



Spec Sheet 501-010

Section: 501

Effective: May 2018

Replaces: NEW



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

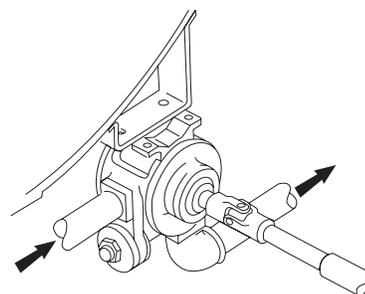
Maximum differential pressure for the 2- and 3-inch models is 150 psi (10.34 bar), and 125 psi (8.62 bar) for the 4-inch models. Ports are offered with NPT tapped companion flanges or weld flanges.

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.

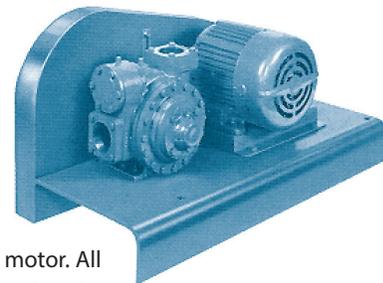


Assembled Pump Units

VB Drive Style

V-Belt Drive

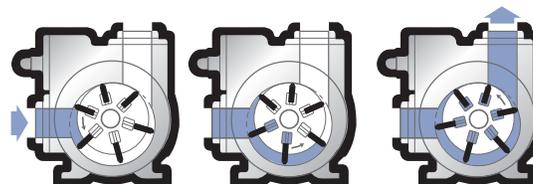
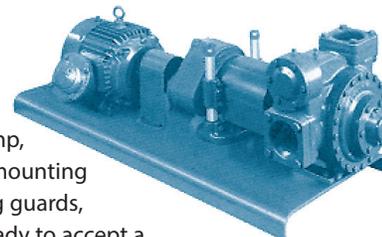
Standard base-mounted VB units are available, complete with pump, hubs, sheaves, high-torque V-belts and belt guard, mounted on a common base, ready to accept a standard NEMA motor. All VB units are available with or without motors.



HR Drive Style

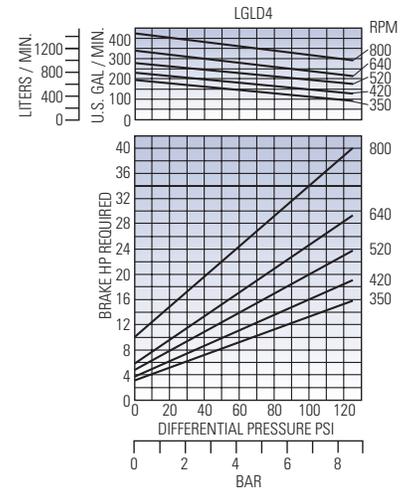
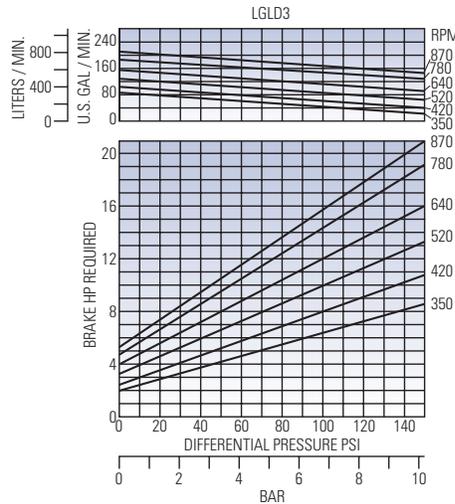
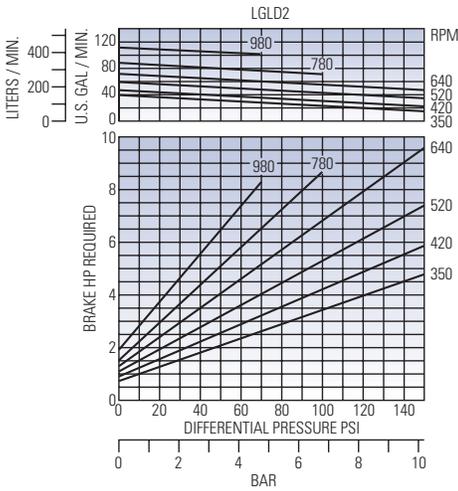
Helical Gear Reduction Drive

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 Shown ¹				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		50 psi (3.45 Bar)		100 psi (6.89 Bar)				psi (Bar)	psi (Bar)	0-3 Hour Duty	3-4 Hour Duty	8-24 Hour Duty	Minimum Frame Size	Maximum Frame Size
			gpm	L/min	gpm	L/min									
LGLD2-VB	150 psi (10.34 Bar)	660	67	254	57	216	150 (10.34 Bar)	350 (24.13 Bar)	9.2	9.2	7.8	184T	213T		
		520	50	189	41	155			6.4	6.4	5.4	182T	184T		
		420	40	151	30	114			4.8	4.8	4.0	182T	184T		
		330	30	114	23	87			3.1	3.1	2.6	182T	182T		
LGLD2-HRA	150 psi (10.34 Bar)	640	65	246	55	208	150 (10.34 Bar)	350 (24.13 Bar)	8.9	7.1	5.7	182T	215T		
		520	50	189	41	155			7.0	5.6	4.5	182T	215T		
		420	40	151	30	114			5.4	4.3	3.4	182T	215T		
		350	32	121	24	91			4.1	3.3	2.6	182T	215T		
LGLD3-VB	150 psi (10.34 Bar)	640	133	503	112	424	150 (10.34 Bar)	350 (24.13 Bar)	12.1	12.1	10.2	215T	254T		
		520	108	409	84	318			8.9	8.9	7.5	213T	215T		
		420	80	303	60	227			7.3	7.3	6.1	213T	215T		
		340	59	223	42	159			5.4	5.4	4.5	184T	184T		
LGLD3-HRA	150 psi (10.34 Bar)	640	133	503	112	424	150 (10.34 Bar)	350 (24.13 Bar)	25.0	25.0	20.0	182T	256T		
		520	108	409	84	318			24.3	19.4	15.5	182T	256T		
		420	80	303	60	227			17.8	14.3	11.4	182T	256T		
		350	63	238	45	170			14.4	11.5	9.2	182T	256T		
LGLD4-VB	150 psi (10.34 Bar)	640	270	1,022	220	833	125 (8.62 Bar)	350 (24.13 Bar)	26.9	26.9	22.8	254T	284T		
		520	220	833	180	681			19.6	19.6	16.6	254T	256T		
		420	170	644	130	492			15.8	15.8	13.4	215T	256T		
		340	130	492	90	341			11.4	11.4	9.8	213T	215T		
LGLD4-HRB	150 psi (10.34 Bar)	640	270	1,022	220	833	125 (8.62 Bar)	350 (24.13 Bar)	30.0	30.0	26.9	182T	286T		
		500	210	795	170	644			30.0	30.0	24.0	182T	286T		
		400	160	606	120	454			30.0	24.1	19.3	182T	286T		

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 performance curves on 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 (24.13 Bar) 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.
- 4 Motors may be specified from Electric Motor Price List No. 10-MTRG-01

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



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