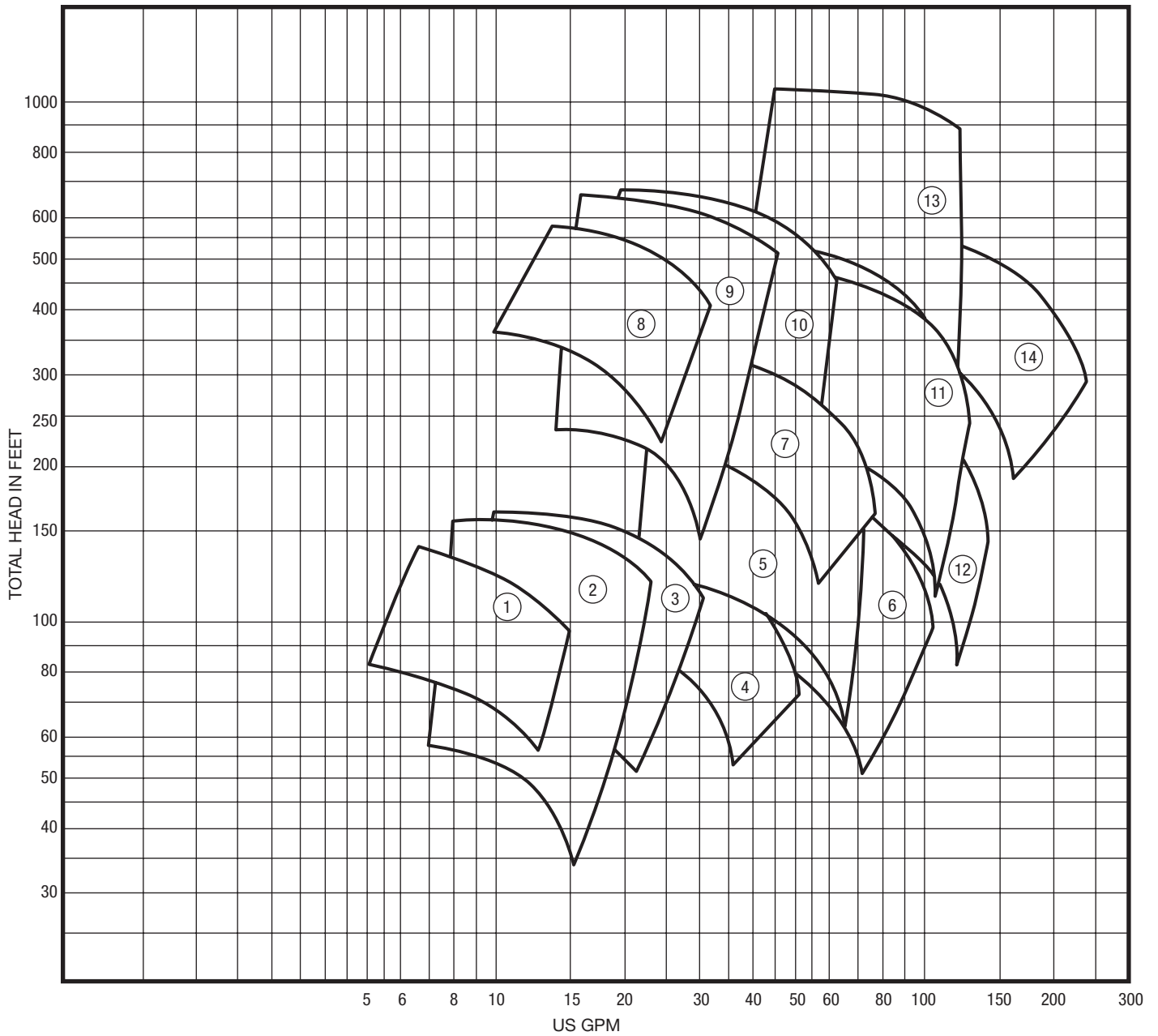


Hydraulic Coverage Chart – 5900 Multi-Stage Horizontal Split Case Pumps Performance



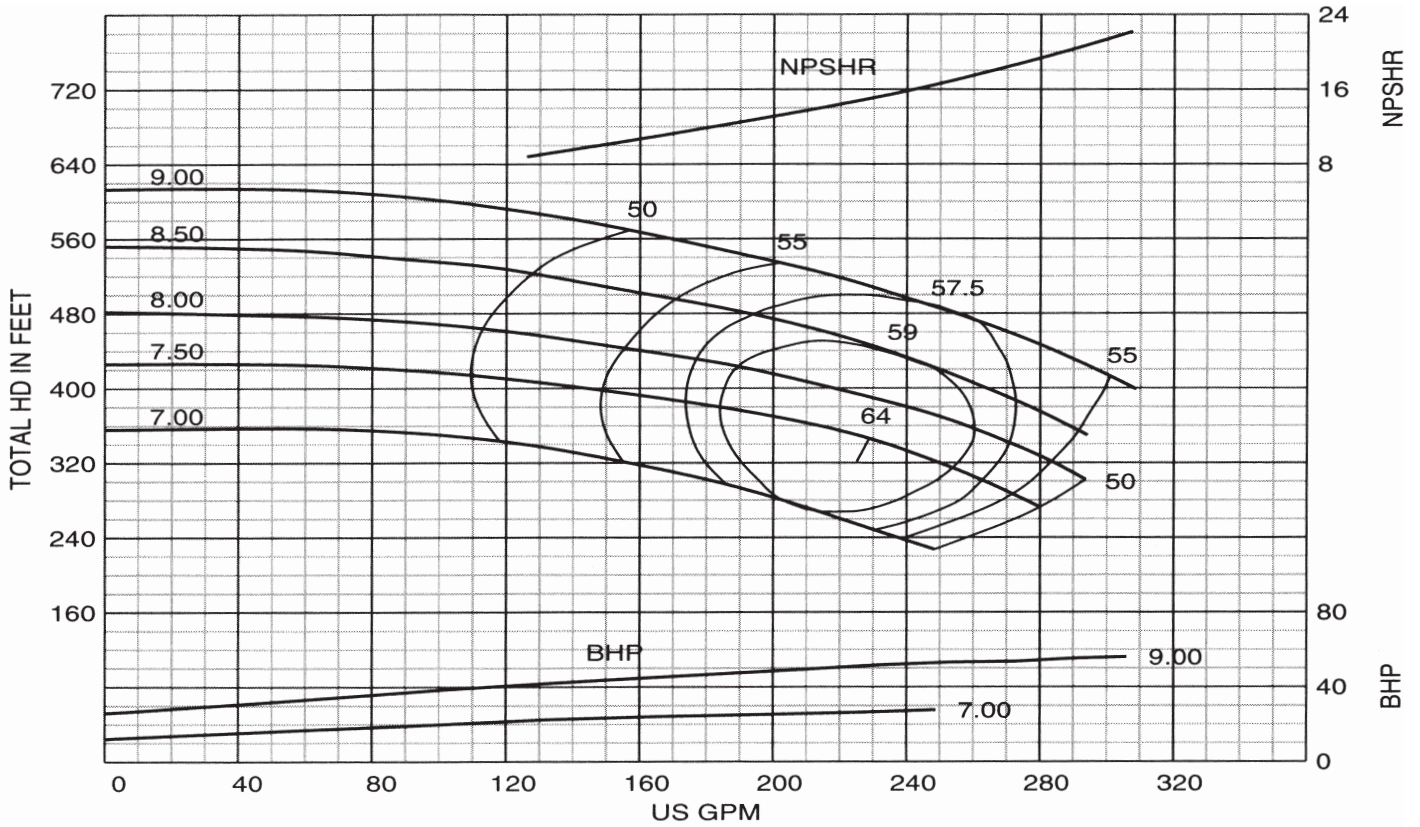
| No. | Pump | RPM |
|-----|-------------|------|
| 1 | 2" 5972 | 1750 |
| 2 | 2-1/2" 5972 | 1760 |
| 3 | 3" 5972 | 1760 |
| 4 | 3" 5922 | 1175 |
| 5 | 5" 5972 | 1775 |
| 6 | 5" 5922 | 1185 |
| 7 | 3" 5922 | 1780 |

| No. | Pump | RPM |
|-----|-------------|------|
| 8 | 2" 5972 | 3570 |
| 9 | 2-1/2" 5972 | 3570 |
| 10 | 3" 5972 | 3570 |
| 11 | 11" 5922 | 1785 |
| 12 | 6" 5922 | 1185 |
| 13 | 5" 5972 | 3570 |
| 14 | 6" 5922 | 1785 |

Performance Curve - 2" 5972

RPM: **3570** SOLIDS: **7/32"**

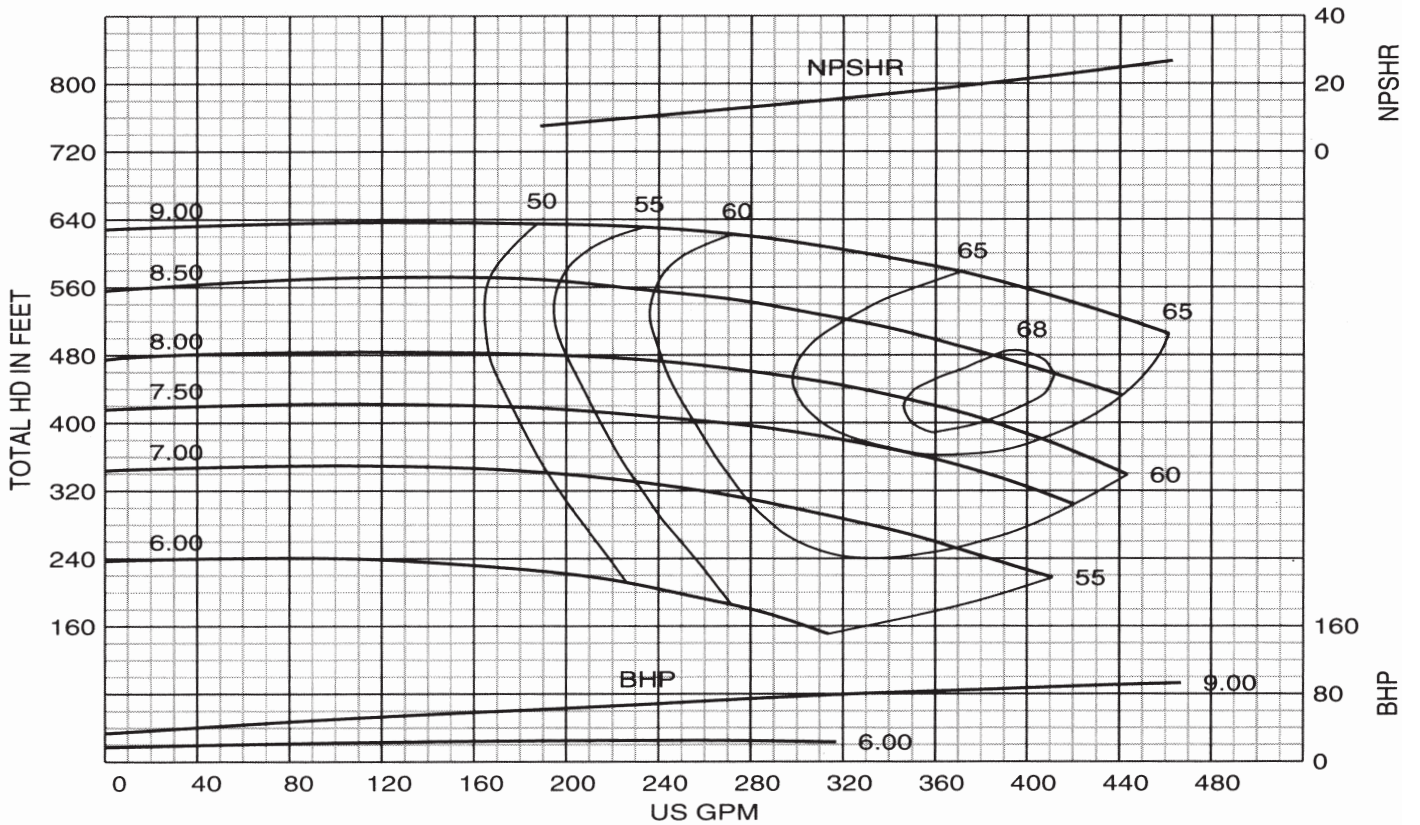
IMPELLER: **K2M1A&B** SUCTION: **3"** INLET: **5.9 in²**



Performance Curve - 2-1/2" 5972

RPM: **3570** SOLIDS: **5/16"**

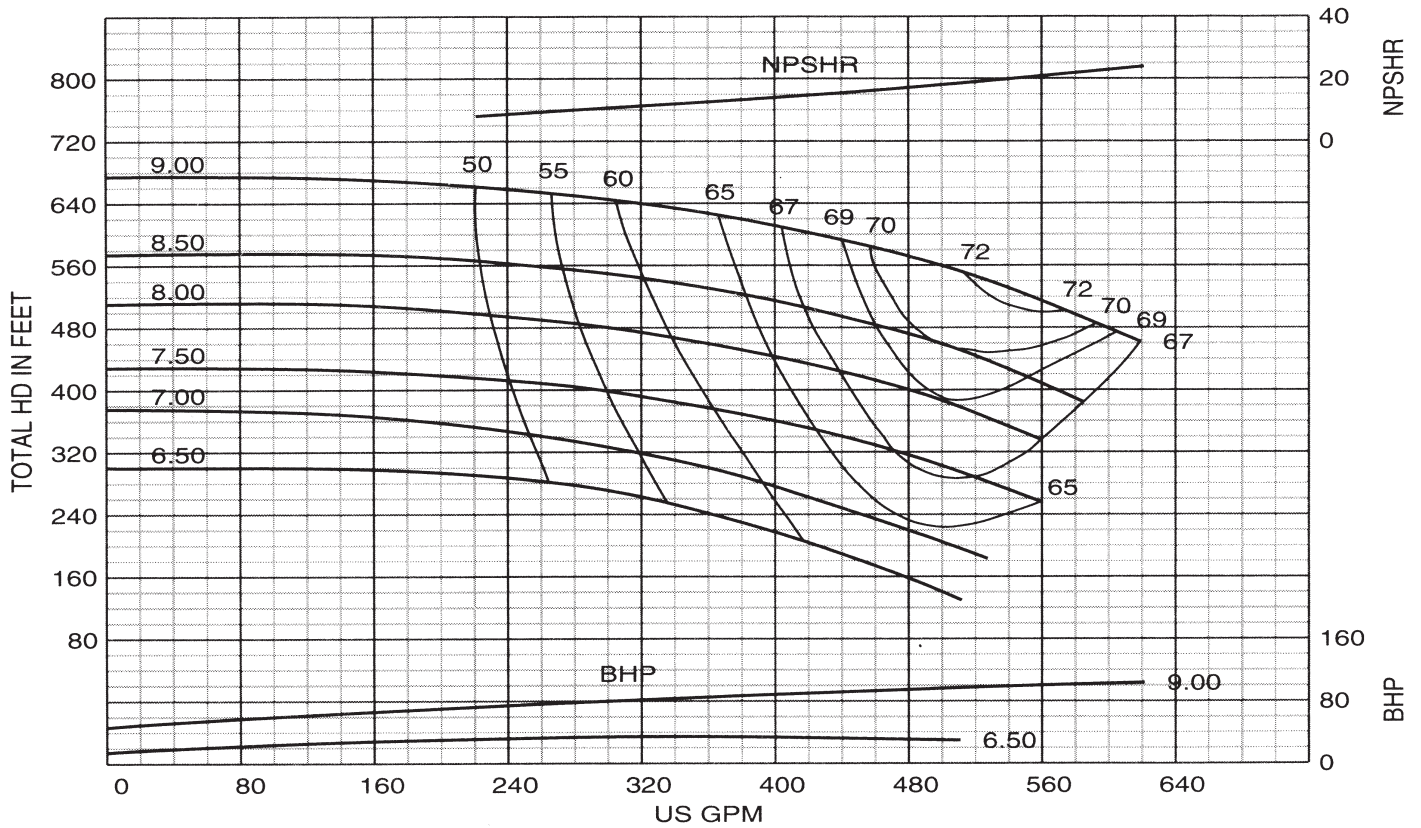
IMPELLER: **K2-1/2M1A&B** SUCTION: **3"** INLET: **8.6 in²**



