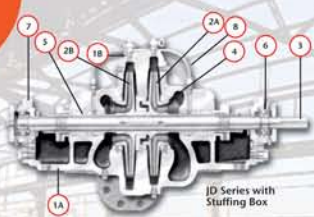


JD Series- Multi-Stage Split Case Centrifugal Pumps

Barnes JD Series Horizontal Split Case Pumps Provide an economical choice for applications requiring high heads, such as boiler feed or booster service. Specially fitted pumps of select alloy are also available for specific applications. In contrast to most opposite impeller two-stage pumps, Barnes JD Series achieves true axial hydraulic balance for extended life of the thrust bearing. Bending load on the shaft and radial load on the bearings are minimized by positioning the cut-waters of the two volutes 180° apart. This assures balance of radial thrust loads. Attention to design detail and precision crafts-manship combine to ensure that JD Series pumps cost less to buy, less to operate, and less to maintain. JD Series pumps offer reliable service and low cost operation over a wide range of heads and capacities, including:

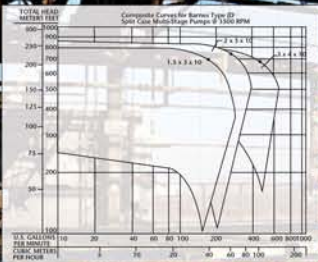
- Discharge sizes from 1.5" (3.8 cm) to 3" (7.6 cm).
- Heads to 800 ft (244 m).
- Capacities to 600 gpm (136 m³/h).
- Operating Pressures to 450 psig (31 bar).



Maximum Case Working Pressure		
Flanges (lbs)	125 lbs. ANSI Suction	250 lbs. ANSI Discharge
Casting	Cast Iron	
Max. Working Pressure		
Temperature	100°F	250°F
Model 1.5 JD	450 PSIG.	425 PSIG.
Model 2 JD	425 PSIG.	400 PSIG.
Model 3 JD	450 PSIG.	425 PSIG.



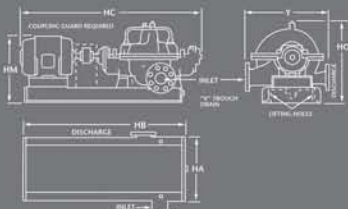
Best efficiency point



Materials of Construction

Item No.	Part Name	Standard Fitted	Ductile Iron Bronze Fitted	Stainless Steel Fitted
1A	Casing (Lower Half)	C.I. (A48-CL30)	Ductile (A395)	C.I. (A48-CL30)
1B	Casing (Upper Half)	C.I. (A48-CL30)	Ductile (A395)	C.I. (A48-CL30)
2B	Impeller (1st Stage)	Bronze (B584-87500)	Bronze (B584-87500)	Stainless
2B	Impeller (2nd Stage)	Bronze (B584-87500)	Bronze (B584-87500)	Stainless
3	Shaft	Steel (SAE-1045)	Steel (SAE-1045)	Stainless
3	Casing Ring	Bronze	C.I. (A48-CL30)	C.I. (A48-CL30)
5	Shaft Sleeve	416 S.S. (A582-416)	416 S.S. (A582-416)	416 S.S. (A582-416)
6	Bearing (Inboard)	Steel (SAE-1045)	Steel (SAE-1045)	Steel (SAE-1045)
7	Bearing (Outboard)	Steel (SAE-1045)	Steel (SAE-1045)	Steel (SAE-1045)
8	Seal Piping	Copper	Copper	Steel (SAE-1045)
8	Impeller Ring	Bronze (B584-93200)	Bronze (B584-93200)	Stainless
3	Seal Cap	Ductile (A395)	Ductile (A395)	Ductile (A395)
3	Shaft Sleeve Nut	Bronze	Bronze	Steel (SAE-1045)
3	Bearing Housing (Inboard)	C.I. (A48-CL30)	C.I. (A48-CL30)	C.I. (A48-CL30)
3	Impeller key	Stainless	Stainless	Stainless
3	Bearing Housing (Outboard)	C.I. (A48-CL30)	C.I. (A48-CL30)	C.I. (A48-CL30)
3	Shaft Sleeve Gasket	Lexide	Lexide	Lexide
3	Deflector (Liquid)	Neoprene	Neoprene	Neoprene
3	Bearing Cap (Inboard)	C.I. (A48-CL30)	C.I. (A48-CL30)	C.I. (A48-CL30)
3	Bearing Cap (Outboard)	C.I. (A48-CL30)	C.I. (A48-CL30)	C.I. (A48-CL30)
3	Stuffing Box Bushing	Bronze	Bronze	C.I. (A48-CL30)
3	Mech. Shaft Seal (Stationary)	Ni-Resist	Ni-Resist	Ni-Resist
3	Seal Collar	Bronze	Bronze	Steel (SAE-1045)
3	Thrust Collar	Steel (SAE-1045)	Steel (SAE-1045)	Steel (SAE-1045)
3	Casing Gasket - Suction Side	Syntheseal N-8090	Syntheseal N-8090	Syntheseal N-8090
3	Casing Gasket - Discharge Side	Syntheseal N-8090	Syntheseal N-8090	Syntheseal N-8090
3	Gasket - (Seal Cap)	Cork-Cellulose	Cork-Cellulose	Cork-Cellulose
3	Interstage Diaphragm	Bronze	Bronze	C.I. (A48-CL30)
3	Retaining Ring (Bearing)	Steel (SAE-1045)	Steel (SAE-1045)	Steel (SAE-1045)
3	Adaptor Base	Steel (SAE-1045)	Steel (SAE-1045)	Steel (SAE-1045)

