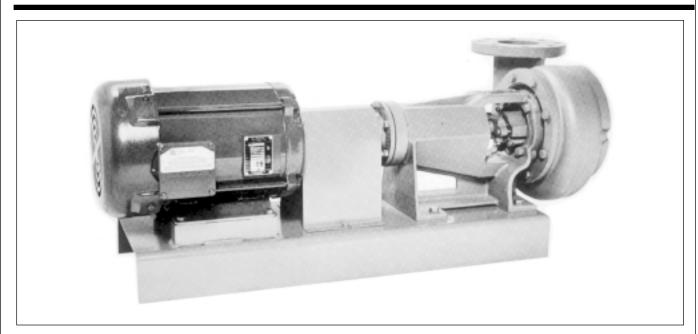


# PUMPS FOR INDUSTRY

## **CONTENTS:**

Introduction & User List	
Product Overview	
Vertical Process Pumps	Series 600
Vertical Sewage Pumps	Series 700
Vertical Sump Pumps	Series 800
Vertical Vortex Pumps	Series 900
Vertical Cantilever Pumps	Series1100 and 1200
Vertical Cantilever Pumps  Horizontal End Suction Pumps-Centrifugal	
Horizontal End Suction	Series1300 and 1400
Horizontal End Suction Pumps-Centrifugal Horizontal End Suction	Series1300 and 1400

# VERIES 1400 Models 1420/1424 Quality Design Features Assure Long, Trouble-Free Service



### **WIDE RANGE OF APPLICATIONS:**

- Industrial Process
- Pollution Control
- General Pumping
- Spray Systems
- Deionized Water
- Waste Water
- Clear Liquids
- Corrosive Liquids
- Chemicals
- Acids
- Water

### **CAPABILITIES**

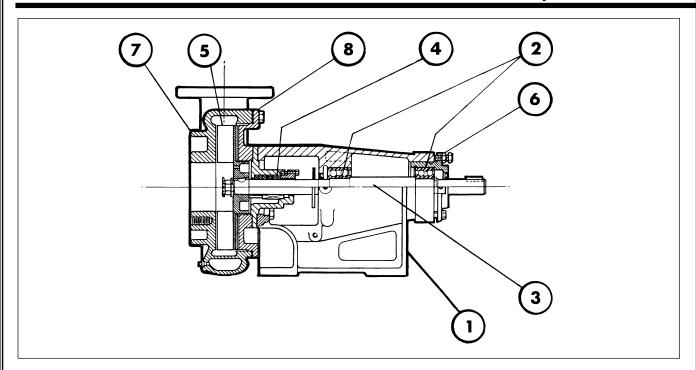
- Capacities to 1800 GPM
- Heads To 275 Feet TDH
- Temperature to 250° F
- Back Pull-Out Construction
- Semi-Open Impeller
- External Impeller Adjustment
- Packing or Mechanical Seal

## **CONSTRUCTION:**

- Cast Iron
- 316 Stainless Steel Fitted
- All 316 Stainless Steel
- Alloy 20CD4MC

Series 1400 horizontal base-mounted end suction pumps are designed for use with any T or U frame motor, or with virtually any type of drive. VERTIFLO's base-mounted pumps are designed with back pull-out feature. This important feature allows for easy inspection or service/ maintenance (if ever needed) without disturbing the piping to the pump: an important cost saving feature.

Packing or various mechanical seal arrangements are available as standard options of this rugged, dependable product.



#### 1. Power Frame

Rugged heavy duty cast iron design incorporating integrally cast support and ribbed mounting feet which assure a solid, dependable pump installation and operation. One frame fits all pump sizes. External impeller adjustment is standard. Grease lubrication of bearings is standard; oil lubrication available.

#### 2. Bearings

Series 1400 contains a high capacity cartridge-mounted double row thrust bearing allowing use on high suction pressure applications. Radial bearing is single row or double row and floats in a precision bored housing.

#### 3. Shaft

416 stainless steel, precision machined with preferred taper at impeller location. Positive attachment is provided with castellated impeller nut and cotter pin, which assures that the impeller will not back off the shaft if the pump is accidentally operated in reverse rotation. 316 stainless steel shaft is optional.

#### 4. Shaft Sealing

Packed arrangement utilizes a 2-piece split gland, slinger, Teflon® split lantern ring and 5-ring packing set. Grease lubrication is standard with product or water flush available. Wide choice of John Crane and Durametallic mechanical seals of various configurations and materials are optional.

E.I DuPont registered®

#### 5. Impeller

Semi-open design which accommodates passage of solids or fines. All impellers have balance holes near the impeller hub which reduce thrust load and pressure in the packing or seal area. Wiping vanes reduce axial loading and prevent dirt from entering the sealing area. Impeller is keyed to shaft with a positive taper fit to assure perfect attachment.

#### 6. Impeller Adjustment

Every power frame contains an external impeller adjustment utilizing jackscrews which provides for clearance adjustment between the impeller vanes' face and casing. This adjustment feature compensates for internal wear. Expensive casing and impeller wearing rings are eliminated.