Performance Curve – 3" 5972

RPM: **3570** SOLIDS: **1/2"**

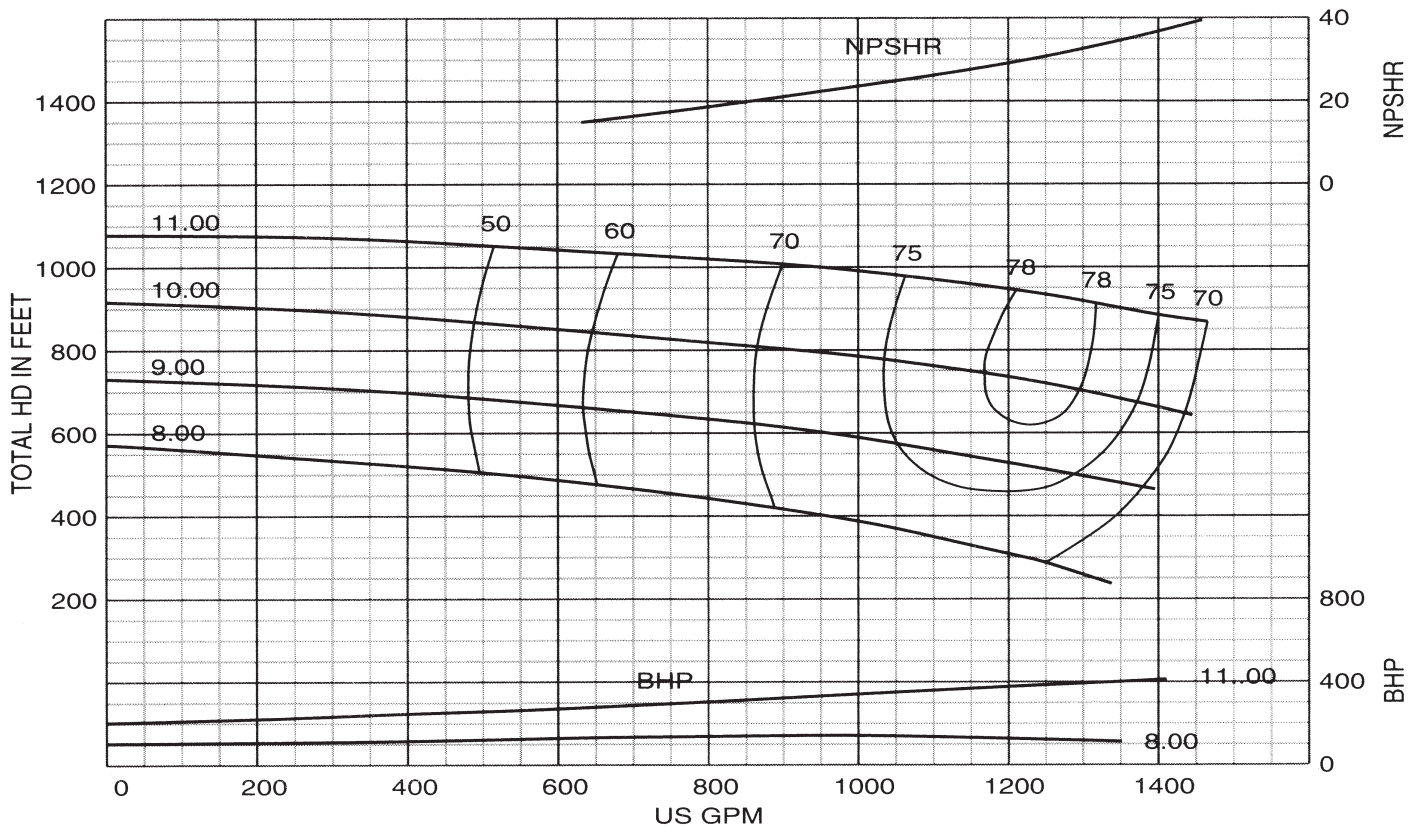
IMPELLER: **K3M1A&B** SUCTION: **4"** INLET: **9.8 in²**



Performance Curve – 5" 5972

RPM: **3570** SOLIDS: **5/8"**

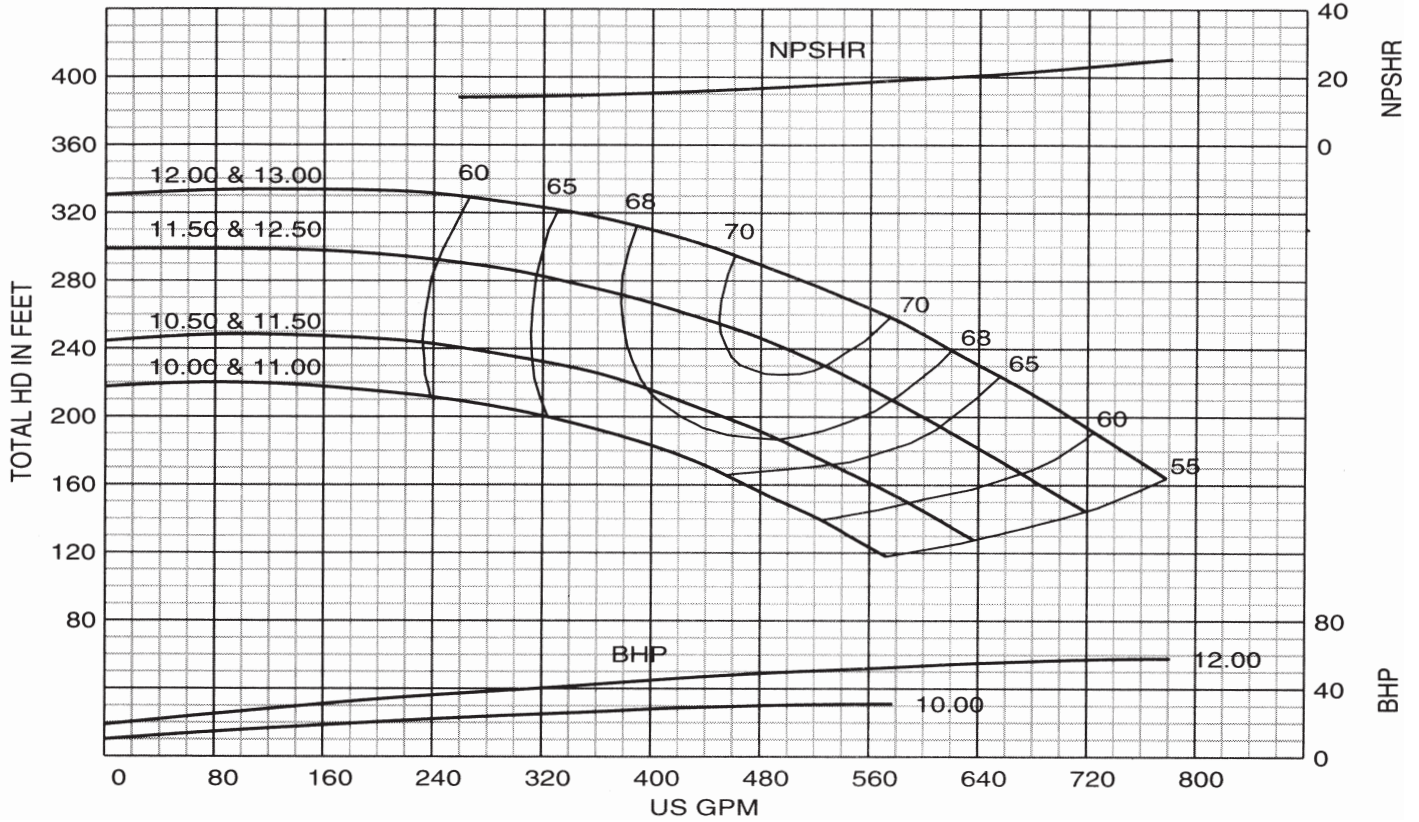
IMPELLER: **K5M1C&D** SUCTION: **8"** INLET: **24.2 in²**



Performance Curve - 3" 5922

RPM: 1780 SOLIDS: 15/32"

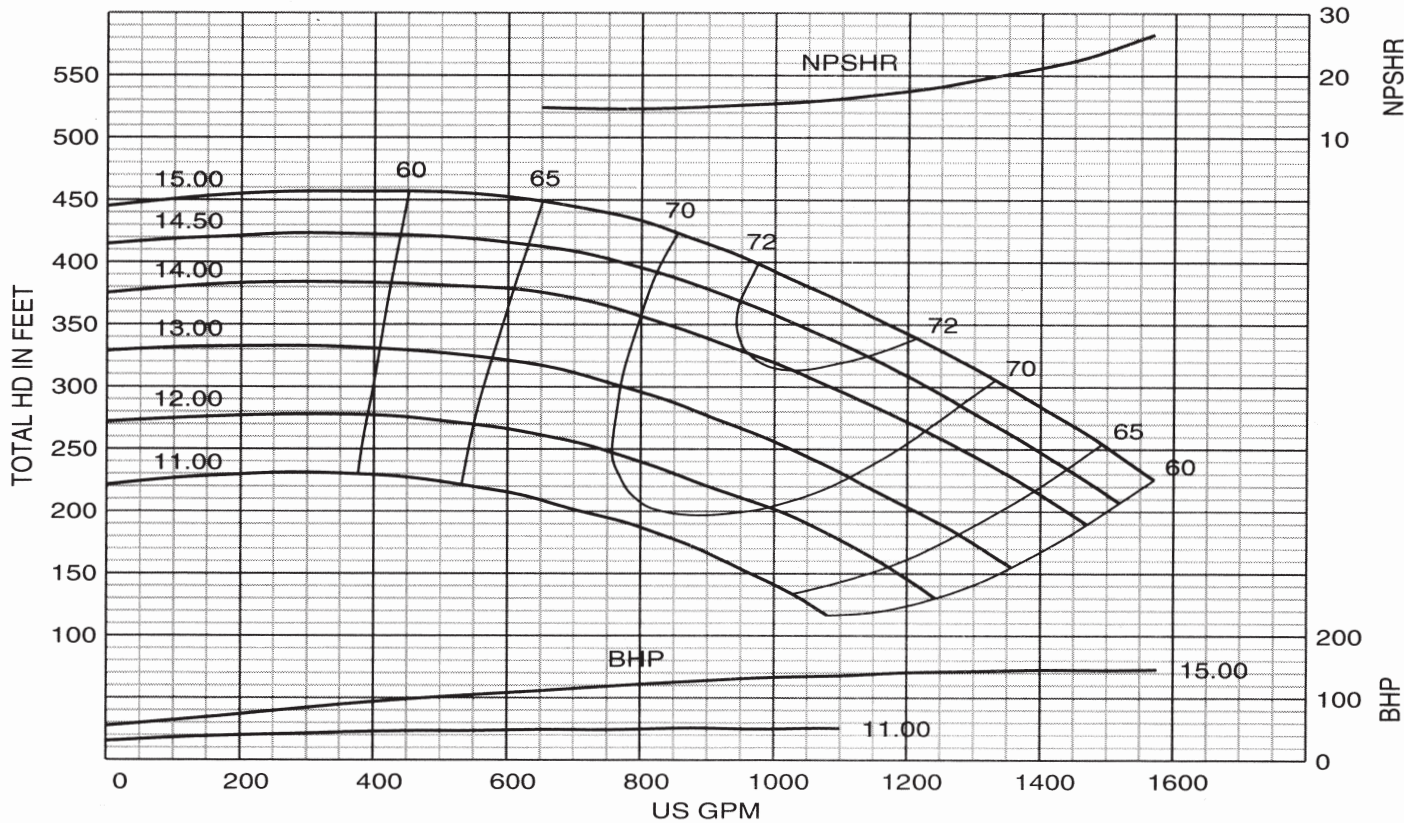
IMPELLER: K3T1A&C SUCTION: 4" INLET: 14.0 in²



Performance Curve - 5" 5922

RPM: 1785 SOLIDS: 5/8"

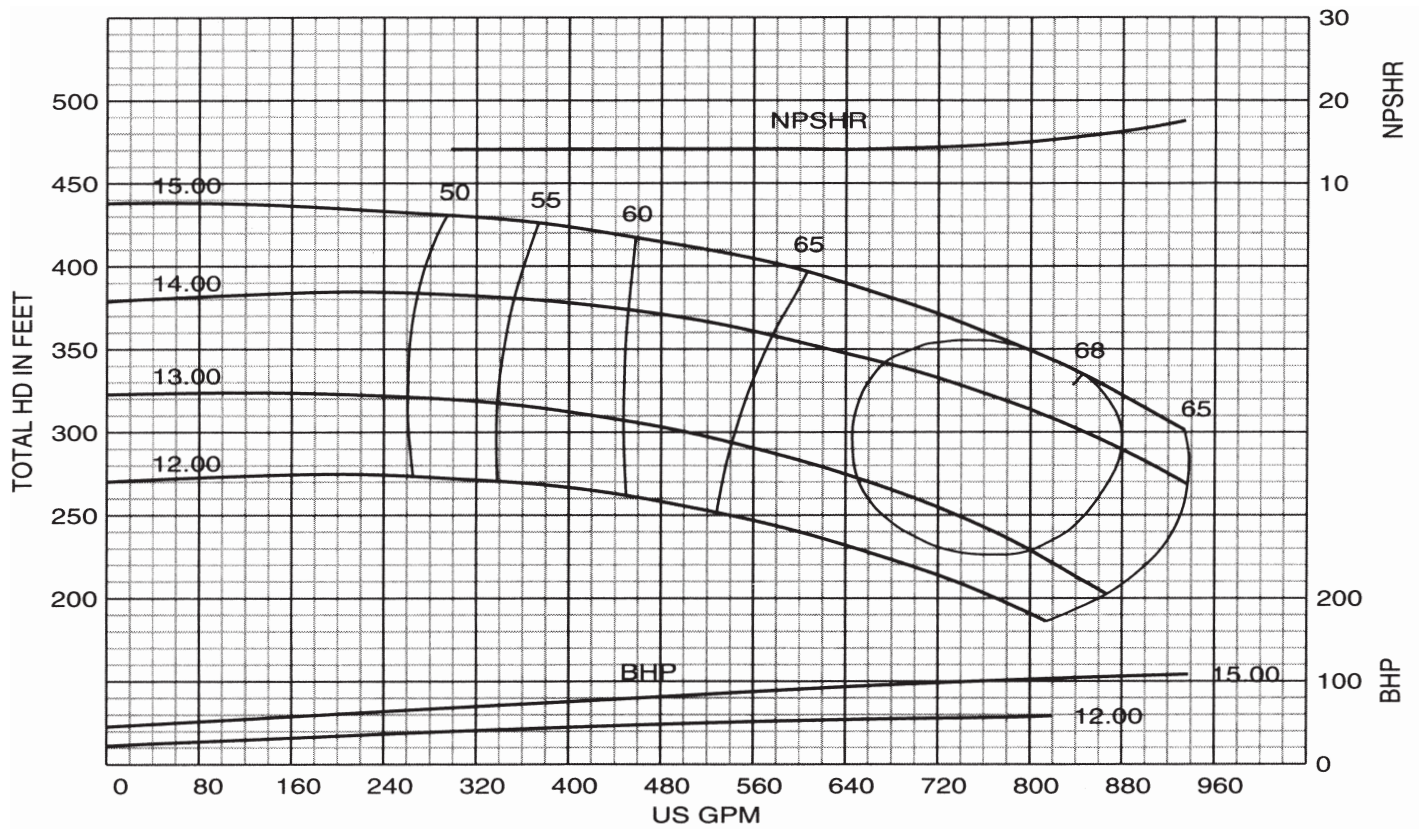
IMPELLER: K5T1A&B SUCTION: 6" INLET: 18.9 in²



Performance Curve – 5" 5922

IMPELLER: K5T1C&D SUCTION: 6" INLET: 24.6 in²

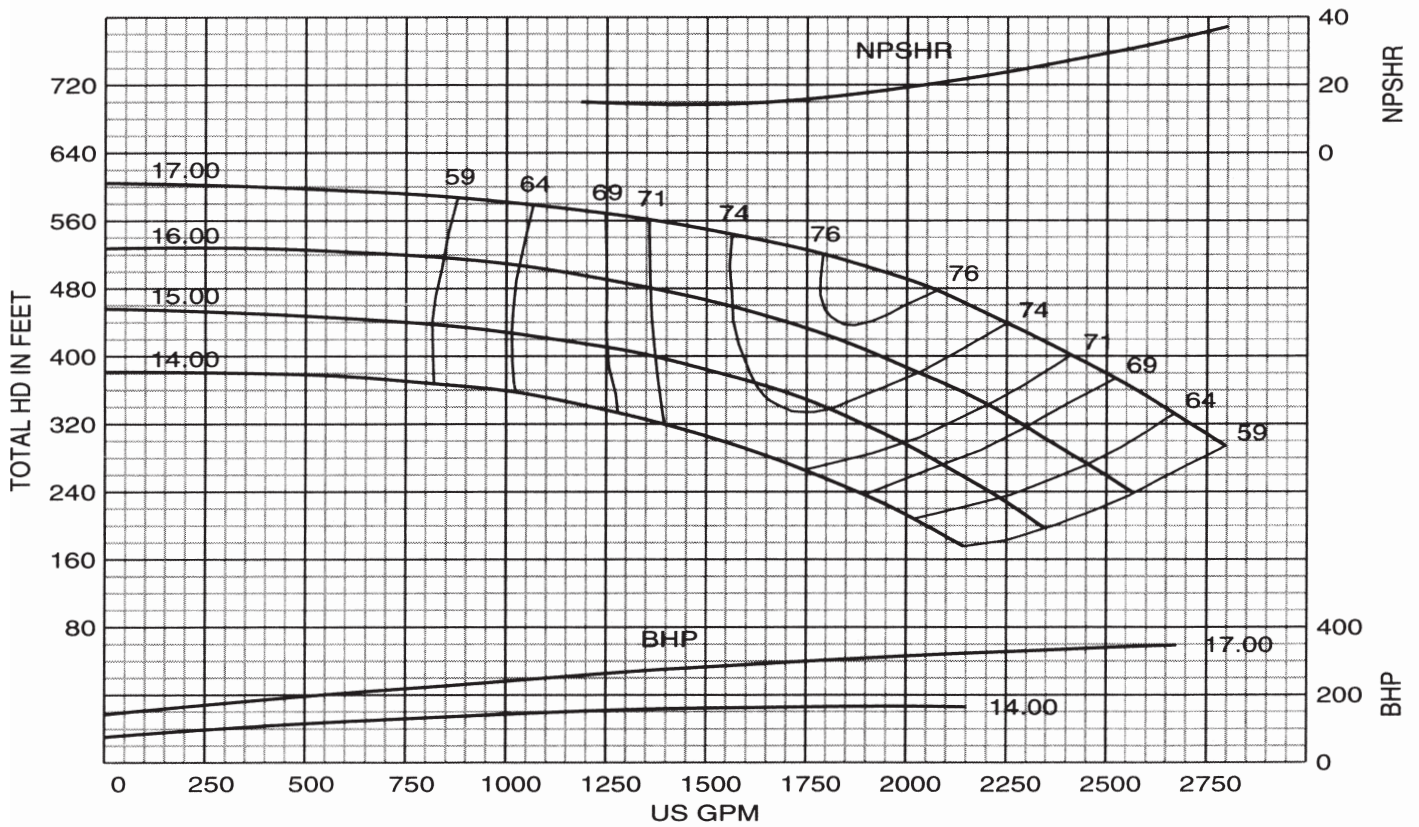
RPM: 1785 SOLIDS: 13/32"