DIMENSIONS										
(All dimensions are approximate and for illustration purposes only. For exact dimensions request certified dimensional print.)										
Type 1 1/2 JD, Oil Lubricated Bearing										
Max. HP	3500	1750	Dlc.	Inlet	Imp. Dia.	Max. HA	Max. HIB	Max. HC	Max. HIB	Y
125	1 1/2	3	10	24 1/2	54 1/2	66 5/8	23 1/2	22 1/2	20 3/4	
Type 1 1/2 JD, Oil Lubricated Bearing										
15	2	3	10	20 1/2	54 1/2	36	20 5/8	22 1/2	23	
125	2	3	10	24 1/2	54 1/2	66 5/8	23 1/2	22 1/2	23	
20	2	4	10	20 1/2	54 1/2	58 3/8	20 5/8	24	23 3/4	
130	2	4	10	20 1/2	54 1/2	70	25 1/8	24	23 3/4	



- * Teflon is a registered trademark of E.I. DuPont de Nemours and Company.
- * Lexide is a registered trademark of Speciality Paperboard.
- * Metco is a registered trademark of Metco.
- * Syntheseal is a registered trademark of Armstrong.



L, LVM and JD Series Centrifugal Pumps for High Capacity Commercial, Municipal and Industrial Applications

Split Case Pumps

Barnes split case pumps meet a wide variety of service needs. The L Series single-stage and LVM vertically mounted pumps provide large capacity general service pumping. Rugged and reliable, they combine mechanical simplicity with sophisticated hydraulic design. JD Series Multi-stage pumps offer reliable, low cost high head pumping for applications such as boiler feed or booster service. Recognized for their quality, efficiency and economy, Barnes split case pumps meet the design criteria of: ASTM, HI, ANSI, AISI, SAE, and ASME.



Barnes Single-Stage and Multi-Stage Split Case Pumps

L Series

Barnes Single-Stage Split Case pumps are recommended for large capacity municipal, commercial and general industrial liquid handling applications, including:

- Hot or chilled water circulation
- Pressure boosting
- Cooling tower
- Potable water transmission and treatment
- Boiler feed services requiring high pressure and volume, and transfer
- Fire fighting application
- General service pumping

Incorporating mechanical simplicity with the latest development in hydraulic engineering, Barnes L series horizontally mounted pumps provide higher efficiency, longer pump life and lower cost than comparable pumps.

