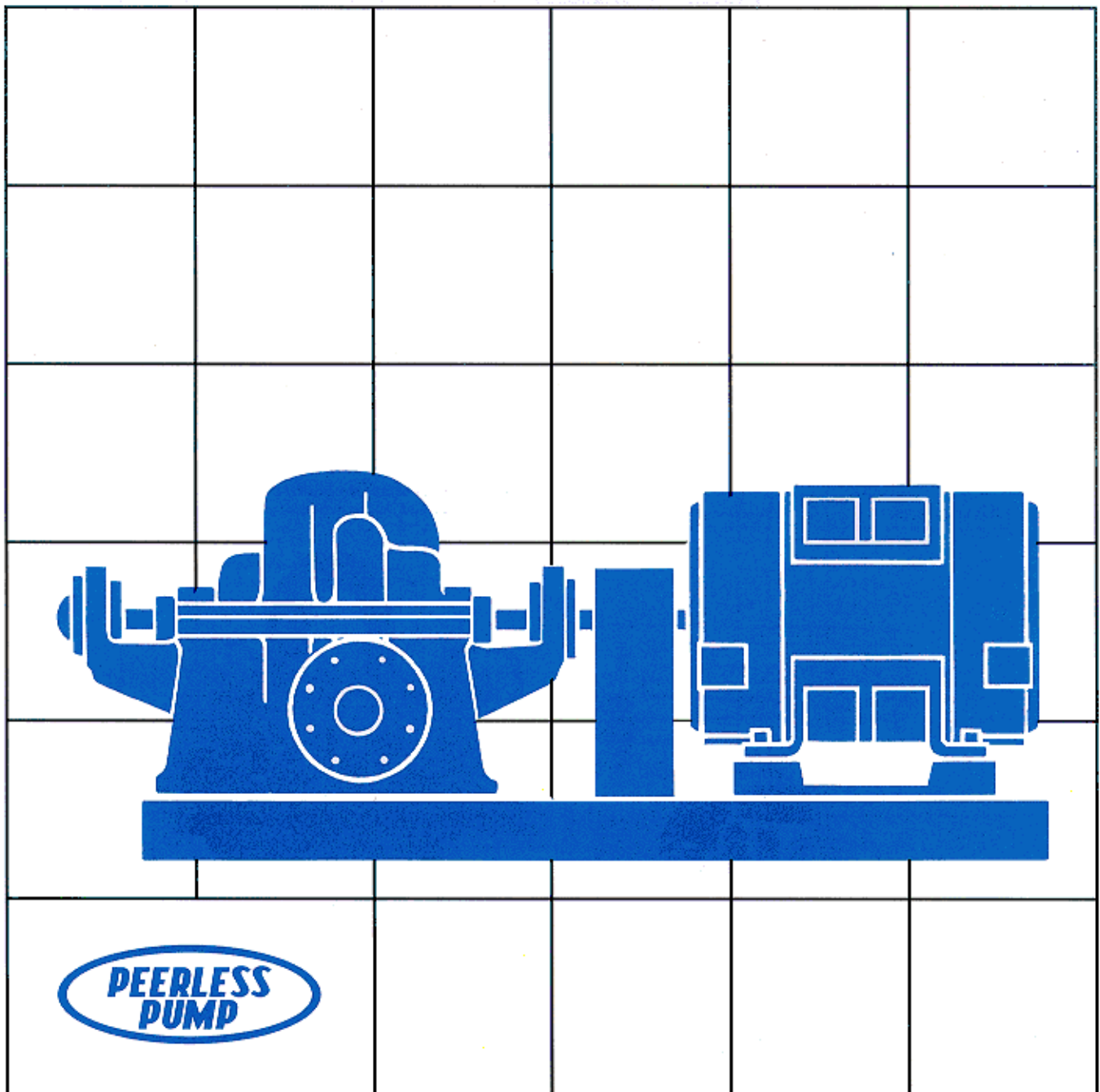


Peerless Pump Company

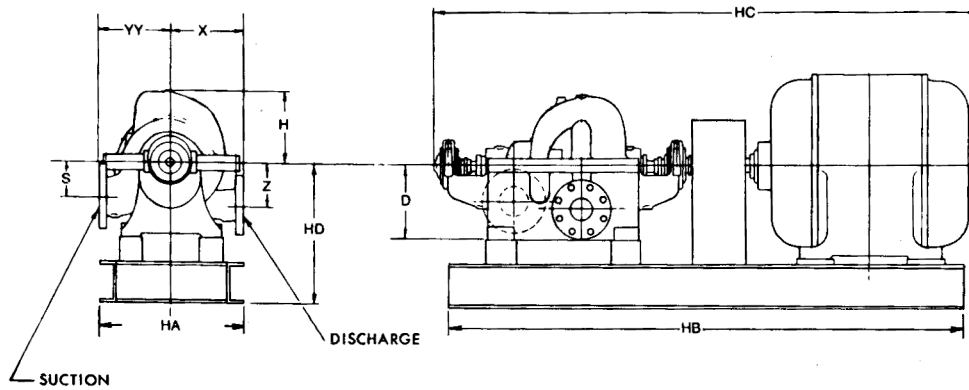
MULTI-STAGE HORIZONTAL
SPLIT-CASE PUMPS

Type TU and TUT



Dimensions: Types TU and TUT Multi-Stage Pumps

2 STAGE

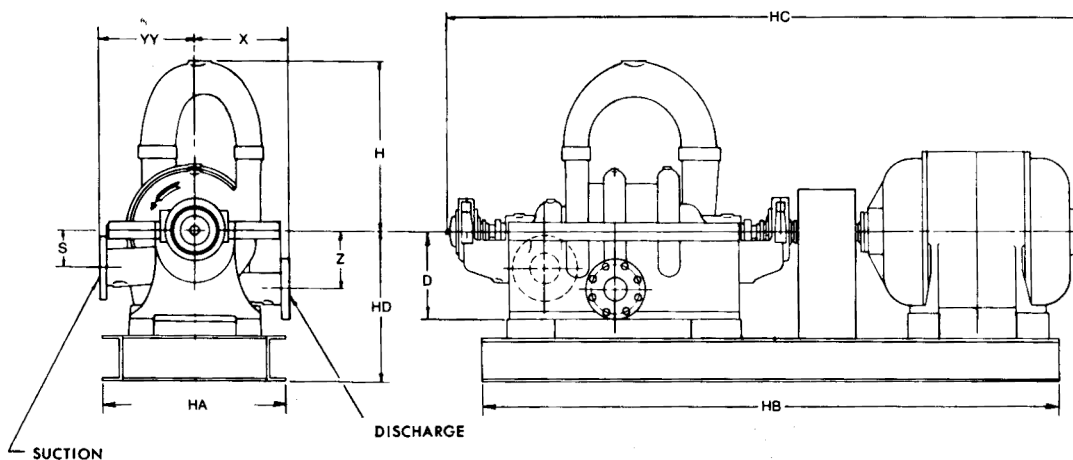


2 stage

TYPE TU TWO-STAGE DIMENSIONS*

PUMP SIZE	SUC-TION	DIS-CHARGE	YY	X	S	Z	H	HD	HA	HC	HB	D
1½TU- 7	2.50	1.50	8.00	8.00	3.75	3.88	6.69	11.00	18.00	61.06	60.00	8.00
2TU- 8	3.00	2.00	9.50	10.00	4.50	4.50	8.00	12.00	18.00	68.88	60.00	9.00
2TU-10	3.00	2.00	9.50	9.50	4.00	5.75	9.50	15.00	24.00	80.62	72.00	10.00
2TU-12	3.00	2.00	10.50	10.00	4.25	7.00	10.38	15.00	24.00	80.62	72.00	10.00
3TU-10	4.00	3.00	10.00	10.00	4.75	5.75	9.75	15.00	24.00	80.62	72.00	10.00
3TU-13	4.00	3.00	12.00	12.00	4.75	8.25	12.13	14.00	18.00	73.50	60.00	11.00
3TU-13½	4.00	3.00	12.00	12.00	4.75	8.25	12.13	14.00	18.00	73.50	60.00	11.00
4TU-10	5.00	4.00	13.00	14.00	6.00	6.00	11.00	16.00	24.00	84.50	72.00	12.00
4TU-14	5.00	4.00	14.00	14.00	5.50	9.00	14.75	18.00	24.00	86.62	72.00	12.00
