

# VERTIFLO

*The Vertical Pump Specialists*

## PUMPS FOR INDUSTRY

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Product Overview

Vertical Process Pumps ..... Series 600

**Vertical Sewage Pumps ..... Series 700**

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Vertical Cantilever Pumps ..... Series 1100 and 1200

Horizontal End Suction  
Pumps-Centrifugal ..... Series 1300 and 1400

Horizontal End Suction  
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Horizontal Self-priming  
Pumps- Centrifugal ..... Series 2100

Engineering Sample Specifications

**VERTIFLO SERIES 700**

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



**WIDE RANGE OF APPLICATIONS:**

- Industrial Wastes
- Sanitary Wastes
- Process Wastes
- Rendering Wastes
- Pollution Control

**CAPABILITIES:**

- Capacities to 1500 GPM
- Heads to 100 Feet
- Pit Depths to 26 Feet
- Construction: Cast Iron

**CONSTRUCTION:**

**Standard**

- Bronze bottom line shaft bearings
- Bronze intermediate bearings (pit depths over 6'-0")
- Fully enclosed 2 vane non-clog design with wiping vanes
- High-thrust angular contact ball bearing
- External impeller adjustment
- Grease lubricated pump and line shaft bearings
- 416 stainless steel shaft
- Round or square cover plates with vent and inspection openings
- Gas-tight construction
- Pump setting increments of 1'-0" for sump depths up to 26'-0"

- Flanged discharge on all casings
- Long radius discharge elbow
- Standard C face motors

**Options**

- Various line shaft bearing designs
- 316 stainless steel shafting
- Oval pump mounting plate
- Various float switch enclosures
- Various liquid level controls
- High water alarm
- Alarm bells and horns
- 316 stainless steel float rod
- 316 stainless steel float
- Below plate discharge "T"
- Basins
- Simplex & duplex control panels

**STANDARD MATERIALS OF CONSTRUCTION**

Part Description	Materials
Motor Support Thrust Bearing Housing	Cast Iron, Class 30
Shaft	Stainless Steel AISI-416
Column	Steel ASTM-A53
Bearing Housing	Cast Iron, Class 30
Guide Bearings	Bronze SAE 660
Casing, Suction cover, Impeller	Cast Iron, Class 30
Impeller Trim	Stainless Steel AISI- 316
Discharge Pipe	Steel ASTM - A53
Cover Plate	Steel HRS
Adjusting Nut	Steel ASTM-307
Double Lip Seal	Nitrile

## 1. Motor Support

Assures positive alignment of motor and pump shaft with register fit. Normal thrust, vertical NEMA C face motor standard

## 2. Flexible Coupling

## 3. External Impeller Adjustment

High performance maintained without dismantling pump

## 4. Thrust Bearings

High thrust angular contact bearing. Moisture-proof enclosure with (2) grease seals, purge-type grease lubrication

## 5. Gas Tight Column Closure

Double lip seal, grease lubricated

## 6. Cover Plate

Designed for specific unit. Carbon steel standard

## 7. Column Pipe

Schedule 40 steel with welded flanges

## 8. Positive Machined Fits

Machine registered fits of column, bearing housing and casing

## 9. Intermediate Bearing Assembly

Optional designs for special applications. Furnished as standard on pumps built for pit depths greater than 6'-0"

## 10. Shafting

Accurately machined 416 stainless steel, 1 1/4" or 1 1/2" diameter to assure minimum deflection

## 11. Pump Bearing Assembly

Heavy construction designed for maximum bearing loadings. Optional designs available

## 12. Bearings

Various materials available to suit most specifications

## 13. Choker Ring

Restricts entrance of abrasives and solids into bottom bearing area

## 14. Impeller

Fully enclosed 2 vane non-clog design with wiping vanes which reduce axial loading and prolongs bearing life. Wiping vanes aid in keeping particles from behind impeller and pump bearing assembly. Impeller is secured to shaft by taper fit with woodruff key, nut.