Performance Curve – 6" 5922

IMPELLER: K6T1A&B SUCTION: 8" INLET: 40.6 in²

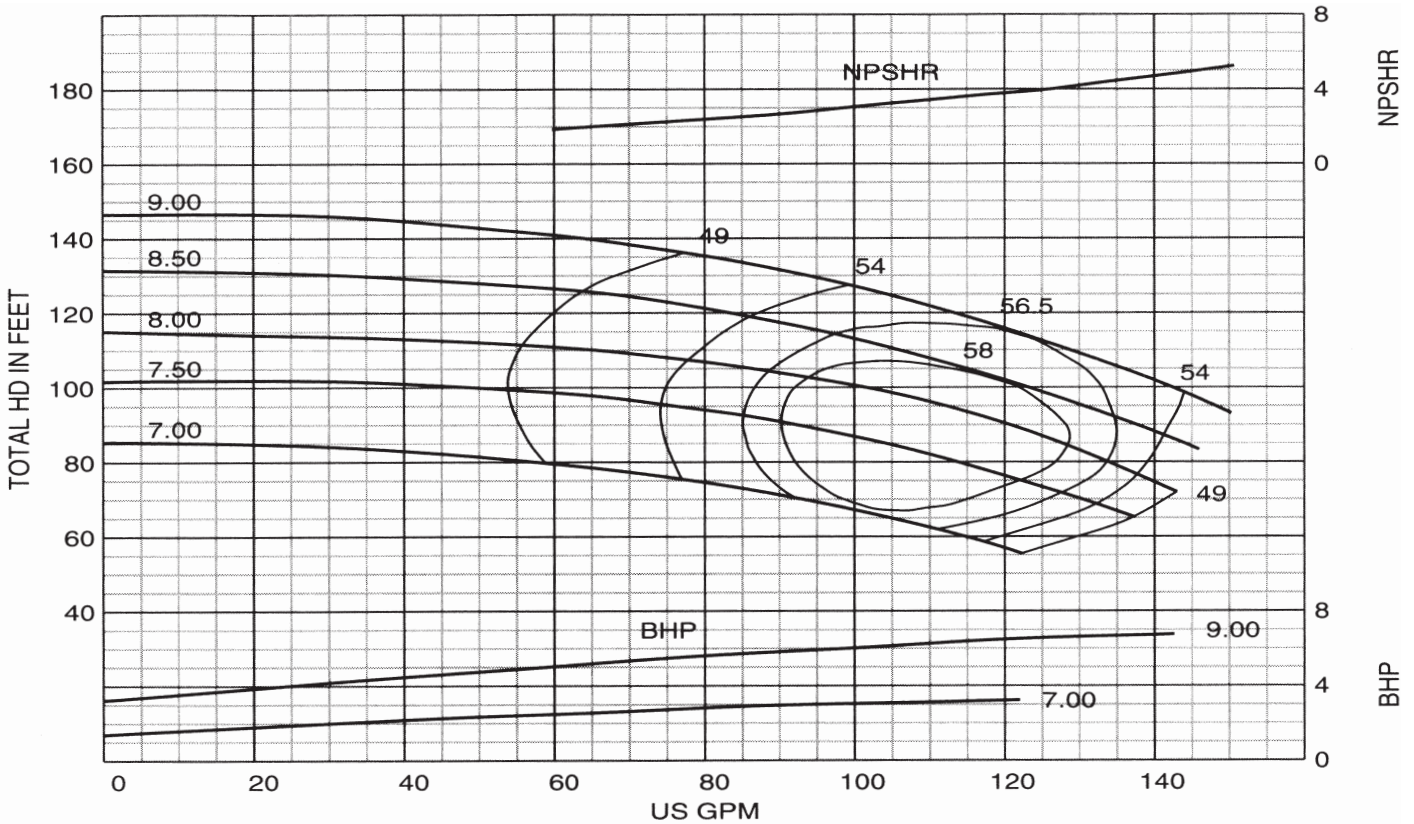
RPM: 1785 SOLIDS: 15/16"



Performance Curve - 2" 5972

IMPELLER: K2M1A&B SUCTION: 3" INLET: 5.9 in²

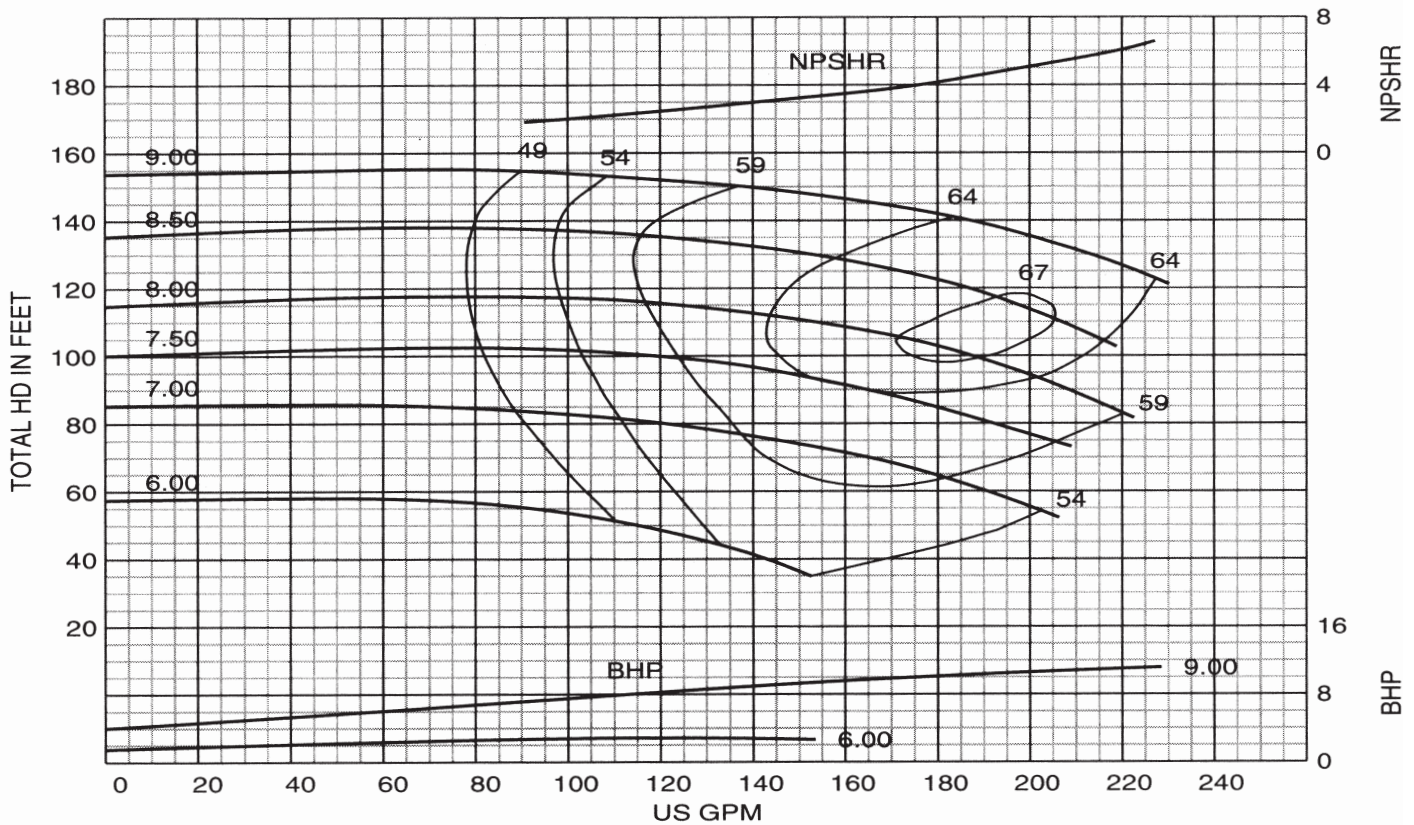
RPM: 1750 SOLIDS: 7/32"



Performance Curve - 2-1/2" 5972

IMPELLER: K2-1/2M1A&B SUCTION: 3" INLET: 8.6 in²

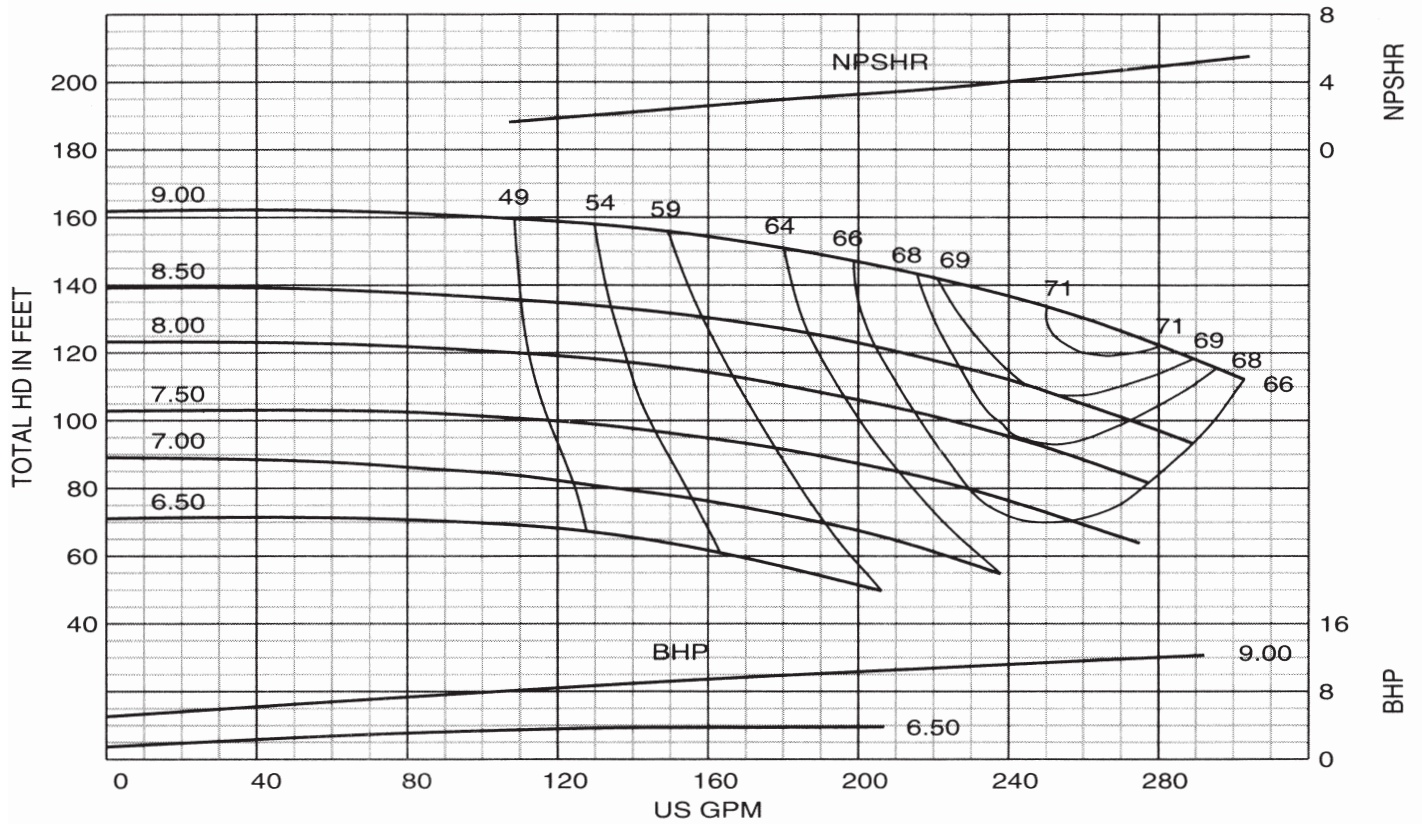
RPM: 1760 SOLIDS: 5/16"



