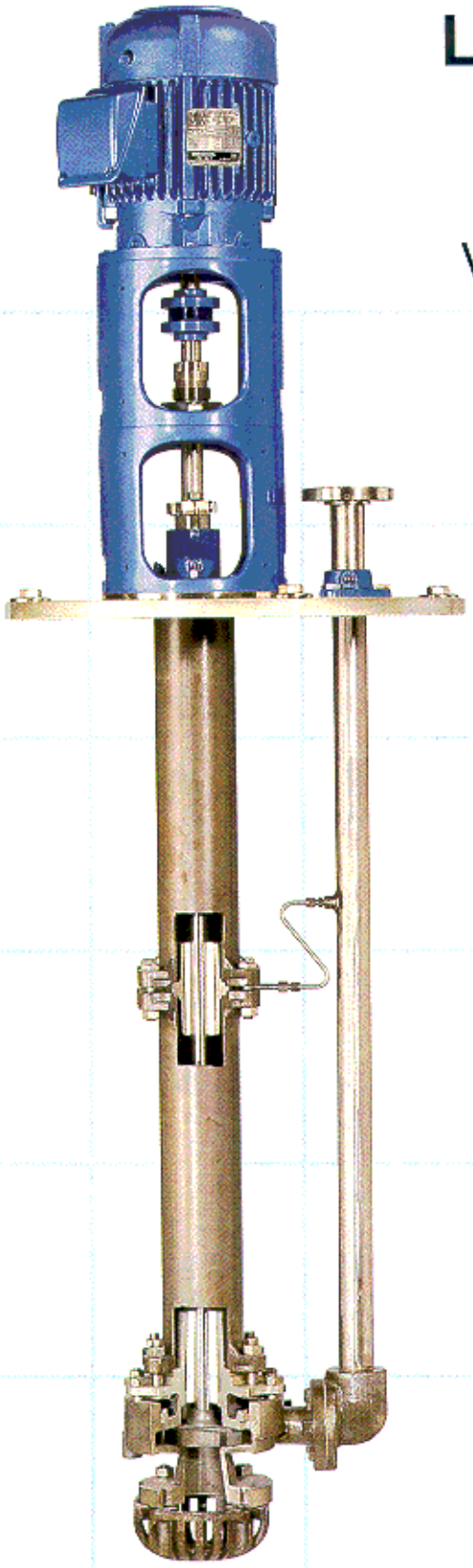
LaBour Pumps

TABER SERIES

Vertical Sump Pumps



LaBour Taber

Brochure LB-010

Construction Details

Rugged Vertical Design

Heavy construction and advanced design techniques throughout insure high performance and long, trouble-free service life. Vertical pumps are self-priming and self-venting. Hazards of bottom tank openings are eliminated. Space is conserved. Fugitive emissions are effectively controlled with various options and accessories.

Pump Thrust Bearing

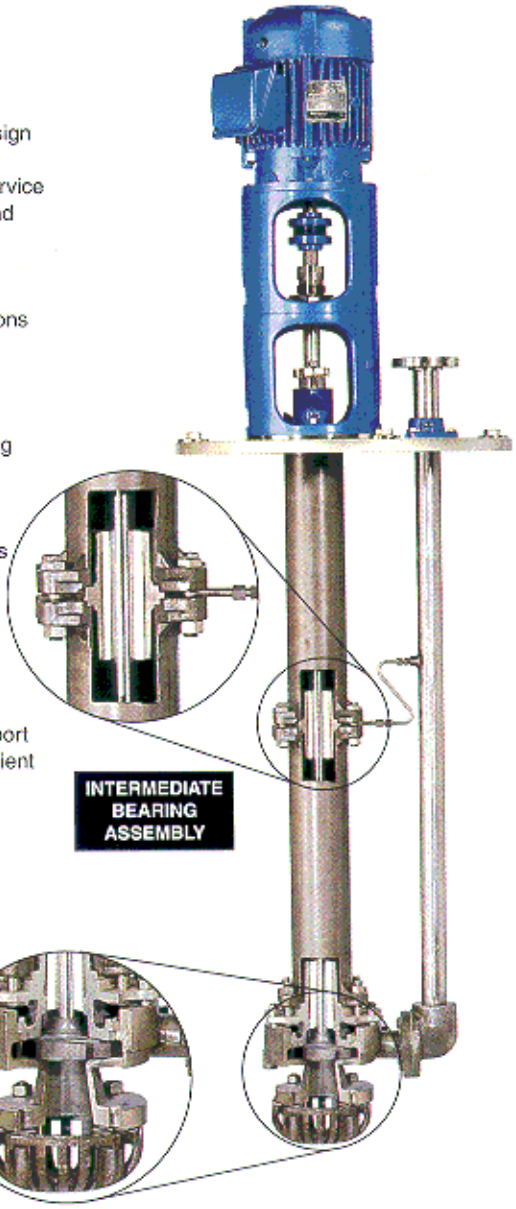
Every Taber pump has a thrust bearing to carry the dynamic thrust generated during pump operation. Since pump thrust is not transferred to the motor, standard motors and flexible couplings can be used.