## 15. Casing

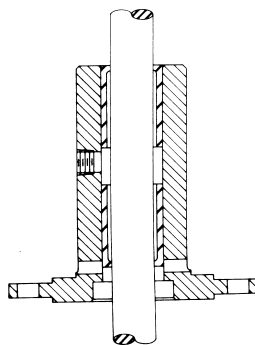
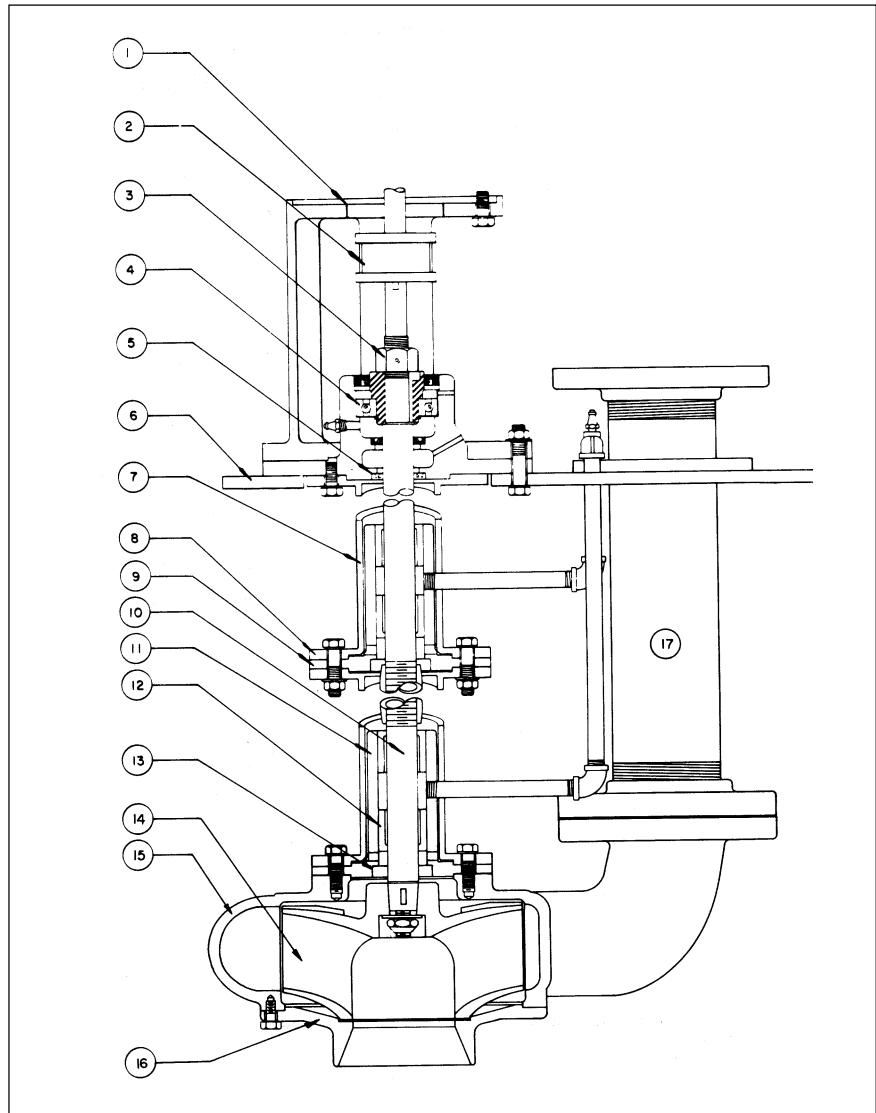
Flanged discharge all sizes. Designed specifically for solids handling. Incorporates long radius elbow, reducing friction loss

## 16. Suction Cover

Removable on all pumps for easy inspection, cleaning or servicing

## 17. Discharge Pipe

All sizes flanged. Below plate "T"-type discharge available



### Lower Bearing Assembly

The Standard pump bearing assembly consists of choker ring and (2) guide bearing bushings compatible with the liquid. Standard bronze bearings furnished with pressurized grease lubrication. Optional: rubber or carbon graphite.

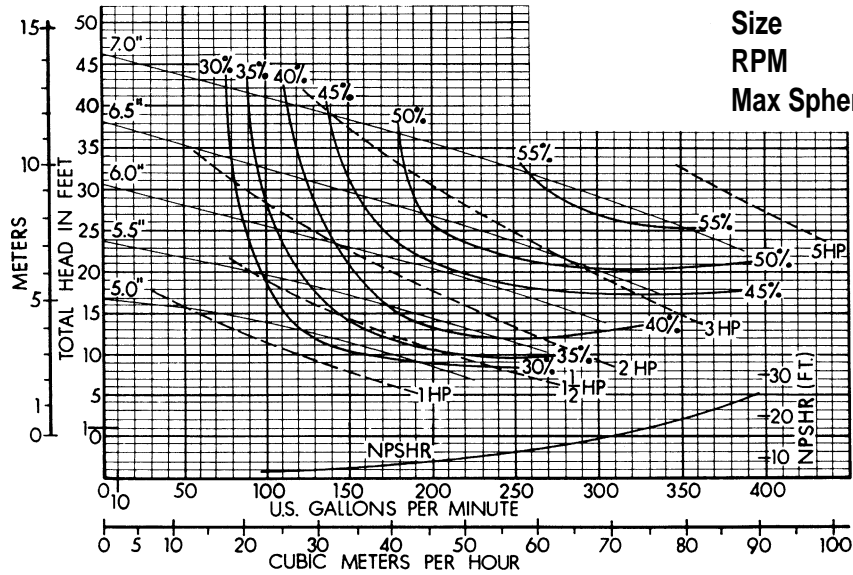
### Intermediate Bearing Assembly

The standard intermediate bearing assembly consists of (2) guide bearings compatible with the liquid and is standard when pump length exceeds 6 feet. Standard bronze bearings furnished for pressurized grease lubrication. Optional: rubber or carbon graphite.

Model Number	Shaft Size	Column Pipe Size	Quantity of Bushings Bottom Bearing
720 .....	1.250	4.00	2
724 .....	1.500	4.00	2

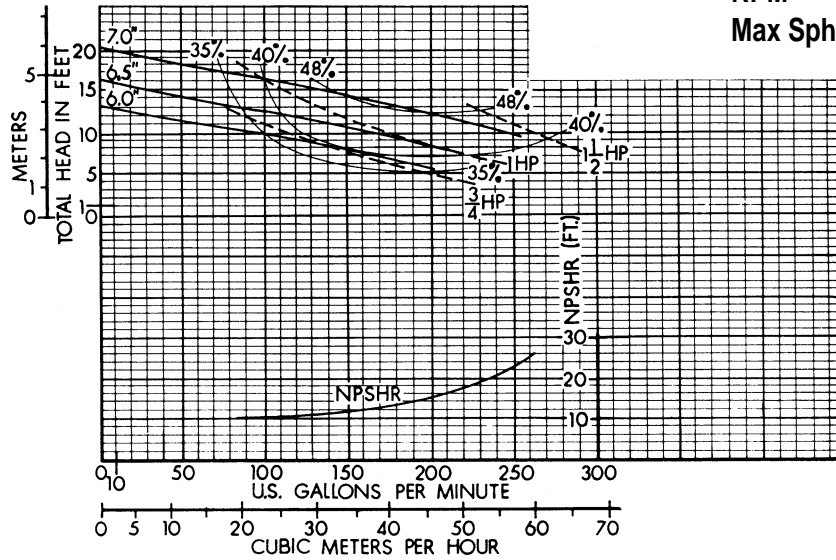
# VERTIFLO PUMP COMPANY Performance Curves

