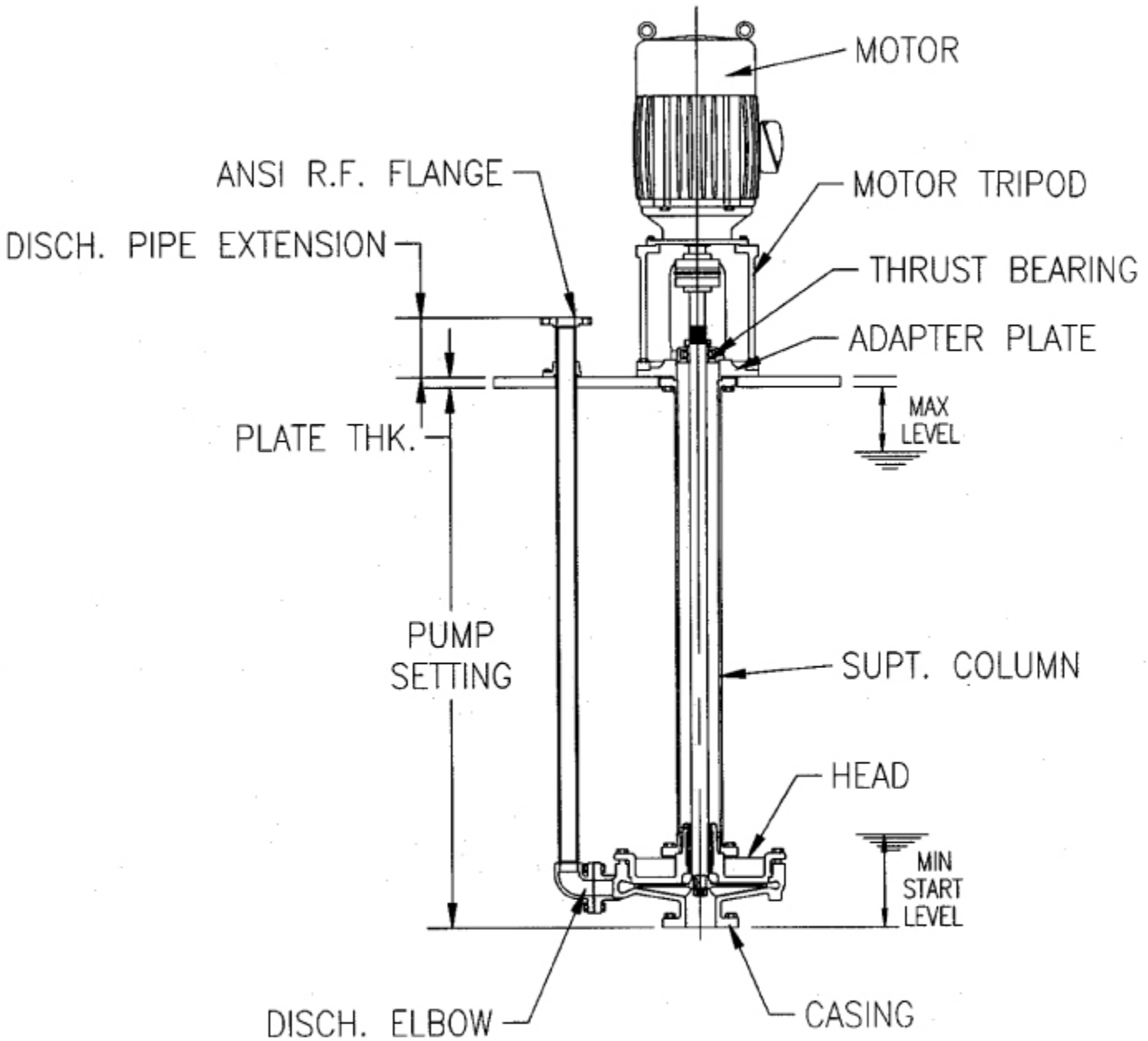
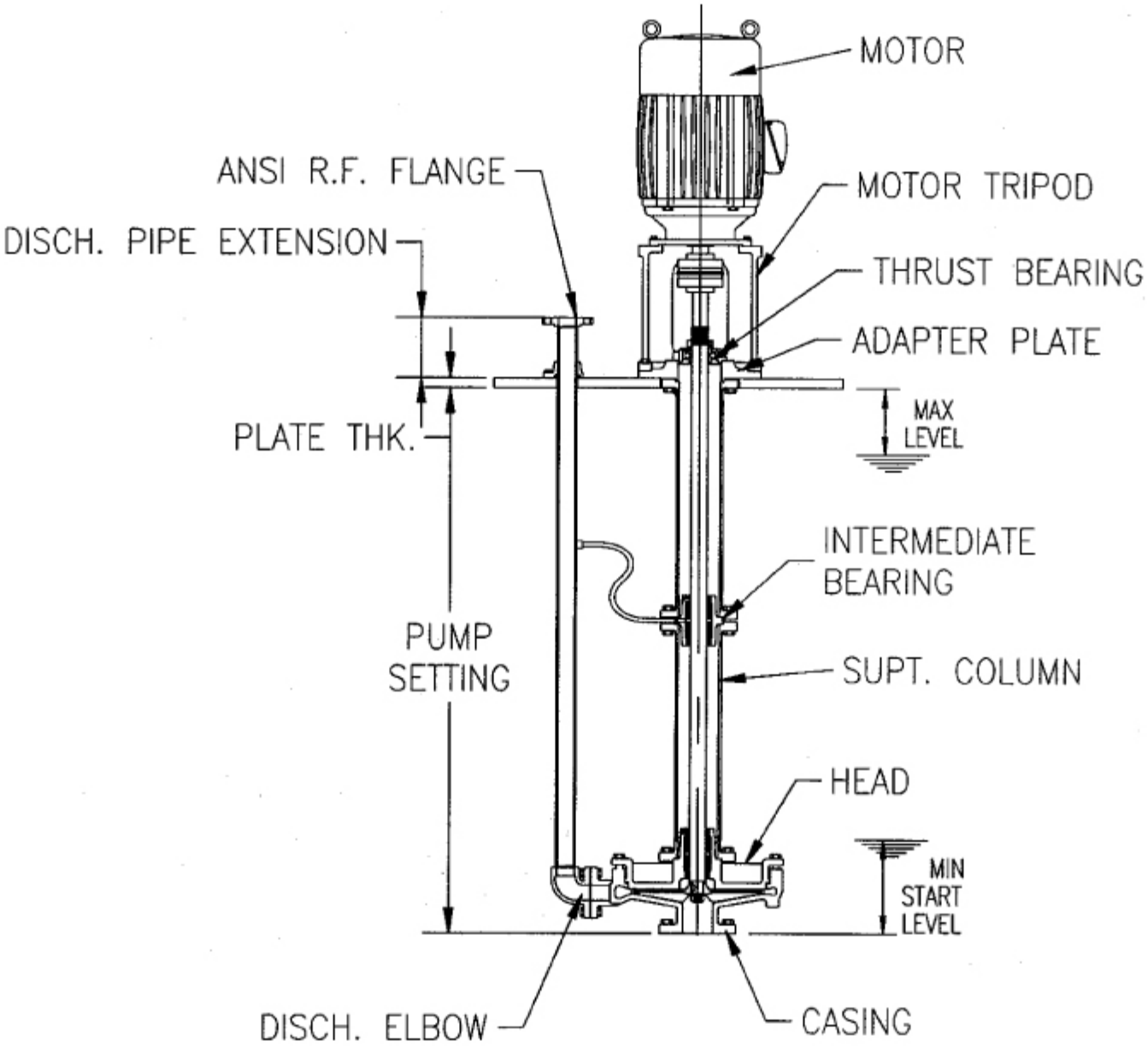
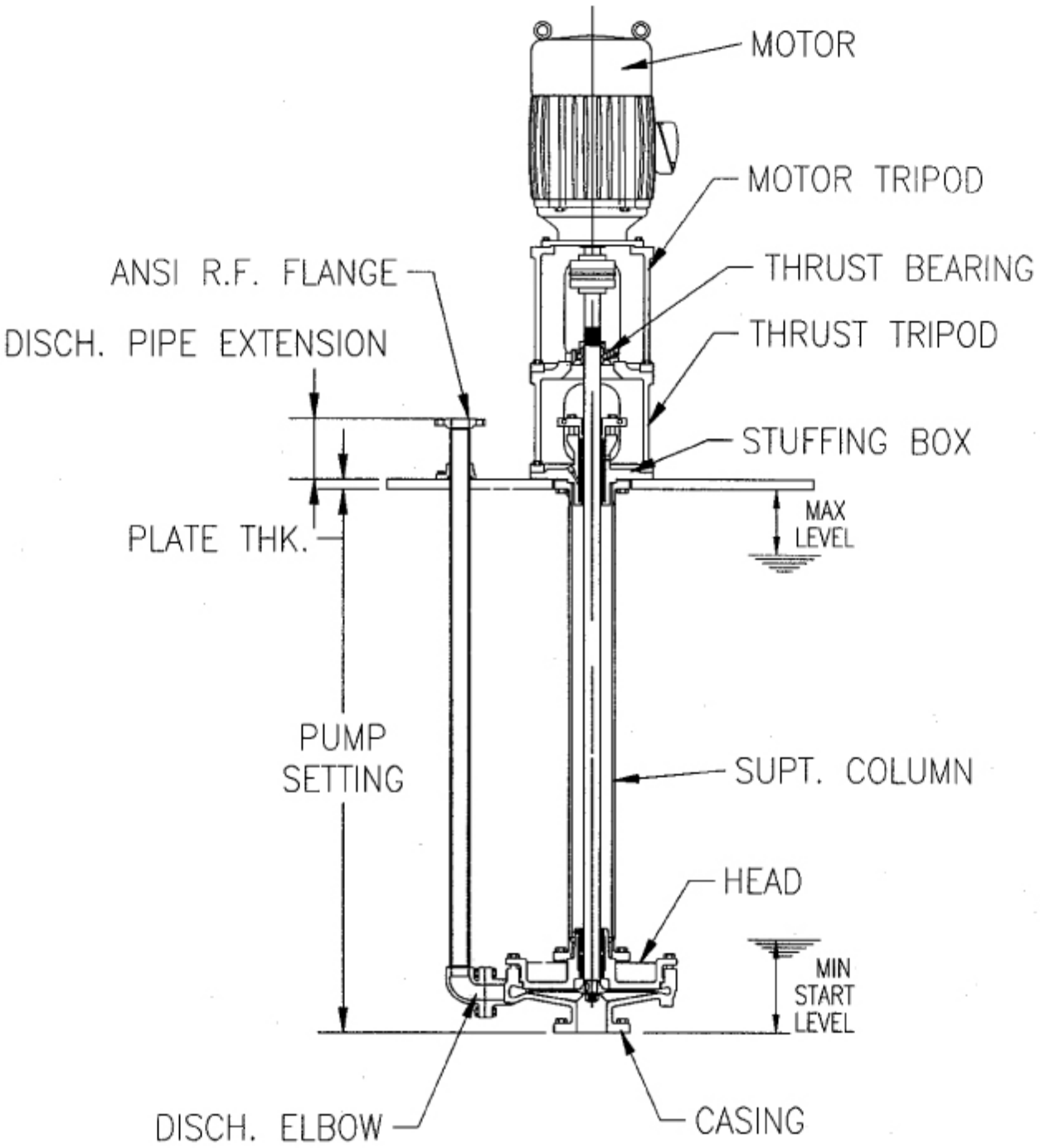