#### 7. Casing

High efficiency volute design. 4X3X10 and larger sizes are double volute, containing a splitter, which reduces bearing loading and shaft deflection; thus extending bearing and packing or mechanical seal life. All suction and discharge openings are flanged for installation ease and integrity.

#### 8. Back Pull-Out

All pumps\* are designed with back pull-out feature which allows for removal of all pump rotating components without disturbing the piping connections. \*except size 2X1 1/2X12

## VERIFIED PUMP COMPANY

## **Feature Selector**

#### Standard

- All iron construction
- 416 stainless steel shaft
- Semi-open impeller
- Back pull-out design
- Packed stuffing box or mechanical seal
- External impeller adjustment
- Heavy duty power frame
- Regreaseable ball bearings
- Flanged suction and discharge on all sizes
- Flexible coupling
- Steel mounting base

#### **Options**

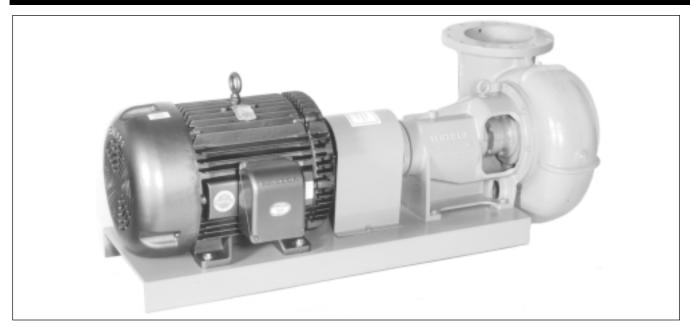
- 316 stainless steel shaft
- 316 stainless steel impeller
- All 316 stainless steel, alloy 20 or hastelloy construction (all wetted parts)
- Teflon® packing (standard in s.s. and alloy units)
- Single or double mechanical seal (various materials)
- Product or fresh water flush to packing or mechanical seal
- Oil lubricated bearings with sight level indicator
- Coupling guard (recommended)
- ODP, TEFC, XP motors
- Steam turbine drive
- Diesel or gasoline engine drive

	Design Details	Model 1420	Model 1424	
Pump	Rotation from driver end	CW	CW	
Shaft	Diameter through stuffing box	1.250	1.500	
	Diameter between bearings	1.750	1.750	
	Diameter at coupling end	1.250	1.250	
	Coupling key - square	0.250	0.250	
	Bearing centers	6.692	6.692	

VEFULFU PUMP COMPANY		
Intentionally Left Blank		

## **VENIFIO** Model 1434

## **Quality Design Features Assure Long, Trouble-Free Service**



### **WIDE RANGE OF APPLICATIONS:**

- Industrial Process
- Waste Water
- Chemicals
- Deionized Water
- Polution Control
- Solids Pumping
- General Water Pumping

## **CAPABILITIES**

- Capacities to 3600 GPM
- Heads To 160 Feet
- Temperature to 250° F
- Back Pull-Out Construction
- Semi-Open Impeller
- External Impeller Adjustment
- Packing or Mechanical Seal

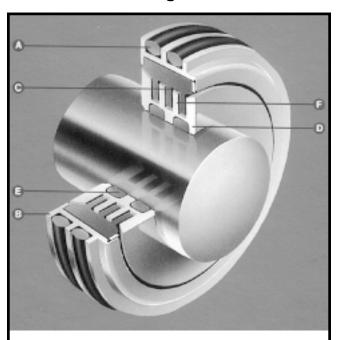
## **CONSTRUCTION:**

- Cast Iron
- 316 Stainless Steel Fitted
- All 316 Stainless Steel
- Alloy 20

Model 1434 horizontal base-mounted end suction pumps are designed for use with any T or U frame motor, or with virtually any type of drive. VERTIFLO's base-mounted pumps are designed with back pull-out feature. This important feature allows for easy inspection or service/ maintenance (if ever needed) without disturbing the piping to the pump: an important cost saving feature.

Packing or various mechanical seal arrangements are available as standard options of this rugged, dependable product.

# John Crane Type 31 Series Labri-Seal Bearing Protectors



- A. Outer ring O-rings when space permits
- B. Stationary outer ring
- C. Inward projecting PTFE "fingers"
- D. Moving/free-floating inner ring
- E. Shaft-side inner ring O-rings
- F. Outward projecting stainless steel "fingers"
- Exclusive "finger-locking" design traps and blocks oil leakage.
- Stationary outer ring projects special PTFE composition "fingers" inward. They mesh perfectly with outward projecting steel "fingers" of moving/free floating inner ring. The flexible labyrinth blocks bearing oil. Leakage is virtually zero. Drag is virtually zero.
- Contamination threats from outside are blocked, too.