5TU-13B	6.00	5.00	15.00	15.00	7.00	8.75	26.75	19.00	24.00	103.25	84.00	14.50
5TU-15	6.00	5.00	16.00	16.00	6.00	10.00	28.25	18.00	24.00	93.12	84.00	14.00
6TU-16B	8.00	6.00	16.00	18.00	7.50	10.75	30.50	26.50	52.00	97.38	112.50	16.00
8TU-16	10.00	8.00	18.00	20.00	8.50	11.50	30.75	34.75	46.00	120.44	105.00	18.00
10TU-22C	12.00	10.00	28.00	25.75	11.75	14.50	17.25	33.88	56.00	161.13	132.50	24.00

3 STAGE

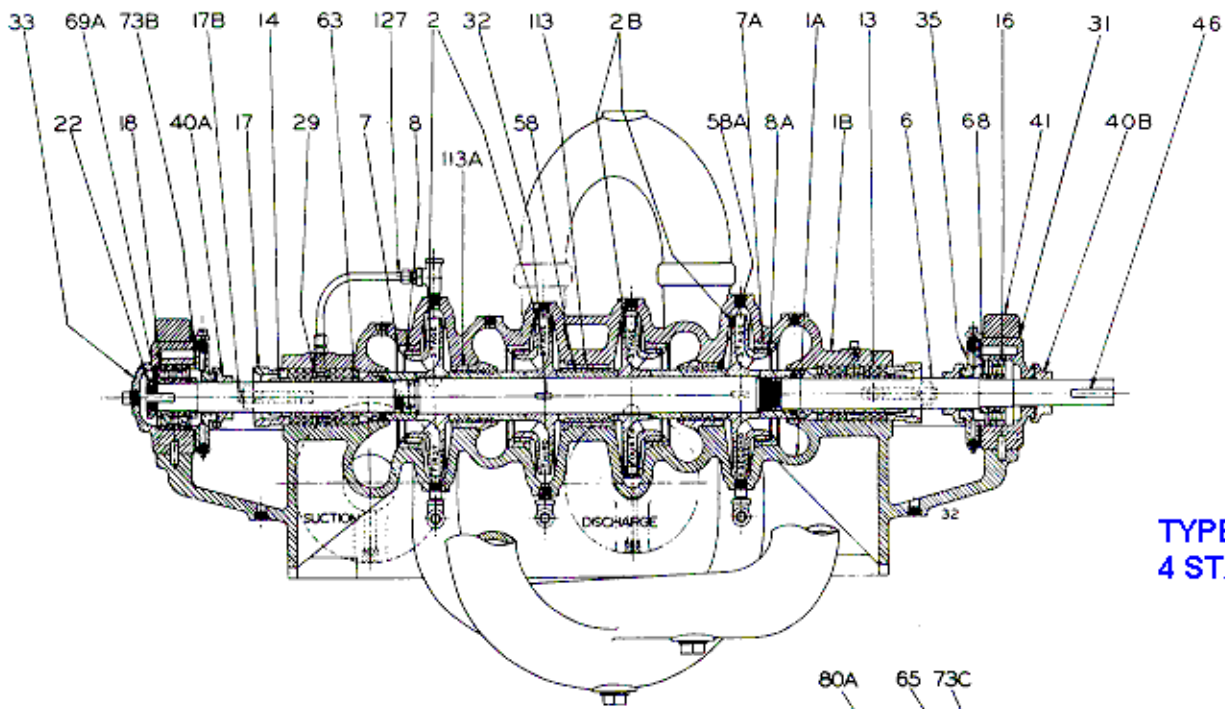


3 stage

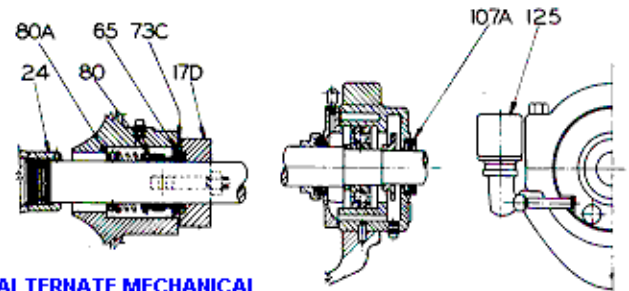
TYPE TUT THREE-STAGE DIMENSIONS*

PUMP SIZE	SUC-TION	DIS-CHARGE	YY	X	S	Z	H	HD	HA	HC	HB	D
1½TUT- 7	2.50	1.50	8.00	8.00	3.75	3.75	5.38	13.75	26.00	64.69	64.50	8.00
3TUT-13	4.00	3.00	13.00	13.00	5.00	7.75	23.13	21.75	34.00	84.94	82.00	12.00
4TUT-14	5.00	4.00	14.00	14.00	5.50	9.00	29.25	23.75	38.00	92.38	87.50	14.00
5TUT-16B	6.00	5.00	16.00	16.00	6.00	10.75	32.38	28.00	46.00	110.38	106.00	16.00

*NOTE: Dimensions are to be used for general layout purposes only.
Certified drawings are available from your Sterling representative.