Extra heavy casting absorb vibration and hydraulic noise thereby assuring smooth and quiet operation. Standard pumps are bronze fitted with iron cases. Optional all iron and ductile versions are available. A variety of models offer:

- Discharge sizes from 2" (5cm) to 12" (30cm)
- Heads to 450 ft. (137 m)
- Capacities to 6,000 gpm (1363 m³/h)
- Operating pressures to 450 psig (31 bar)

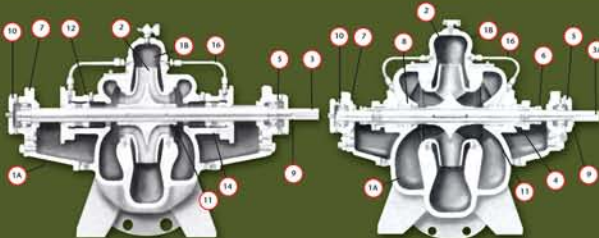
Barnes L Series pumps feature as optional a "V" trough base design that collects water from condensation and seal packing. A connection for drain to waste is provided.



Dimensions

(All dimensions are approximate and for illustration purposes only. For exact dimensions request certified dimensional prints.)

Pump Size	Dis.	Inlet	Max. Imp. Dia.	Max. HA	Max. HB	Max. HC	Max. HM	HO	Y
2L4	2	3	9 3/4	20 1/2	52	62	23	25 1/4	17
2L5	2	3	14 1/4	20 1/2	52	62	23	25 1/4	20
2L6	2	3	11 1/2	20 1/2	52	62	23	25 1/4	18
3L4	3	4	10	20 1/2	60	67	24	26	19 1/4
3L5	3	4	14 1/4	20 1/2	60	67	24	26	22 1/2
3L6	3	4	11 1/2	20 1/2	52	62	23	25 1/4	21
4L1	4	5	14	20 1/2	60	67	24	26	26
4L2	4	5	11	20 1/2	52	62	23	25 1/4	24 1/2
4L3	4	5	8	20 1/2	52	62	23	25 1/4	20 1/2
4L4	4	6	9 1/2	22 1/2	60	71	27	28	21 1/2
5L1	5	6	14 3/4	22 1/2	60	71	27	28	30 1/2
5L2	5	6	12	20 1/2	60	67	24	26	26
5L3	5	6	8 3/4	20 1/2	52	62	23	25 1/4	23 1/2
6L1	6	8	16	28 1/2	68	78	30	31	33
6L2	6	8	12	22 1/2	60	67	25	28	28 1/2
6L3	6	8	9	20 1/2	60	67	24	26	27 1/2
6L7	6	8	20	28 1/2	80 1/2	83 7/8	31	32 3/4	31
8L1	8	10	16	28 1/2	72	83	33	40	26
8L2	8	10	12 1/4	28 1/2	68	78	30	31	34
8L3	8	10	10	22 1/2	60	69	26	28	32
8L7	8	10	17	28 1/2	80 1/2	83 7/8	31	32 3/4	19
8L8	8	10	20	28 1/2	80 1/2	83 7/8	33 1/2	34 3/4	32
10L2	10	12	14	28 1/2	76	86 1/4	33	37 1/4	40
10L3	10	12	11 3/4	28 1/2	68	80	31	35	
10L7	10	12	14 1/2	28 1/2	80 1/2	83 7/8	33 1/2	34 3/4	35
10L8	10	12	16 1/2	28 1/2	80 1/2	83 7/8	33 1/2	34 3/4	37
12L2	12	12	13 1/2	28 1/2	72	83	33	40	40