TABER 1000/8000 SERIES STANDARD CONFIGURATION
ALL -10 MODELS



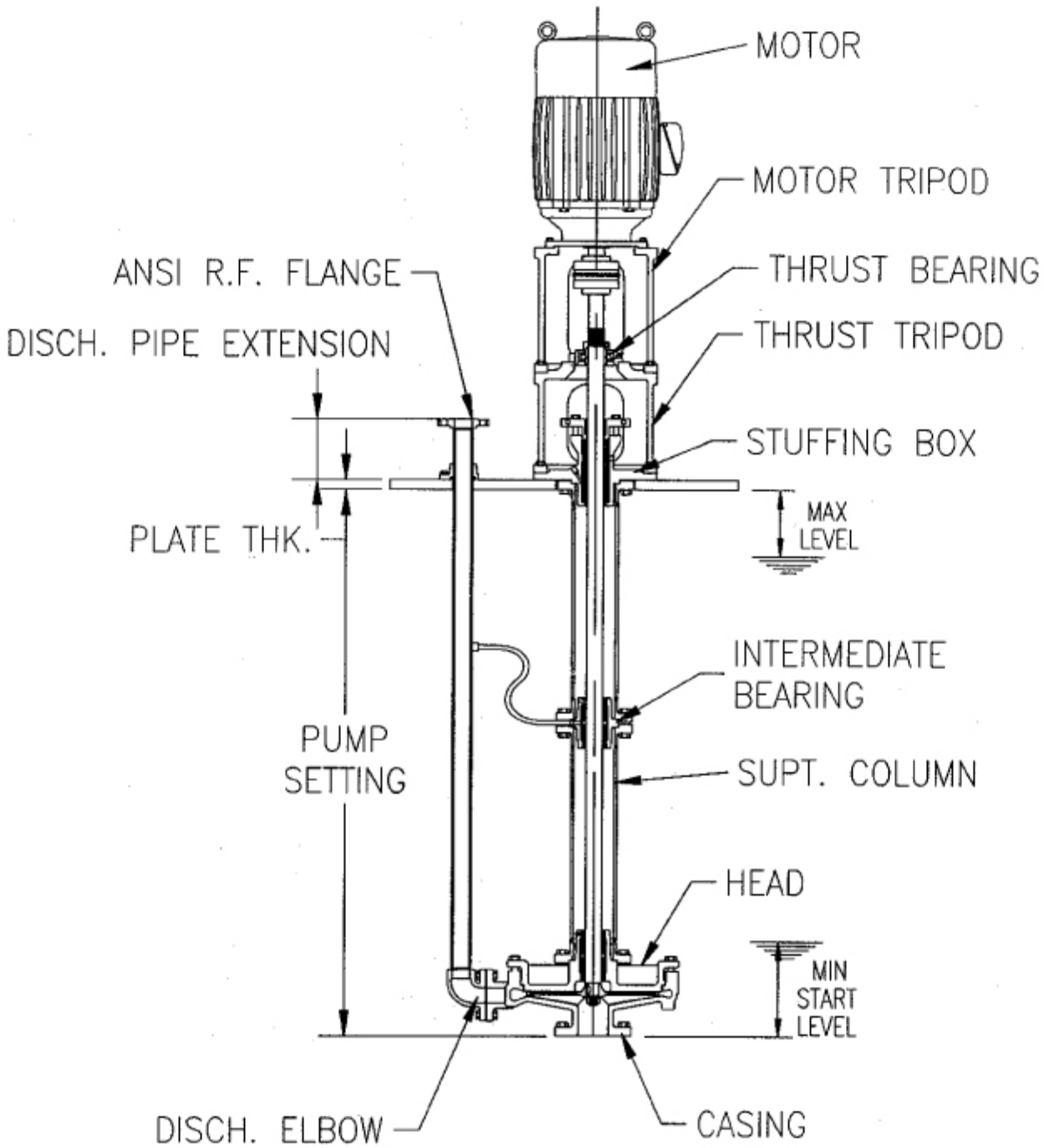
TABER 1000/8000 SERIES STANDARD CONFIGURATION