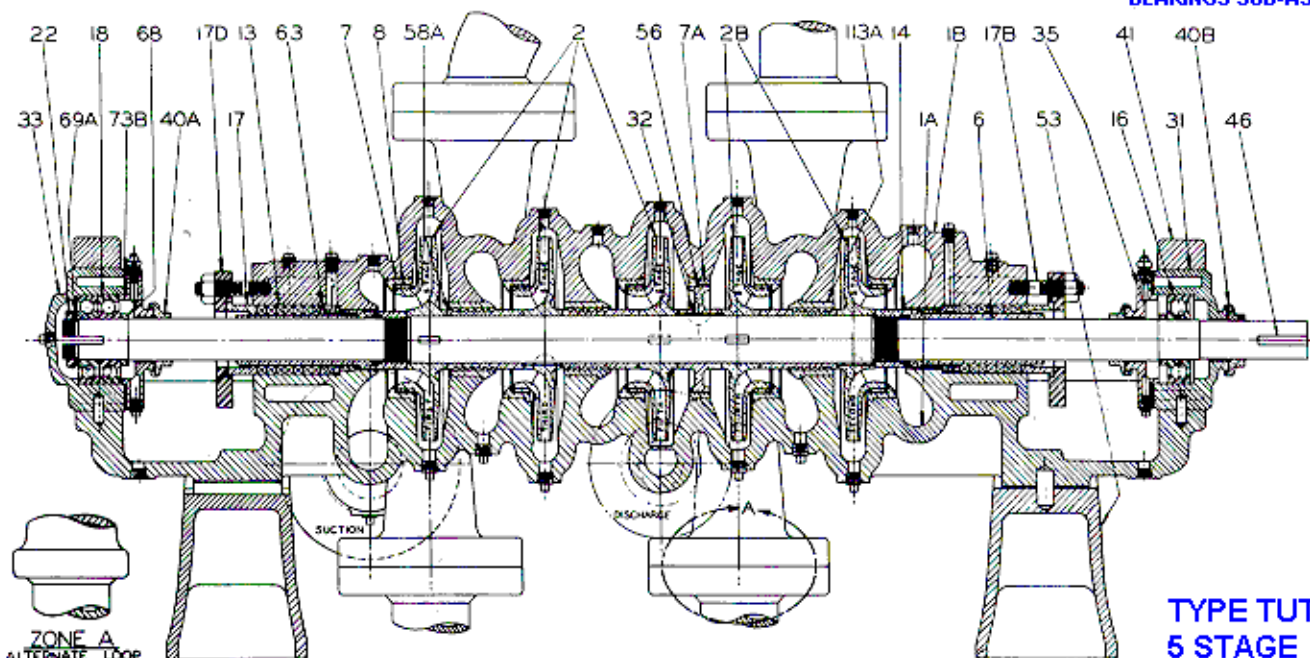


**TYPE TUT
4 STAGE**



**ALTERNATE MECHANICAL
SEAL SUB-ASSEMBLY**

**ALTERNATE OIL LUBRICATED
BEARINGS SUB-ASSEMBLY**



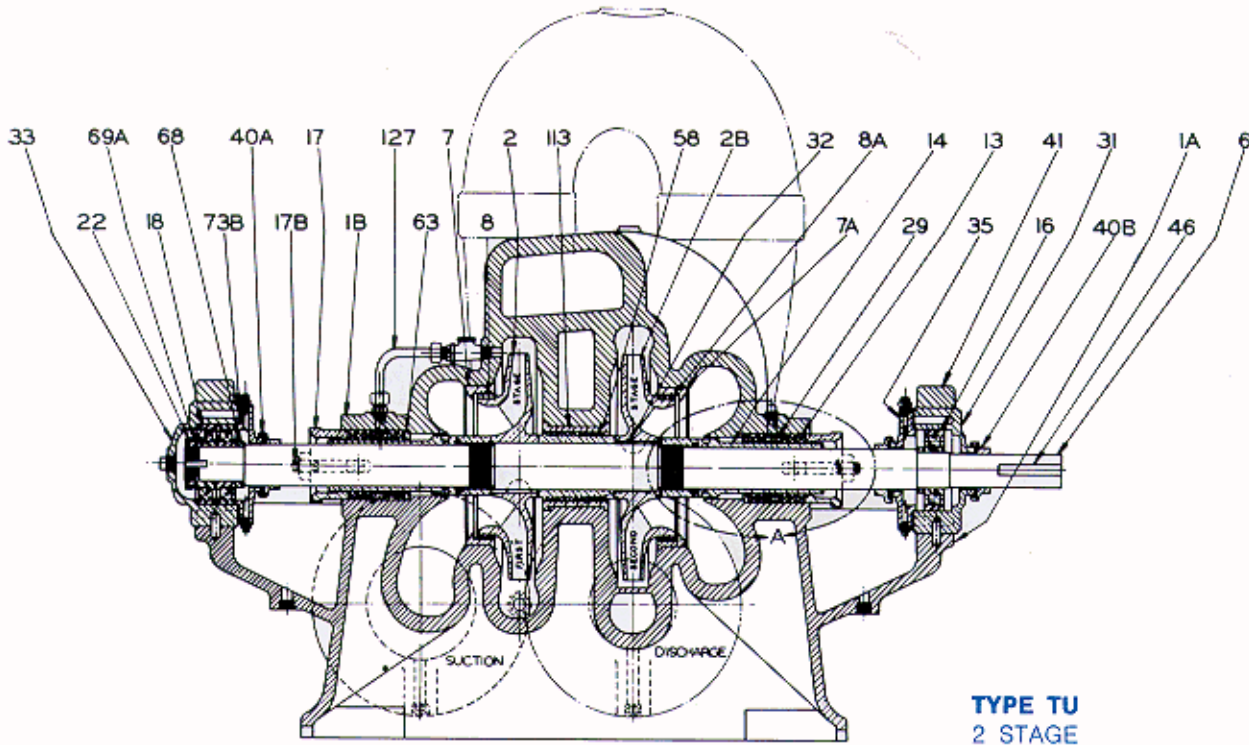
**TYPE TUT
5 STAGE**

- 40B Grease Deflector
- 41 Bearing Cap
- 46 Coupling Key
- 53 Base
- 56 Balancing Disc
- 58 Interstage Sleeve
- 58A Interstage Sleeve-A

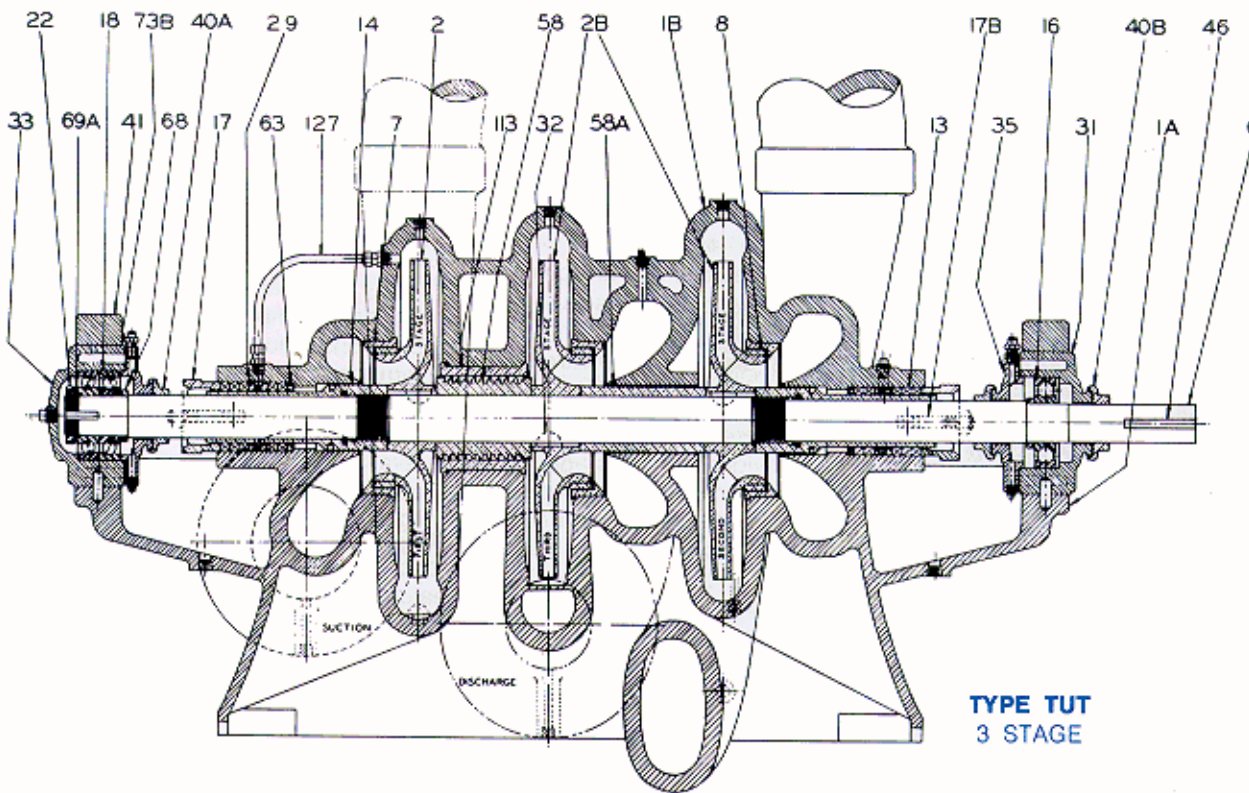
- 63 Stuffing Box Bushing
- 65 Mechanical Seal Stationary Element
- 68 Shaft Collar
- 69A Bearing Lockwasher
- 73A Case Gasket (Not Shown)
- 73B Bearing Cover Gasket
- 73C Seal Gland Gasket