Curve 3374



Series 700  
 Size 3 X 3 X 7 X 2  
 RPM 1750  
 Max Sphere 2

Curve 3376



Series 700  
 Size 3 X 3 X 7 X 2  
 RPM 1150  
 Max Sphere 2

700

Performance at Casing Discharge Flange

Curves Show Performance with Liquid Having Specific Gravity 1.0 Viscosity • 30 SSU

CUSTOMER \_\_\_\_\_ CUSTOMER NO. \_\_\_\_\_

PROJECT \_\_\_\_\_

ENGINEER \_\_\_\_\_

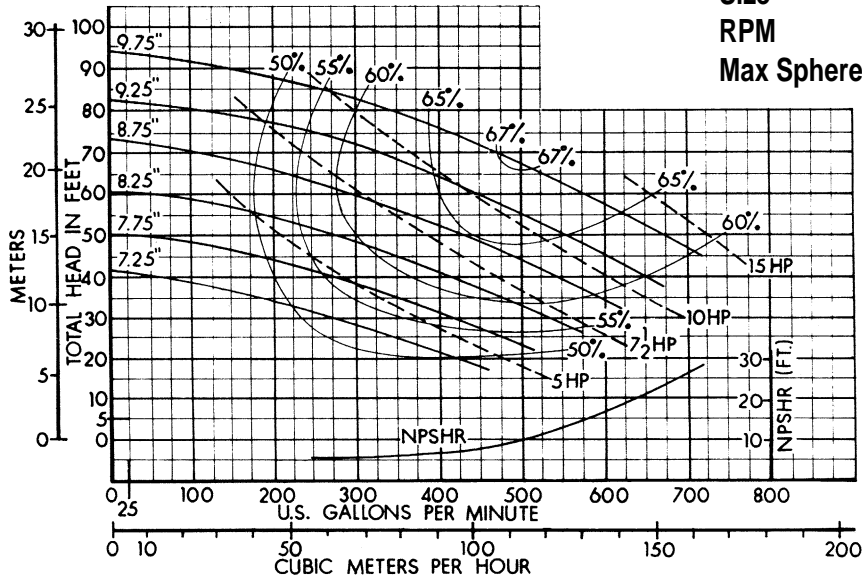
CONTRACTOR \_\_\_\_\_

CONDITIONS: \_\_\_\_\_ GPM \_\_\_\_\_ TDH \_\_\_\_\_ HP \_\_\_\_\_ EFF% \_\_\_\_\_ IMP. DIA \_\_\_\_\_

# VERTIFLO PUMP COMPANY Performance Curves

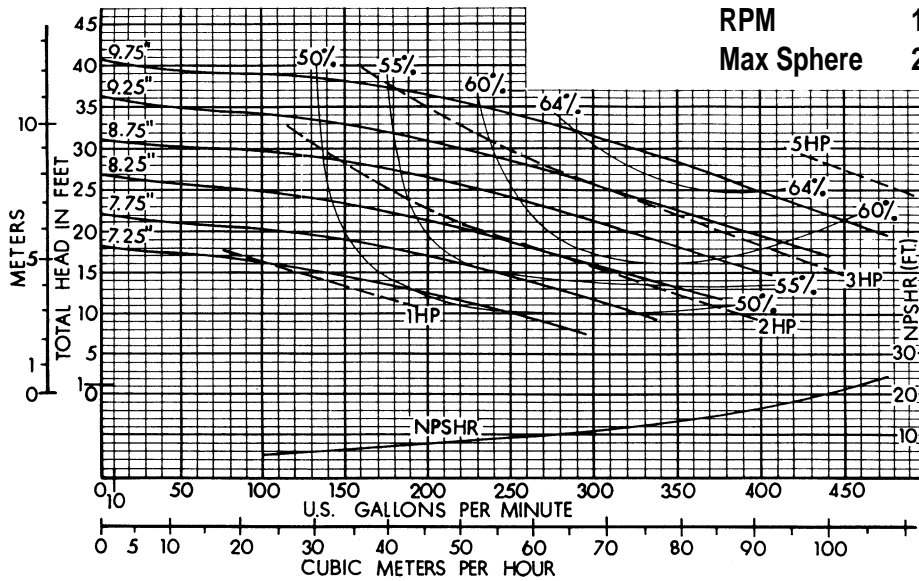
Curve 3394

Series 700  
 Size 3 X 3 X 9.75 X 2  
 RPM 1750  
 Max Sphere 2



Curve 3396

Series 700  
 Size 3 X 3 X 9.75 X 2  
 RPM 1150  
 Max Sphere 2



Performance at Casing Discharge Flange

Curves Show Performance with Liquid Having Specific Gravity 1.0 Viscosity • 30 SSU