ALL -20 MODELS



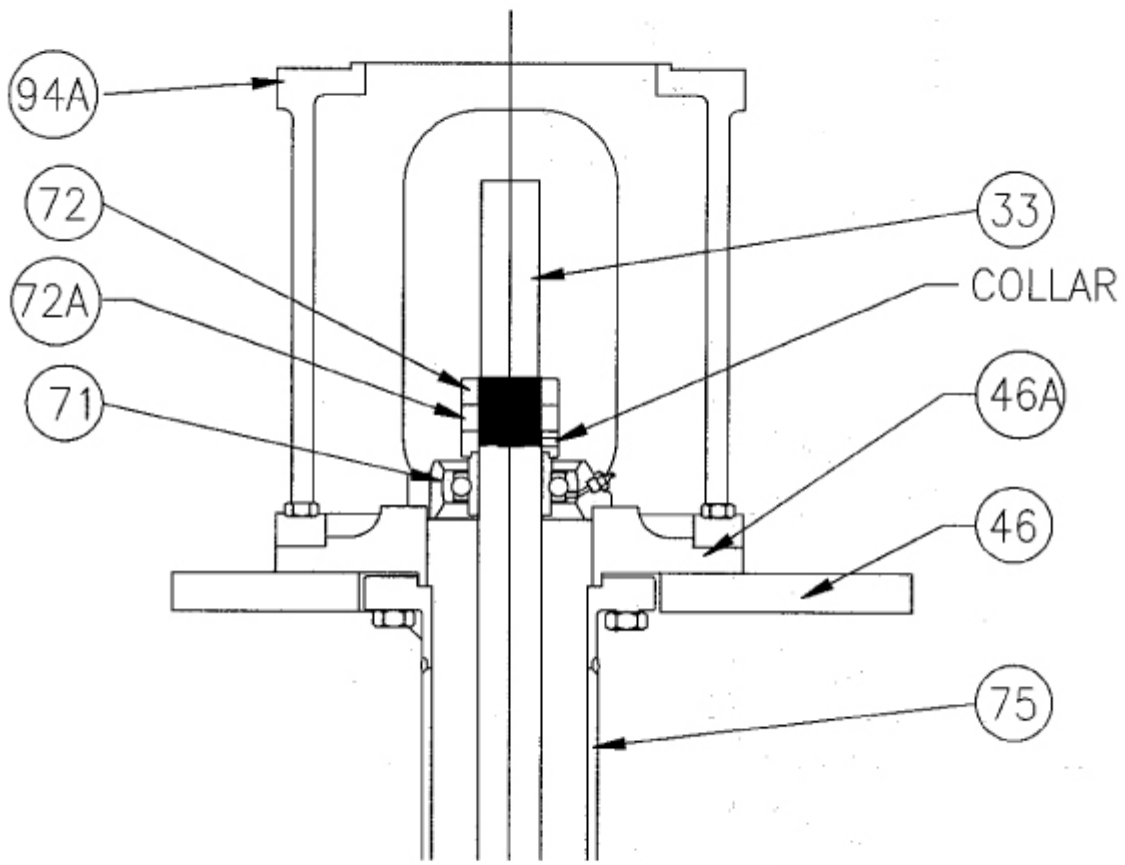
TABER 1000/8000 SERIES STANDARD CONFIGURATION
ALL -30 MODELS



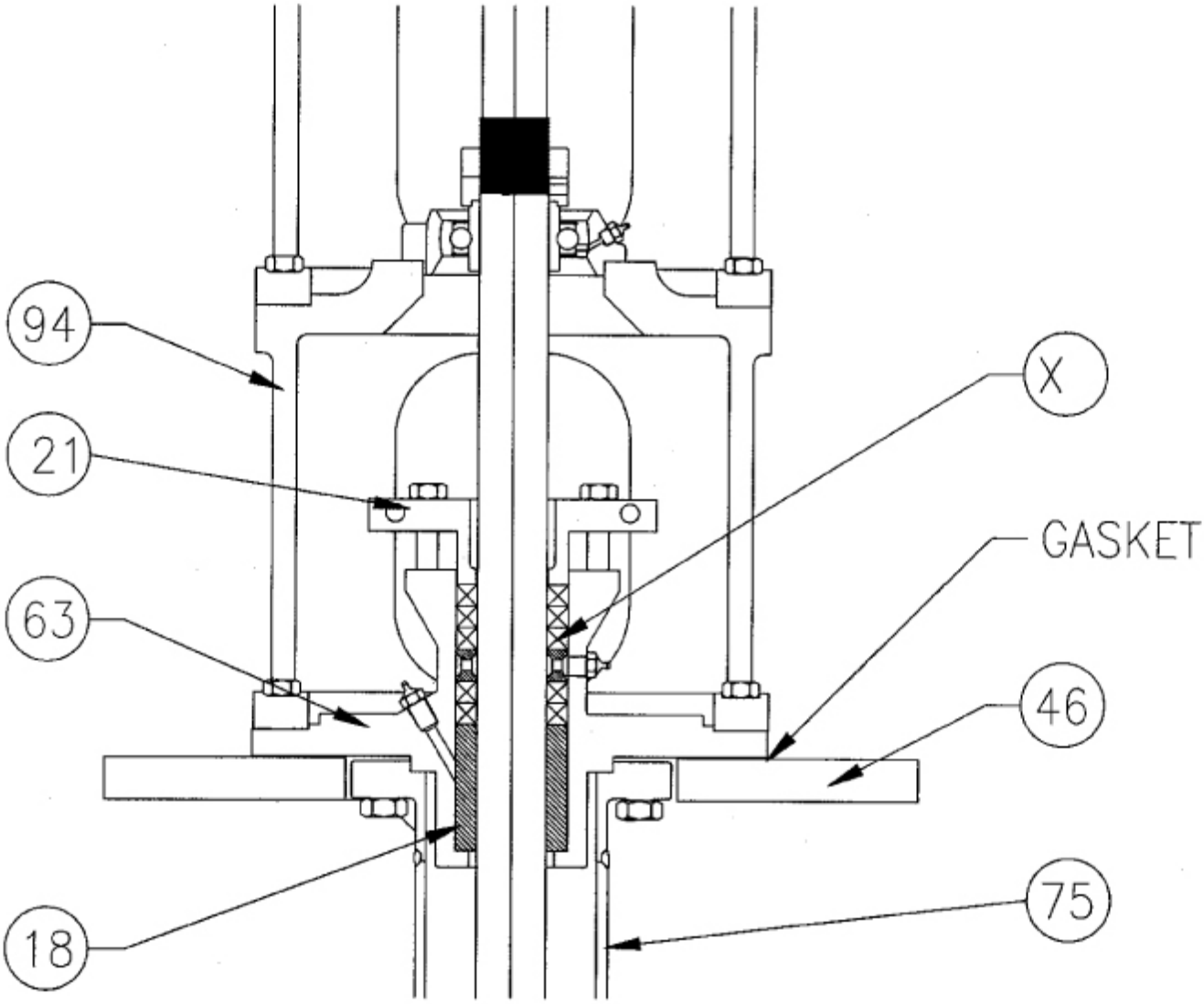