Performance Curve – 3" 5972

IMPELLER: **K3M1A&B** SUCTION: **4"** INLET: **9.8 in²**

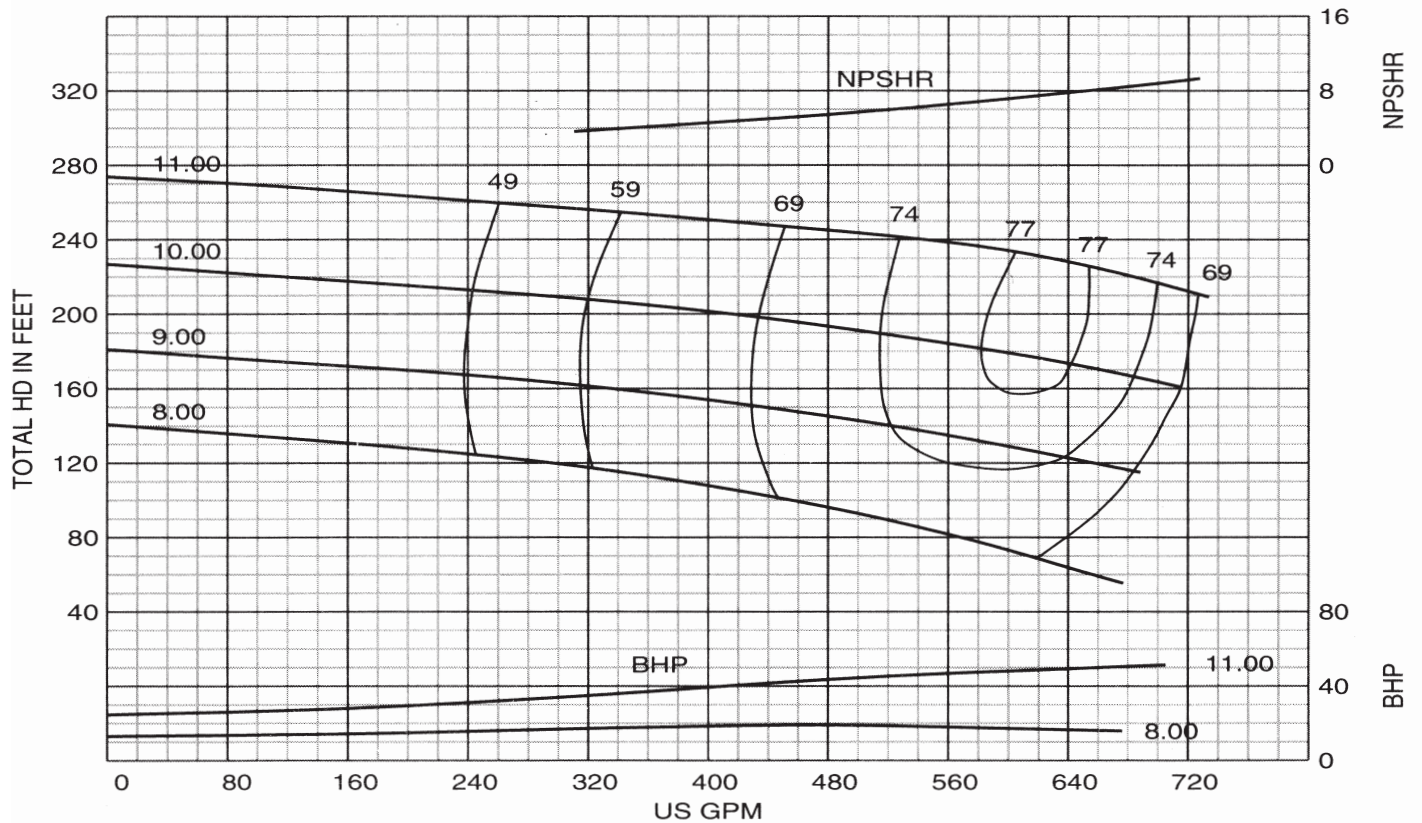
RPM: **1760** SOLIDS: **1/2"**



Performance Curve – 5" 5972

IMPELLER: **K5M1C&D** SUCTION: **8"** INLET: **24.2 in²**

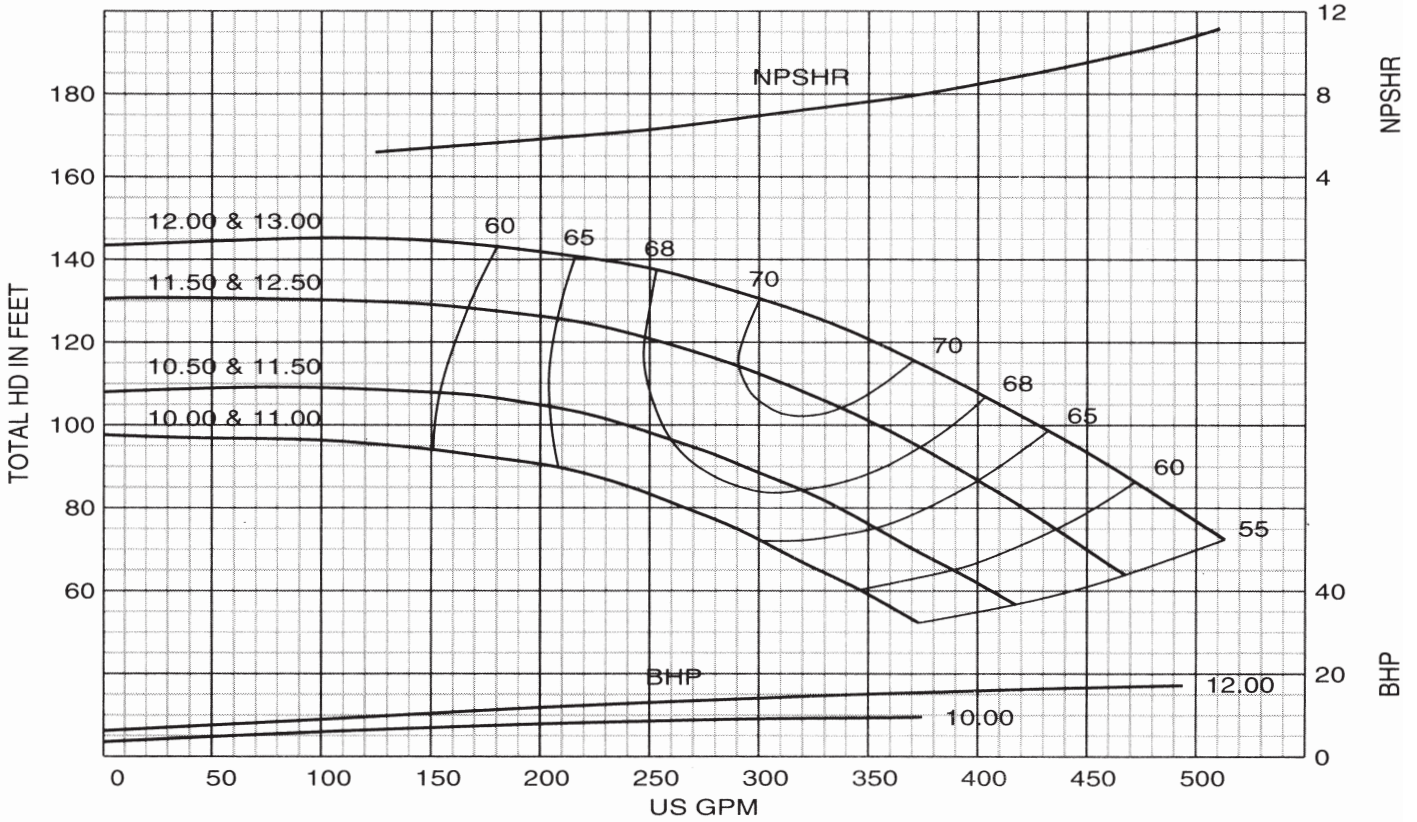
RPM: **1775** SOLIDS: **5/8"**



Performance Curve - 3" 5922

RPM: 1175 SOLIDS: 15/32"

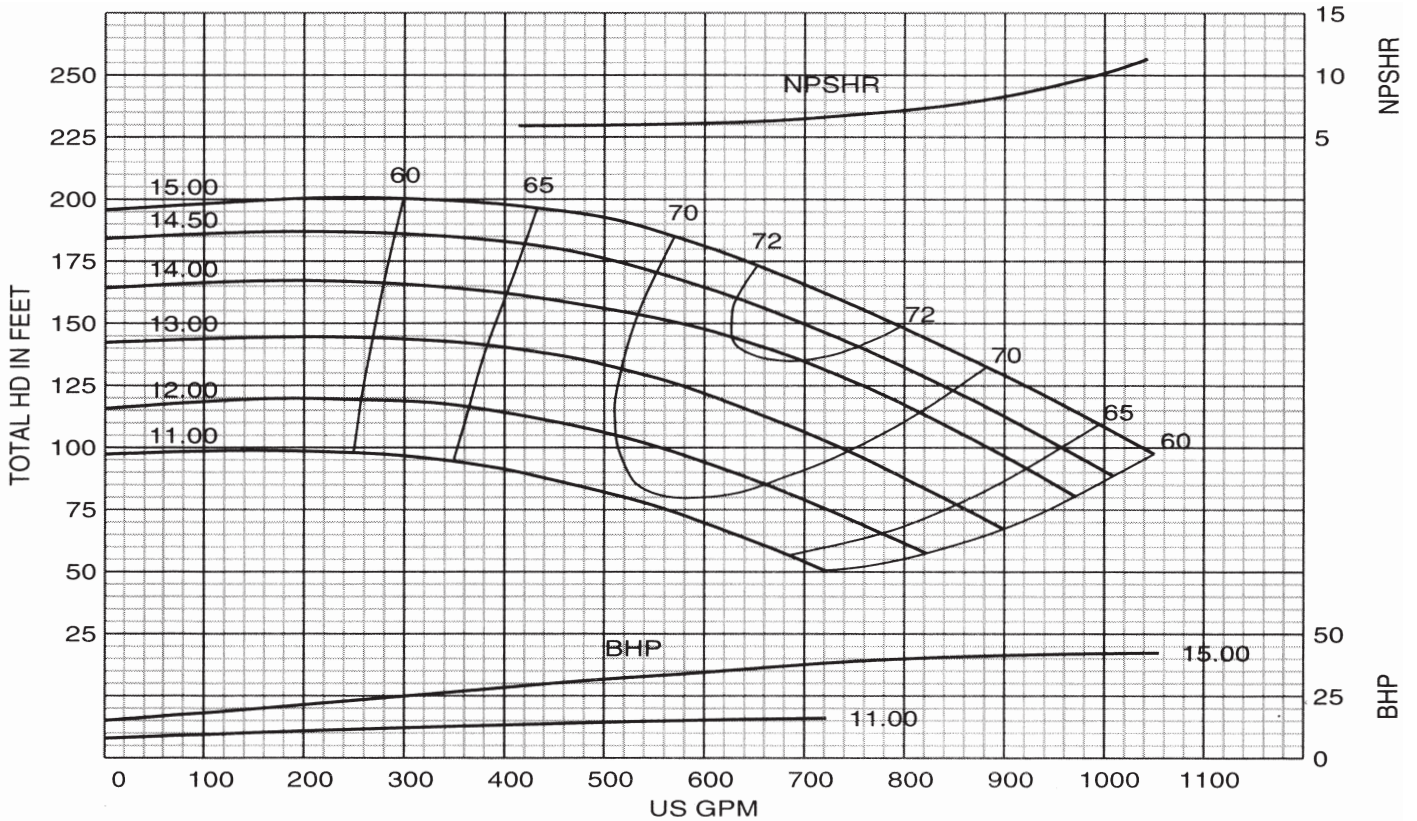
IMPELLER: K3T1A&C SUCTION: 4" INLET: 14.0 in²



Performance Curve - 5" 5922

RPM: 1185 SOLIDS: 5/8"

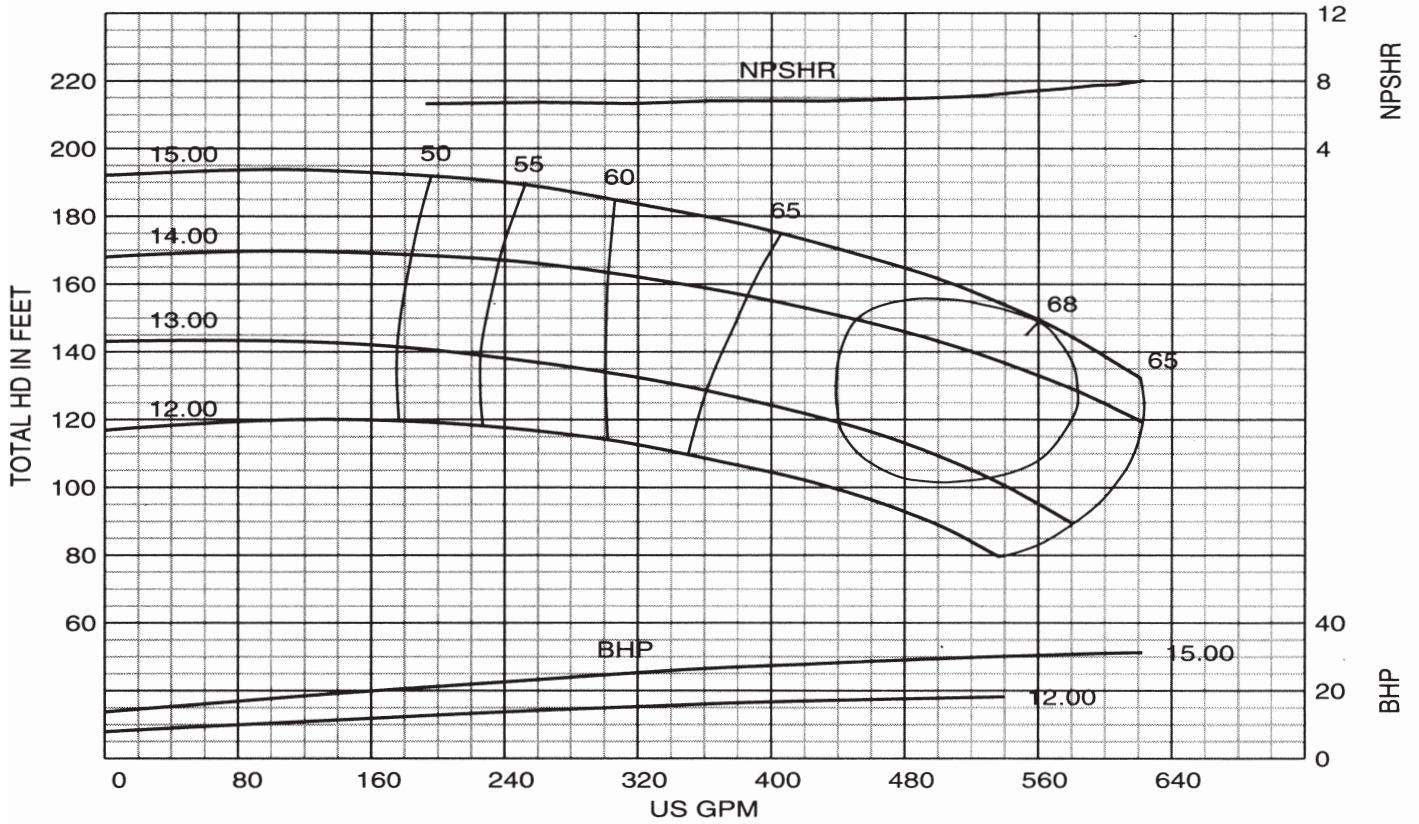
IMPELLER: K5T1A&B SUCTION: 6" INLET: 18.9 in²



Performance Curve – 5" 5922

IMPELLER: K5T1C&D SUCTION: 6" INLET: 24.6 in²

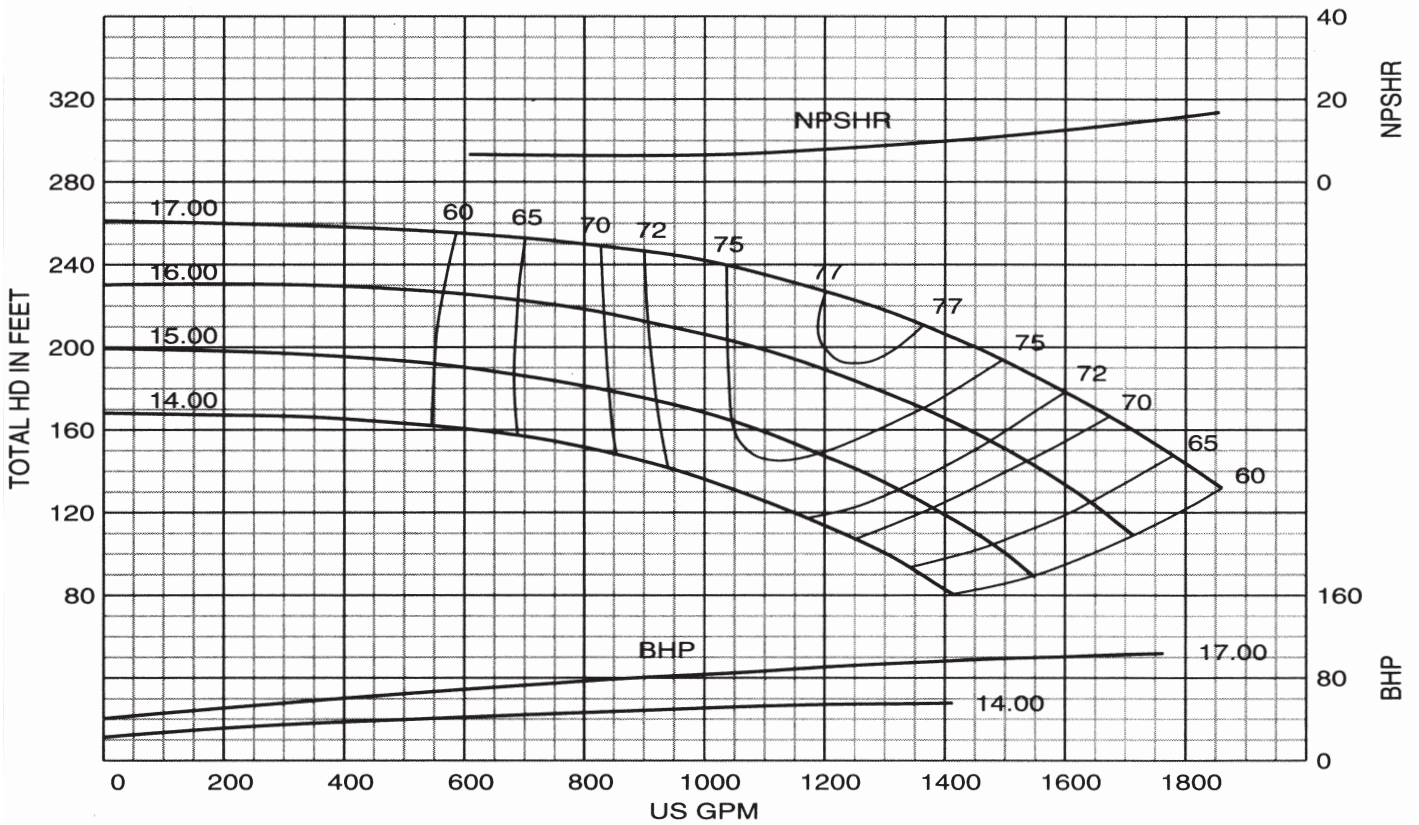
RPM: 1180 SOLIDS: 13/32"



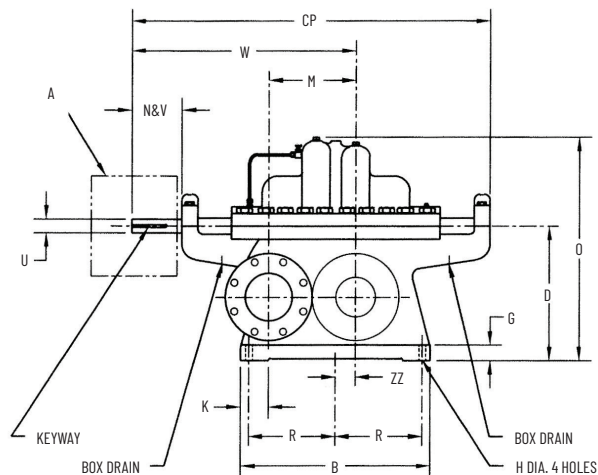
Performance Curve – 6" 5922

IMPELLER: K6T1A&B SUCTION: 8" INLET: 40.6 in²

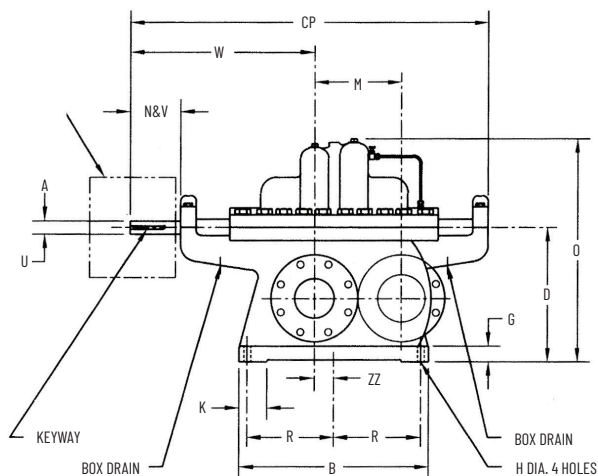
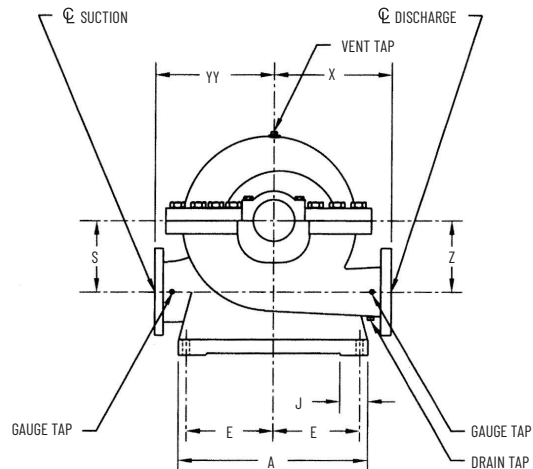
RPM: 1185 SOLIDS: 15/16"