Impeller Adjustment Above Support Plate

The impeller adjustment/locking mechanism is located above the support plate. This positioning permits convenient and safe access for ease of accurate adjustment with pump in the installed position.

Long Sleeve Bearings

Long sleeve bearings offer a well supported shaft with greater load carrying capacity due to increased surface area. Bearing materials tailored to the application.



Registered Fits

Taber pumps are designed with registered fits so parts remain concentric to the shaft, simplifying assembly.

Flanged Support Columns

Large diameter rigid support columns with registered fits provide precise alignment of shaft and sleeve bearings.

Large Shaft Diameter

Oversized shafts minimize deflection and improve shaft/bearing system stability, increasing pump service life.

All Metal Construction

The strength and durability of a wide range of alloys, as well as ductile iron, are available to handle the full spectrum of chemical and industrial liquids.

Wide Range of Applications

Many optional features can be used to meet specific application requirements such as double stuffing boxes for fuming acids, and steam jackets for molten sulfur.

Optional Suction Strainer

To reduce clogging, the area through the strainer is more than twice that of the impeller inlet area.

TABER SERIES

FEATURES	BENEFITS
Rugged Vertical Design	Rugged construction provides long MTBPM and long service life.
Pump Thrust Bearing	Since pump thrust is not carried by the motor, standard P-base motors and flexible couplings can be used.
Impeller Adjustment Above Support Plate	Allows for impeller adjustment with pump installed, reducing maintenance and adjustment time.
Long Sleeve Bearings	Offers better support of the shaft, less shaft deflection, and longer bearing life.
Registered Fits	Every part location is concentric to the shaft, offering longer MTBPM and simple maintenance.
Fabricated Support Columns	Rigid support columns with registered fits provide precise alignment of shaft and sleeve bearings for easy assembly.
Oversized Shaft Diameters	Large shaft diameter minimizes deflection, provides longer MTBPM and better shaft/bearing stability.
All Metal Construction	Strength and durability of a wide range of alloys to handle a wide range of liquids.
Strainer	Optional for waste sumps to keep trash out of impeller and casing.
Heavy Duty Support Plates	Thicker support plates offer longer service life due to more stiffness and vibration damping effect.

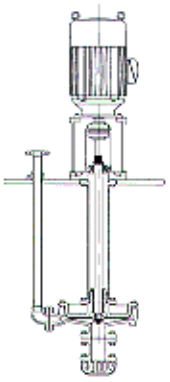
Taber Vertical Pump Designs

SERIES 1000 — 2000 — 8000

Design 10

The most basic design for a Taber pump with maximum unsupported shaft length and no shaft sealing required.

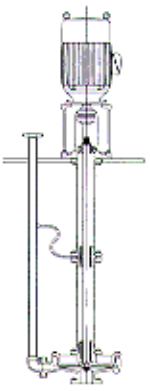
- No Intermediate Bearings
- No Stuffing Box
- Limited Length



Design 20

This Taber design includes intermediate bearings for lengths exceeding those which allow unsupported shafting.

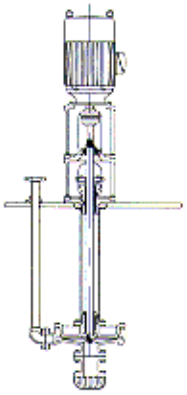
- With Intermediate Bearings
- No Stuffing Box
- Length to 36'



Design 30

This Taber design includes a stuffing box, which is normally used for industrial applications to contain non-toxic fumes. (A double stuffing box design is recommended for use on toxic, corrosive or noxious liquids.)