TABER 1000/8000 SERIES STANDARD CONFIGURATION
ALL -40 MODELS



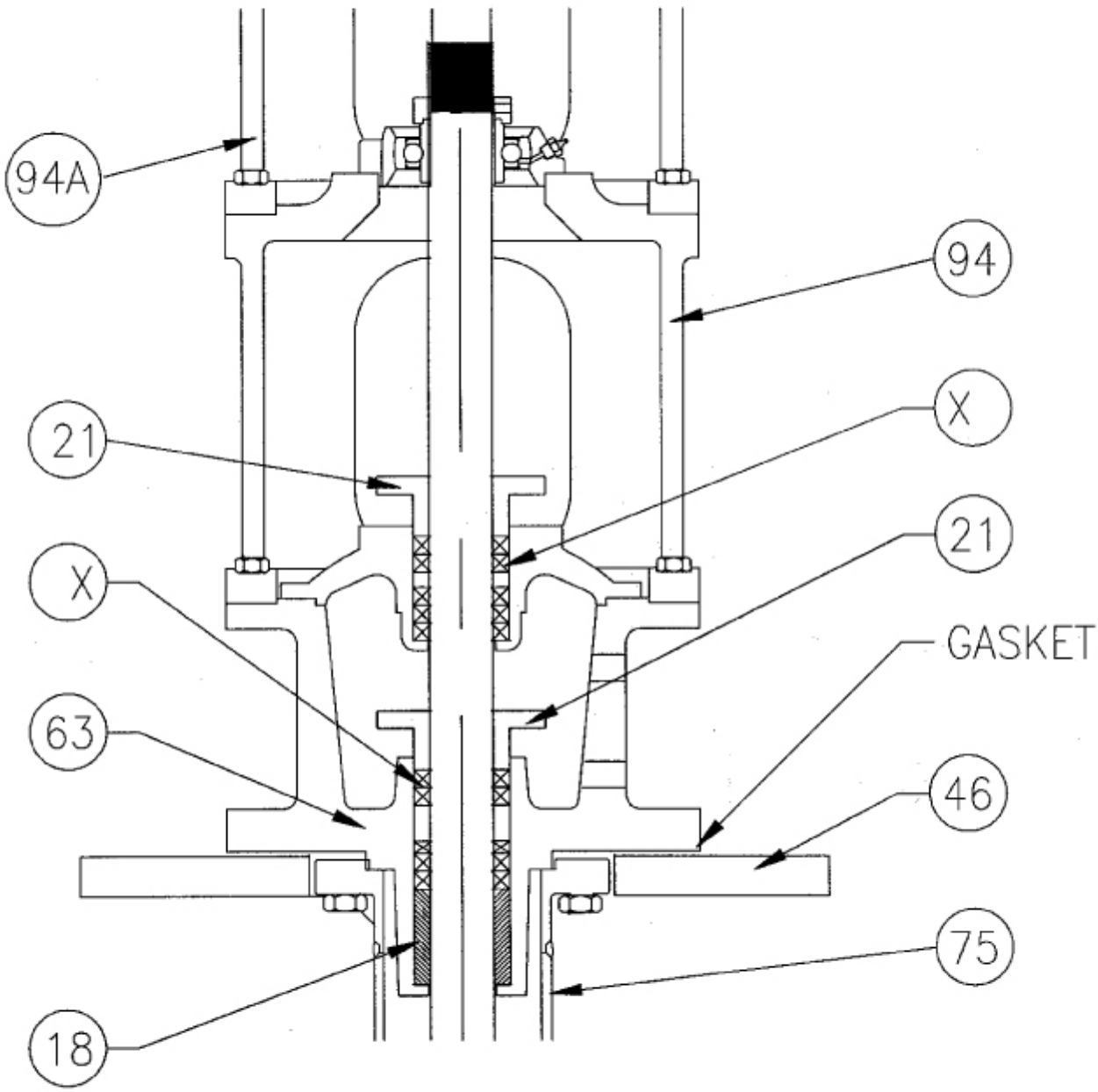