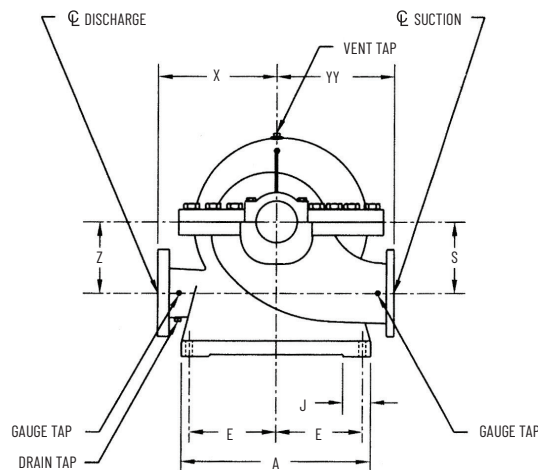
Dimensional Data – BASIC PUMP DIMENSIONS 5922



CLOCKWISE



COUNTERCLOCKWISE



| PUMP | SUCTION | DISCH | A | B | D | E | G | H | J | K | M | N & V | O | R | S | U | W (CW) | W (CCW) | X | Z | CP | YY | ZZ | KEYWAY |
|---------|---------|-------|----|----|--------|-------|-------|-------|-------|-------|-------|--------|--------|----|--------|---------|--------|---------|--------|--------|---------|--------|-------|------------|
| 3" 5922 | 4 | 3 | 16 | 20 | 13 | 7 | 1-3/4 | 7/8 | 3-1/4 | 3-1/4 | 8-5/8 | 3-5/8 | 21-3/4 | 9 | 7-7/16 | 1-1/4 | 21-3/4 | 18 | 11 | 7-7/16 | 37-5/16 | 13 | 1-7/8 | 3/8 X 3/16 |
| 5" 5922 | 6 | 5 | 20 | 24 | 17 | 9 | 2 | 7/8 | 3-1/2 | 3-1/2 | 11 | 5-7/16 | 27-3/4 | 11 | 9 | 1-11/16 | 28-3/8 | 23-3/8 | 15 | 9 | 46-7/8 | 15 | 2-1/2 | 3/8 X 3/16 |
| 6" 5922 | 8 | 6 | 22 | 27 | 17-1/2 | 9-3/4 | 2-1/2 | 1-1/8 | 3 | 4-1/2 | 13 | 4-5/8 | 35-3/8 | 12 | 9 | 2-1/4 | 31-5/8 | 25-1/8 | 16-1/2 | 10-1/2 | 52-1/2 | 16-1/2 | 3-1/4 | 1/2 X 1/4 |

NOTES:

Suction flanges are standard 125# ANSI drilling. Optional 250# ANSI flanges are available.

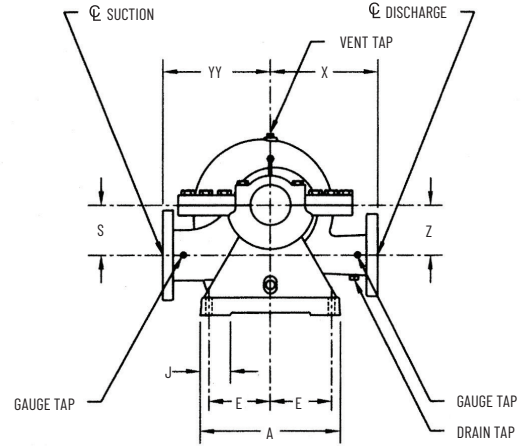
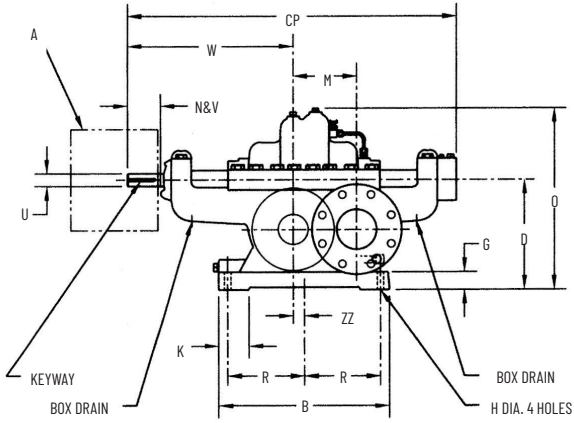
Discharge flanges are standard 250# ANSI drilling.

All dimensions are in inches unless noted.

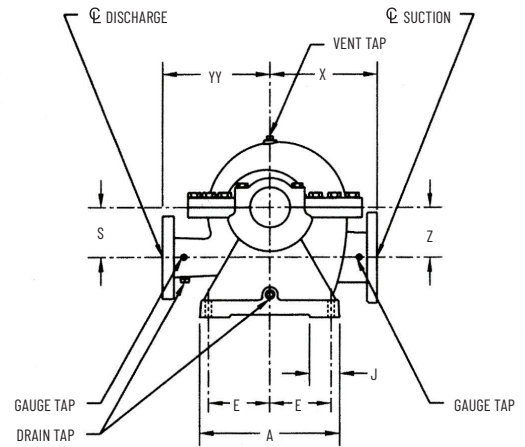
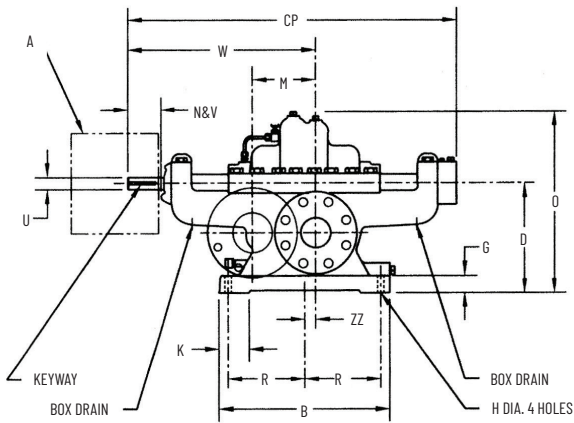
Rotation is always viewed from the driver end. For C.C.W. rotation, suction and discharge positions will be on opposite sides of that shown and dimensions in the end view will be reversed.

Not for construction, installation, or application purposes unless certified. Dimensions shown may vary due to normal manufacturing tolerances.

Dimensional Data – BASIC PUMP DIMENSIONS 5972



CLOCKWISE



COUNTERCLOCKWISE

| PUMP | SUCTION | DISCH | A | B | D | E | G | H | J | K | M | N & V | O | R | S | U | W (CW) | W (CCW) | X | Z | CP | YY | ZZ | KEYWAY |
|-------------|---------|-------|----|--------|----|-------|-------|-------|-------|-------|--------|--------|--------|---------|---|--------|----------|---------|--------|---|----------|--------|-------|-----------|
| 2" 5972 | 3 | 2 | 11 | 16 | 10 | 4-3/4 | 1-3/4 | 5/8 | 3 | 3 | 5-3/8 | 2-7/8 | 16-1/2 | 7-1/4 | 5 | 1-1/16 | 14-11/16 | 16-9/16 | 9 | 5 | 29-9/16 | 9 | 15/16 | 1/4 X 1/8 |
| 2-1/2" 5972 | 3 | 2-1/2 | 11 | 16 | 10 | 4-3/4 | 1-3/4 | 5/8 | 3 | 3 | 5-3/4 | 2-7/8 | 17 | 7-1/4 | 5 | 1-1/16 | 14-5/8 | 16-5/8 | 9 | 5 | 29-9/16 | 9 | 1 | 1/4 X 1/8 |
| 3" 5972 | 4 | 3 | 14 | 17-1/8 | 11 | 6-1/8 | 1-3/4 | 5/8 | 3 | 3 | 6-3/8 | 3-5/8 | 18-1/4 | 7-11/16 | 5 | 1-1/4 | 16-5/8 | 18-7/8 | 10-3/4 | 5 | 32-13/16 | 10-3/4 | 1-1/8 | 1/4 X 1/8 |
| 5" 5972 | 8 | 5 | 20 | 26-5/8 | 18 | 8-3/4 | 2-1/4 | 1-1/8 | 4-1/2 | 4-1/2 | 12-1/8 | 4-9/16 | 26-3/4 | 12-1/6 | 7 | 2 | 23-7/16 | 29-7/16 | 13-1/2 | 7 | 50-7/8 | 13-1/2 | 3 | 1/2 X 1/4 |

NOTES:

Suction flanges are standard 125# ANSI drilling. Optional 250# ANSI flanges are available.

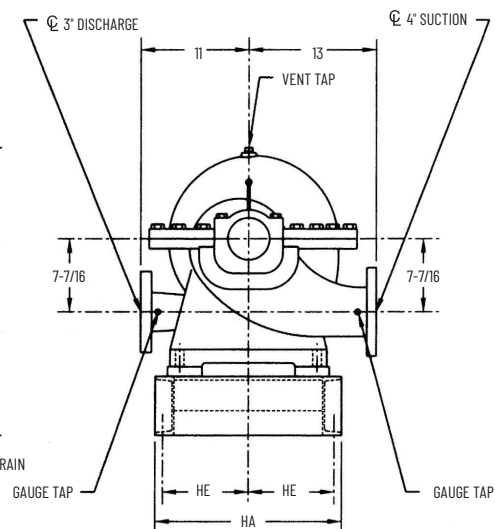
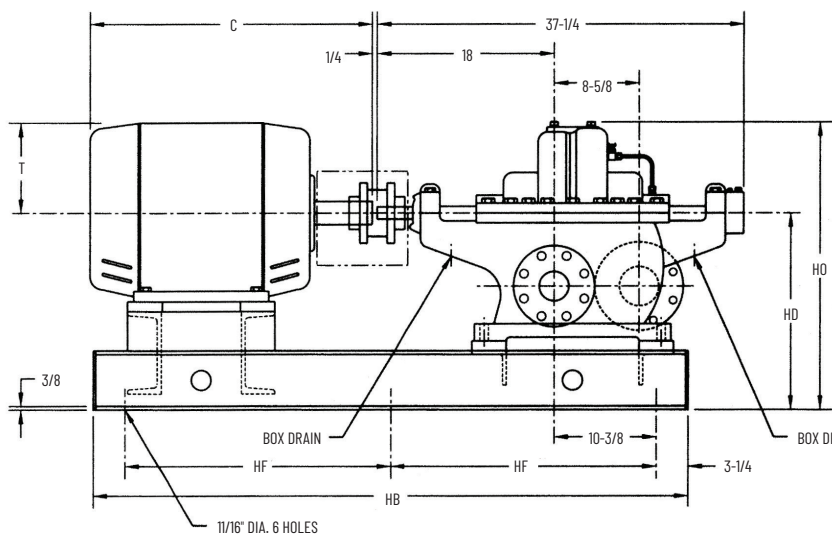
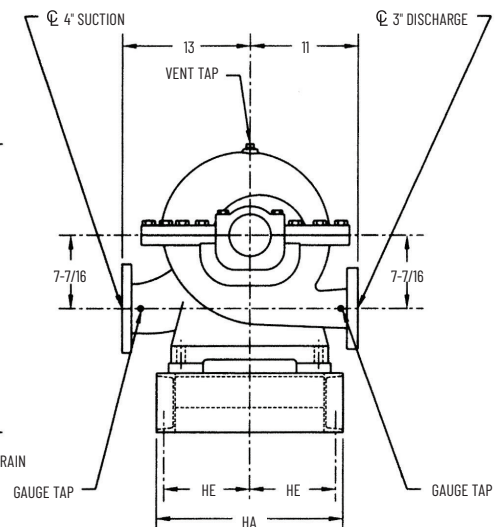
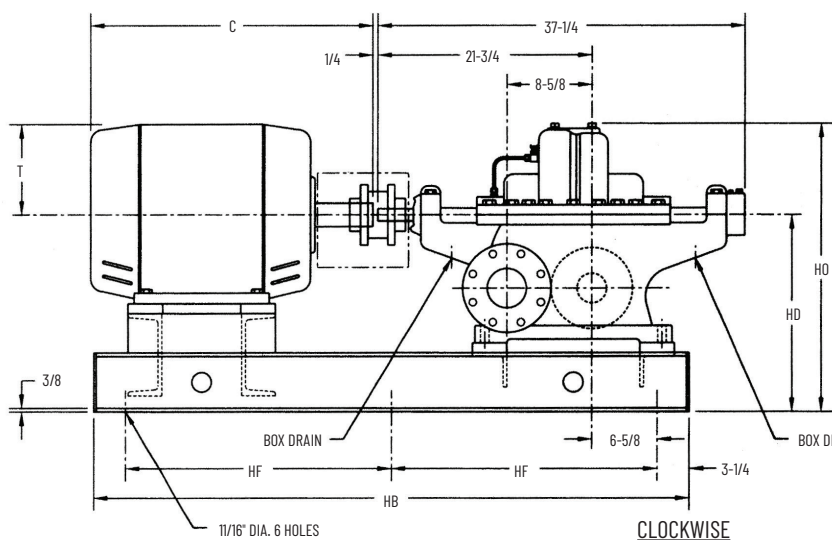
Discharge flanges are standard 250# ANSI drilling.

All dimensions are in inches unless noted.

Rotation is always viewed from the driver end. For C.C.W. rotation, suction and discharge positions will be on opposite sides of that shown and dimensions in the end view will be reversed.

Not for construction, installation, or application purposes unless certified. Dimensions shown may vary due to normal manufacturing tolerances.

Dimensional Data – SETTING PLAN 3" 5922 STRUCTURAL BASE



| MOTOR FRAME SIZE | UNIT DIMENSIONS | | | | | |
|------------------|-----------------|--------|----|--------|----|--------|
| | BASE | | | | | |
| | HA | HB | HD | HE | HF | HO |
| 213T-215T | 22-1/4 | 48-1/2 | 18 | 10-1/2 | 21 | 27-1/4 |
| 254T-284TS | 22-3/4 | 54-1/2 | 20 | 10-5/8 | 24 | 29-1/4 |
| 286T-364TS | 22-3/4 | 60-1/2 | 20 | 10-5/8 | 27 | 29-1/4 |

| MOTOR DIMENSIONS | |
|------------------|---|
| C | T |
| | |

NOTES:

Suction flanges are standard 125# ANSI drilling. Optional 250# ANSI flanges are available.

Discharge flanges are standard 250# ANSI drilling.

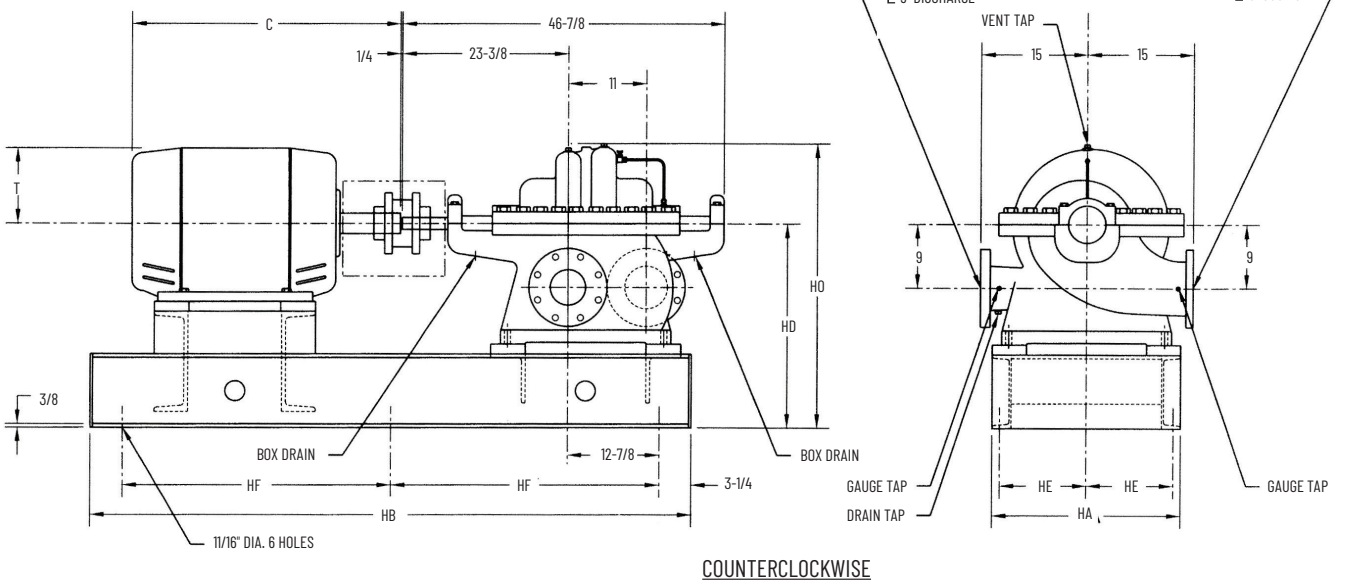
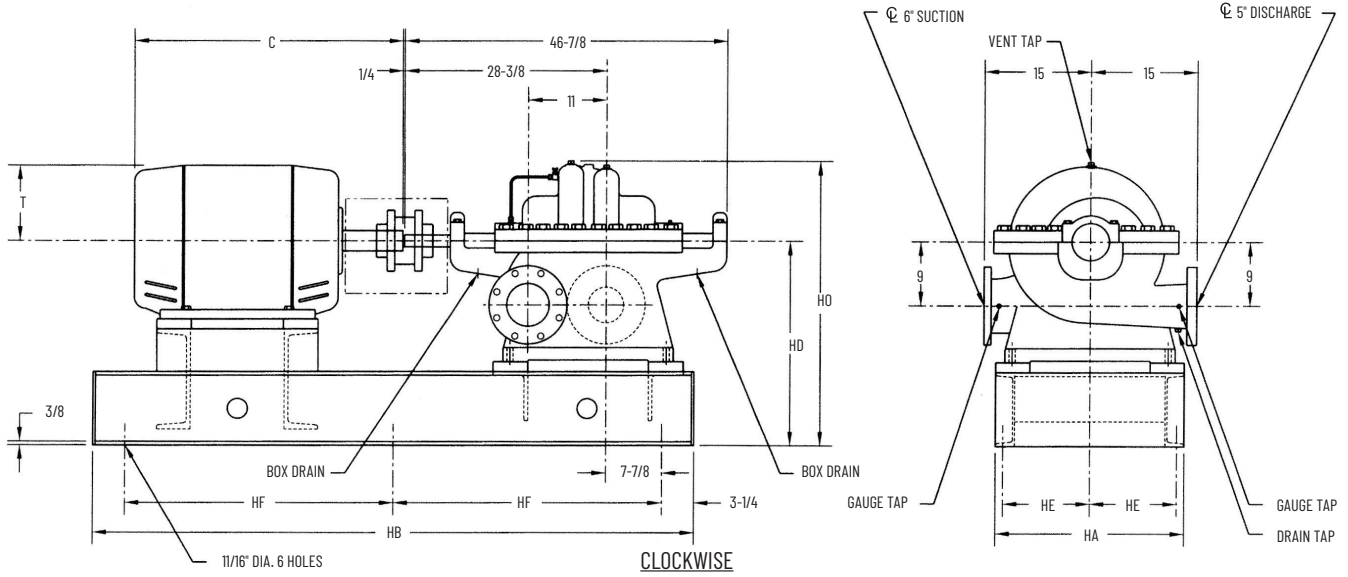
All dimensions are in inches unless noted.