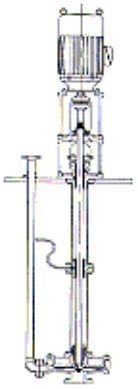
- No Intermediate Bearings
- Stuffing Box Included
- Limited Length



Design 40

This construction is considered the "standard" for process industries. Size of process vessels and reactors dictate longer pump settings, and safety and environmental considerations typically require a stuffing box.

- With Intermediate Bearings
- Stuffing Box Included
- Length to 36'

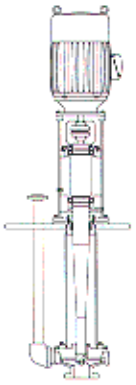


SERIES 9000 / CANTILEVER

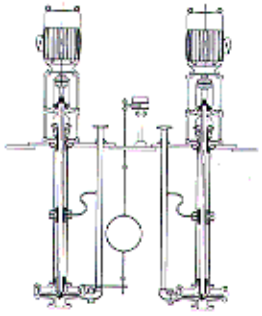
Design 50

The cantilever design has no submerged bearings. Used where it is undesirable to have any bearings in contact with liquid being pumped. The shaft is supported by two sets of bearings above the support plate.

- No Intermediate or Head Bearings
- Stuffing Box Included
- Limited Length

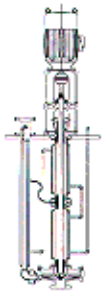


OPTIONS



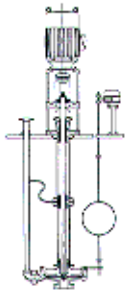
◂ Duplex Construction

The duplex pump arrangement is normally furnished with level controls and alternator. Typically, this option is used where flow requirements can vary or a standby pump is required. Individual pear shaped plates, mounted on a large support plate, allow minimum use of space and simplify removal of a single pump.



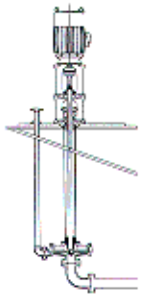
Jacketed Construction ▸

This option allows handling liquids that solidify or become highly viscous at ambient temperatures. Jacketing can be installed on the support column, discharge pipe, or any combination. Typical services include molten sulfur, lead, zinc, waxes, glue, rosin, etc.



◂ Level Controls

A float switch, rod and float are typically used in sump pump applications. This is a common option where liquid levels vary, requiring starting and stopping of the pump.



Outside Mounting ▸

Outside mounting (dry pit mounting) is used where it is impractical to mount the pump inside a tank, as on toxic, ultra pure and flammable liquids, or in a glass lined tank. Where intermediate bearings are used, auxiliary flush lines from the pump discharge are used to cool and lubricate the bearings.

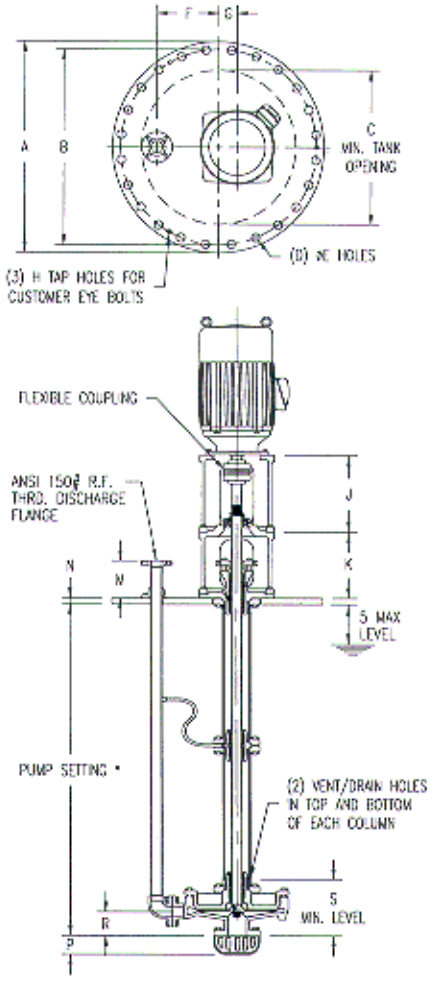
ADDITIONAL OPTIONS / ACCESSORIES

- Contained Double Stuffing Box (Gas or Liquid Purged)
- External Flushing Arrangements for Shaft Bearings
- Cladded Support Plates (Stainless Steel, Nickel, etc.)
- Mechanical Seal (Liquid and/or Gas Type)
- Duplex Thrust Bearing
- Vapor-Proof Construction
- Suction Strainer
- Suction Tailpipe
- Low-Flow Design
- 300# Flanges
- Customized Support Plate (e.g. to fit existing piping and mounting configuration)