TABER 1000/8000 SERIES STANDARD THRUST BEARING ALL -10 & -20 MODELS



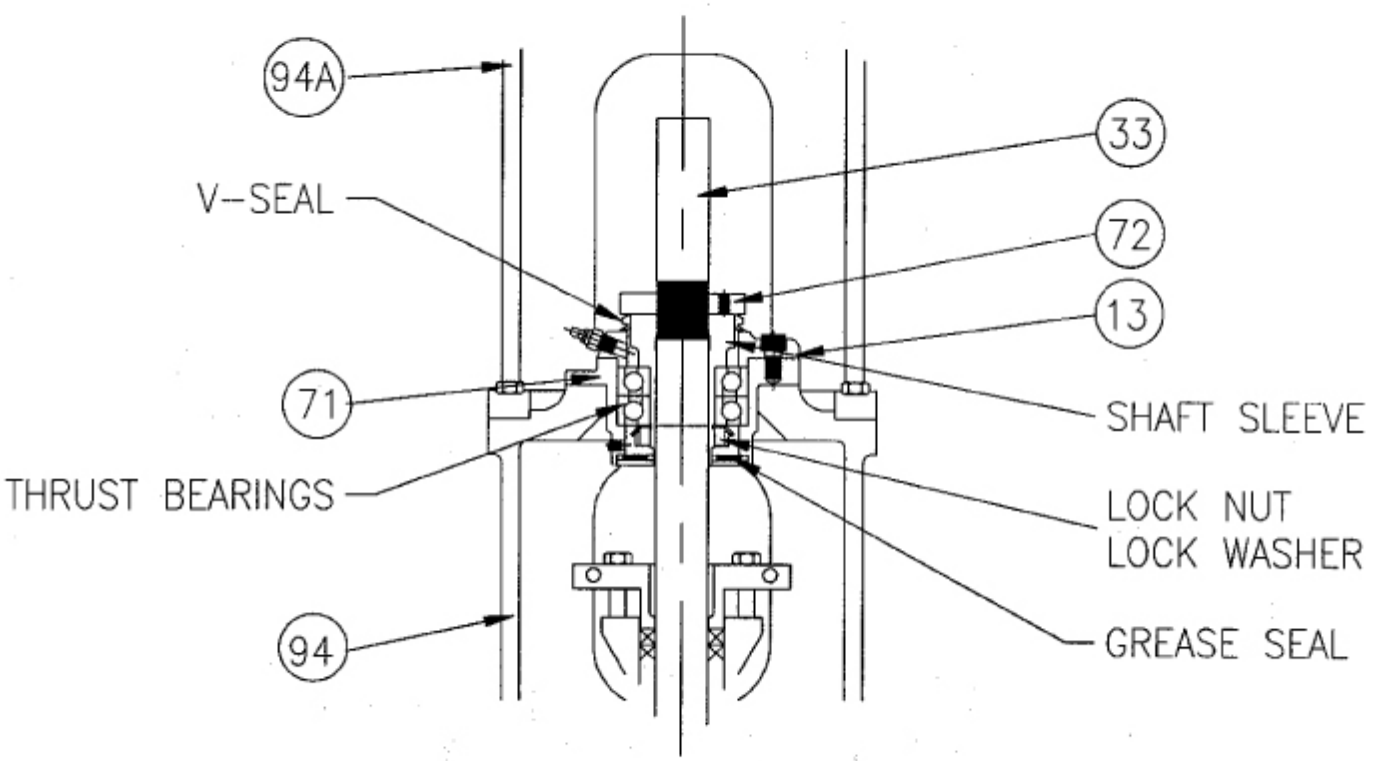
TABER 1000/8000 SERIES STANDARD STUFFING BOX