## **VERTIFLO Feature Selector**

#### Standard

- All iron construction
- 416 stainless steel shaft
- Semi-open impeller
- 316 stainless steel shaft sleeve
- · Back pull-out design
- Packed stuffing box or mechanical seal
- External impeller adjustment
- Heavy duty power frame
- Regreaseable ball bearings
- Flanged suction and discharge on all sizes
- Dual volute casing 6x4x12 and larger

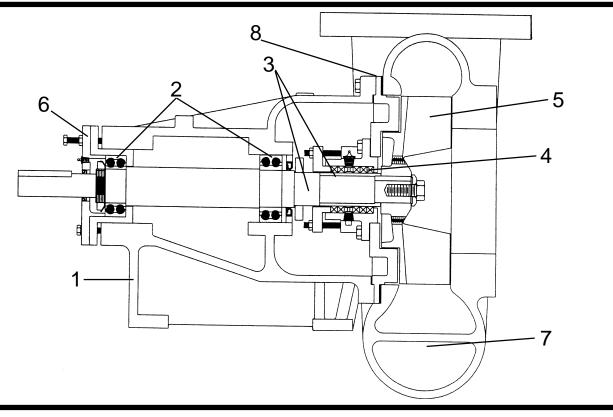
#### **Options**

- · Labri-seal bearing protectors
- 316 stainless steel shaft
- 316 stainless steel impeller
- All 316 stainless steel or alloy 20 construction (all wetted parts)
- Teflon® packing (standard in s.s. and alloy units)
- Single or double mechanical seal (various materials)
- Product or fresh water flush to packing or mechanical seal
- · Oil lubricated bearings with sight level indicator
- Coupling guard (recommended)
- ODP, TEFC, XP motors
- Flexible coupling
- Steel mounting base
- · Cartridge mechanical seal

E.I DuPont registered®

## **Design Details**

Pump Shaft	Model 1434
Rotation from driver end	CW
Diameter over shaft sleeve	2.125
Diameter between bearings	2.500
Diameter at coupling end	1.500
Coupling key - square	0.375
Bearing centers	9.750



#### 1. Power Frame

Rugged heavy duty cast iron design incorporating integrally cast support and ribbed mounting feet which assure a solid, dependable pump installation and operation. One frame fits all pump sizes. External impeller adjustment is standard. Grease lubrication of bearings is standard; oil lubrication available.

#### 2. Bearings

Model 1434 contain a high capacity cartridge-mounted double row thrust bearing allowing use on high suction pressure applications. Radial bearing is double row and floats in a precision bored housing.

#### 3. Shaft and Shaft Sleeve

A 416 stainless steel shaft is standard with a 316 stainless steel shaft sleeve. A 316 stainless steel shaft is optional.

#### 4. Shaft Sealing

Packed arrangement utilizes a 2-piece split gland, slinger, Teflon® split lantern ring and 5-ring packing set. Grease lubrication is standard with product or water flush available. Wide choice of John Crane and Durametallic mechanical seals of various configurations and materials. Oversized seal housing is ready to adapt for cartridge-type mechanical seal.

#### E.I DuPont registered®

#### 5. Impeller

Semi-open design which accommodates passage of solids or fines. All impellers have balance holes near the impeller hub which reduce thrust load and pressure in the packing or seal area. All impellers have a balancing ring. Impeller is keyed to shaft.

#### 6. Impeller Adjustment

Power frame contains an external impeller adjustment which provides for clearance adjustment between the impeller vanes' face and casing. This adjustment feature compensates for internal wear. Expensive casing and impeller wearing rings are eliminated.

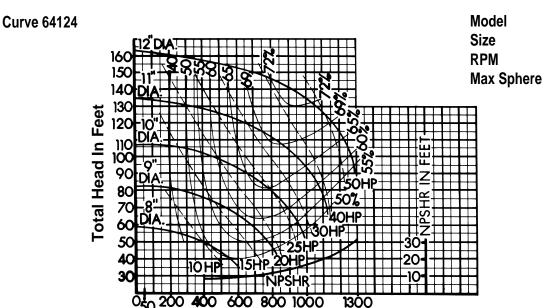
#### 7. Casing

High efficiency volute design. Sizes, 6 x 4 x 12 and larger, are double volute, containing a splitter, which reduces bearing loading and shaft deflection; thus extending bearing and packing or mechanical seal life. All suction and discharge openings are flanged for installation ease and integrity.

#### 8. Back Pull-Out

All pumps are designed with back pull-out feature which allows for removal of all pump rotating components without disturbing the piping connections.