- 80 Mechanical Seal Rotating Element
- 80A Set Collar (Mechanical Seal)
- 107A Oil Seal
- 113 Interstage Bushing
- 113A Interstage Bushing-A
- 125 Oil Cup (Constant Level Oiler)
- 127 Seal Piping

Types TU and TUT Combined Parts List



TYPE TU
2 STAGE



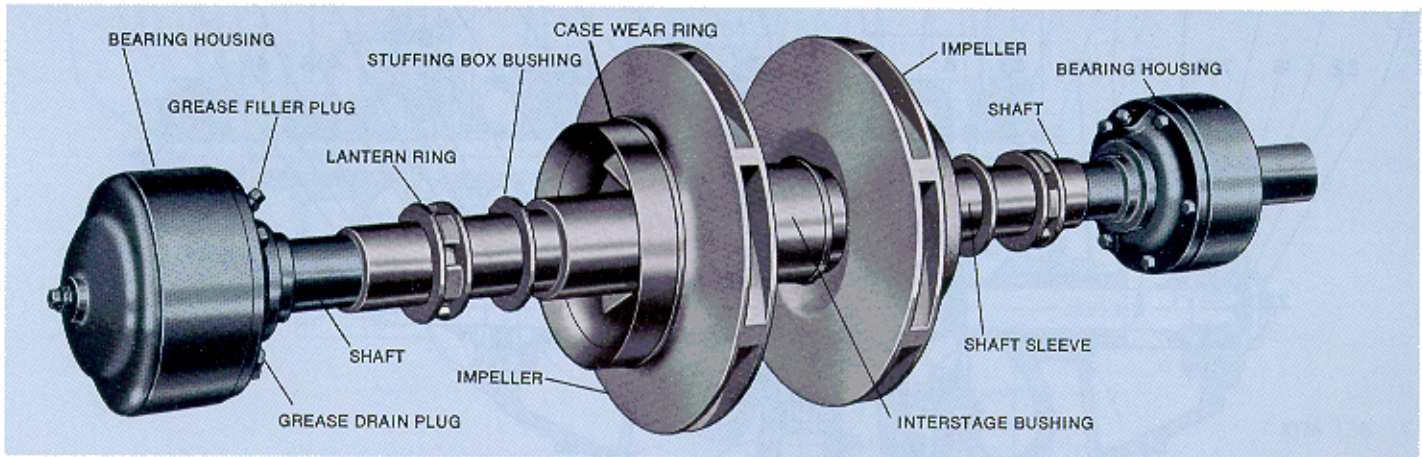
TYPE TUT
3 STAGE

- 1A Lower Casing
- 2B Upper Casing
- 2 Right Hand Impeller
- 2B Left Hand Impeller
- 6 Shaft
- 7 Casing Ring
- 7A Casing Ring-A
- 8 Impeller Ring

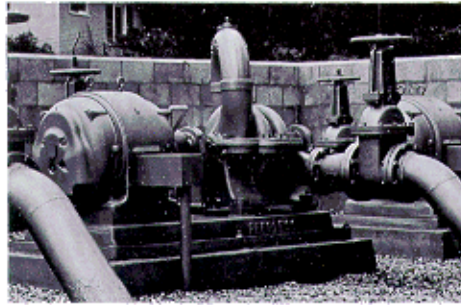
- 8A Impeller Ring-A
- 13 Packing
- 14 Shaft Sleeve
- 16 Inboard Bearing
- 17 Gland
- 17B Gland Bolt
- 17D Gland Flange
- 18 Outboard Bearing

- 22 Bearing Locknut
- 24 Impeller Nut
- 29 Lantern Ring
- 31 Inboard Bearing Housing
- 32 Impeller Key
- 33 Outboard Bearing Housing
- 35 Bearing Cover
- 40A Water Deflector

Design and Construction Features



STUFFING BOXES. Stuffing boxes in the multi-stage pumps are designed to utilize five or more rings of graphited, braided packing with a lantern ring. A bronze stuffing box bushing is placed in the bottom of each box to prevent corrosion or sticking. Bronze glands are provided which allow easy disassembly for packing replacement. A water seal pipe in the upper half of the pump case connects from the first stage volute to the lantern ring in the stuffing box on the suction side of the pump. The maximum



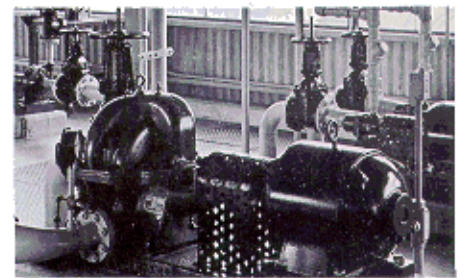
Peerless Type TUT pump in service in a municipal booster pump station.

stuffing box pressure will be the suction pressure plus one stage pressure, regardless of the net pressure developed by the pump. Stuffing boxes can be fitted with mechanical seals.

SHAFT. The pump shaft is precision made of high tensile carbon steel and is threaded to allow for impeller adjustment. Pump shaft can also be furnished in stainless steel material.

SHAFT SLEEVES. Protection against shaft wear is provided by shaft sleeves. These are combination sleeve and nut, with threaded section next to the impeller hub. Sleeves are designed to prevent leakage between the shaft and the sleeve by the use of an "O" ring. The shaft sleeves are threaded on the shaft against the direction of rotation and are secured by set screws. Bronze is standard material for shaft sleeves; alternate materials can be furnished.

BEARINGS. Grease-lubricated ball bearings are provided on multi-stage pumps. The outboard bearing is a duplex, angular contact ball bearing. The inboard bearing is a single row, radial thrust ball bearing. Bearings are housed in split saddle bearing seats that are cast and bored integrally with the pump case, assuring permanent alignment. Bearings are mounted in cartridge type housings with pipe taps for adding grease and for draining. Water slingers on the shaft protect the bearings from water. Oil lubricated and oil lubricated water cooled bearing housings can be furnished.