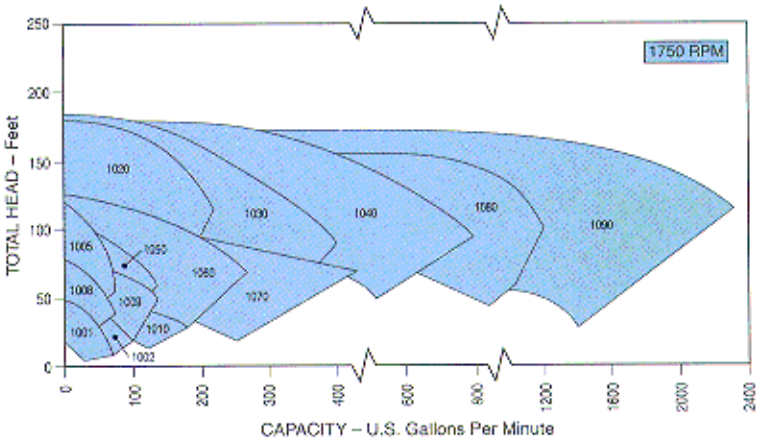
Series 1000 Taber

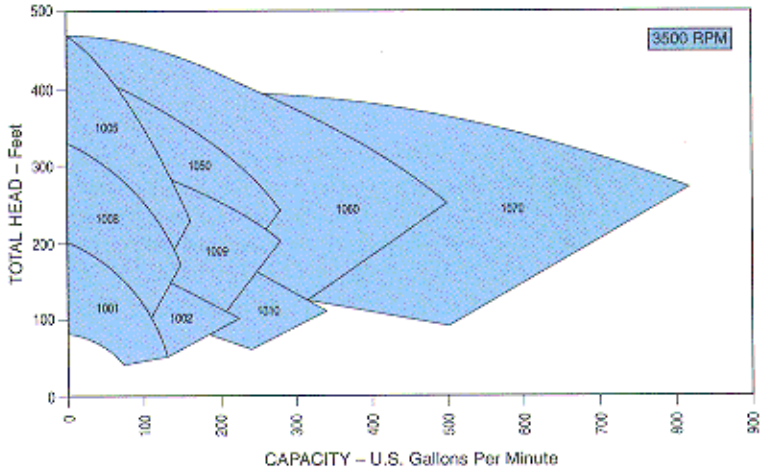
These are single stage, vertical sump pumps with single volute casings and fully open impellers. They are available with or without a stuffing box, which in many applications is unnecessary. The liquid being pumped cannot reach the stuffing box area unless the liquid level in the tank reaches the support plate. A stuffing box, however, is recommended when handling toxic, fuming, corrosive or noxious liquids. Since the pump is submerged in the liquid, NPSH requirements are minimized and priming requirements are completely eliminated. Intermediate bearings are not required for most applications unless pump setting exceeds four feet.

TYPICAL APPLICATIONS: sulfuric acid, molten salts, heat transfer liquids, molten sulfur, caustic, drainage sumps and industrial waste systems.



Performance Curves





For 1150 RPM, contact your local Representative or the Factory.

