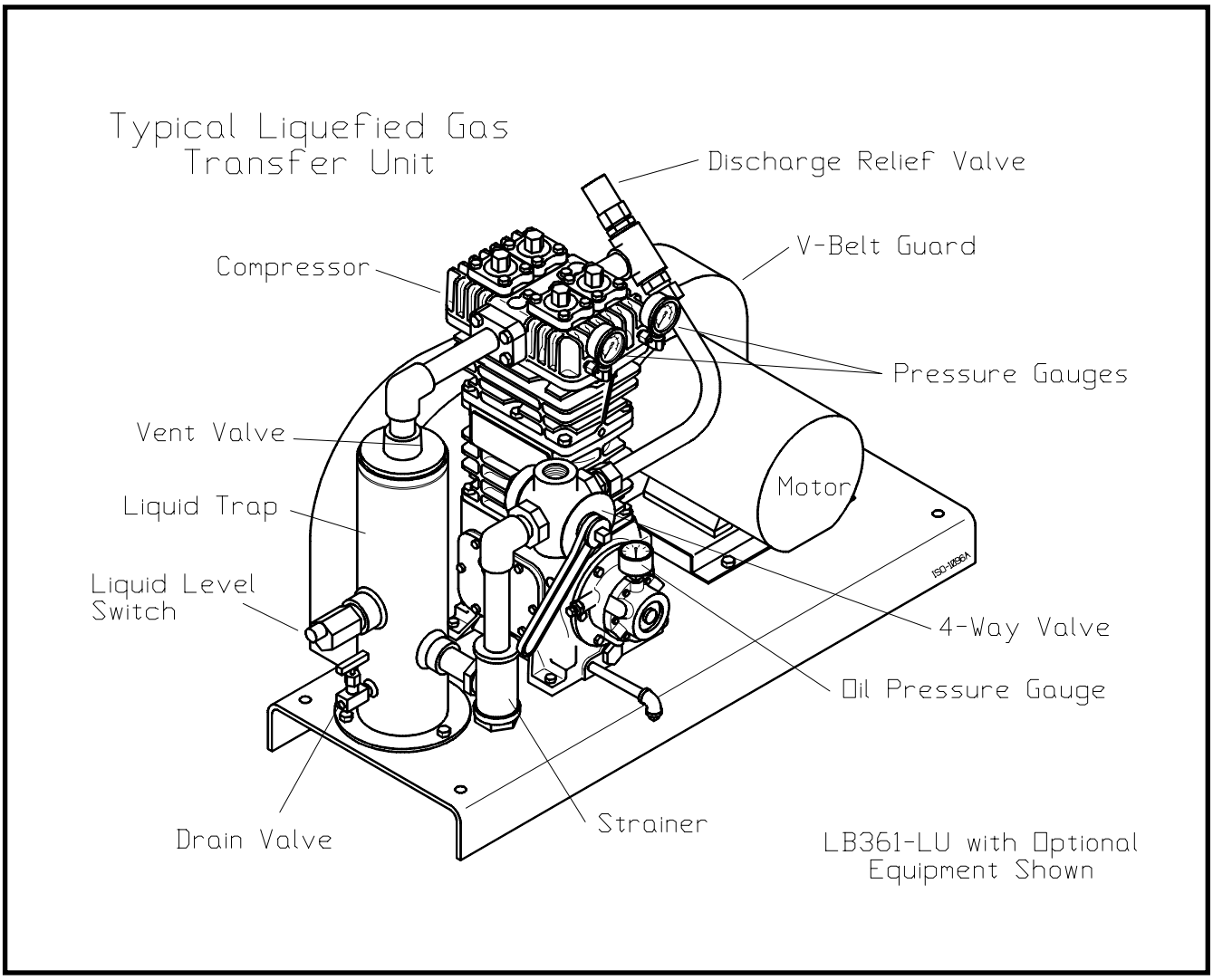
Liquefied Gas Transfer Compressors
LB161B LB361B LB601B
LB162B LB362C LB602B
LB942B



Blackmer 'LB' series compressors are specifically designed to transfer liquefied gasses like propane, butane and anhydrous ammonia. They are ideal for rail car unloading and vapor recovery applications. All models feature ductile iron pressure parts for greater resistance to both thermal and mechanical shock. Models are available for transfer rates of 35 to 700 gpm (132 to 2,630 lpm) to accommodate any size plant.

LIQUID TRANSFER WITH A COMPRESSOR

Many liquid transfer applications can be handled more efficiently with a gas compressor than a liquid pump. They include unloading of transports and pressure vessels where system piping restricts flow and may cause a pump to cavitate; unloading of rail cars, and other installations that require an initial lift to the liquid.