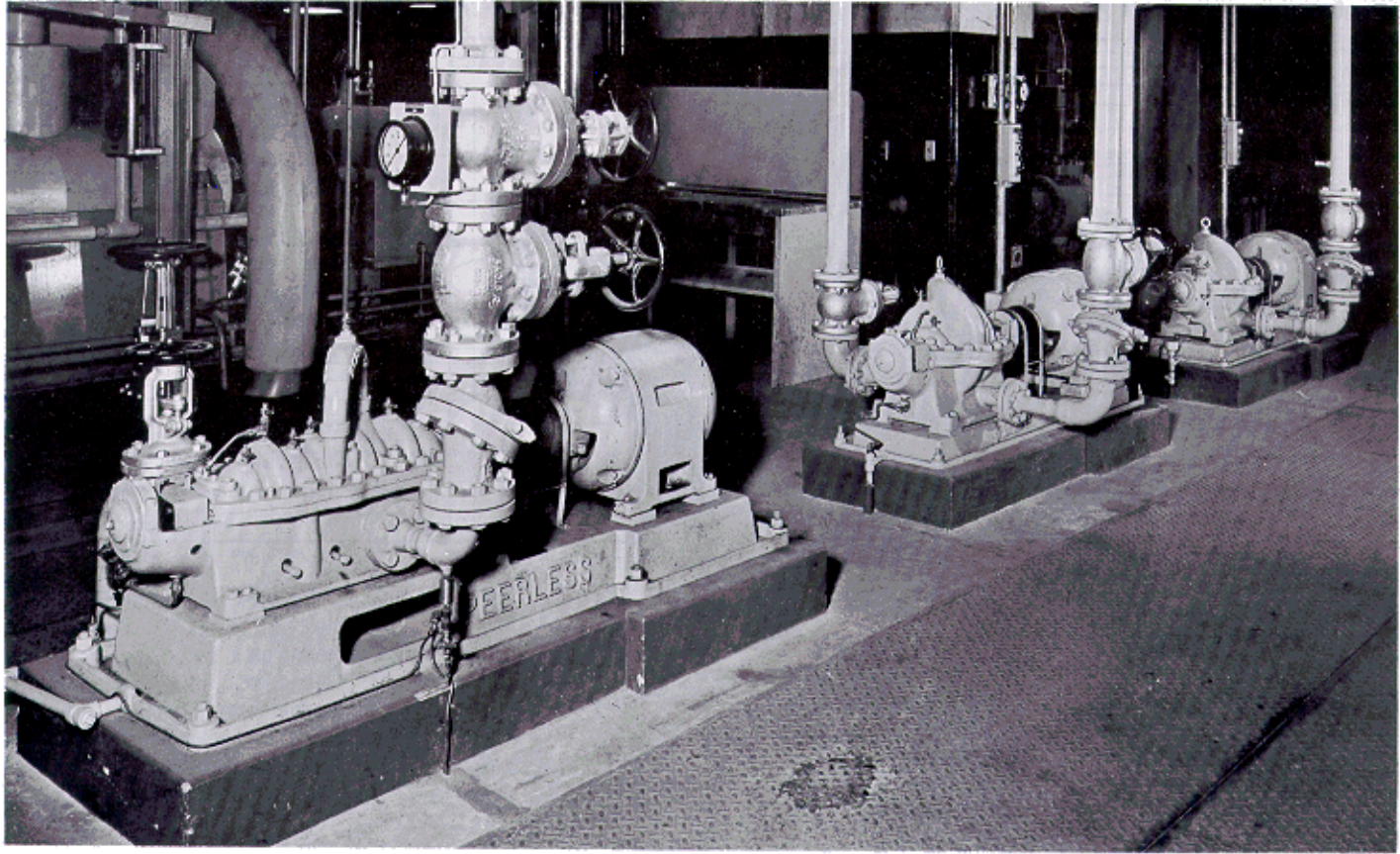


Peerless Type TU pumps circulate cooling tower water to gas compressors in pipe line station.

Peerless multi-stage pumps are applied primarily to the handling of hot and cold water and to pumping of clear liquids. Applications include booster stations, recirculation, repressuring and transfer service, boiler lancing service, cooling tower pumping and a wide range of general purpose water handling applications.

NOTICE. Materials of construction, specifications, dimensions, design features, and application information are subject to change and/or modification without notice by Sterling.

Types TU and TUT Multi-Stage Pumps



Peerless Types TU and TUT pumps in boiler lancing service in public utility steam plant.

The Peerless multi-stage pumps are designed for high efficiency, long life and ease of maintenance and can be used in a variety of general pumping services, handling water and other types of clear liquids. Shafts, ball bearings, modern-design case, wear rings and shaft sleeves are designed to provide protection of wearing surfaces and insure extended pump life.

CASE CONSTRUCTION. The multi-stage pump case is of the horizontal split-case type, with the split at the center line of the pump shaft. This enables the entire rotating element to be removed from the pump case without disturbing coupling alignment or piping connections. The

upper case is provided with taps for air venting and a water seal pipe to the stuffing box on the suction side of the pump. The faces between the upper and lower case halves are accurately machined and provided with a suitable gasket. Alternate volutes are reversed, balancing transverse pressures on running members. Regularly made of close-grained cast iron; multistage cases may also be obtained in ductile iron.

IMPELLERS. Enclosed type, single-suction impellers are carefully machined, hand-finished inside, and accurately balanced for smooth operation. Impellers are keyed to the shaft for positive driving. The material for standard impeller construction is bronze. Other

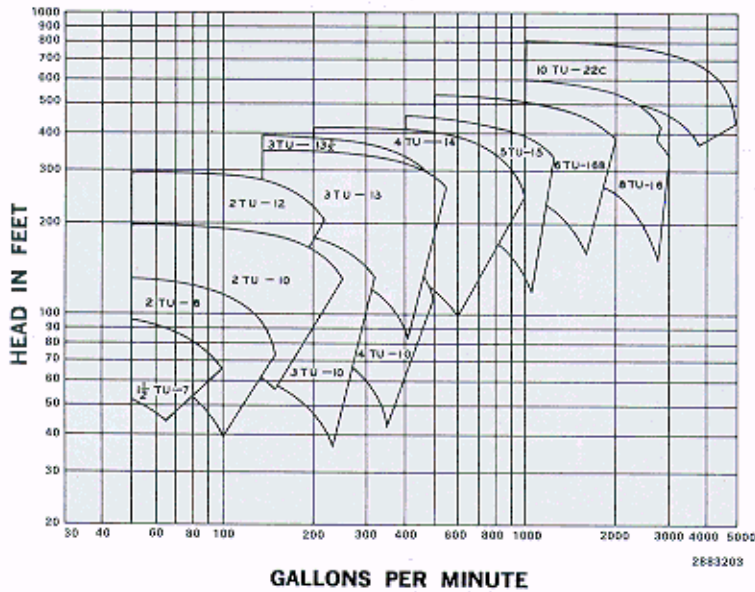
materials such as cast iron, stainless steel, or other alloys can be furnished.