Materials of Construction

Item No.	Part Name	Standard Fitted	Ductile Iron Bronze Fitted
TYPE L1-L6			
1A	Casing (Lower Half)	C.I. (A48-CL30)	Ductile (A395)
1B	Casing (Upper Half)	C.I. (A48-CL30)	Ductile (A395)
2	Impeller	Bronze	Bronze
3	Shaft	416 S.S. (ASB2-416)	416 S.S. (ASB2-416)
4	Shaft Sleeve	Steel (SAE-1045)	Steel (SAE-1045)
4A	Packing	C.I. (A48-CL30)	Bronze Type
5	Bearing (Inboard)	Steel (SAE-1045)	Steel (SAE-1045)
5	Stuffing Box Gland	Bronze Type	Graphite-Polymer
7	Bearing (Outboard)	Steel (SAE-1045)	Steel (SAE-1045)
8	Seal Cage	Teflon	Teflon
9	Bearing Housing (Inboard)	C.I. (A48-CL30)	C.I. (A48-CL30)
10	Bearing Housing (Outboard)	C.I. (A48-CL30)	C.I. (A48-CL30)
11	Shaft Sleeve Gasket	Leaded	Leaded
12	Seal Collar	Bronze Type	Bronze Type
13	Thrust Collar Sleeve	Steel (SAE-1045)	Steel (SAE-1045)
14	Mech Shaft Seal (Rotating)	Carbon	Carbon
15	Lip Seal	Steel/BUNA	Steel/BUNA
16	Seal Piping	Copper	Copper
	Casing Ring	Bronze Type	Bronze Type
	Impeller Ring	Bronze	Bronze
6L1	Shaft Sleeve	416 S.S.	416 S.S.
	Seal Cap	Ductile (A395)	Ductile (A395)
	Bearing Cap	C.I. (A48-CL30)	C.I. (A48-CL30)
	Stuffing Box Bushing	Bronze Type	Bronze Type
	Mech Shaft Seal (Stationary)	NI-Resist	NI-Resist
	Casing Gasket	Cork-Cellulose	Cork-Cellulose
TYPE L7-L8			
2	Impeller	Bronze	Bronze
3A	Pump Shaft	SAE 4140 Steel	SAE 4140 Steel
6	Stuffing Box Gland	Steel Type	Steel Type
	Casing Wearing Rings	C.I. (A48-CL30)	C.I. (A48-CL30)
	Impeller Wearing Rings	B584-93200	B584-93200
	Shaft Sleeves	SAE 600 Bronze	SAE 600 Bronze
	Casing Gasket	Coated Fiber	Coated Fiber

Maximum Case Working Pressure

(All pumps hydraulic pressure tested at 1.5 times working pressure per API standards)

Flanges (lbs)	Type L1-L6				Type L7-L8	
	125 lbs. (Standard)	150 lbs. ANSI (Optional)	150 lbs. ANSI (Optional)	125 lbs. (Standard)	250 lbs. ANSI (Optional)	250 lbs. ANSI (Optional)
Casting	Cast Iron	Cast Iron	Ductile Iron	Cast Iron	Ductile Iron	Ductile Iron
Temperature	100°F	250°F	100°F	250°F	100°F	100°F
Max. Working Pressure	17.5 PSIG	150 PSIG	450 PSIG	400 PSIG	150 PSIG (Consult Factory for Higher Ratings)	250 PSIG

LVM Series - Vertically Mounted Split Case Pumps

L/VLM Pumps - Engineered for Performance

Barnes Split Case LVM Series pumps provide the same reliable performance as the L Series. Its vertical design occupies less space than horizontal pumps, making installation easier, especially in small or restricted areas.

The improved design also makes it easier to perform routine maintenance.

The pumps use three-phase motors from 1 hp (.75 kW) through 400 hp (300 kW) that deliver heads to 450 ft. (137 m) and capacities to 6,000 gpm (1363 m³/h).



LVM Thrust Bearing Configuration for Type LVM1-LVM6



DRIP BASE DRAIN

Features

- A separate, adjustable motor mounting plate can be dove-tailed into place by the installer after coupling is aligned in field to ensure accurate, lasting alignment.
- The pump is permanently bolted and dove-tailed to the base at the factory to prevent pump movement and misalignment.
- A spacer-type coupling is standard and allows easy replacement of seals and bearings without removing motor or casing top.
- A thrust collar sleeve 13 prevents the rotating assembly from dropping if a bearing should fail. A lip seal 15 prevents liquid from entering the lower bearing housing.
- Lifting holes placed in the top and side of the base make lifting and installation easier.

