



# LIQUID RING PUMPS

**Lobee Liquid Ring Pumps** operate opposite how typical liquid rings pumps do. We do not compete with the volumetric output and efficiencies of dedicated air/gas liquid ring pumps. The Lobee liquid ring pump is designed to handle a higher liquid flow and a minor air/gas flow against a negative pressure environment. As compared to other designs which can flow a large volume of air/gas at various vacuum levels, our liquid ring pumps of comparable HP will pump only 15-20% air/gas volume in the same vacuum environment...but will pump 1,000% more volume of lower viscosity liquids (40 SSU or less).

Conventional design liquid ring pumps typically deliver a higher ACFM air/gas volume with a minimal liquid flow capability, whereas the Lobee LR/CLR/CHLR pumps deliver minimal air/gas volume with a higher fluid flow. Historically our pumps have been used to augment processes in which a stand alone vacuum pump cannot handle the amount of fluid that needs to be evacuated. The dedicated vacuum pump evacuates the air/gas mass at what ever requirement and our liquid ring handles or evacuates the liquids. An example would be vacuum chamber processing during extrusion in the plastics industry.

On applications where the air/gas evacuation demand is low, say < 20 ACFM, but fluid evacuation is relatively higher, our liquid ring works very well, stand alone, because it handles the low air/gas, high liquid ratio very efficiently.

## Features and Benefits

- (1) Self Priming, Up to 28' Lift, Vacuum to 28" Hg
- (2) Flows to 80 GPM, 15 SCFM
- (3) 1800-3600 RPM motor with 10:1 turndown ratio for VFD control
- (4) Performance Capability to 230 TDH, 100+ PSIG
- (5) Up to 20 Horsepower
- (6) 1", 1-1/2" and 2" NPT Port sizes
- (7) Available with Single or Three Phase Motors in Premium Efficient, High Efficient, Explosion Proof, Washdown, TEFC and ODP
- (8) Shaft Seal Systems include Acrylic/Graphite or PTFE Packing for 'Dry Running' and John Crane™ Type 1, 9 or 2106 Mechanical
- (9) Most API Flush Plans are Available for High Temperature, Corrosive or Crystallizing Applications
- (10) Standard Cast Iron, Bronze or 316 Stainless Steel Construction Materials are Available
- (11) Excellent wear characteristics in harsh applications—Where cavitation may occur and the NPSHR not met, pump performance will be minimally affected over the long run. No threat of catastrophic failure due to cavitation erosion

## Applications

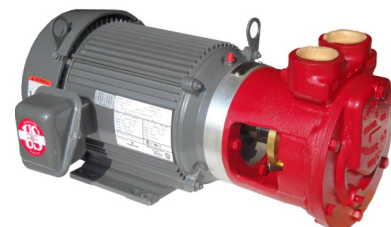
- Priming systems for centrifugal pumps
- High suction lift
- Vacuum heating systems
- Condensate service
- Residential/basement water pumps
- Oil transfer service
- Sanitary drinking water supply
- Volatile non-hazardous liquids
- Foaming liquids, entrained gases or air



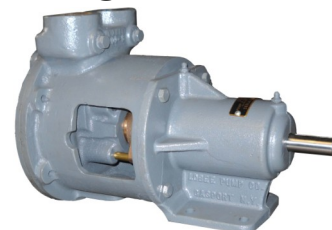
## MODEL CLR



## MODEL CHLR



## MODEL LR



The **Lobee Model LR** is a stand alone liquid ring pump designed for special application electric motors and alternate power drive sources for mobile and stationary applications such as PTO, hydraulic motor, pulley, etc.

**Models LR and CLR** come standard with an 1800 RPM motor for applications up to 160' head with low NPSH. **Our New CHLR Series** expands the liquid ring product range to accommodate up to 230' total dynamic head. This new series uses a 3600 RPM motor and high speed balanced impeller. Overall efficiency has been improved by over 50% with Total Dynamic Head capability up over 30% as compared to the standard CLR.

A single pump can be used for many pumping tasks, reducing costs and providing increased versatility. Application performance can also be greatly enhanced with the addition of a motor inverter (VFD). All motors have a minimum 10:1 turndown ratio which will enable a fully adjustable air/gas/liquid flow and pressure (head) range that takes full advantage of the CHLR's capabilities.