AND THRUST BEARING ALL -30 & -40 MODELS



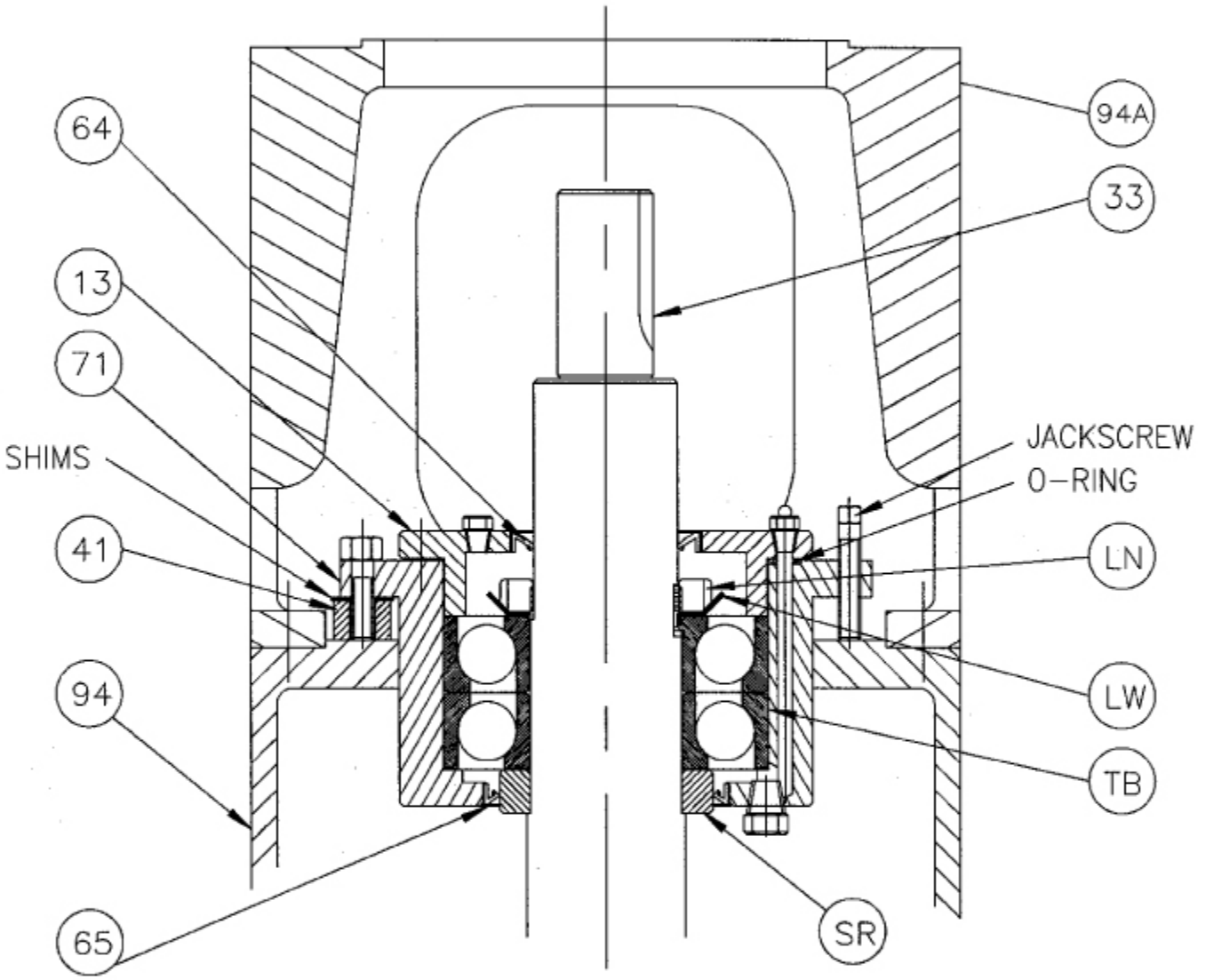
TABER 1000/8000 SERIES DOUBLE STUFFING BOX (OPTIONAL)