CUSTOMER \_\_\_\_\_ CUSTOMER NO. \_\_\_\_\_

PROJECT \_\_\_\_\_

ENGINEER \_\_\_\_\_

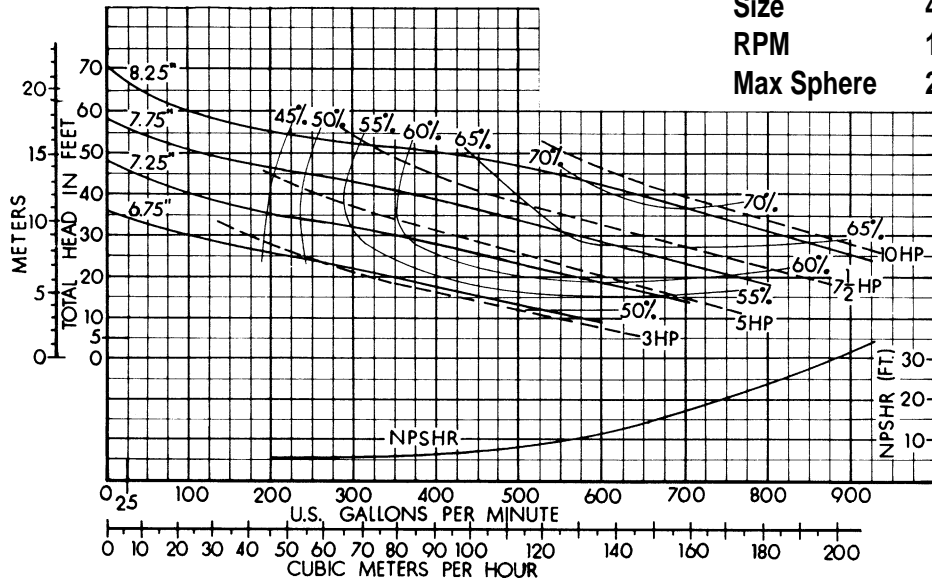
CONTRACTOR \_\_\_\_\_

CONDITIONS: \_\_\_\_\_ GPM \_\_\_\_\_ TDH \_\_\_\_\_ HP \_\_\_\_\_ EFF% \_\_\_\_\_ IMP. DIA \_\_\_\_\_

# VERTIFLO PUMP COMPANY Performance Curves

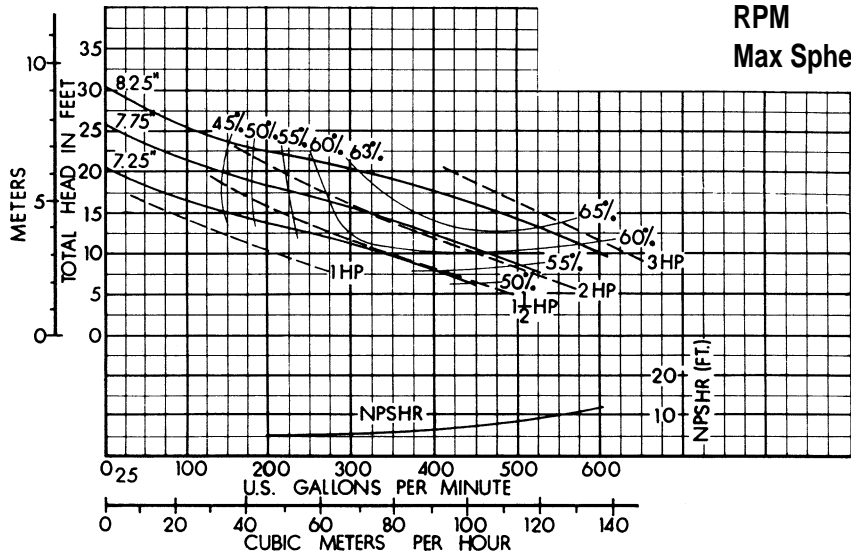
Curve 4484

Series 700  
 Size 4 X 4 X 8.25 X 2.5  
 RPM 1750  
 Max Sphere 2.5



Curve 4486

Series 700  
 Size 4 X 4 X 8.25 X 2.5  
 RPM 1150  
 Max Sphere 2.5



700

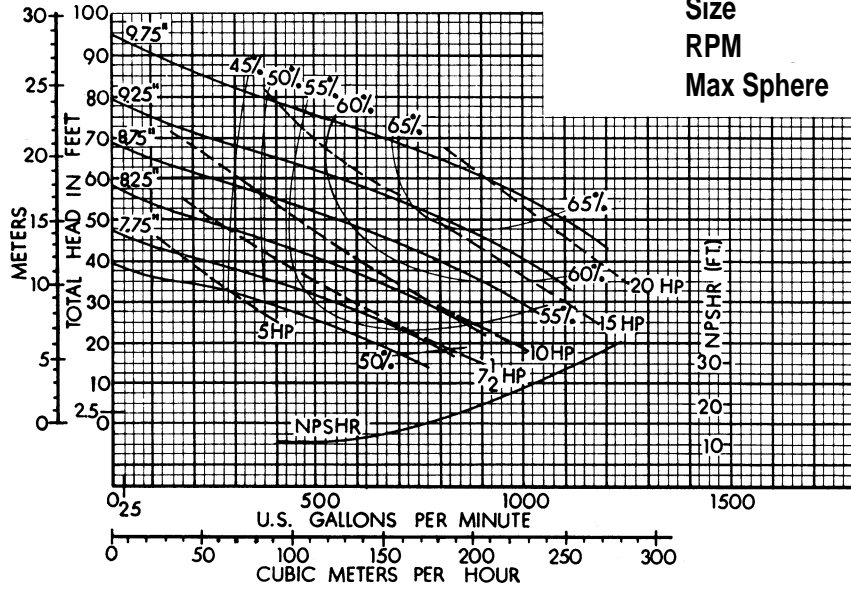
Performance at Casing Discharge Flange  
 Curves Show Performance with Liquid Having Specific Gravity 1.0 Viscosity • 30 SSU

CUSTOMER \_\_\_\_\_ CUSTOMER NO. \_\_\_\_\_  
 PROJECT \_\_\_\_\_  
 ENGINEER \_\_\_\_\_  
 CONTRACTOR \_\_\_\_\_  
 CONDITIONS: \_\_\_\_\_ GPM \_\_\_\_\_ TDH \_\_\_\_\_ HP \_\_\_\_\_ EFF% \_\_\_\_\_ IMP. DIA \_\_\_\_\_