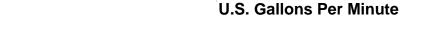
## VEGUISIO PUMP COMPANY Performance Curves

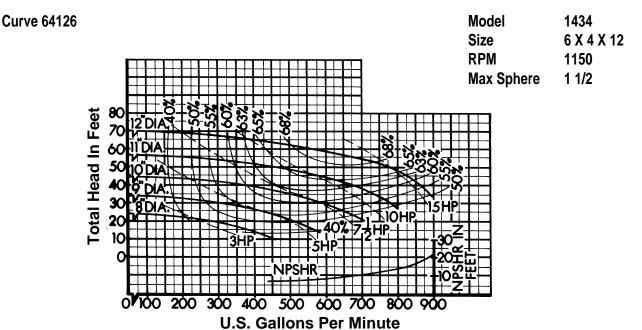


1434 6 X 4 X 12

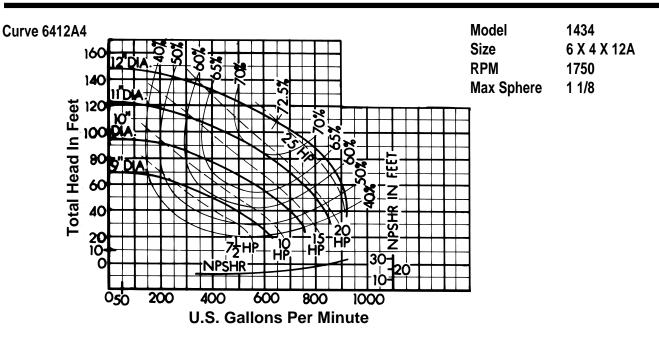
1750

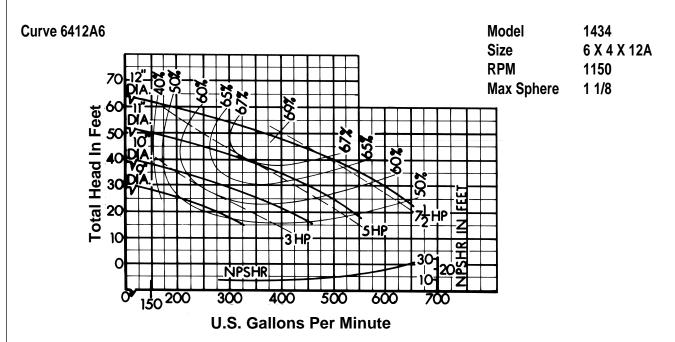
1 1/2



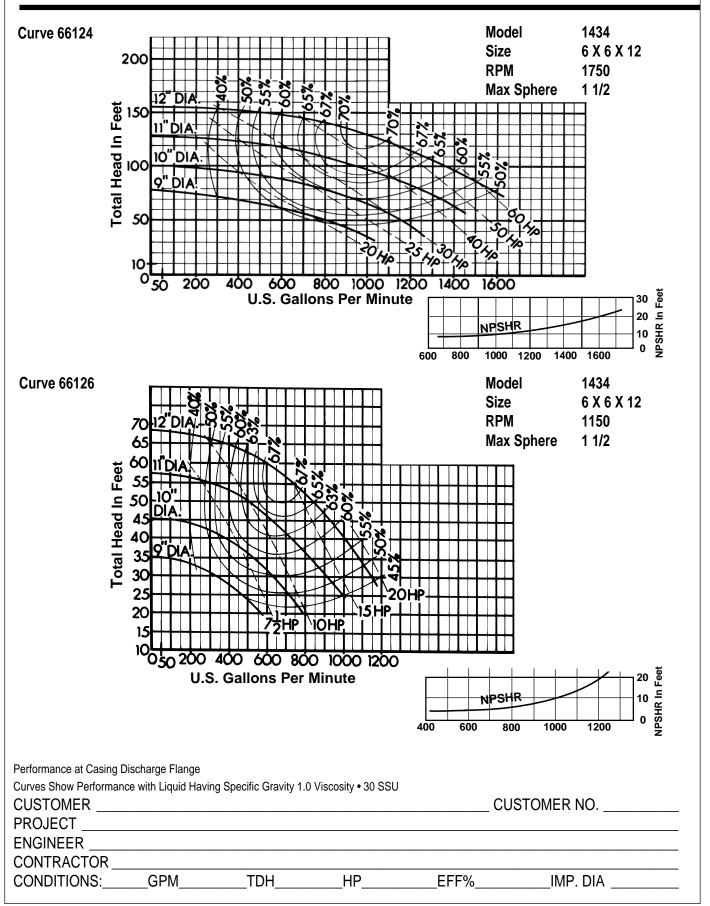


## VEGUISIO PUMP COMPANY Performance Curves

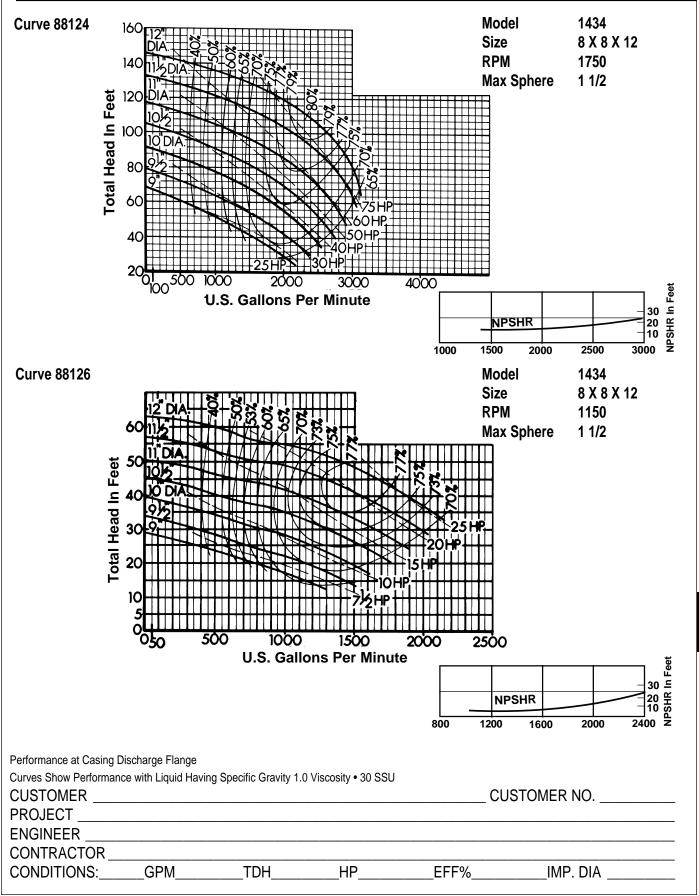




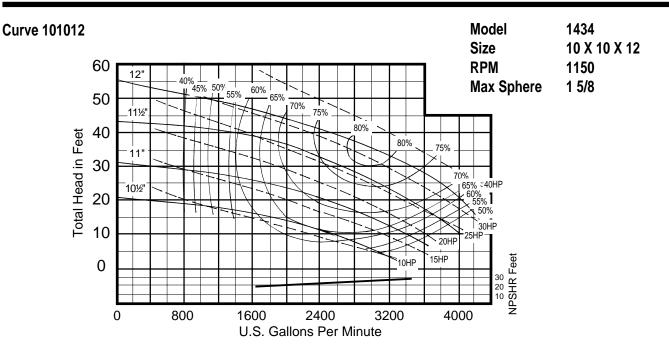
## VEFUELO PUMP COMPANY Performance Curves



## VEFUIFU PUMP COMPANY Performance Curves



# VESUISIO PUMP COMPANY Performance Curves

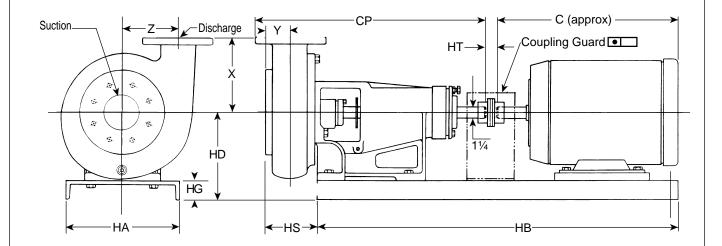