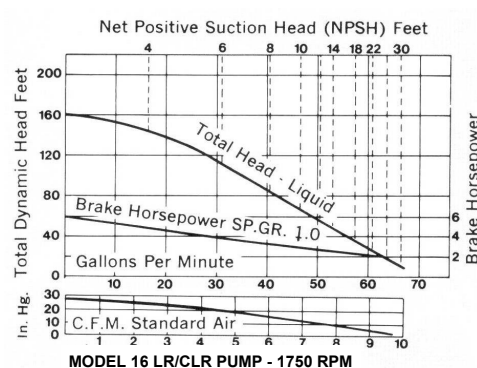
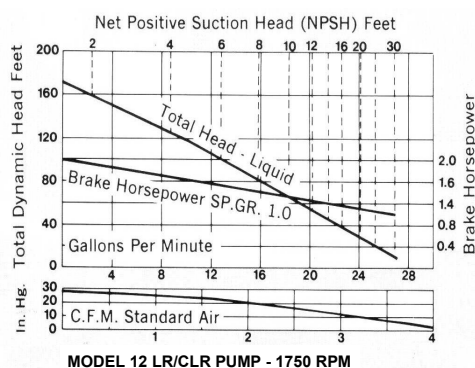
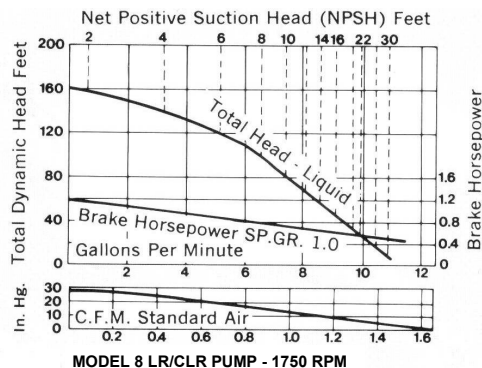
## Markets

- Refineries-fluid transfer
- Machine Tool-coolant & lubricant circulation
- Marine-bilge pump, fresh water
- Agriculture-water, fertilizer
- Plastics-vacuum holding, forming
- Manufacturing Facilities-fluid transfer, portable or stationary filtration pump systems
- Power Plants & Utilities-fluid transfer
- Chemical Processing
- Food and Beverage



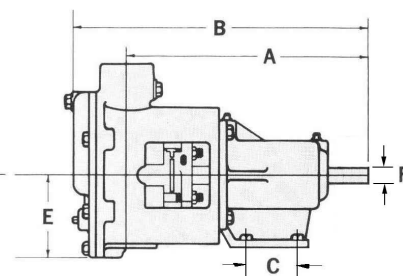
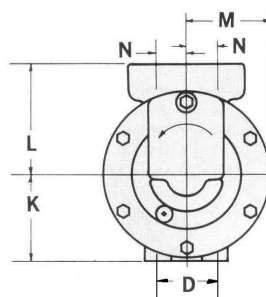
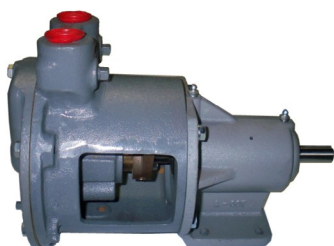
# LIQUID RING PUMPS

**Lobee Liquid Ring pumps** combine the advantages of the centrifugal and positive displacement type of pump. This is a favorite with engineers for all phases of small capacity, high-head liquid handling. Advanced hydraulic and mechanical design, combined with high quality materials and precision workmanship assures long life and trouble free operation.