Rotation is always viewed from driver end.

Bases are designed to be completely filled with grout.

Not for construction, installation, or application purposes unless certified. Dimensions shown may vary due to normal manufacturing tolerances.

Dimensional Data – SETTING PLAN 5" 5922 STRUCTURAL BASE



| MOTOR FRAME SIZE | UNIT DIMENSIONS | | | | | |
|------------------|-----------------|--------|----|--------|----|--------|
| | BASE | | | | | |
| | HA | HB | HD | HE | HF | HO |
| 254T-256T | 30-1/2 | 60-1/2 | 24 | 14-1/2 | 27 | 35-1/4 |
| 284T-365TS | 30-1/2 | 66-1/2 | 24 | 14-1/2 | 30 | 35-1/4 |
| 404T-405TS | 31-1/4 | 72-1/2 | 26 | 14-3/4 | 33 | 37-1/4 |
| 444TS-444T | 31-1/4 | 84-1/2 | 26 | 14-3/4 | 39 | 37-1/4 |

| MOTOR DIMENSIONS | |
|------------------|---|
| C | T |
| | |

NOTES:

Suction flanges are standard 125# ANSI drilling. Optional 250# ANSI flanges are available.

Discharge flanges are standard 250# ANSI drilling.

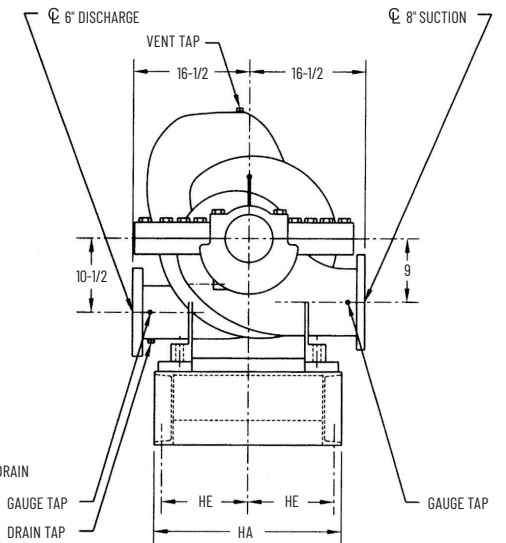
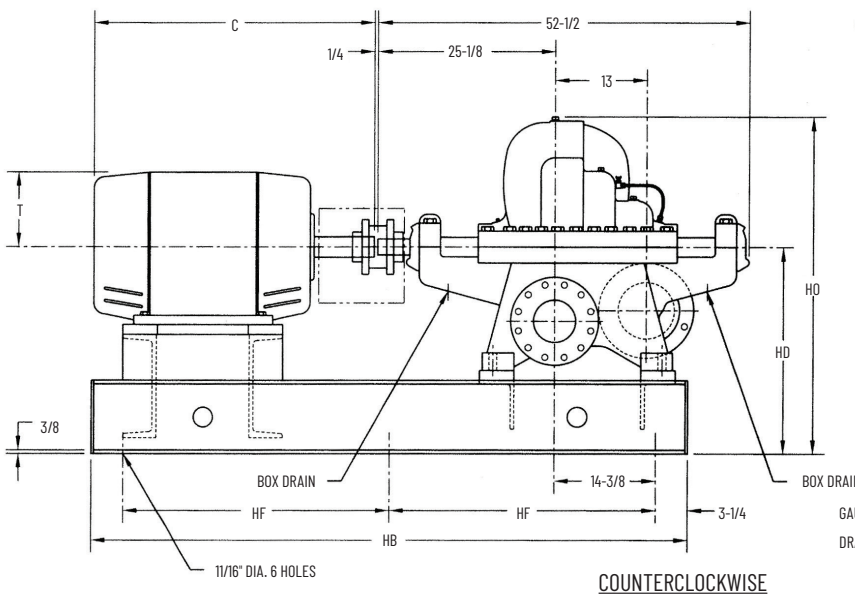
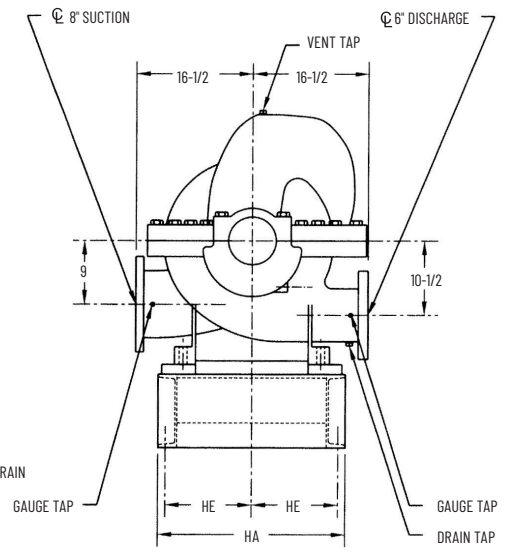
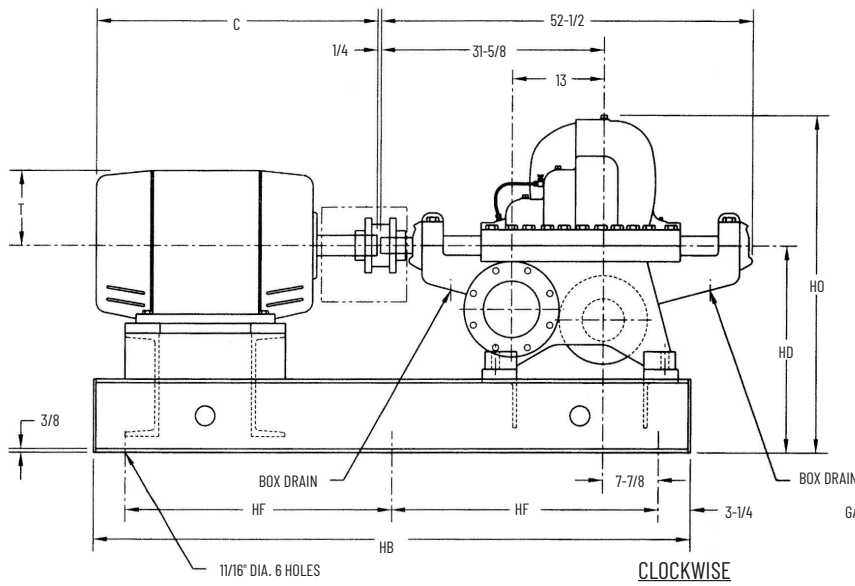
All dimensions are in inches unless noted.

Rotation is always viewed from driver end.

Bases are designed to be completely filled with grout.

Not for construction, installation, or application purposes unless certified. Dimensions shown may vary due to normal manufacturing tolerances.

Dimensional Data – SETTING PLAN 6" 5922 STRUCTURAL BASE



| UNIT DIMENSIONS | | | | | | |
|------------------|--------|--------|--------|--------|----|--------|
| MOTOR FRAME SIZE | BASE | | | | | |
| | HA | HB | HD | HE | HF | HO |
| 326T-404TS | 31-1/4 | 72-1/2 | 26-1/2 | 14-3/4 | 33 | 44-7/8 |
| 405T-445T | 31-1/4 | 84-1/2 | 26-1/2 | 14-3/4 | 39 | 44-7/8 |

| MOTOR DIMENSIONS | |
|------------------|---|
| C | T |
| | |

NOTES:

Suction flanges are standard 125# ANSI drilling. Optional 250# ANSI flanges are available.

Discharge flanges are standard 250# ANSI drilling.

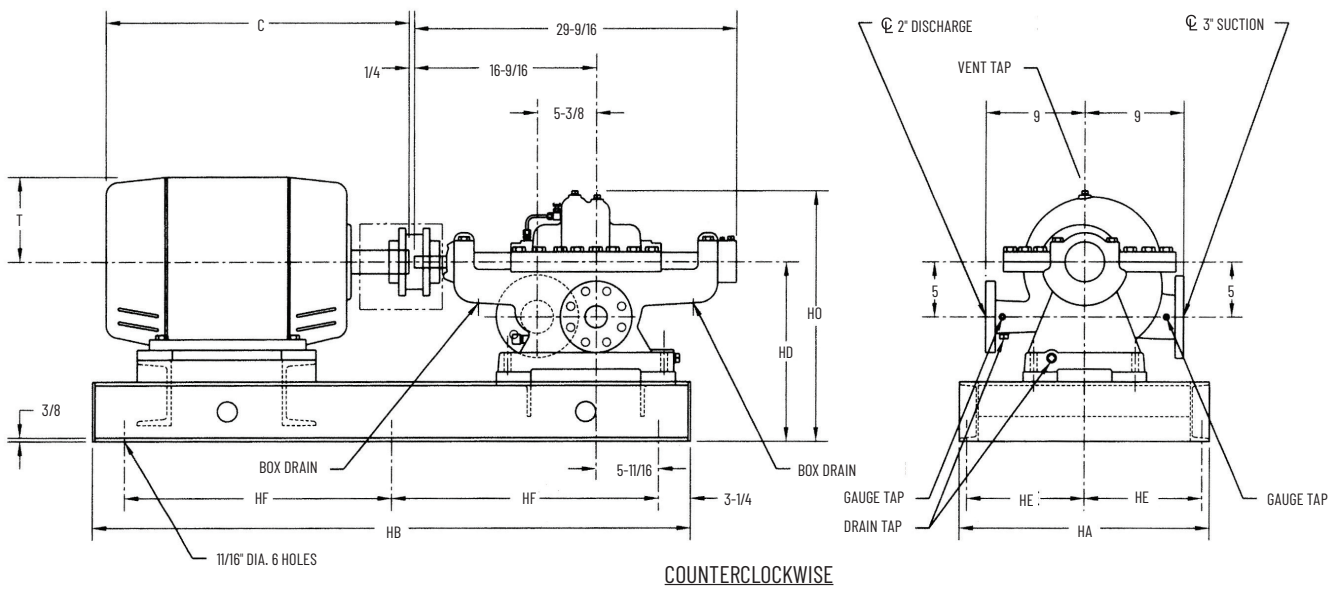
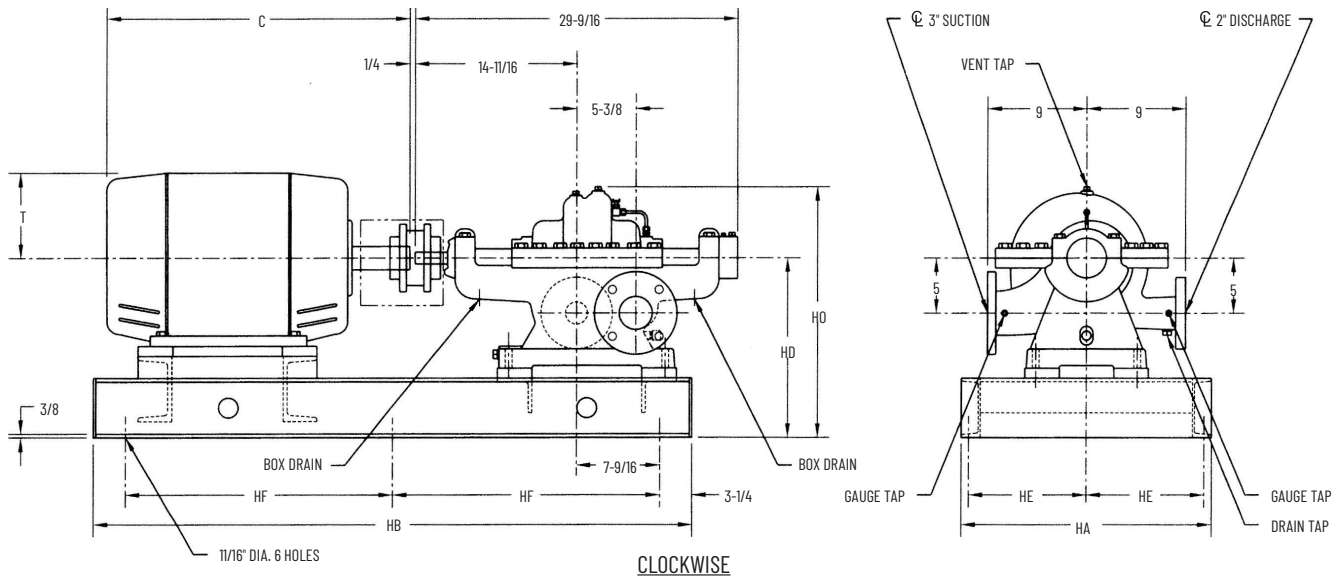
All dimensions are in inches unless noted.

Rotation is always viewed from driver end.

Bases are designed to be completely filled with grout.

Not for construction, installation, or application purposes unless certified. Dimensions shown may vary due to normal manufacturing tolerances.