Performance at Casing D	ischarge Flange					
Curves Show Performance	e with Liquid Havi	ng Specific Gravity 1.0	Viscosity • 30 SSL	J		
CUSTOMER				CU	STOMER NO	
PROJECT						
ENGINEER						
CONTRACTOR						
CONDITIONS:	GPM	TDH	HP	EFF%	IMP. DIA	

Date: September 1, 1985

## VERUISIO PUMP COMPANY Dimensions

# 1400 Series - Base-Mounted Models 1420/1424



Not for construction unless certified, some dimensions may vary  $\pm$  1/2". Pump Construction:\_\_\_\_\_

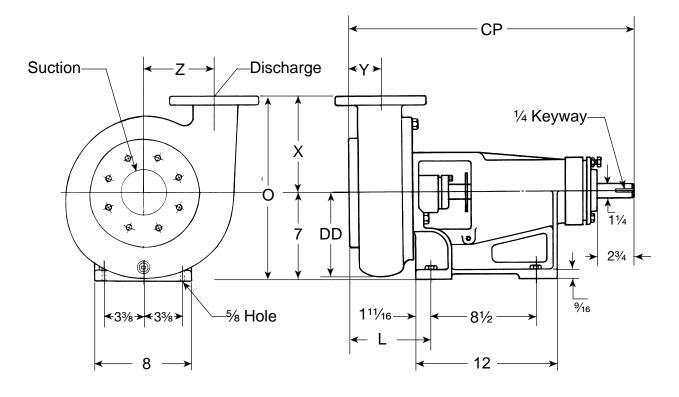
# VEVIEW PUMP COMPANY Models 1420 / 1424

