	130	492						
		350	155	586	115	435						
LGLD4-HRB	150 psi (10.34 Bar)	800	370	1,400	320	1,211	125 (8.62 Bar)	350 (24.13 Bar)	22.0 hp	40.2 hp	182T	286T
		640	280	1,059	220	833						
		420	185	700	130	492						
		400	175	662	125	473						

Companion Flanges

Pump Model	Standard or Optional	Intake	Discharge
LGLD2	Standard	2" NPT	2" NPT
	Optional	2" Weld	2" Weld
LGLD3	Standard	3" NPT	3" NPT
	Optional	3" Weld	3" Weld
LGLD4	Standard	4" Weld	3" Weld
	Optional	4" Weld	4" Weld

- 1 Check the pump's delivery and brake horsepower requirements in the published performance curves and review footnote that explains the factors that can cause flow rate to vary.
 - 2 Maximum rated working pressure is 350 psi (24.13 Bar) for LPG and NH₃ (limited by U.L. and N.F.P.A. 58).
- * Indicates that reference data is at 70 psi (4.82 bar)

Note: Refer to back cover for external bypass valve information.

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