MODEL	SIZE	Std. Tank Opening	A	B	C*	D	E	F	G	H	J	K	M	N	P	R	S
1001	1½ x 1 - 6⅜	15½	23½	21¼	15½	16	1⅛	6¼	2¾	½ - 13	8⅞	9⅜	6	⅞	3	4	7
1002	3 x 1½ - 6⅜	15¾	25	22¾	15¾	16	1¼	6⅛	2⅞	½ - 13	8⅞	9⅜	6	⅞	3	4	7
1005	2 x 1 - 10	19½	27½	25	19½	20	1¼	8¼	2¾	½ - 13	8⅞	9⅜	6	⅞	3	4	7
1008	1½ x 1 - 8¼	16½	25	22¾	16½	16	1¼	6¾	2¼	½ - 13	8⅞	9⅜	6	⅞	3	4	7
1009	3 x 1½ - 8¼	17	25	22¾	17	16	1¼	6⅜	2⅝	½ - 13	8⅞	9⅜	6	⅞	3	4	7
1010	3 x 2 - 7	19	27½	25	19	20	1¼	7¼	4 1/16	½ - 13	8⅞	9⅜	6	⅞	3	4	7
1020	3 x 1½ - 13	24	34¼	31¾	24	24	1⅜	10	3	⅝ - 11	12½	10⅝	6	1	3	4	7
1030	3 x 2 - 13	26	36½	34	26	28	1⅜	10⅝	3 15/16	⅝ - 11	12½	10⅝	6	1	3	4	7
1040	4 x 3 - 13	30	41¾	38½	30	28	1⅝	12	5⅜	⅝ - 11	12½	10⅝	6	1	3	4	7
1050	3 x 1½ - 10	20	29½	27¼	20	20	1⅜	8⅛	2⅞	⅝ - 11	12½	10⅝	6	1	3	4	7
1060	3 x 2 - 10	22	32	29½	22	20	1⅜	8¾	3 13/16	⅝ - 11	12½	10⅝	6	1	3	4	7
1070	4 x 3 - 10	26¼	36½	34	26¼	28	1⅜	10¼	5 7/16	⅝ - 11	12½	10⅝	6	1	3	4	7
1080	6 x 4 - 13	31½	41¾	38½	31½	28	1⅝	11⅝	5 13/16	¾ - 10	14	15	6	1⅛	3	4	7
1090	8 x 6 - 14	43	55¼	51¾	40	40	1⅝	15	9 1/16	¾ - 10	16¼	13 9/16	8	1¼	10	6	13

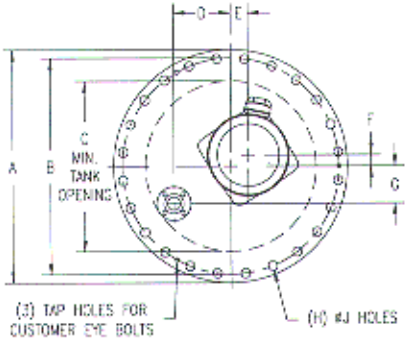
*Min. Tank Opening

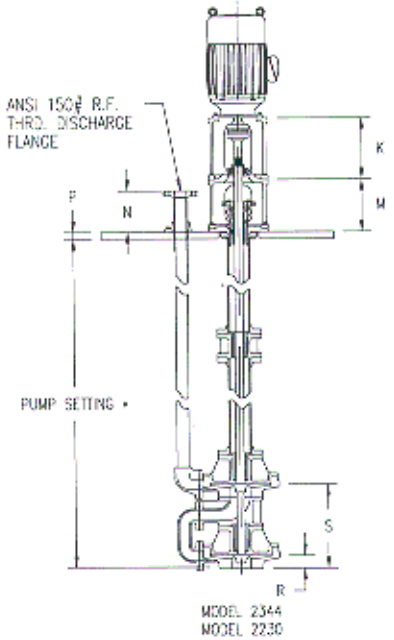
Dimensions shown in inches.

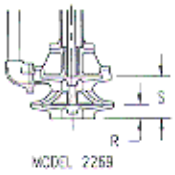
Series 2000 Taber

These two stage centrifugal pumps are a practical approach to pumping liquids under low capacity, high head conditions. In chemical service, they are the only logical answer since the alternatives of turbine pumps, rotary pumps and high speed centrifugal pumps all have major drawbacks.

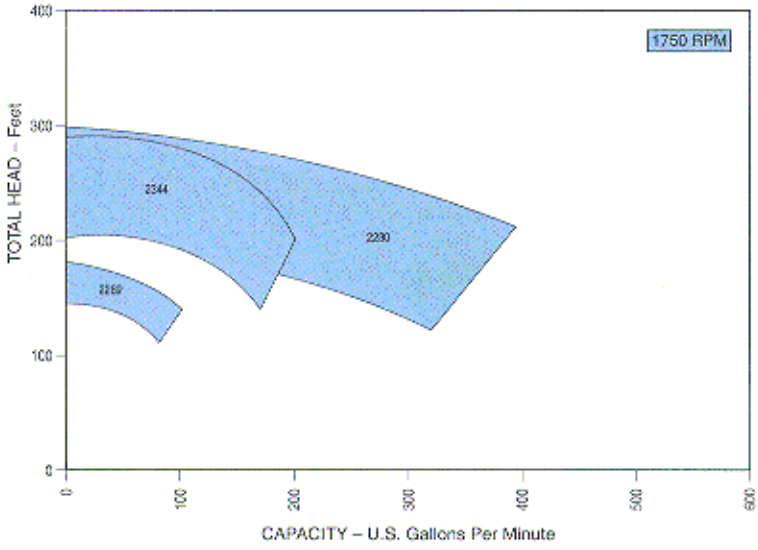
This design has been engineered to solve the problem of high head without requiring high speed. Two impellers operate in series to double the head with specifically designed inter-connecting water passageways between the two stages.