		SI	JCTION	FLANG	E		DISCHARGE FLANGE												
Liquid End	FLG. Size	DIA. FLG.	# of Holes	Тар	Hole DIA.	Bolt Circle DIA.	FLG. Size	DIA FLG.	# of Holes	Hole DIA.	Bolt Circle DIA.	Х	Υ	Z	СР	HS	DD	L	0
3x2½x7	3	71/2	4	5%-11		6	2½	7	4	3/4	5½	61/4	23/8	43/4	22¾	51/4	5½	6 <sup>15</sup> / <sub>16</sub>	131/4
1½x1x8	1½	5	4	1/2-13		37/8	1	41/4	4	5/8	31/8	6	1%	41/2	21½	4	51/4	511/16	13
1½x1¼x8	1½	5	4	1/2-13		37/8	11/4	45/8	4	3/4	43/4	53/4	11//8	43/4	201/16	41/4	51/4	41/4	12¾
2x1½x8	2	6	4	5%-11		43/4	1½	5	4	9/16	37/8	53/4	2	43/4	22	41/2	5%	63/16	12¾
3x2x8	21/2	7	4	%-11		5½	2	6	4	3/4	43/4	61/4	21/8	43/4	221/4	43/4	53/4	67/16	131/4
4x3x8	4	9	8	5% <b>-</b> 11		7½	3	7½	4	3/4	6	7	23/4	51/4	231/8	5%	6	75/16	14
5x4x8	5	10	8	3/4-10		81/2	4	9	8	3/4	7½	7	21//8	6	23½	6	71//8	711/16	14
2x1½x10	2	6	4	%-11		43/4	1½	5	4	5/8	37/8	61/2	2	53/4	21%	43/8	6%	61/16	13½
3x2x10	3	7½	4	%-11		6	2	6	4	3/4	43/4	7	23/16	53/4	221/4	43/4	6½	67/16	14
4x3x10	4	9	8	5% <b>-</b> 11		7½	3	7½	4	3/4	6	83/8	2%	61/4	22¾	51/4	7	615/16	15
5x4x10	5	10	8	3/4-10		81/2	4	9	8	3/4	7½	9	23/4	61/2	23%	57/8	71/2	7%16	16
6x5x10	6	11	8	3/4-10		9½	5	10	8	7/8	81/2	9	213/16	71/8	23½	6	8%	711/16	16
6x5x10A	6	11	8	3/4-10		91/2	5	10	8	7/8	81/2	9	213/16	71/8	23½	6	8%	711/16	16
6x6x10	6	11	8	3/4-10		91/2	6	11	8	7/8	9½	9	215/16	8	23¾	61/4	10	715/16	16
6x6x10A	6	11	8	3/4-10		9½	6	11	8	7/8	9½	9	215/16	8	23¾	61/4	10	715/16	16
2X1½x12	2	6	4		3/4	43/8	1½	5	4	5/8	37/8	7½	3¾	63/4	23½	6	7%	711/16	14½
3x2x12	3	7½	4	5%-11		6	2	6	4	3/4	43/4	9½	25/16	5	221/16	57//8	73/4	61/4	16½
4x3x12	4	9	8	5%-11		7½	3	71/2	4	3/4	6	81/2	21/2	73/8	2111/16	5½	85/16	57//8	15½
6x4x12	6	11	8	3/4-10		9½	4	9	8	3/4	7½	9	23/4	73/4	223/16	6	9	63/8	16
6x6x12	6	11	8	3/4-10		9½	6	11	8	7/8	9½	9	31/4	83/8	2215/16	63/4	97/8	71/8	16

Frame No.	143T	145T	182T	184T	213T	215T	254T	256T	284TS	284T	286TS	286T	324TS	324T	326T	326TS	364TS	364T	365TS	365T
НА	12	12	12	12	12	12	15	15	15	15	15	15	18	18	18	18	18	18	18	18
НВ	36	36	36	36	36	36	44	44	44	44	44	44	48	48	48	48	48	48	48	48
С	131/8	131//8	14%	15%	17¾	191⁄4	227/8	24%	24½	25%	26	27%	271/4	28¾	28¾	301⁄4	31	331/8	32	341/8
HD	10	10	10	10	10	10	10%	10%	10%	10%	10%	10%	12	12	12	12	13	13	13	13
HG	3	3	3	3	3	3	3%	3%	3%	3%	3%	3%	4	4	4	4	4	4	4	4
HT	3/4	3/4	3/4	3/4	3/4	3/4	1	1	1	1	1	1	1	1	1	1	1	1	1	1

# VEFUIFU PUMP COMPANY Dimensions

# **1400 Series - Pump Only Models 1420/1424**

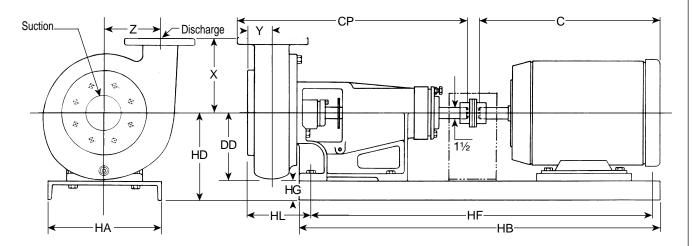


Not for construction unless certified, some dimensions may vary  $\pm$  1/2". Pump Construction:\_