# VERTIFLO PUMP COMPANY Performance Curves

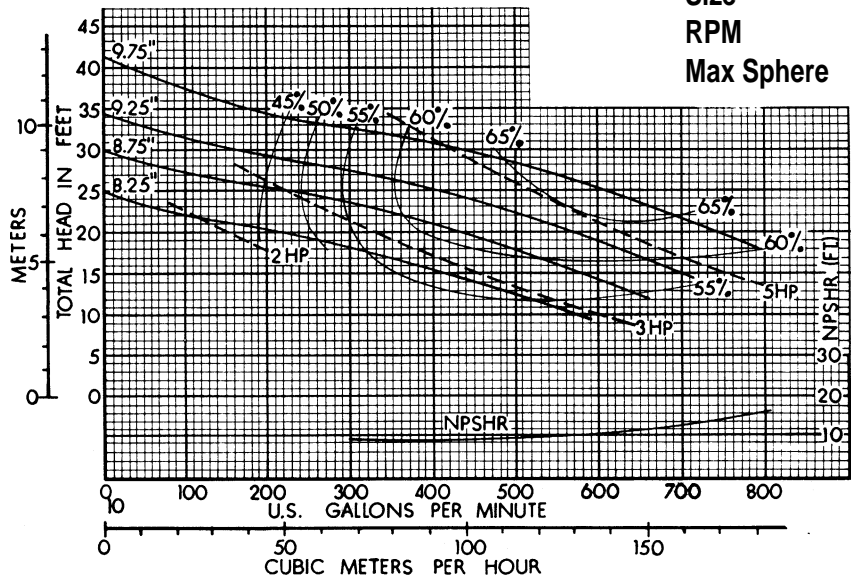
Curve 4494

Series 700  
 Size 4 X 4 X 9.75 X 3  
 RPM 1750  
 Max Sphere 3



Curve 4496

Series 700  
 Size 4 X 4 X 9.75 X 3  
 RPM 1150  
 Max Sphere 3



Performance at Casing Discharge Flange

Curves Show Performance with Liquid Having Specific Gravity 1.0 Viscosity • 30 SSU

CUSTOMER \_\_\_\_\_ CUSTOMER NO. \_\_\_\_\_

PROJECT \_\_\_\_\_

ENGINEER \_\_\_\_\_

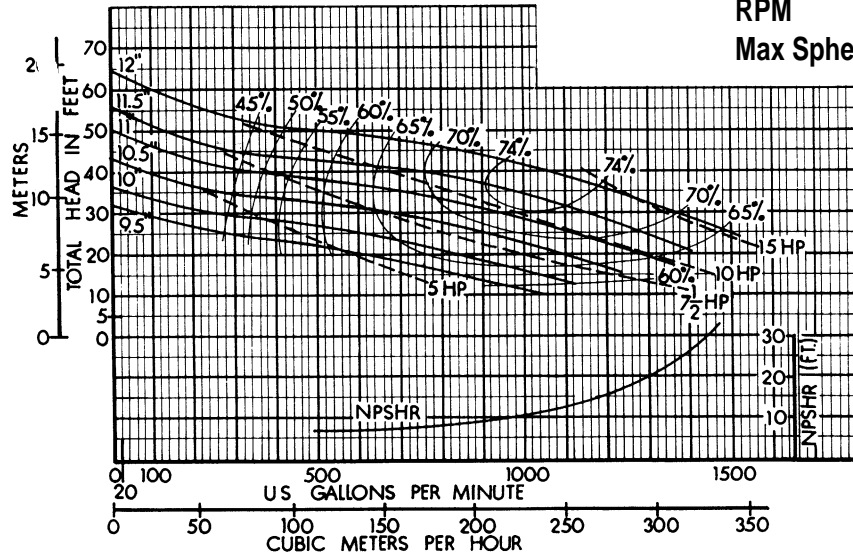
CONTRACTOR \_\_\_\_\_

CONDITIONS: \_\_\_\_\_ GPM \_\_\_\_\_ TDH \_\_\_\_\_ HP \_\_\_\_\_ EFF% \_\_\_\_\_ IMP. DIA \_\_\_\_\_

# VERTIFLO PUMP COMPANY Performance Curves

Curve 55126

Series 700  
 Size 5 X 5 X 12 X 3  
 RPM 1150  
 Max Sphere 3



700

Performance at Casing Discharge Flange

Curves Show Performance with Liquid Having Specific Gravity 1.0 Viscosity • 30 SSU

CUSTOMER \_\_\_\_\_ CUSTOMER NO. \_\_\_\_\_

PROJECT \_\_\_\_\_

ENGINEER \_\_\_\_\_

CONTRACTOR \_\_\_\_\_

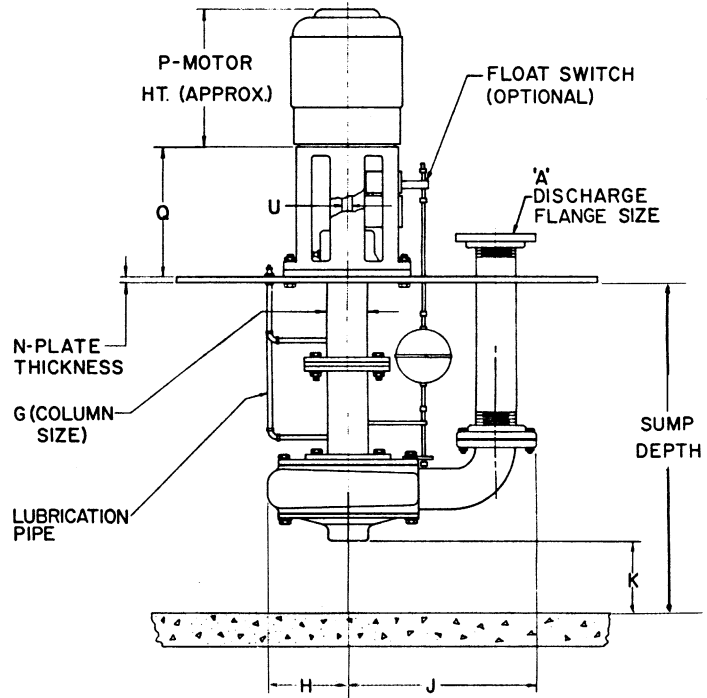
CONDITIONS: \_\_\_\_\_ GPM \_\_\_\_\_ TDH \_\_\_\_\_ HP \_\_\_\_\_ EFF% \_\_\_\_\_ IMP. DIA \_\_\_\_\_