Performance Curves



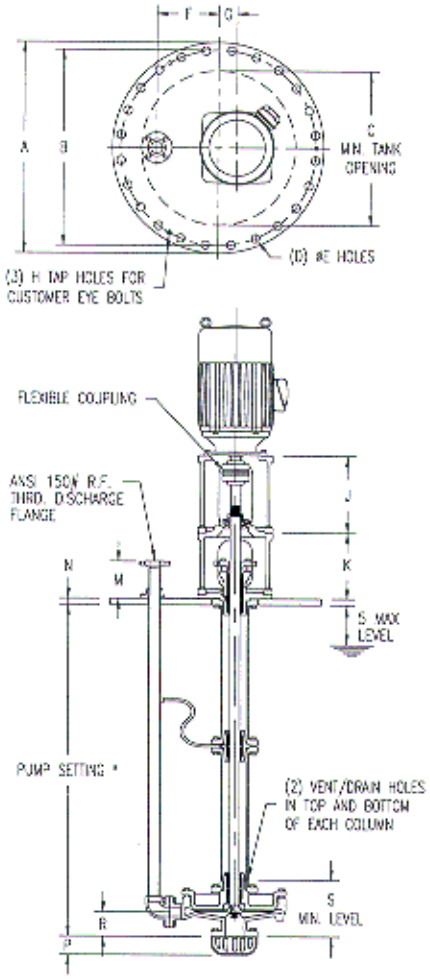
MODEL	SIZE	A	B	C*	D	E	F	G	H	J	K	M	N	P	R	S
2269	2 x 1½ - 10	29½	27¼	20	3 15/16	1½	2½	6½	20	1¼	12½	10½	6	1	2¾	7¾
2344	4 x 2 - 12½	32	29½	23	4 25/32	2	2¾	7 11/16	20	1⅜	12½	10½	6	1	4½	19½
2230	4 x 8 - 12½	36¾	36	26	5¼	2	3½	8½	28	1⅜	12½	10½	6	1	4½	20¾

*Min. Tank Opening

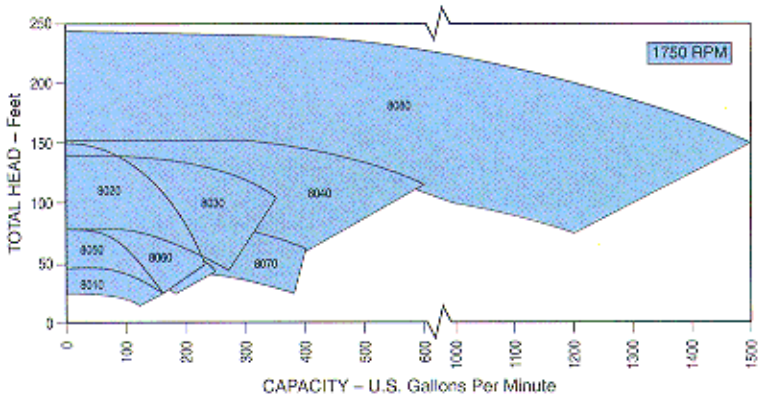
Dimensions shown in inches.