ALL -30 & -40 MODELS (1.25" & 1.63" SHAFTS)



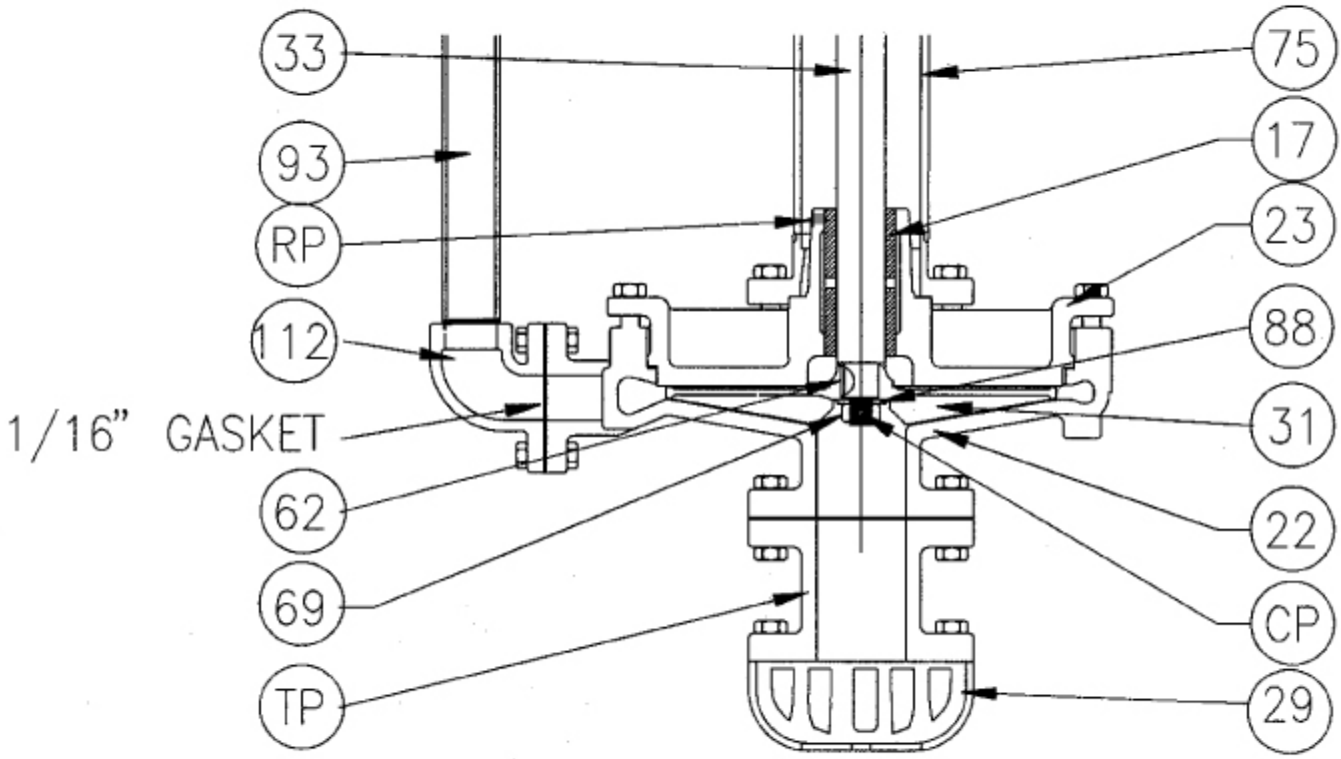
TABER 1000/8000 SERIES DUPLEX THRUST BEARING OPTIONAL 