To transfer liquid, the compressor draws vapor from the receiving tank (lowering its pressure) and discharges it into the vessel being unloaded (raising its pressure). This pressure differential will push the liquid to the receiving tank at about 5 to 6 USGPM per cubic foot of compressor piston displacement (668 to 800 lpm per m^3).

Gas Compressors for Vapor Recovery

When the liquid transfer phase is complete, a significant amount of vapor and liquid is left in the tank car (often 3% or more of the tank's capacity). Recovery of product with a compressor is a simple operation where the compressor can quickly pay for itself.

Vapor recovery is accomplished with the use of a four-way valve. By rotating the handle 90°, gas flow is reversed and the pressure in the supply vessel is reduced. At this point, remaining liquid vaporizes and is quickly recovered. As the tank pressure is drawn down further, remaining vapors are then recovered to an economical level. Recovered vapor is discharged into the liquid area of the receiving tank and condensed back into a liquid state.

PERFORMANCE

Model	Approximate Liquid Transfer Rate at 70°F (21°C), GPM (lpm)			Driver Size BHP (KW)
	Propane	Butane	Anhydrous Ammonia	
LB161B LB162B	49 (185), 420 rpm	46 (174), 655 rpm	44 (166), 380 rpm	3 (2.2)
	80 (303), 700 rpm	62 (235), 815 rpm	74 (280), 635 rpm	5 (3.7)
	95 (360), 815 rpm		93 (352), 780 rpm	7½ (5.5)
LB361B LB362C	83 (314), 330 rpm	85 (322), 560 rpm		5 (3.7)
	123 (466), 490 rpm	125 (473), 815 rpm	116 (439), 470 rpm	7½ (5.5)
	161 (609), 655 rpm		154 (583), 600 rpm	10 (7.5)
	205 (776), 815 rpm		190 (719), 765 rpm	15 (11)
LB601B LB602B	175 (662), 405 rpm	157 (594), 625 rpm		10 (7.5)
	245 (927), 545 rpm	204 (772), 800 rpm	230 (871), 510 rpm	15 (11)
	300 (1,136), 680 rpm		292 (1,105), 650 rpm	20 (15)
	345 (1,306), 790 rpm		315 (1,192), 700 rpm	25 (18.5)
	350 (1,325), 800 rpm		350 (1,325), 800 rpm	30 (22)
LB942B	360 (1,363), 450 rpm	325 (1,230), 760 rpm	325 (1,230), 400 rpm	20 (15)
	435 (1,646), 545 rpm	345 (1,306), 805 rpm	390 (1,476), 480 rpm	25 (18.5)
	490 (1,855), 615 rpm		470 (1,779), 580 rpm	30 (22)
	650 (2,460), 805 rpm		625 (2,366), 765 rpm	40 (30)
			650 (2,460), 805 rpm	50 (37)

Actual transfer rate will depend on proper system design, pipe sizing, and valve capacity.
Horsepower is for liquid transfer and vapor recovery in moderate climates (80°F, 27°C).
Your Blackmer representative can provide a detailed performance analysis on request.

TYPICAL MOUNTING STYLES

-CO Compressor with flywheel.

-TU Transfer Unit: -CO compressor plus baseplate, mechanical liquid trap, gauges, V-belt drive system with guard, and motor slide, ready to accept but less motor.

-TC Similar to -TU unit, but with an ASME code liquid trap and high liquid level switch.

-TW Similar to -TC unit, but with welded and flanged piping.

-LU Transfer and Vapor Recovery Unit: -TU Transfer Unit plus 4-way valve, inlet strainer, and interconnecting piping.

-LC Similar to -LU unit, but with an ASME code liquid trap and high liquid level switch.

-LW Similar to -LC unit, but with welded and flanged piping.

SPECIFICATIONS

Single-Seal Double-Seal	**LB161B LB162B**	**LB361B LB362C**	**LB601B LB602B**	**LB942B**
No. of Cylinders	2	2	2	2 Double Acting
Bore x Stroke in. (mm)	3.0 x 2.5 (76.2 x 63.5)	4.0 x 3.0 (102 x 76)	4.625 x 4.0 (117 x 102)	4.625 x 4.0 (117 x 102)
MAWP, psia (kPa)	350 (2,413)	350 (2,413)	350 (2,413)	350 (2,413)
Speed, rpm	350 - 825	350 - 825	350 - 825	350 - 825
Piston Displacement, CFM (m^3/hr)				
@ Min rpm	7.16 (12.2)	15.3 (26.0)	27.2 (46.3)	52.46 (89.1)
@ Max rpm	16.9 (28.7)	36.0 (61.2)	64.2 (109.0)	125.2 (212)
Max. BHP (kw)	10 (7.5)	15 (11)	40 (30)	50 (37)
Weight, lb. (kg)	~225 (102)	~365 (166)	~705 (320)	~905 (410)
Inlet / Outlet Connections *	0.75" NPT	1.25", 1.50"	2.00", 1.50" 1.25"	2" 300# ANSI

***** NPT flanges standard on the LB360 and LB600 series, weld type flanges available at extra cost.

FEATURES

Ductile Iron Head & Cylinder provide toughness & strength unmatched by cast iron.