## 700 Series Basic Oval

### PUMP DATA

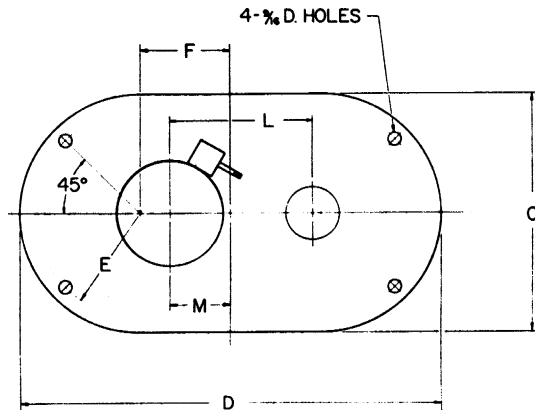
SIZE	3x3x7	3x3x9 <sup>3</sup> / <sub>4</sub>	4x4x8 <sup>1</sup> / <sub>4</sub>	4x4x9 <sup>3</sup> / <sub>4</sub>	5x5x12
A SUC. DISC.	3	3	4	4	5
B MIN.	2	2	3	3	4
B MAX.	20	18	18	17	15
C	18	18	21	21	22
D	26	26	30	30	32
E	8	8	9 <sup>1</sup> / <sub>2</sub>	9 <sup>1</sup> / <sub>2</sub>	10
F	4	4	4 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>2</sub>	5
G	3 <sup>1</sup> / <sub>2</sub>	4	4	4	4
H	6 <sup>1</sup> / <sub>8</sub>	7 <sup>5</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>2</sub>	8 <sup>1</sup> / <sub>8</sub>	10 <sup>1</sup> / <sub>8</sub>
J	13 <sup>3</sup> / <sub>4</sub>	13 <sup>3</sup> / <sub>4</sub>	15 <sup>1</sup> / <sub>2</sub>	15 <sup>1</sup> / <sub>2</sub>	17
K	4 <sup>3</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>
L	10	10	11	11	12
M	3 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>4</sub>
N	3 <sup>7</sup> / <sub>8</sub>	3 <sup>7</sup> / <sub>8</sub>	3 <sup>7</sup> / <sub>8</sub>	3 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>
U	7 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>



### MOTOR DATA

FRAME	P	Q
56 C	10 <sup>7</sup> / <sub>16</sub>	12
143 TC	10	12
145 TC	10 <sup>7</sup> / <sub>16</sub>	12
182-184 TC	13 <sup>1</sup> / <sub>2</sub>	12
213 TC	15 <sup>1</sup> / <sub>2</sub>	12
215 TC	17	12
254 TC	20 <sup>1</sup> / <sub>8</sub>	12
256 TC	21 <sup>7</sup> / <sub>8</sub>	12
284 TC	22 <sup>3</sup> / <sub>8</sub>	13
286 TC	23 <sup>7</sup> / <sub>8</sub>	13
324 TC	24 <sup>3</sup> / <sub>4</sub>	13 <sup>1</sup> / <sub>2</sub>
326 TC	26 <sup>1</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>2</sub>
364 TC	26 <sup>1</sup> / <sub>2</sub>	16 <sup>5</sup> / <sub>8</sub>
365 TC	27 <sup>1</sup> / <sub>2</sub>	16 <sup>5</sup> / <sub>8</sub>

"K" Dimension shown is for a pump built for a 2' through 6' pit depth. For each additional column section, subtract 3/8" from "K."



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

CUSTOMER \_\_\_\_\_ CUSTOMER NO. \_\_\_\_\_  
 PROJECT \_\_\_\_\_ SERIAL NO. \_\_\_\_\_  
 ENGINEER \_\_\_\_\_ LOCATION \_\_\_\_\_  
 CONTRACTOR \_\_\_\_\_  
 PUMP Model Size Curve No. GPM Head SP. GR. @Temp. Pump Length Plate  
 DATA \_\_\_\_\_  
 MOTOR Mfr. HP RPM Volt-Phase-Cycle Frame ENC. Furnished by Mounted by  
 DATA \_\_\_\_\_  
 Shop Order \_\_\_\_\_ Certified by \_\_\_\_\_ Date \_\_\_\_\_