IMPELLER WEAR RINGS. Impeller wear rings are available on TU and TUT type pumps. Materials available include bronze and stainless steel.

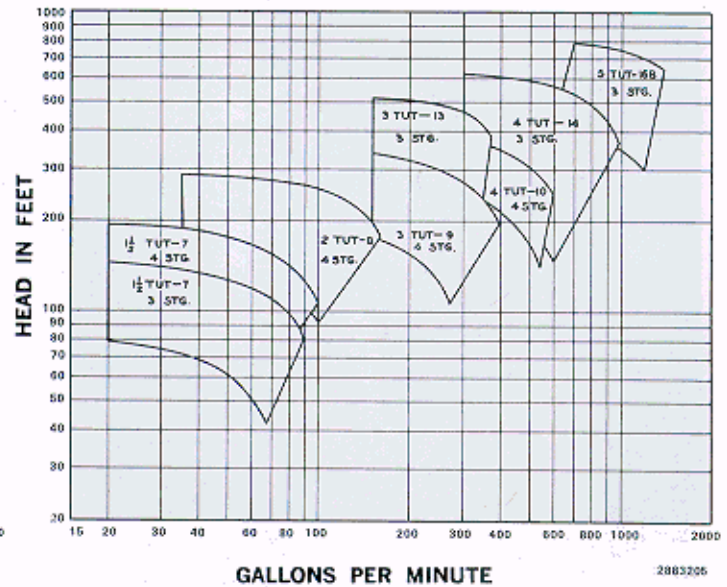
CASE WEAR RINGS. The pump case is fitted with bronze wear rings pinned in place and shouldered against a seat in the case to provide sealing against leakage between the ring and the case. All models are fitted with single step, angle type rings contoured at the entrance to allow free flow of liquid into the eye of the impeller. Materials other than bronze can be furnished.

Performance

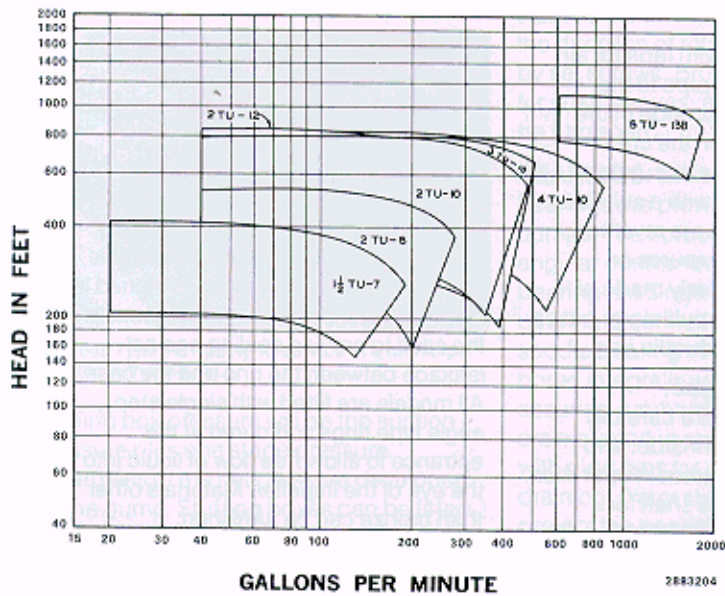
TWO-STAGE—1750 RPM



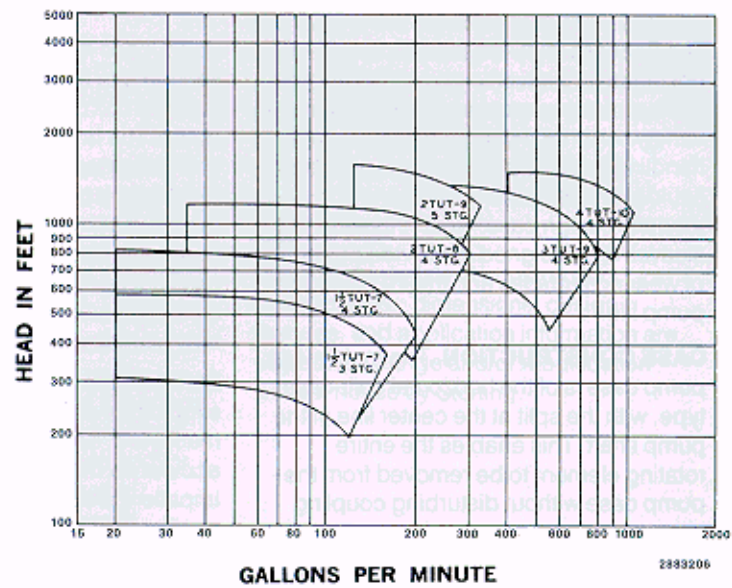
THREE-, FOUR- AND FIVE-STAGE—1750 RPM



TWO-STAGE—3500 RPM



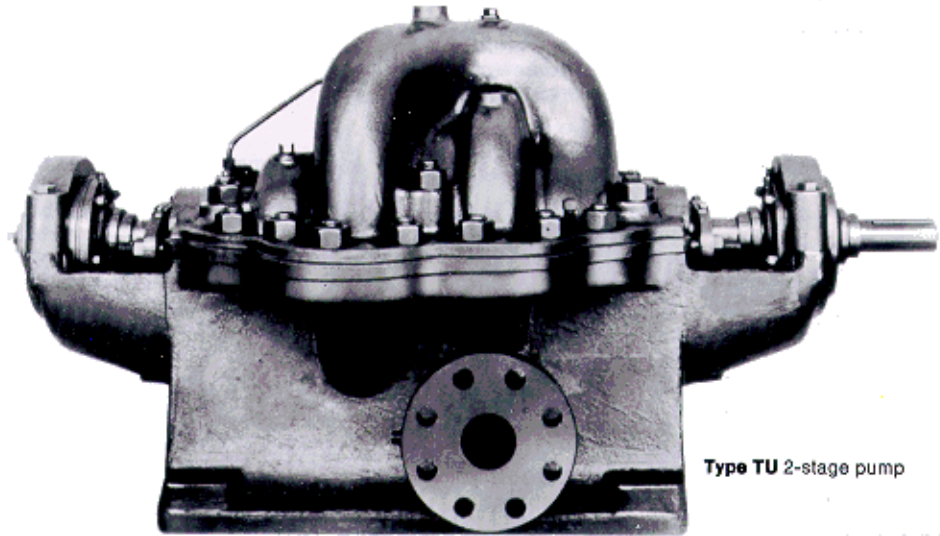
THREE-, FOUR- AND FIVE-STAGE—3500 RPM



Multi-Stage Horizontal Split-Case Pumps

In pump manufacturing, whenever simplicity in design and good hydraulic characteristics combine with durable construction and on-the-job dependability, there is one result — a pump that will be remembered throughout its extended service life for high quality and true value. Peerless multi-stage pumps have a long record of successful application for handling hot or cold water and clear liquids at high heads in a wide range of commercial, industrial and municipal services.

The Peerless multi-stage line is composed of two basic designs. The designation, Type TU, is given to 2-stage pumps. The designation, Type TUT is given to 3, 4 and 5 stage pumps.