Dimensional Data – SETTING PLAN 2" 5972 STRUCTURAL BASE



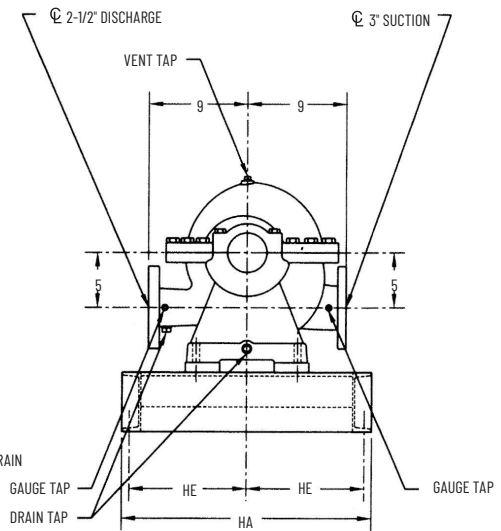
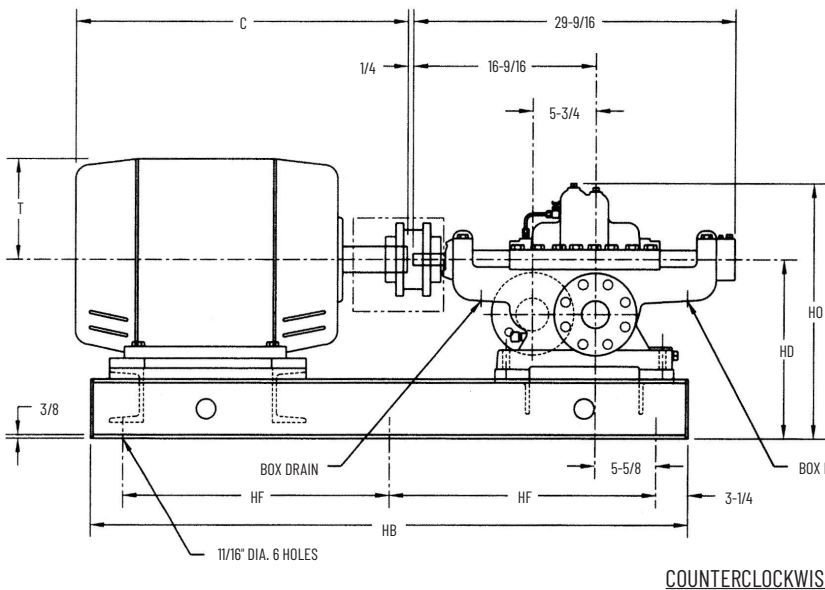
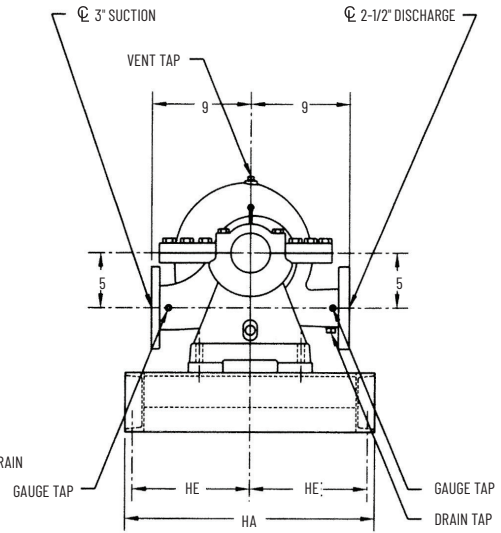
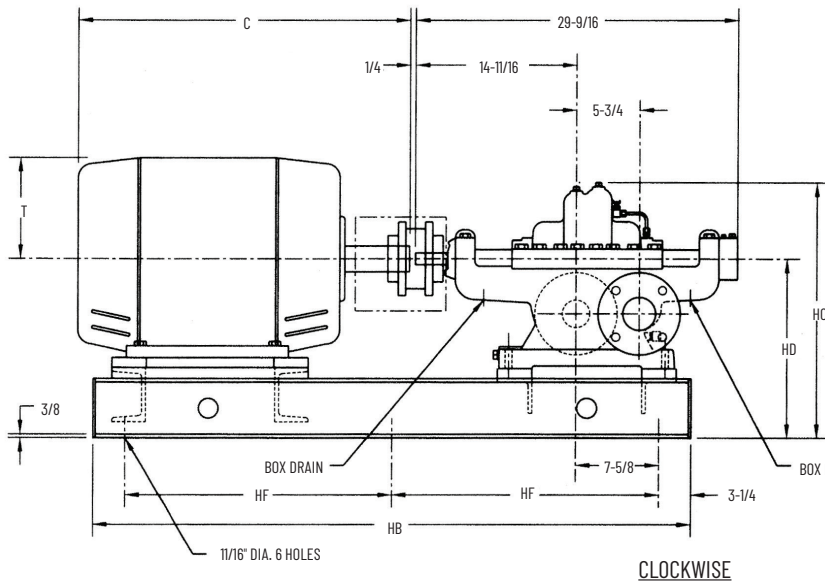
| MOTOR FRAME SIZE | UNIT DIMENSIONS | | | | | |
|------------------|-----------------|--------|----|--------|----|--------|
| | HA | HB | HD | HE | HF | HO |
| 143T-215T | 22-1/4 | 42-1/2 | 15 | 10-1/2 | 18 | 21-1/2 |
| 254T-286TS | 22-1/4 | 48-1/2 | 15 | 10-1/2 | 21 | 21-1/2 |
| 324TS-326T | 22-3/4 | 54-1/2 | 17 | 10-5/8 | 24 | 23-1/2 |

| MOTOR DIMENSIONS | |
|------------------|---|
| C | T |
| | |

NOTES:

- Suction flanges are standard 125# ANSI drilling. Optional 250# ANSI flanges are available.
- Discharge flanges are standard 250# ANSI drilling.
- All dimensions are in inches unless noted.
- Rotation is always viewed from driver end.
- Bases are designed to be completely filled with grout.
- Not for construction, installation, or application purposes unless certified. Dimensions shown may vary due to normal manufacturing tolerances.

Dimensional Data – SETTING PLAN 2 ϕ " 5972 STRUCTURAL BASE



| UNIT DIMENSIONS | | | | | | |
|------------------|--------|--------|----|--------|----|--------|
| MOTOR FRAME SIZE | BASE | | | | | |
| | HA | HB | HD | HE | HF | HO |
| 143T-215T | 22-1/4 | 42-1/2 | 15 | 10-1/2 | 18 | 21-7/8 |
| 254T-324TS | 22-1/4 | 48-1/2 | 15 | 10-1/2 | 21 | 21-7/8 |
| 326TS-365T | 22-3/4 | 54-1/2 | 17 | 10-5/8 | 24 | 23-7/8 |

| MOTOR DIMENSIONS | |
|------------------|---|
| C | T |
| | |

NOTES:

Suction flanges are standard 125# ANSI drilling. Optional 250# ANSI flanges are available.

Discharge flanges are standard 250# ANSI drilling.

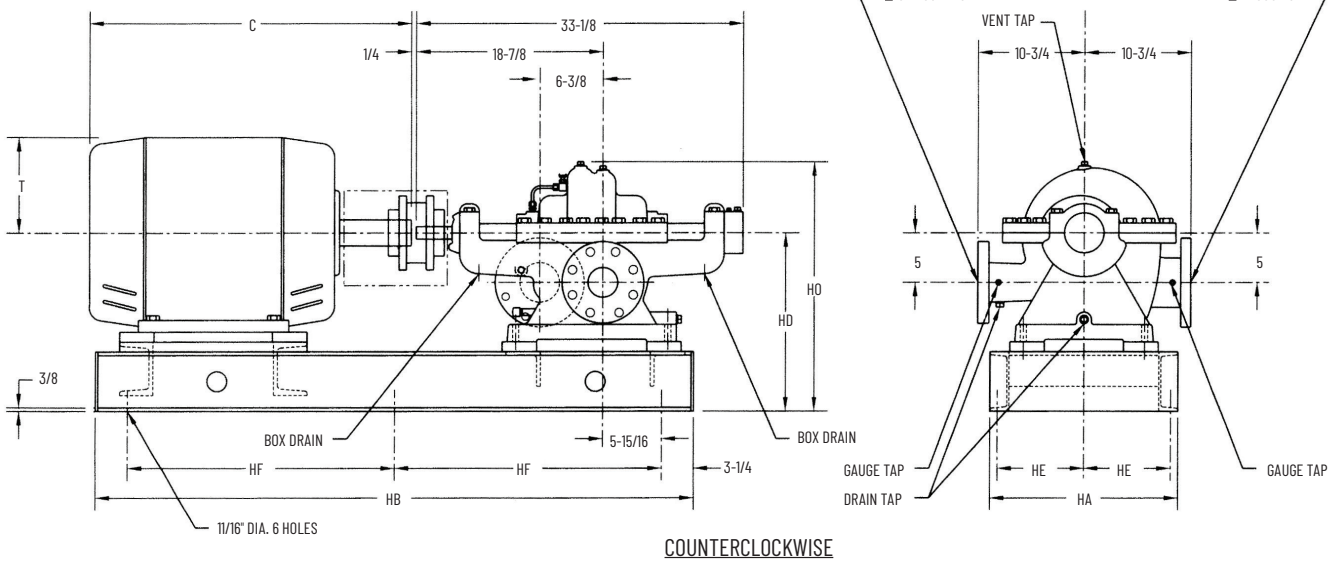
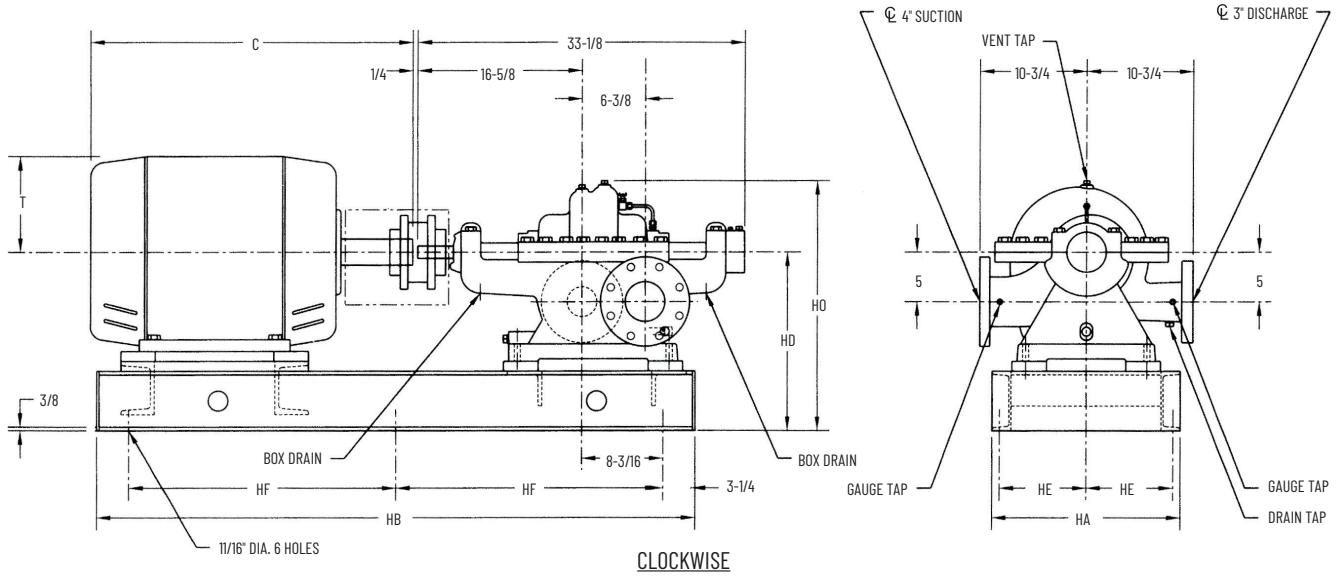
All dimensions are in inches unless noted.

Rotation is always viewed from driver end.

Bases are designed to be completely filled with grout.

Not for construction, installation, or application purposes unless certified. Dimensions shown may vary due to normal manufacturing tolerances.

Dimensional Data – SETTING PLAN 3" 5972 STRUCTURAL BASE



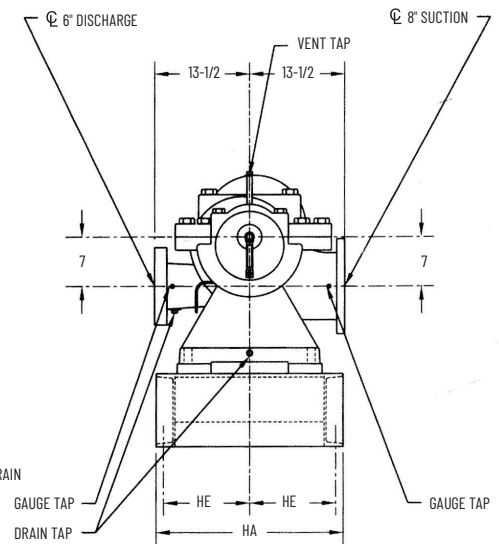
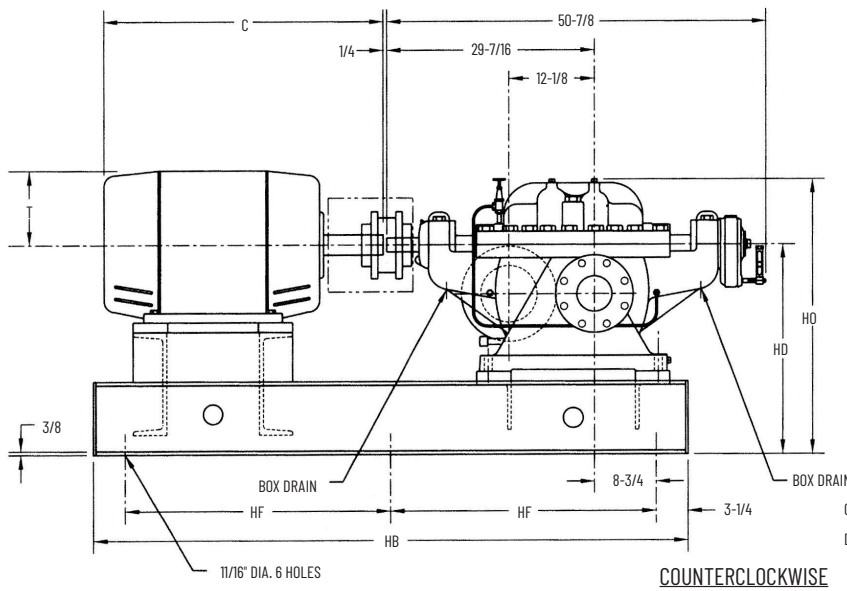
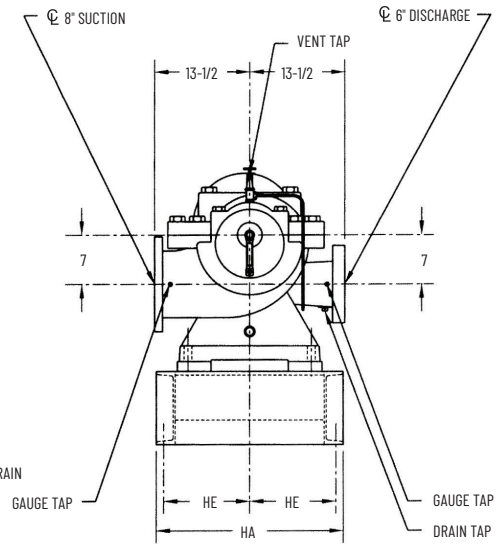
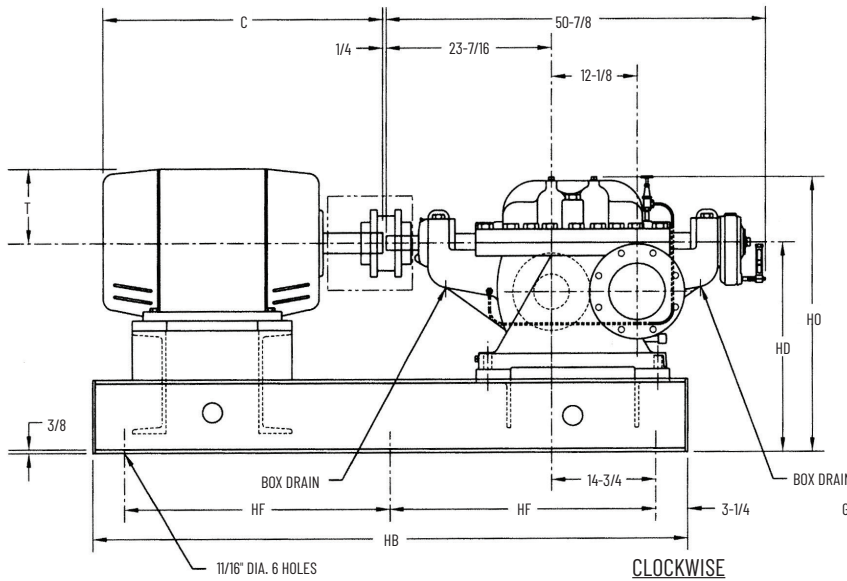
| MOTOR FRAME SIZE | UNIT DIMENSIONS | | | | | |
|------------------|-----------------|--------|----|--------|----|--------|
| | HA | HB | HD | HE | HF | HO |
| 145T-184T | 22-1/4 | 42-1/2 | 16 | 10-1/2 | 18 | 23-1/8 |
| 213T-254T | 22-1/4 | 48-1/2 | 16 | 10-1/2 | 21 | 23-1/8 |
| 256T-365TS | 22-3/4 | 54-1/2 | 18 | 10-5/8 | 24 | 25-1/8 |
| 365T-404T | 30-1/2 | 60-1/2 | 18 | 14-1/2 | 27 | 25-1/8 |

| MOTOR DIMENSIONS | |
|------------------|---|
| C | T |
| | |

NOTES:

- Suction flanges are standard 125# ANSI drilling. Optional 250# ANSI flanges are available.
- Discharge flanges are standard 250# ANSI drilling.
- All dimensions are in inches unless noted.
- Rotation is always viewed from driver end.
- Bases are designed to be completely filled with grout.
- Not for construction, installation, or application purposes unless certified. Dimensions shown may vary due to normal manufacturing tolerances.

Dimensional Data – SETTING PLAN 5" 5972 STRUCTURAL BASE



| MOTOR FRAME SIZE | UNIT DIMENSIONS | | | | | |
|------------------|-----------------|--------|----|--------|----|--------|
| | BASE | | | | | |
| | HA | HB | HD | HE | HF | HO |
| 215T | 30-1/2 | 60-1/2 | 25 | 14-1/2 | 27 | 34-1/4 |
| 254T-286TS | 30-1/2 | 66-1/2 | 25 | 14-1/2 | 30 | 34-1/4 |
| 324T-444TS | 31-1/4 | 72-1/2 | 27 | 14-3/4 | 33 | 36-1/4 |
| 445TS-8188S | 31-1/4 | 84-1/2 | 27 | 14-3/4 | 39 | 36-1/4 |

| MOTOR DIMENSIONS | |
|------------------|---|
| C | T |
| | |

NOTES:

Suction flanges are standard 125# ANSI drilling. Optional 250# ANSI flanges are available.

Discharge flanges are standard 250# ANSI drilling.

All dimensions are in inches unless noted.

Rotation is always viewed from driver end.

Bases are designed to be completely filled with grout.

Not for construction, installation, or application purposes unless certified. Dimensions shown may vary due to normal manufacturing tolerances.