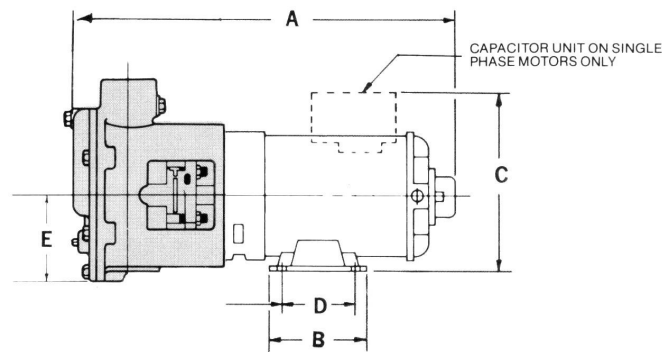
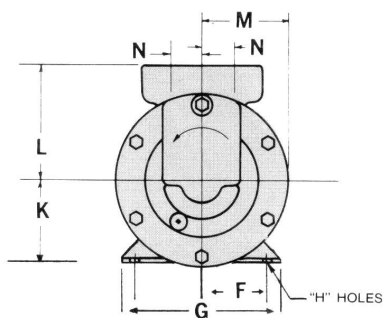
Total dynamic head in feet based on clean, cold water and 1750 rpm motor. The head capacity and efficiency curves apply only for liquids having a viscosity less than 40 SSU. The brake horsepower (BHP) curves are based on a specific gravity of 1.00. To determine the BHP for other liquids multiply these values by the specific gravity.

## LR Dimensional Specifications

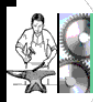


Model	Suction Port	Discharge Port	A	B	C	D	E	F	K	L	M	N
8LR	1" NPT	1" NPT	11.688	14.313	2.500	3.000	4.000	0.750	3.500	5.375	4.000	1.500
12LR	1 1/2" NPT	1 1/2" NPT	11.688	14.313	2.500	3.000	4.000	0.750	3.500	5.375	4.000	1.500
16LR	2" NPT	2" NPT	11.812	15.063	2.500	3.000	4.125	0.750	3.500	5.375	4.125	1.500

## CLR Dimensional Specifications

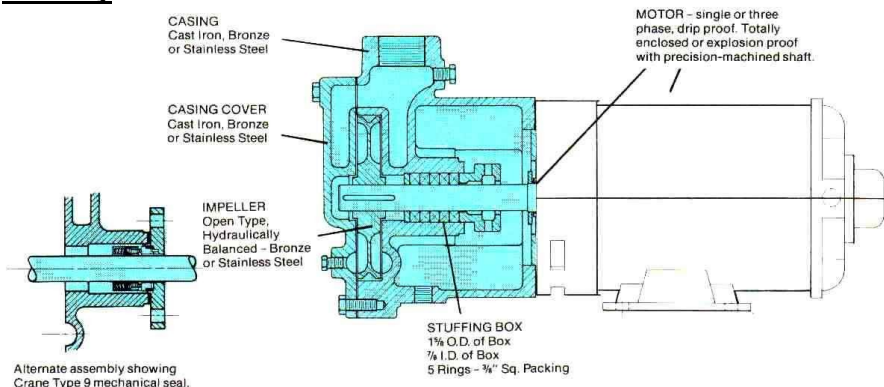


Base Model	Suction/Discharge	HP	Motor Frame	A	B	C	D	E	F	G	H	K	L	M	N
8CLR10P	1	1	143JP	19	5	6 3/4	2	4	2 3/4	6 1/2	11/32	3 1/2	5 3/8	4	1 1/2
8CLR15P	1	1.5	145JP	20	6	6 3/4	2 1/2	4	2 3/4	6 1/2	11/32	3 1/2	5 3/8	4	1 1/2
12CLR10P	1 1/2	1	143JP	19 1/4	5	6 3/4	2	4	2 3/4	6 1/2	11/32	3 1/2	5 3/8	4	1 1/2
12CLR15P	1 1/2	1.5	145JP	20 1/4	6	6 3/4	2 1/2	4	2 3/4	6 1/2	11/32	3 1/2	5 3/8	4	1 1/2
12CLR20P	1 1/2	2	145JP	20 1/4	6	6 3/4	2 1/2	4	2 3/4	6 1/2	11/32	3 1/2	5 3/8	4	1 1/2
12CLR30P	1 1/2	3	182JP	21 3/8	5 3/4	9 1/4	2 1/4	4	3 3/4	8 1/2	13/32	4 1/2	5 3/8	4	1 1/2
16CLR20P	2	2	145JP	20 3/4	6	6 3/4	2 1/2	4 1/8	2 3/4	6 1/2	11/32	3 1/2	5 3/8	4 1/8	1 1/2
16CLR30P	2	3	182JP	21 3/4	5 3/4	9 1/4	2 1/4	4 1/8	3 3/4	8 1/2	13/32	4 1/2	5 3/8	4 1/8	1 1/2
16CLR50P	2	5	182JP	22 3/4	6 3/4	9 1/4	2 1/4	4 1/8	3 3/4	8 1/2	13/32	4 1/2	5 3/8	4 1/8	1 1/2