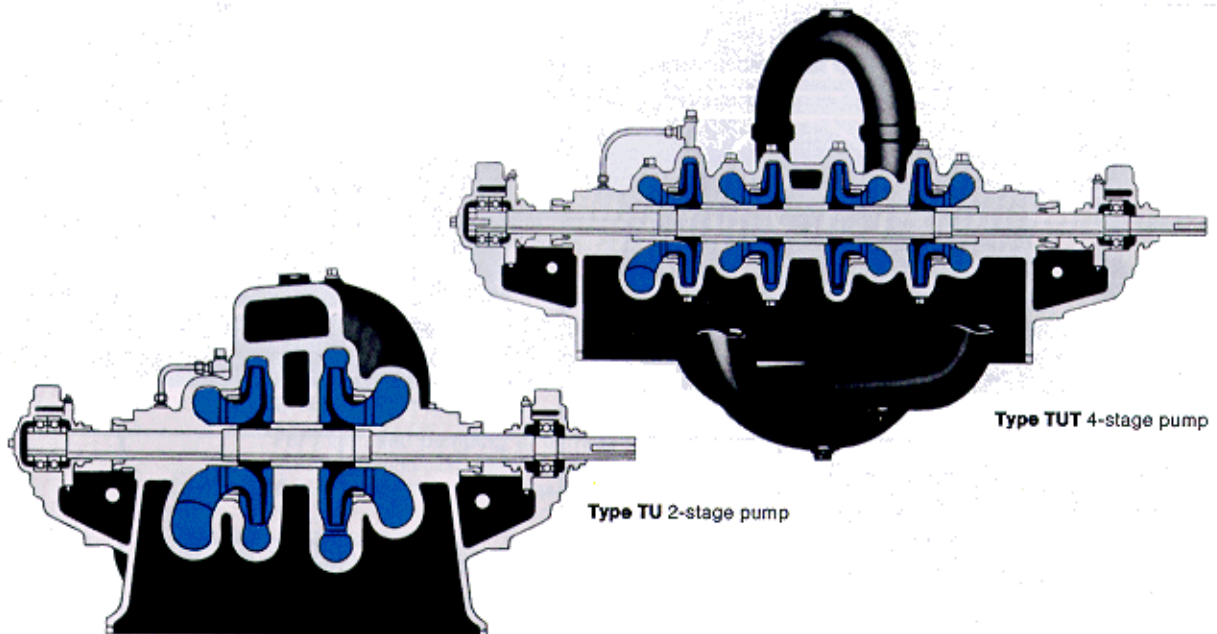


Type TU 2-stage pump

TYPE TU For rates of flow up to 4,500 GPM; for heads up to 1,100 feet. The Peerless Type TU 2-stage pump is illustrated at the bottom left. All 2-stage pumps of 4" discharge size and smaller are designed with an internal cross-over in the top half of the pump case. 2-stage pumps 5" discharge size and larger are designed with a high loop cross-over.

TYPE TUT For rates of flow up to 1,400 GPM; for heads up to 1,600 feet. 3, 4 and 5 stage TUT pumps are built with high loop cross-overs similar to the illustration at the bottom right.

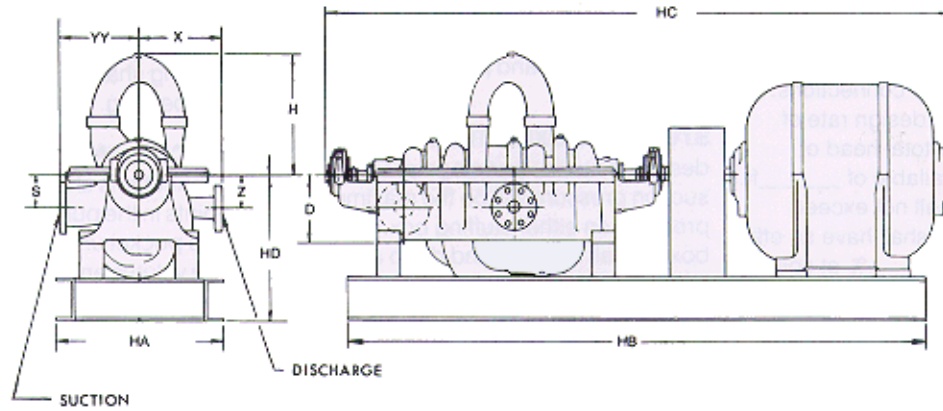
	Type TU	Type TUT		
	2 STAGE	3 STAGE	4 STAGE	5 STAGE
HEADS	up to 1100 ft.	up to 950 ft.	up to 1600 ft.	up to 1550 ft.
CAPACITIES	up to 4500 GPM	up to 1400 GPM	up to 900 GPM	up to 300 GPM
TEMPERATURES	up to 300°F.	up to 300°F.	up to 300°F.	up to 300°F.
CASE PRESSURES	300-500 psi	350 psi	400-700 psi	700 psi
H P RANGE	up to 800 bhp	up to 300 bhp	up to 325 bhp	up to 170 bhp
DRIVES	Electric motor, stationary engine, steam turbine			
CONSTRUCTION MATERIALS	Cast iron, bronze fitted (stainless steel fitted optional).			



Type TU 2-stage pump

Type TUT 4-stage pump

4 STAGE

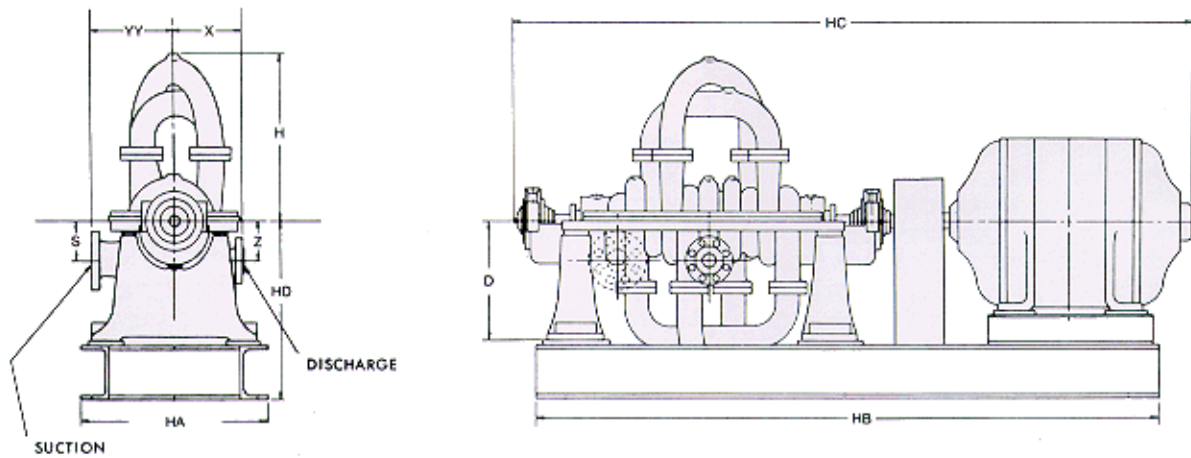


4 stage

TYPE TUT FOUR-STAGE DIMENSIONS*

PUMP SIZE	SUC-TION	DIS-CHARGE	YY	X	S	Z	H	HD	HA	HC	HB	D
1½TUT- 7	2.50	1.50	8.00	8.00	3.75	3.88	6.75	16.00	28.00	73.19	73.75	8.00
2TUT- 8	3.00	2.00	9.50	10.00	4.50	4.50	16.25	19.75	36.00	87.44	86.00	9.00
3TUT- 9	4.00	3.00	12.50	12.50	4.75	5.25	19.00	26.25	32.00	106.88	91.25	10.00
4TUT-10	5.00	4.00	13.00	13.00	6.00	5.75	21.75	27.00	44.00	115.94	126.00	12.00

5 STAGE



5 stage

TYPE TUT FIVE-STAGE DIMENSIONS*

PUMP SIZE	SUC-TION	DIS-CHARGE	YY	X	S	Z	H	HD	HA	HC	HB	D
2TUT-9	3.00	2.00	12.00	10.00	5.50	5.50	24.25	29.75	38.00	105.38	105.00	16.75

***NOTE:** Dimensions are to be used for general layout purposes only.
Certified drawings are available from your Sterling representative.