O-ring head gaskets provide positive sealing under all operating conditions. No asbestos to worry about, and materials are available to suit any application.

Single-Seal (no distance piece) and Double-Seal (with distance piece) models available.

One piece steel pistons are attached to the piston rod via one positive locking nut.

Self-adjusting PTFE piston rod seals provide maximum sealing & minimum friction.

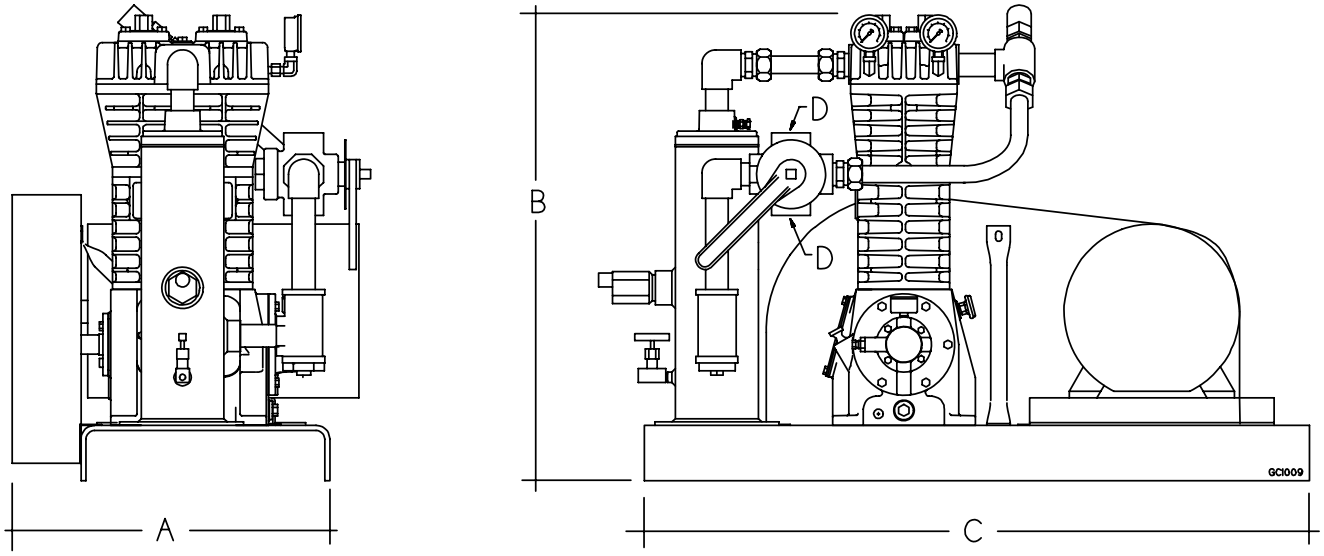
Crossheads feature special machined lube channels and porting for maximum lubrication and wear resistance.

Pressure lubricated crankcase via a self-reversing oil pump directly driven by the crankshaft. Oil is fed to the crosshead and all bearing surfaces.

OPTIONS

Extended crankshaft
Aluminum or Stainless Steel belt guards
Pressure Switches
Temperature switches
Temperature gauges
Control panels and starters
Liquid traps
NPT or welded piping systems
Repair tool kits
Spare parts kits
Epoxy paint systems
Pressure gauges - all types
Relief valves
Shutoff Valves - Manual or powered
Motor or engine drives
Level switches
Inlet filters or strainers

DIMENSIONS



In. (cm)

Model	A	B	C	D
LB161B-LU	20 (51)	32½ (83)	44 (112)	1" NPT
LB162B-LU	20 (51)	36½ (93)	44 (112)	1" NPT
LB361B-LU	23 (58)	34½ (88)	48 (122)	1¼" NPT
LB362C-LU	23 (58)	39 (99)	48 (122)	1¼" NPT
LB601B-LU	29 (74)	46 (117)	54 (137)	1¼" NPT
LB602B-LU	29 (74)	46 (117)	54 (137)	1¼" NPT
LB942B-LW	33 (84)	70 (178)	76 (193)	2" 300# ANSI