## 700 Series Simplex

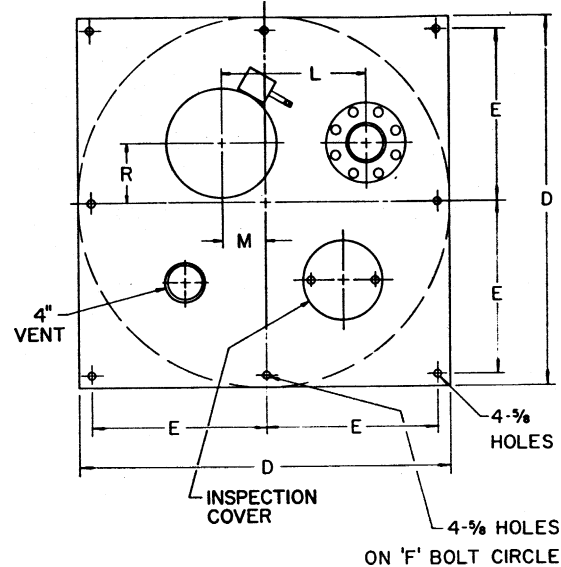
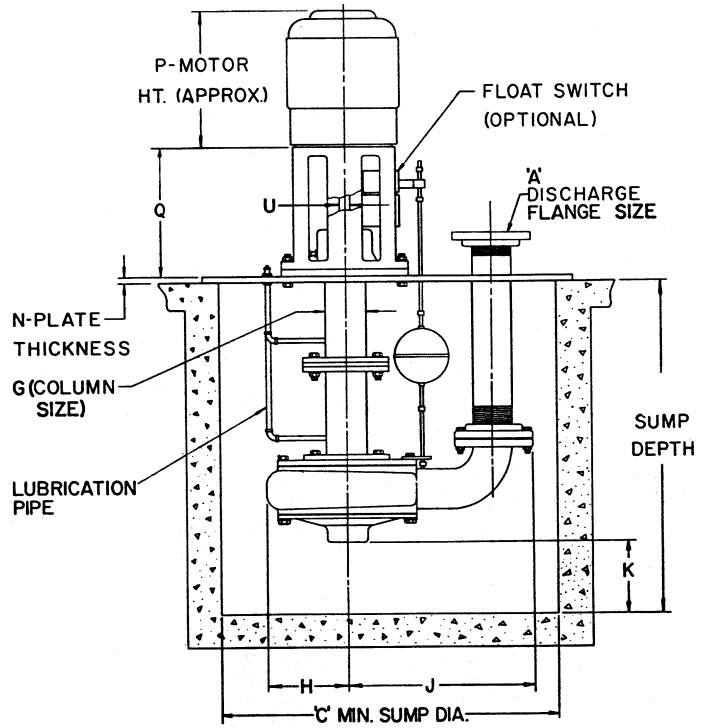
### PUMP DATA

SIZE	3x3x7	3x3x9 <sup>3</sup> / <sub>4</sub>	4x4x8 <sup>1</sup> / <sub>4</sub>	4x4x9 <sup>3</sup> / <sub>4</sub>	5x5x12
A SUC. DISC.	3	3	4	4	5
B MIN.	2	2	3	3	4
B MAX.	20	18	18	17	15
C MIN.	24	24	30	30	30
D MIN.	28	28	34	34	34
E	13	13	16	16	16
F	26	26	32	32	32
G	3 <sup>1</sup> / <sub>2</sub>	4	4	4	4
H	6 <sup>1</sup> / <sub>8</sub>	7 <sup>5</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>2</sub>	8 <sup>1</sup> / <sub>8</sub>	10 <sup>1</sup> / <sub>8</sub>
J	13 <sup>3</sup> / <sub>4</sub>	13 <sup>3</sup> / <sub>4</sub>	15 <sup>1</sup> / <sub>2</sub>	15 <sup>1</sup> / <sub>2</sub>	17
K	4 <sup>3</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>
L	10	10	11	11	12
M	3 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>4</sub>	5	5	3 <sup>3</sup> / <sub>8</sub>
N	3 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>
R	1 <sup>5</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	0	0	0
U	7 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>

### MOTOR DATA

FRAME	P	Q
56 C	10 <sup>7</sup> / <sub>16</sub>	12
143 TC	10	12
145 TC	10 <sup>7</sup> / <sub>16</sub>	12
182-184 TC	13 <sup>1</sup> / <sub>2</sub>	12
213 TC	15 <sup>1</sup> / <sub>2</sub>	12
215 TC	17	12
254 TC	20 <sup>1</sup> / <sub>8</sub>	12
256 TC	21 <sup>1</sup> / <sub>8</sub>	12
284 TC	22 <sup>3</sup> / <sub>8</sub>	13
286 TC	23 <sup>3</sup> / <sub>8</sub>	13
324 TC	24 <sup>3</sup> / <sub>4</sub>	13 <sup>1</sup> / <sub>2</sub>
326 TC	26 <sup>1</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>2</sub>
364 TC	26 <sup>1</sup> / <sub>2</sub>	16 <sup>5</sup> / <sub>8</sub>
365 TC	27 <sup>1</sup> / <sub>2</sub>	16 <sup>5</sup> / <sub>8</sub>

"K" Dimension shown is for a pump built for a 2' through 6' pit depth. For each additional column section, subtract 3/8" from "K."



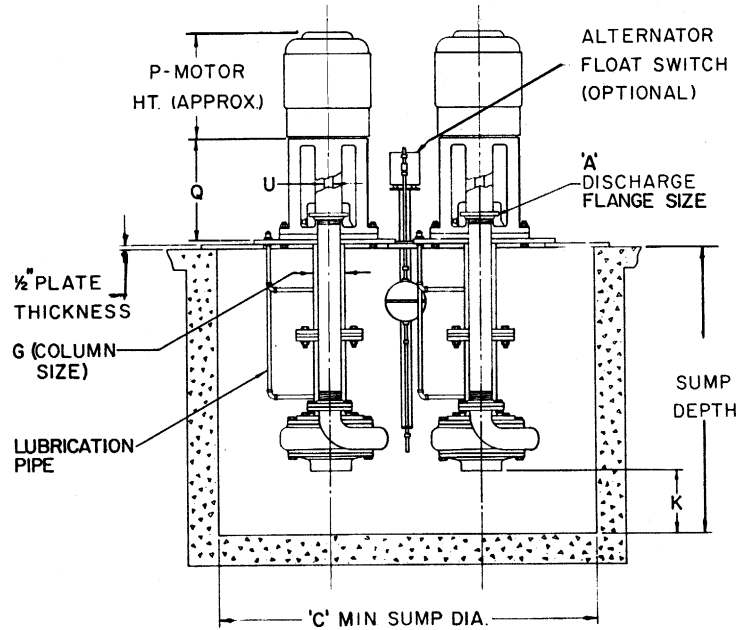
Not for construction unless certified, some dimensions may vary ± 1/2". Pump Construction: \_\_\_\_\_