Sample Specifications for Types TU and TUT Pumps

GENERAL. Pump shall be of the _____ stage horizontally split case type with suction and discharge connections located on opposite sides in the lower half casing, allowing removal of the rotating element without disturbing the pipe connections. The pump shall deliver a design rate of flow of _____ GPM at a total head of _____ ft. and NPSH available of _____ ft. The speed of the unit shall not exceed _____ RPM. The pump shall have an efficiency of not less than _____ % at specified operating condition.

CASING. The casing shall be of cast iron free from blow holes, sand pockets, and other detrimental defects. Water passageways shall be smooth to permit maximum efficiency. Casing shall be capable of withstanding a hydrostatic test pressure 150% of the maximum pumping pressure under which the pump could operate at the design speed.

IMPELLERS. The impellers shall be made of cast bronze, single suction type. A pump having an even number of stages shall have an equal number of impellers facing each direction to obtain hydraulic balance. The impellers shall be dynamically balanced, keyed to the shaft and fixed in an axial position by shaft sleeves or shaft sleeve nuts.

WEARING RINGS. The case rings shall provide close clearance to permit a minimum of recirculation. Case rings shall be shouldered in the casing to prevent axial movement and pinned to prevent rotation.

STUFFING BOXES. The pump shall be designed so that first stage pressure plus suction pressure will be the maximum pressure on either stuffing box. Stuffing boxes shall be large and deep and shall hold a minimum of five rows of packing and lantern ring. Packing glands shall be removable to facilitate repacking stuffing boxes. Gland bolts shall be of the swing type with 18-8 stainless steel nuts.

SHAFT. The shaft shall be carbon steel adequately sized for the loads transmitted. The shaft shall be threaded adjacent to both the first and second stage impeller hubs to allow axial adjustment of the impellers by means of threaded sleeves or sleeve nuts

SHAFT SLEEVES. The shaft shall be protected through the stuffing box with bronze shaft sleeves. They shall be designed to prevent leakage between the shaft and the shaft sleeve. The shaft sleeve shall be threaded to tighten against the impellers and locked in place with set screws.

BEARINGS. Bearings shall be designed for minimum B-10 life of 20,000 hours. The outboard bearing shall be of the duplex angular contact ball bearing. The inboard bearing shall be a single row radial type ball bearing.

MISCELLANEOUS FITTINGS. Drain connections shall be provided at all low points in the pump volutes as well as at the drip pocket underneath the stuffing box. The volutes and interstage passages shall be provided with tapped connections for release of air from the casing.

BASE. A steel base with drip rim (optional) of suitable size for mounting pump and driver shall be furnished. Pump and driver shall be carefully aligned and bolted in place prior to factory shipment. (Final alignment will be checked and certified after installation and prior to operation by user.)

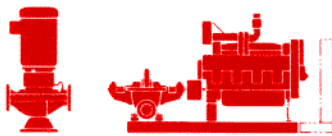
COUPLING. A flexible coupling of the _____ type shall be provided. Each pump mounted with a driver shall be equipped with a coupling guard.

Peerless Centrifugal Pumps & Constant Pressure Systems

Vertical Type VTM/VTP

Flows 80 to 500 gpm
Heads 69 to 474 feet
Pressures to 400 psi
Horsepowers to 100 hp
Temperature to 115°F
Brochure B-2700

Pre-engineered, close-coupled vertical turbine pumps with fabricated steel suction barrels. Packing or mechanical seals.



Horizontal and Vertical Fire Pumps

Flows:
Verticals to 5,000 gpm
Horizontal to 5,000 gpm
In-Lines to 500 gpm

Heads:
Verticals to 1,176 ft.
Horizontal to 630 ft.
In-Lines to 406 ft.

Pressures:
Verticals to 510 psi
Horizontal to 640 psi
In-Lines to 175 psi

Horsepowers to 800 hp
Brochure B-1500



For supplying water to fire protection systems in plants, buildings and offshore platforms. Drives include electric motors, diesel engines or steam turbines.

Multi-Stage

Flows to 4,500 gpm
Heads to 1,600 ft.
Pressures to 700 psi
Horsepowers to 800 hp
Temperature to 300°F
Brochure B-1400 2-5 stage split case pump.

Multi-stage horizontal split-case designs for booster service, high service and general purpose pumping. Packed or sealed types.



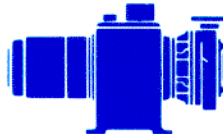
General Purpose Horizontal Split-Case Pumps



Single-Stage	Model AE	Model A
Flows	8,500 gpm	25,000 gpm
Heads to	675 ft.	280 ft.
Temps. to	225° F	250° F
Brochure	B-1200	B-1300

For high service, booster, transfer and general service pumping. Options include packed or sealed types, 125# or 250# flanges, shaft sleeves, wearing rings, oil or grease lubrication, stainless steel shaft, etc.

Hydroconstant® Variable Speed Drives



Horsepowers:
Horizontal centrifugal pumps to 50 hp
Brochure B-4100A

Variable speed couplings, pumps and motors unitized for simplified maintenance of water pressure regardless of system changes or variables. Eliminates need for tanks and many mechanical and electrical accessories.

General Purpose End Suction Pumps



Type	Close Coupled		Frame Mtd.
	PE	C	F
Flows, gpm to	320	2,000	3,400
Heads, ft.	to 275	430	430
Temps., °F	to 225	250	250
HP	1/3 to 15	to 100	to 125
Brochures	B-2310	B-2300	B-2300

For general purpose pumping in broad range of services. Horizontal single stage vertically split case centrifugal type. Packed or sealed types, close-coupled or frame mounted.

Horizontal Multi-Stage Diffuser Pumps



Flows to 600 gpm
Pressures to 600 psi
Temperatures to 392° F
Brochure B-2900

General purpose 2- to 15-stage pumps. All iron or bronze fitted iron. Packed or sealed types. For booster, transfer, high and general service pumping.

Vertical Enclosed Shaft Non-Clog Pumps

Flows to 1,100 gpm
Heads to 110 ft.
Brochure B-6300

For sump, storm water or sewage service. Single or duplex units.



Heavy Duty Sump Pumps

Flows to 250 gpm
Heads to 100 ft.
Brochure B-6110

For automatic pumping of surface water, seepage, foundation drainage, etc. Single or duplex units with or without basins.



Peerless Pump Company

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