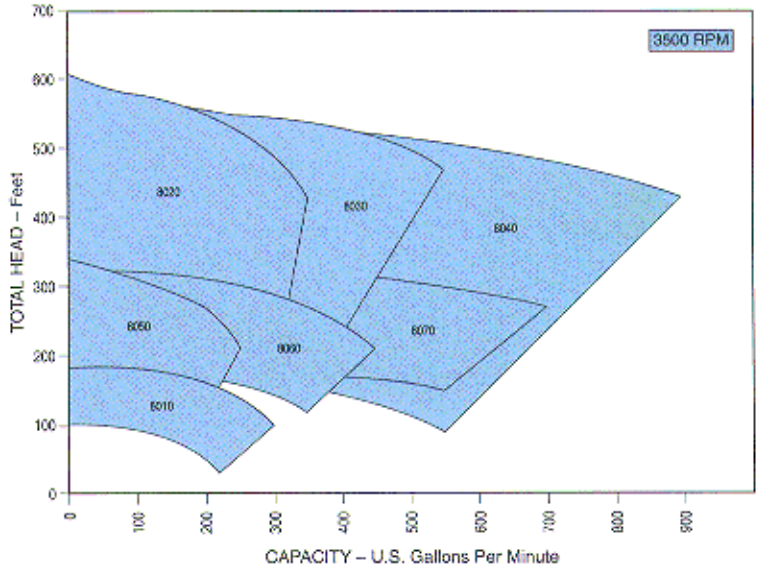
Series 8000 Taber

The main difference between the Taber Series 8000 and other vertical pump designs is the use of a triple volute casing versus the single volute casing like the Series 1000 Taber. The three equally spaced (120°) volutes result in a balance of radial thrust on the impeller and shaft. This balance resists eccentric bearing wear and extends service life of the Series 8000 pumps. Another benefit of the Series 8000 is improved handling of viscous liquids because the three volutes reduce shear with the shorter flow path at the periphery of the impeller. The same benefit applies in handling liquids with entrained vapors or solids.



Performance Curves





For 1150 RPM, contact your local Representative or the Factory.

MODEL	SIZE	Std. Tank Opening	A	B	C*	D	E	F	G	H	J	K	M	N	P	R	S
8010	3 x 2 - 7	19	27 1/2	25	19	20	1 1/4	7 1/4	4 1/16	1/2 - 13	8 7/8	9 3/8	6	7/8	3	4	7
8020	3 x 1 1/2 - 13	24	34 1/4	31 3/4	24	24	1 3/8	10	3	5/8 - 11	12 1/2	10 5/8	6	1	3	4	7
8030	3 x 2 - 13	26	36 1/2	34	26	28	1 3/8	10 5/8	3 15/16	5/8 - 11	12 1/2	10 5/8	6	1	3	4	7
8040	4 x 3 - 13	30	41 3/4	38 1/2	30	28	1 5/8	12	5 3/16	5/8 - 11	12 1/2	10 5/8	6	1	3	4	7
8050	3 x 1 1/2 - 10	20	29 1/2	27 1/4	20	20	1 3/8	8 1/8	2 7/8	5/8 - 11	12 1/2	10 5/8	6	1	3	4	7
8060	3 x 2 - 10	22	32	29 1/2	22	20	1 3/8	8 3/4	3 13/16	5/8 - 11	12 1/2	10 5/8	6	1	3	4	7
8070	4 x 3 - 10	26 1/4	36 1/2	34	26 1/4	28	1 3/8	10 1/4	5 7/16	5/8 - 11	12 1/2	10 5/8	6	1	3	4	7
8080 △□	6 x 4 - 13	31 1/2	41 3/4	38 1/2	31 1/2	28	1 5/8	11 5/8	5 13/16	3/4 - 10	14	15	6	1 1/8	3	4	7
8090 △	8 x 6 - 14	43	55 1/4	51 3/4	40	40	1 5/8	15	9 1/16	3/4 - 10	16 1/4	13 9/16	8	1 1/4	10	6	13

*Min. Tank Opening △ Dual Volute □ 8080 has tangential discharge Dimensions shown in inches.