CUSTOMERPROJECTENGINEER_CONTRACTOR				NO	
PUMP Model Size	Curve No.	GPM Head	SP. GR.@Tem	p.	
DATA HOTOR Mfgr. FDATA	HP RPM Volt-Ph	ase-Cycle	Frame ENC.	Furnished by	Mounted by
Shop Order		by	Da	te	

# VERIFU PUMP COMPANY Dimensions

## 1400 Series - Base-Mounted Model 1434



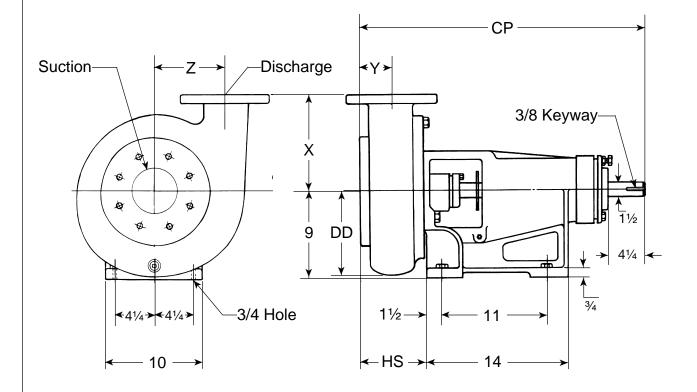
		SUCTION DISCHARGE												
Pump Size	Size	DIA. FLG.	Bolts	ВС	Size	DIA. FLG.	Bolts	BC.	Х	Y	Z	СР	DD	HS
6x4x12	6	11	8-3/4	91/2	4	9	8-%	71/2	9	2¾	73/4	281/8	9	71//8
6x4x12A	6	11	8-3/4	91/2	4	9	8-5/8	71/2	9	23/4	73/4	281/8	9	71//8
6x6x12	6	11	8-3/4	91/2	6	11	8-3/4	91/2	9	31/4	8%	287/8	101/4	71//8
8x8x12	8	13½	8-3/4	11¾	8	13½	8-3/4	11¾	11	41/2	10½	30%	13%	9%
10x10x12	10	16	12-7/8	141/4	10	16	12-7/8	141/4	11	51/2	10%	32%	13¾	11%

Frame Size	213T	215T	254T	256T	284TS	284T	286TS	286T	324TS	324T	326TS	326T	364TS	364T	365TS	365T	404TS	404T	405TS	405T
С	17¾	191⁄4	221//8	24%	241/2	25%	26	27%	271/4	28¾	28¾	301/4	31	331/8	32	341//8	341/4	371/4	36	38%
HA	15	15	15	15	15	15	15	15	18	18	18	18	18	18	18	18	25	25	25	25
HB	40	40	43	47	47	47	47	47	51	51	51	51	51	51	51	51	50	57	50	57
HD	12¾	12%	12%	12%	12%	12%	12%	12%	13	13	13	13	13	13	13	13	15½	15½	15½	15½
HD 8x8x12	14%	14%	14%	14%	14%	14%	14%	14%	15	15	15	15	15	15	15	15	15½	15½	15½	15½
HD 10x10x12	14%	14%	14%	14%	14%	14%	14%	14%	15	15	15	15	15	15	15	15	15½	15½	15½	15½
HF	37½	37½	40½	441/2	441/2	441/2	441/2	441/2	481/2	481/2	481/2	481/2	48½	48½	48½	48½	47	54	47	54
HG	3%	3%	3%	3%	3%	3%	3%	3%	4	4	4	4	4	4	4	4	4½	41/2	41/2	41/2

Performance at Casing D	ischarge Flange					
Curves Show Performand	ce with Liquid Havir	ng Specific Gravity 1.0	O Viscosity • 30 SSU			
CUSTOMER				CU	STOMER NO	
PROJECT						
ENGINEER						
CONTRACTOR						
CONDITIONS:	GPM	TDH	HP	EFF%	IMP. DIA	