Typical Specifications – MULTI-STAGE HORIZONTAL SPLIT CASE PUMPS

| Pump Model | 5922 | | | 5972A | | | 5972 |
|---|---------|---------|--------|---------|---------|---------|---------|
| Pump Size (Discharge Size) | 3 | 5 | 6 | 2 | 2-1/2 | 3 | 5 |
| Suction Size | 4 | 6 | 8 | 3 | 3 | 4 | 8 |
| Number of Stages | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Nominal Wear Ring Clearance | .019 | .020 | .024 | .018 | .018 | .019 | .020 |
| Impeller: | | | | | | | |
| Weight (lbs.) | 13.00 | 15.00 | 17.00 | 9.00 | 9.00 | 9.00 | 11.00 |
| Eye Area (sq. inches) | 14.00 | (2) | 40.60 | 5.90 | 8.60 | 9.80 | 24.20 |
| WR ² (lb-ft ²) | 4.30 | 8.90 | 16.70 | 1.00 | 1.10 | 1.00 | 3.20 |
| Sphere Size, Maximum | 15/32 | (3) | 15/16 | 7/32 | 5/16 | 1/2 | 5/8 |
| Shaft Diameter: | | | | | | | |
| at Impeller | 1-11/16 | 2-1/4 | 3-1/8 | 1-9/16 | 1-9/16 | 1-11/16 | 2-5/8 |
| at Sleeve | 1-5/8 | 2-1/8 | 2-7/8 | 1-1/2 | 1-1/2 | 1-5/8 | 2-3/8 |
| at Thrust/Radial Bearing | 1.38 | 1.77 | 2.36 | 1.18 | 1.18 | 1.38 | 2.36 |
| at Coupling | 1-1/4 | 1-11/16 | 2-1/4 | 1-1/16 | 1-1/16 | 1-1/4 | 2 |
| Center to Center of Bearings | 29-1/4 | 37-1/8 | 41-3/4 | 22-9/16 | 22-9/16 | 24-9/16 | 36-7/16 |
| Thrust Bearing No. | 5207 | 5309 | 7312BG | 5306 | 5306 | 5307 | 7312BG |
| Radial Bearing No. | 6307 | 6309 | 6312 | 6306 | 6306 | 5307 | 6312 |
| Sealing Box: | | | | | | | |
| Packing: | | | | | | | |
| Size | 3/8 | 1/2 | 1/2 | 3/8 | 3/8 | 3/8 | 1/2 |
| No. Rings per Box | 6 | 6 | 8 | 6 | 6 | 6 | 8 |
| Seal Cage Width | 3/4 | 1 | 7/8 | 3/4 | 3/4 | 3/4 | 7/8 |
| Mechanical Seal: | | | | | | | |
| Type (Standard) | (4) | (4) | (4) | (4) | (4) | (4) | (4) |
| Recommended Flush Water: | | | | | | | |
| Pressure (psi) | (5) | (5) | (5) | (5) | (5) | (5) | (5) |
| Flow (GPM) | 1/2-1 | 1/2-1 | 1/2-1 | 1/2-1 | 1/2-1 | 1/2-1 | 1/2-1 |
| Sleeve OD | 1-7/8 | 2-1/2 | 3-1/2 | 1-3/4 | 1-3/4 | 2 | 2-7/8 |
| Box ID | 2-5/8 | 3-1/2 | 4-1/2 | 2-1/2 | 2-1/2 | 2-3/4 | 3-7/8 |
| Box Depth | 3 | 4 | 5-1/4 | 3 | 3 | 3 | 5-1/8 |
| Box Inlet Tap Size (NPT) | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 |
| Casing Drain Tap Size: | | | | | | | |
| 1st Stage | 1/4 | 1/4 | 1/2 | 3/8 | 3/8 | 3/8 | 1/2 |
| 2nd Stage | 1/2 | 1/2 | 3/4 | 1/2 | 1/2 | 1/2 | 1/2 |
| Vent/Priming Tap Size (NPT) | 1/2 | 1/2 | 3/4 | 3/8 | 3/8 | 3/8 | 1/2 |
| Gauge Tap Size: | | | | | | | |
| Suction & Discharge (NPT) | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 |
| Hydrostatic Test, PSI (6) | 375 | 450 | 525 | 450 | 450 | 450 | 750 |
| Casing Working, PSI (6) | 300 | 350 | 300 | 300 | 300 | 300 | 500 |
| Operating Temperature °F (18) | 160 | 160 | 160 | 160 | 160 | 160 | 160 |
| Nominal Casing Thickness | 1/2 | 5/8 | 3/4 | 3/8 | 7/16 | 1/2 | 3/4 |
| Anchor Bolt Size, recommended | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 |
| Shipping Weight, Basic Pump Only (lbs.) | 645 | 1460 | 2000 | 300 | 350 | 425 | 1490 |

(1) All dimensions are in inches.

(2) K5T1A&B impellers have an eye area of 18.90 sq. inches and K5T1C&D impellers have an eye area of 24.6 sq. inches.

(3) K5T1A&B impellers can pass a 5/8" sphere and K5T1C&D impellers can pass a 13/32" sphere.

(4) John Crane type 21 or equal.

(5) One to 10 PSI above suction pressure on 1st stage seal only.

(6) If higher values are required, contact Application Engineering.

Technical Data

| 5900 Multi-Stage Horizontal Split Case Pumps Construction Features | |
|---|---|
| Type | Horizontal, Multi-stage, Impellers |
| Rotation | CW or CCW facing coupling end, specify on order |
| Casing | Axially split, 2-piece doweled, single volute, integral bearing supports, casing wear rings, one piece standing diaphragm |
| Nozzles | Lower case flanged side suction and discharge |
| Impellers | Single suction, back to back for hydraulic balance, radial flow, enclosed, impeller wear rings |
| Shaft | Reversible for rotation |
| Shaft Sleeve | Straight or bell (Mfg. Option) type for impeller positioning, and locking nut |
| Stuffing Box | Packing, with seal tap and box bushing (seperate) |
| | Mechanical seals, single with one piece gland (optional) |
| Gland | Two swing type bolts, 2 piece, split interlocking |
| Frame | Integral foot and bearing arms in lower casing |
| Bearing-radial | Models 5922 double row, ball, cartridge housing |
| | Models 5972 single row ball, cartridge housing |
| Bearing-thrust | Double row ball (except double angular on 6" 5922 and 5" 5972) cartridge housing |
| Lubricaton | Grease, except 5" 5972 thrust bearing is oil (water-cooled) |
| Auxiliary Connections | Volute priming, drain and suction side stuffing box seal |
| | Suction and discharge gauge connections |
| Baseplate: Fabricated Steel | Welded structural steel |
| | Drip tray on fabricated base plate (optional) |
| Couplings | Flexible sleeve (Mfg. Option) |
| | Steelflex (optional) |
| | Gear type (optional) |
| | Clutch (optional) |
| Coupling Guard | One piece, closed, base mount |

Maximum Operating Temperatures

For working temperatures above 160 degrees F (71 degrees C) contact Application Engineering for construction parameters.

Technical Data

| Standard Fitted Pumps | | |
|-------------------------------------|---|---------------------------------------|
| Description | Material | Specification (1) |
| Impeller, 1st Stage | Bronze | B584-AL875 |
| Impeller, 2nd Stage | Bronze | B584-AL875 |
| Casing, Lower Half | Cast Iron | A48-CL30 |
| Casing, Upper Half | Cast Iron | A48-CL30 |
| Shaft | Steel | A311, Class B, Grade 1141 or 1144 (2) |
| Cap, Bearing Housing | Cast Iron | A48-CL30 |
| Ring Half, Seal Water | Bronze | B584-AL836 |
| Ring, Oil | Stainless Steel | A582-416 |
| Sleeve, Shaft | Bronze | B505-AL932 |
| Wear Ring, Casing | Cast Iron | A48-CL30 |
| Wear Ring, Impeller | Bronze | B505-AL932 |
| Collar, Shaft | Steel | A108 GR1018 |
| Gland Half, Interlocking | Bronze | B584-AL836 |
| O-ring, Sleeve | Rubber | Commercial |
| O-ring, Bearing Housing Cover | Rubber | Commercial |
| Diaphragm, Casing | Cast Iron | A48-CL30 |
| O-ring, Casing Diaphragm | Rubber | Commercial |
| Brushing, Casing Diaphragm | Bronze | B505-AL932 |
| Spacer, Bearing Housing | Stainless Steel | A582-416 |
| Lock Collar, Shaft Sleeve | Stainless Steel | A582-416 |
| Bushing, Sealing Box | Bronze | B505-AL932 |
| Key, Impeller | Steel | A108 GR1018 |
| End Cap, Bearing Housing | Steel | Commercial |
| Deflector | Rubber | Neoprene |
| Gasket, Casing | Tagboard | F104 |
| Housing, Thrust Bearing | Cast Iron | A48-CL30 |
| Housing, Radial Bearing | Cast Iron | A48-CL30 |
| Restrainer, Oil Ring | Stainless Steel | A582-416 |
| Cooling Coil | Copper | B75 |
| Lock Collar, Oil Ring Restrainer | Stainless Steel | A582-416 |
| Lip Seal | Steel & Rubber | Commercial |
| Pin, Dowel | Steel | Commercial |
| Cover, Bearing Housing | Cast Iron | A48-CL30 |
| Cover, Thrust Bearing Housing Outer | Cast Iron | A48-CL30 |
| Cover, Thrust Bearing Housing Inner | Cast Iron | A48-CL30 |
| Cover, Radial Bearing Housing | Cast Iron | A48-CL30 |
| Lip Seal | Steel & Rubber | Commercial |
| Locknut, Bearing | Steel | Commercial |
| Lockwasher, Bearing | Steel | Commercial |
| Bearing, Radial | Steel | Commercial |
| Bearing, Thrust | Steel | Commercial |
| Snap-ring, Bearing | Steel | SAE 1075 |
| Spacer, Center Sleeve Adapter | Stainless Steel | A582-416 |
| Packing | Synthetic Packing, Graphite Impregnated | - |
| Nuts, Shaft Sleeve | Bronze | B505-AL932 |
| Key, Coupling | Steel | A108 GR1018 |
| Gland, Solid | Bronze | BB584-AL836 |
| Mechanical Seal | - | (2) (3) |

(1) All material designations are ASTM unless otherwise noted, and are for description of chemistry only. (2) Manufacturer's option
 (3) Bronze sleeves and solid steel glands are standard when optional mechanical seals are used.

Technical Data

| Iron Fitted Pumps | | |
|-------------------------------------|---|-------------------|
| Description | Material | Specification (1) |
| Impeller, 1st Stage | Cast Iron | A48-CL30 |
| Impeller, 2nd Stage | Cast Iron | A48-CL30 |
| Casing, Lower Half | Cast Iron | A48-CL30 |
| Casing, Upper Half | Cast Iron | A48-CL30 |
| Shaft | Steel | A108-C1141 (2) |
| Cap, Bearing Housing | Cast Iron | A48-CL30 |
| Ring Half, Seal Water | Cast Iron | A48-CL30 |
| Ring, Oil | Stainless Steel | A582-416 |
| Sleeve, Shaft | Stainless Steel | A582-416 |
| Wear Ring, Casing | Cast Iron | A48-CL30 |
| Wear Ring, Impeller | Cast Iron | A48-CL30 |
| Collar, Shaft | Steel | A108 GR1018 |
| Gland Half, Interlocking | Cast Iron | A48-CL30 |
| O-ring, Sleeve | Rubber | Commercial |
| O-ring, Bearing Housing Cover | Rubber | Commercial |
| Diaphragm, Casing | Cast Iron | A48-CL30 |
| O-ring, Casing Diaphragm | Rubber | Commercial |
| Bushing, Casing Diaphragm | Steel | Commercial |
| Spacer, Bearing Housing | Stainless Steel | A582-416 |
| Lock Collar, Shaft Sleeve | Stainless Steel | A582-416 |
| Bushing, Sealing Box | Steel | Commercial |
| Key, Impeller | Steel | A108 GR1018 |
| End Cap, Bearing Housing | Steel | Commercial |
| Deflector | Rubber | Neoprene |
| Gasket, Casing | Tagboard | - |
| Housing, Thrust Bearing | Cast Iron | A48-CL30 |
| Housing, Radial Bearing | Cast Iron | A48-CL30 |
| Restrainer, Oil Ring | Stainless Steel | A582-416 |
| Cooling Coil | Copper | B75 |
| Lock Collar, Oil Ring Restrainer | Stainless Steel | A582-416 |
| Lip Seal | Steel & Rubber | Commercial |
| Pin, Dowel | Steel | Commercial |
| Cover, Bearing Housing | Cast Iron | A48-CL30 |
| Cover, Thrust Bearing Housing Outer | Cast Iron | A48-CL30 |
| Cover, Thrust Bearing Housing Inner | Cast Iron | A48-CL30 |
| Cover, Radial Bearing Housing | Cast Iron | A48-CL30 |
| Lip Seal | Steel & Rubber | Commercial |
| Locknut, Bearing | Steel | Commercial |
| Lockwasher, Bearing | Steel | Commercial |
| Bearing, Radial | Steel | Commercial |
| Bearing, Thrust | Steel | Commercial |
| Snap-ring, Bearing | Steel | SAE 1075 |
| Spacer, Center Sleeve Adapter | Stainless Steel | A582-416 |
| Packing | Synthetic Packing, Graphite Impregnated | - |
| Nuts, Shaft Sleeve | Steel | Commercial |
| Key, Coupling | Steel | A108 GR1018 |
| Gland, Solid | Cast Iron | A48-CL30 |
| Mechanical Seal | - | (2) (3) |

(1) All material designations are ASTM unless otherwise noted, and are for description of chemistry only.

(2) Manufacturer's option. (3) Bronze sleeves and solid steel glands are standard when optional mechanical seals are used.

Specifications – 5900 SERIES

Multi-Stage Horizontal Split Case Pumps Data

General

The Contractor will furnish and install a quantity of _____ Fairbanks Nijhuis® _____" Model 59 _____ multi-stage horizontal split case pumping units built in _____ rotation.

Conditions of Operation

Each pump shall be capable of operating at the following hydraulic design conditions:

| <u>Design Condition</u> | <u>Primary Condition</u> | <u>Secondary Condition</u> |
|-------------------------|--------------------------|----------------------------|
| Capacity | _____ GPM | _____ GPM |
| Total Dynamic Head | _____ TDH | _____ TDH |
| Efficiency | _____ % | _____ % |
| Maximum Speed | _____ RPM | _____ RPM |
| Minimum Shutoff Head | _____ Feet | _____ Feet |
| Maximum Shutoff Head | _____ Feet | |
| NPSHR | _____ Feet | _____ Feet |
| Maximum Solid Size | _____ Inches | |

Net positive suction head available (NPSHA) at the centerline of the impeller is _____' at _____GPM.

Liquid being pumped is _____ with a specific gravity of _____, a viscosity of _____, and a temperature range from _____°F to _____°F.

Rotation

Rotation shall be [CCW] [CW] when viewed from the driver end of the pump, and the pump shall discharge to the [right] [left] side.

Impeller

Impellers shall be single suction, enclosed type, and statically balanced. Impellers are secured against rotation on the shaft by means of a key and screw locked shaft sleeves. Impellers are to be positioned back to back to minimize hydraulic loads.

Shaft

The pump shaft shall be manufactured of high quality heat treated steel of sufficient diameter to carry maximum loads with a minimum of deflection. The shaft shall be accurately machined along its entire length. Renewable type shaft sleeves shall be provided to protect the shaft through the sealing box area. The shaft sleeves shall also serve to accurately position the impellers on the shaft and within the casing. Sleeves shall be held in position against the impeller hubs by locknuts or sleeves threaded directly on the shaft. The shaft is to be straight bore with keyway at the coupling end.

Outboard double-row [grease][oil] lubricated ball bearings functioning as combined radial and thrust assemblies are to be supplied. A single-row deep groove inboard (radial) bearing assembly shall be supplied. Bearing assemblies contained in cartridge type housings pressed onto the shaft are to be provided. Bearing housings shall be positioned by dowel pins in the lower casing bearing bracket and by caps bolted to the brackets.

Casing

Casing shall be dowelled, single volute, and axially split along the shaft centerline. A one piece diaphragm, providing inter-stage partition will be provided. The diaphragm is to be securely locked in the lower casing by a tongue and groove lock joint. The diaphragm shall provide a 360° flange to resist stage pressure differentials. Flat face suction and discharge flanges are to be cast in the lower casing.

Both upper and lower casings shall be machined to obtain matching parallel surfaces. Upper and lower casings along with bearing housing caps are to be line bored to assure accurate bearing alignment. Bearing brackets shall be machined integrally with lower casing to maintain accurate and permanent shaft alignment. The upper half casing will be tapped at the sealing box to provide for packing fluid and at the high point to serve as an air release or volute priming connection. The lower half casing is to be provided with drain holes. Pump mounting feet will be cast integrally with lower half casing. Suction and discharge gauge connections are to be provided on the nozzles.

Split glands with swing bolts shall be provided as a packing retainer on the sealing box. Sealing box shall be designed to accept a mechanical seal.

Casing design shall allow for complete removal of the shaft assembly without disturbing piping or driver mounting.

Wearing Rings

Wearing rings of the annular type, designed to minimize casing recirculation, are to be provided for both impeller and casing. Wearing rings shall be locked against rotation.

Baseplate, Coupling and Guard

A fabricated structural steel base for pump and driver is to be supplied. The base shall be designed to resist torsional movement and support the combined weight of both pump and driver without deflection while at rest or under load. After alignment, the base shall be grouted in using openings provided in its top. A flexible coupling and enclosed type coupling guard bolted to the base shall be provided.

Quality Assurance

Pumps are to be engineered and manufactured under a written Quality Assurance program. The Quality Assurance program is to be in effect for at least five years, to include a written record of periodic internal and external audits to confirm compliance with such program.