Standard Materials of Construction

PIECE NO.	PART NAME	MATERIAL DESIGNATION										
		D.I./ 316SS	316SS	316L	304SS	304L	Elcomet K*	A-48*	R-55*	Ni	Y-17*	Y-30*
29	Suction Strainer	C.I.	316SS	316L	304SS	304L	Elcomet K	A-48	R-55	Ni	Y-17	Y-30
22	Casing	D.I.	316SS	316L	304SS	304L	Elcomet K	A-48	R-55	Ni	Y-17	Y-30
23	Head	D.I.	316SS	316L	304SS	304L	Elcomet K	A-48	R-55	Ni	Y-17	Y-30
31	Impeller	316SS		316L	304SS	304L	Elcomet K	A-48	R-55	Ni	Y-17	Y-30
17	Intermediate & Head Brg. Sleeve	Glass Filled Teflon[2]						Fluted Rubber	Rulon 123[3]			
RP	Retaining Pin	316SS			304SS		20SS	316SS	Hastelloy C[1]	Ni	Hastelloy C	Hastelloy B
-	Gasket - Casing	Non-Asbestos							Teflon			
-	Hardware (Wetted)	Steel	316SS		304SS		20SS	316SS	Hastelloy C	Ni	Hastelloy C	Hastelloy B
75	Support Column	Steel	316SS	316L	304SS	304L	20SS	Steel	Hastelloy C	Ni	Hastelloy C	Hastelloy B
46	Support Plate	Steel										
94A/94	Tripod - Motor/ Thrust	Cast Iron										
-	Tripod Guards	30 Gauge Steel										
-	Coupling	Flexible Non-Spacer										
-	Hardware (Non-Wetted)	Steel										
112	Discharge Elbow	D.I.	316SS	316L	304SS	304L	Elcomet K	A-48	R-55	Ni	Y-17	Y-30
93	Discharge Pipe	Steel	316SS	316L	304SS	304L	20SS	Duplex Stainless	Hastelloy C	Ni	Hastelloy C	Hastelloy B
-	Discharge Flange	Steel	316SS		304SS		20SS	A-48	Hastelloy C	Ni	Hastelloy C	Hastelloy B
61	Clamp	Ductile Iron										
X	Packing - Discharge Pipe Clamp	TFE/Graphite										
33	Shaft	C.R.S.	316SS	316L	304SS	304L	20SS	Duplex Stainless	Hastelloy C22	Ni	Hastelloy C22	Hastelloy B
69	Impeller Nut	316SS			304SS		20SS	Duplex Stainless	Hastelloy C22	Ni	Hastelloy C	Hastelloy B
CP	Impeller Pin (Cotter Pin)	316SS			304SS		20SS	Duplex Stainless	Hastelloy C22	Ni	Hastelloy C	Hastelloy B
62	Impeller Key	316SS			304SS		20SS	316SS	Hastelloy C22	Ni	Hastelloy C	Hastelloy B
88	Impeller Washer	316SS			304SS		20SS	Duplex Stainless	Hastelloy C22	Ni	Hastelloy C	Hastelloy B
-	Coupling Key	Steel										
71	Thrust Bearing	Ball Bearing in Flanged Cast Iron Housing (Grease Lube)										
63	Stuffing Box	D.I.	316SS	316L	304SS	304L	Elcomet K	D.I.	R-55	Ni	Y-17	Y-30
21	Split Gland (2 Piece)	D.I.	316SS		304SS		Elcomet K	D.I.	R-55	Ni	Y-17	Y-30
18	Stuffing Box Sleeve	Glass Filled Teflon or Carbon Graphite										
XX	Packing - Stuffing Box	TFE/Graphite or Die Formed Graphite Rings										
-	Gasket - Stuffing Box	Non-Asbestos							Teflon			

NOTES: * LaBour proprietary material.
Materials may change without notice.
Custom material combinations to suit a special application are available.

[1] Registered trademark of Haynes International.
[2] Registered trademark of E.I. duPont de Nemours.
[3] Registered trademark of Dixon Corporation.

VERTICAL

Designs ideal for a wide range of applications from water to process liquids — or even molten materials.

1000 Series: Single Stage, Center-Line Casing

2000 Series: Two Stage

8000 Series: Triple-Throat, Center-Line Discharge

9000 Series: Cantilever

HORIZONTAL

A range of models for transfer, circulation, or process applications designed to handle a wide range of liquids from water to acids.

LVA: ANSI Standard, Back Pull-Out

TFA: ANSI Standard, Triple-Throat

DPL/DHL Series: Self-Primer, Valve-Less, Concentric Casing

LPL/LHL Series: Self-Primer, Back Pull-Out, Concentric Casing

G Series: Packing-Less, Self Primer, Vertical

DZT Series: Low-Flow, Concentric Casing

Q Series: Triple-Throat, Concentric Casing

MHL/MPL Series: Metallic, Self-Primer, Mag Drive, Sealless

OPTIONS

The following accessories are available:

Dry Run Protector
- Minimize Potential Pump Damage
- Adjustable Current Settings
- Adjustable Time Delay

Non-Metallic ANSI Base Plate
- Corrosion Resistant Materials
- Positive Equipment Mounting
- ANSI Standard Dimensions

Ease-Align™
- No Motor Bolt Binding
- Use with All LaBour Base Plates
- Range of Sizes & Materials

Large Bore Stuffing Box
- Better Flushing of Solids
- Greater Heat Transfer
- Available: Straight, Tapered or Stepped

Shaft Sleeve
- Replaceable Hook Sleeves Simplify Seal Changes
- Save Money in Services such as Slurries

Labyrinth Oil Seal
- Prevents Contaminants from Entering Bearing Housing