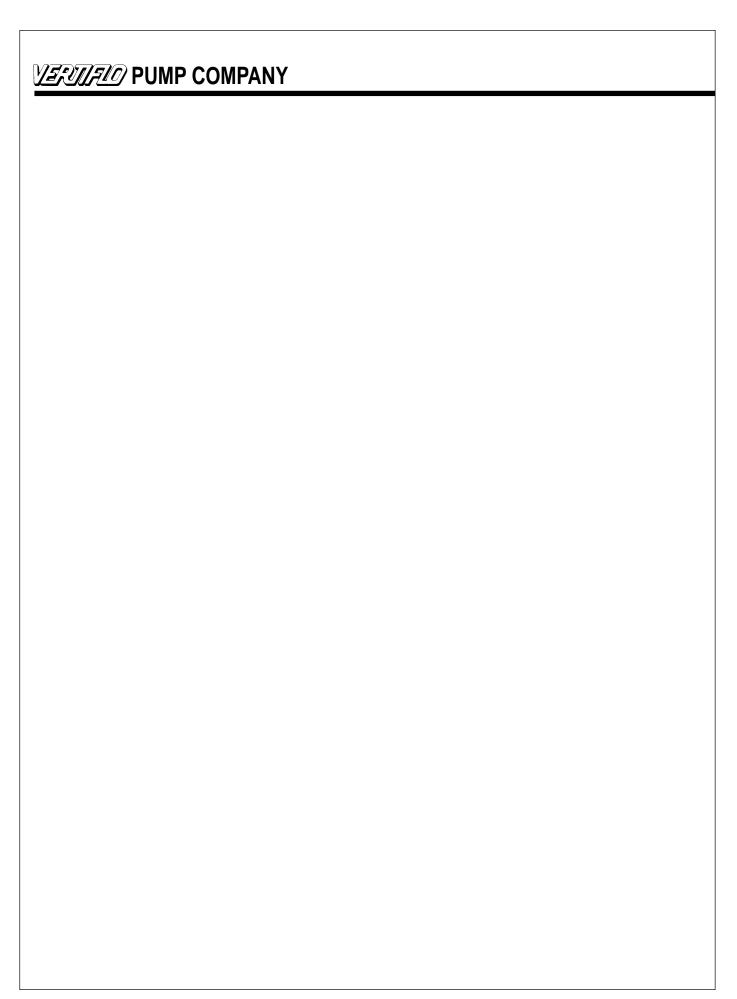
# VERIFIED PUMP COMPANY Dimensions

## Model 1434 - Pump Only



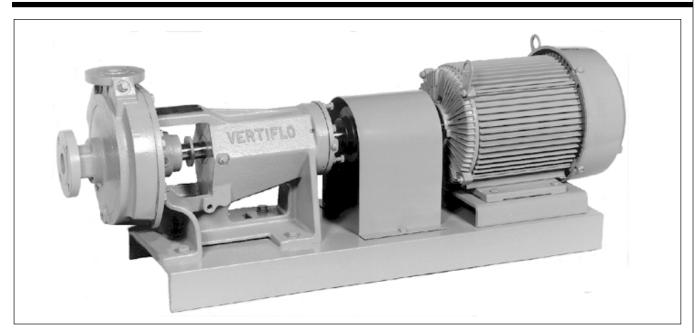
Not for construction unless certified, some dimensions may vary ± 1/2". Pump Construction:\_\_\_\_\_\_

CUSTOMERPROJECTENGINEERCONTRACTOR					NO	
PUMP Model Size	Curve I	No. GPM	Head	SP. GR.@Tem	p. Pump	Length Plate
DATA MOTOR Mfgr. DATA	HP RPM	Volt-Phase-Cyc	cle	Frame ENC.	Furnished by	Mounted by
Shop Order		Certified by		Da	te	



# VERUEU Model 1400LF

## **Quality Design Features Assure Long, Trouble-Free Service**



### **WIDE RANGE OF APPLICATIONS:**

- Boiler Feed
- Condensate
- Chemical Process
- Washdown
- Spray Washers

# Also available as vertical wet pit pump

### **CAPABILITIES**

- Capacities to 50 GPM
- Heads To 345 Feet TDH
- Temperature to 250° F
- Back Pull-Out Construction
- Radial Vane Impeller
- External Impeller Adjustment
- Packing or Mechanical Seal

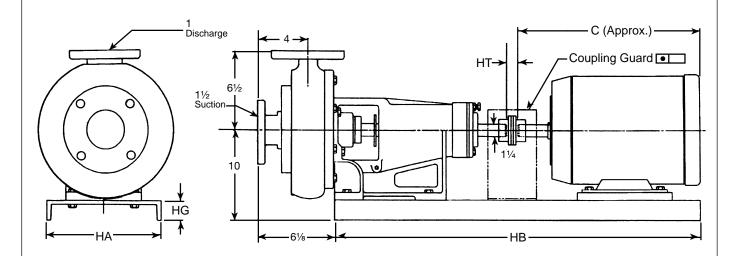
### **CONSTRUCTION:**

- Ductile Iron
- Bronze Fitted
- 316 Stainless Steel Fitted
- All 316 Stainless Steel

Series 1400 horizontal base-mounted end suction pumps are designed for use with any T or U frame motor, or with virtually any type of drive. VERTIFLO's base-mounted pumps are designed with back pull-out feature. This important feature allows for easy inspection or service/ maintenance (if ever needed) without disturbing the piping to the pump: an important cost saving feature.

Packing or various mechanical seal arrangements are available as standard options of this rugged, dependable product.

# VERIFU PUMP COMPANY



## **1400LF Dimensions**

Frame No.	143T	145T	182T	184T	213T	215T	254T	256T	284TS	284T
НА	12	12	12	12	12	12	15	15	15	15
НВ	36	36	36	36	36	36	44	44	44	44
С	131//8	131/8	14%	15%	17¾	191⁄4	22%	24%	24½	257/8
HG	3	3	3	3	3	3	3%	3%	3%	33/8
HT	3/4	3/4	3/4	3/4	3/4	3/4	1	1	1	1

# 1400LF Performance Curve