CUSTOMER \_\_\_\_\_ CUSTOMER NO. \_\_\_\_\_  
 PROJECT \_\_\_\_\_ SERIAL NO. \_\_\_\_\_  
 ENGINEER \_\_\_\_\_ LOCATION \_\_\_\_\_  
 CONTRACTOR \_\_\_\_\_  
 PUMP Model Size Curve No. GPM Head SP. GR. @Temp. Pump Length Plate  
 DATA \_\_\_\_\_  
 MOTOR Mfr. HP RPM Volt-Phase-Cycle Frame ENC. Furnished by Mounted by  
 DATA \_\_\_\_\_  
 Shop Order \_\_\_\_\_ Certified by \_\_\_\_\_ Date \_\_\_\_\_

## 700 Series Duplex

### PUMP DATA

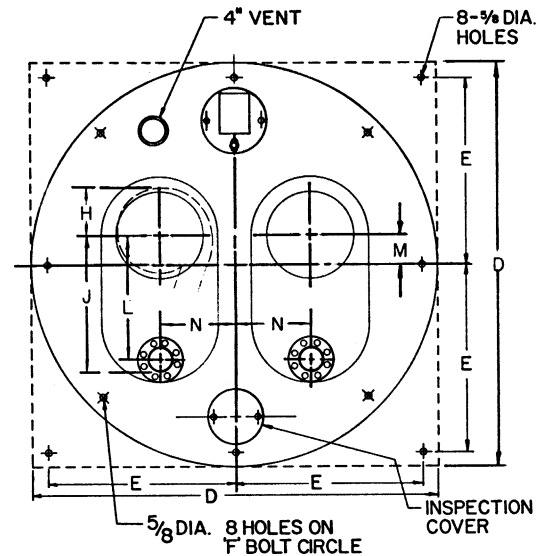
SIZE	3x3x7	3x3x9 <sup>3</sup> / <sub>4</sub>	4x4x8 <sup>1</sup> / <sub>4</sub>	4x4x9 <sup>3</sup> / <sub>4</sub>	5x5x12
A SUC. DISC.	3	3	4	4	5
B MIN.	2	2	3	3	4
B MAX.	20	18	18	17	15
C MIN.	36	42	48	48	48
D	46	46	54	54	54
E	22	22	25 <sup>1</sup> / <sub>2</sub>	25 <sup>1</sup> / <sub>2</sub>	25 <sup>1</sup> / <sub>2</sub>
F	44	44	51	51	51
G	3 <sup>1</sup> / <sub>2</sub>	4	4	4	4
H	6 <sup>1</sup> / <sub>8</sub>	7 <sup>5</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>2</sub>	8 <sup>1</sup> / <sub>8</sub>	10 <sup>1</sup> / <sub>8</sub>
J	13 <sup>3</sup> / <sub>4</sub>	13 <sup>3</sup> / <sub>4</sub>	15 <sup>1</sup> / <sub>2</sub>	15 <sup>1</sup> / <sub>2</sub>	17
K	4 <sup>7</sup> / <sub>8</sub>	4 <sup>7</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>8</sub>	3 <sup>7</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>
L	10	10	11	11	12
M	2	2 <sup>7</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>4</sub>
N	9 <sup>1</sup> / <sub>2</sub>	9 <sup>1</sup> / <sub>2</sub>	12 <sup>5</sup> / <sub>8</sub>	12 <sup>5</sup> / <sub>8</sub>	12
U	7 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>



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FRAME	P	Q
56 C	10 <sup>7</sup> / <sub>16</sub>	12
143 TC	10	12
145 TC	10 <sup>7</sup> / <sub>16</sub>	12
182-184 TC	13 <sup>1</sup> / <sub>2</sub>	12
213 TC	15 <sup>1</sup> / <sub>2</sub>	12
215 TC	17	12
254 TC	20 <sup>1</sup> / <sub>8</sub>	12
256 TC	21 <sup>1</sup> / <sub>8</sub>	12
284 TC	22 <sup>3</sup> / <sub>8</sub>	13
286 TC	23 <sup>3</sup> / <sub>8</sub>	13
324 TC	24 <sup>3</sup> / <sub>4</sub>	13 <sup>1</sup> / <sub>2</sub>
326 TC	26 <sup>1</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>2</sub>
364 TC	26 <sup>1</sup> / <sub>2</sub>	16 <sup>5</sup> / <sub>8</sub>
365 TC	27 <sup>1</sup> / <sub>2</sub>	16 <sup>5</sup> / <sub>8</sub>



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

CUSTOMER \_\_\_\_\_ CUSTOMER NO. \_\_\_\_\_  
 PROJECT \_\_\_\_\_ SERIAL NO. \_\_\_\_\_  
 ENGINEER \_\_\_\_\_ LOCATION \_\_\_\_\_  
 CONTRACTOR \_\_\_\_\_  
 PUMP Model Size Curve No. GPM Head SP. GR. @Temp. Pump Length Plate  
 DATA \_\_\_\_\_  
 MOTOR Mfr. HP RPM Volt-Phase-Cycle Frame ENC. Furnished by Mounted by  
 DATA \_\_\_\_\_  
 Shop Order \_\_\_\_\_ Certified by \_\_\_\_\_ Date \_\_\_\_\_