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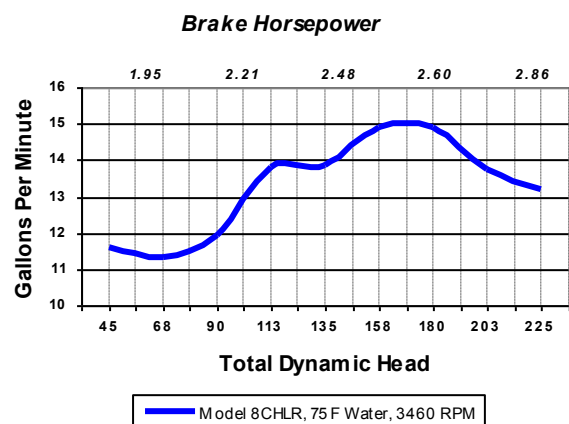
## Cutaway



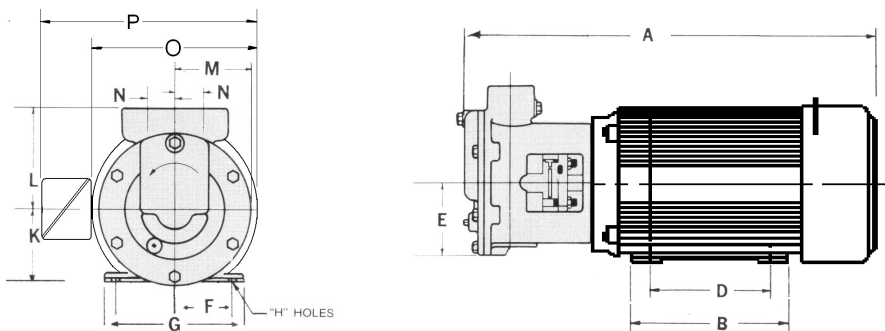
Total dynamic head in feet based on clean, cold water and 3600 rpm motor. The head capacity and efficiency curves apply only for liquids having a viscosity less than 40 SSU. The brake horsepower (BHP) curves are based on a specific gravity of 1.00. To determine the BHP for other liquids multiply these values by the specific gravity. NPSHR (Net Positive Suction Head Required) data for new CHLR Liquid Ring Pumps is forth coming as testing is in process. Based on a higher motor speed NPSHR will be slightly higher than published CLR numbers. For additional performance data please contact factory.

High Horsepower and Special Application configurations available. Additional performance characteristic information available by contacting factory.

## CHLR Performance Curves



## CHLR Dimensional Specifications



Base Model	8CHLR30PT	12CHLR50PT	12CHLR75PT	16CHLR100PT	16CHLR150PT
Port Size NPT	1"	1 1/2"	1 1/2"	2"	2"
HP	3	5	7.5	10	15
Motor Frame	145JP	184JP	184JP	215JP	215JP
A	19 3/8	21 3/4	21 3/4	26 1/2	26 1/2
B	6	6 3/8	6 3/8	8 7/8	8 7/8
D	5 1/2	5 1/2	5 1/2	7	7
E	4	4	4	4 1/8	4 1/8
F	2 3/4	3 3/4	3 3/4	4 1/4	4 1/4
G	6 1/2	8 3/8	8 3/8	9 1/2	9 1/2
H	11/32	13/32	13/32	13/32	13/32
K	3 1/2	4 1/2	4 1/2	4 1/2	4 1/2
L	5 3/8	5 3/8	5 3/8	5 3/8	5 3/8
M	4	4	4	4 1/8	4 1/8
N	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
O	9 1/2	9 1/2	9 1/2	11 1/4	11 1/4
P	12 1/4	12 1/4	12 1/4	13 7/8	13 7/8