1.25" & 1.63" SHAFTS



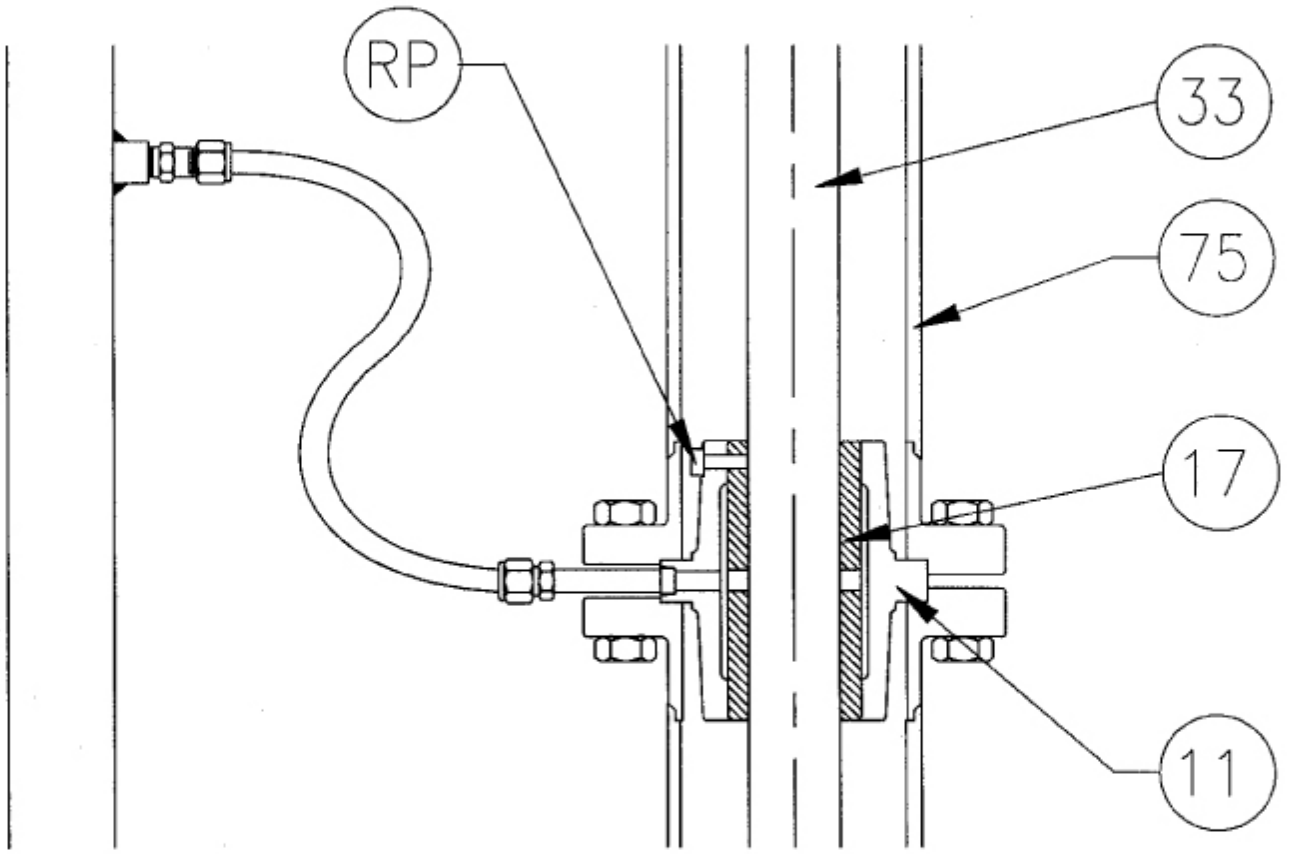
TABER 1000/8000 SERIES DUPLEX THRUST BEARING OPTIONAL 2.00" & 2.50" SHAFTS



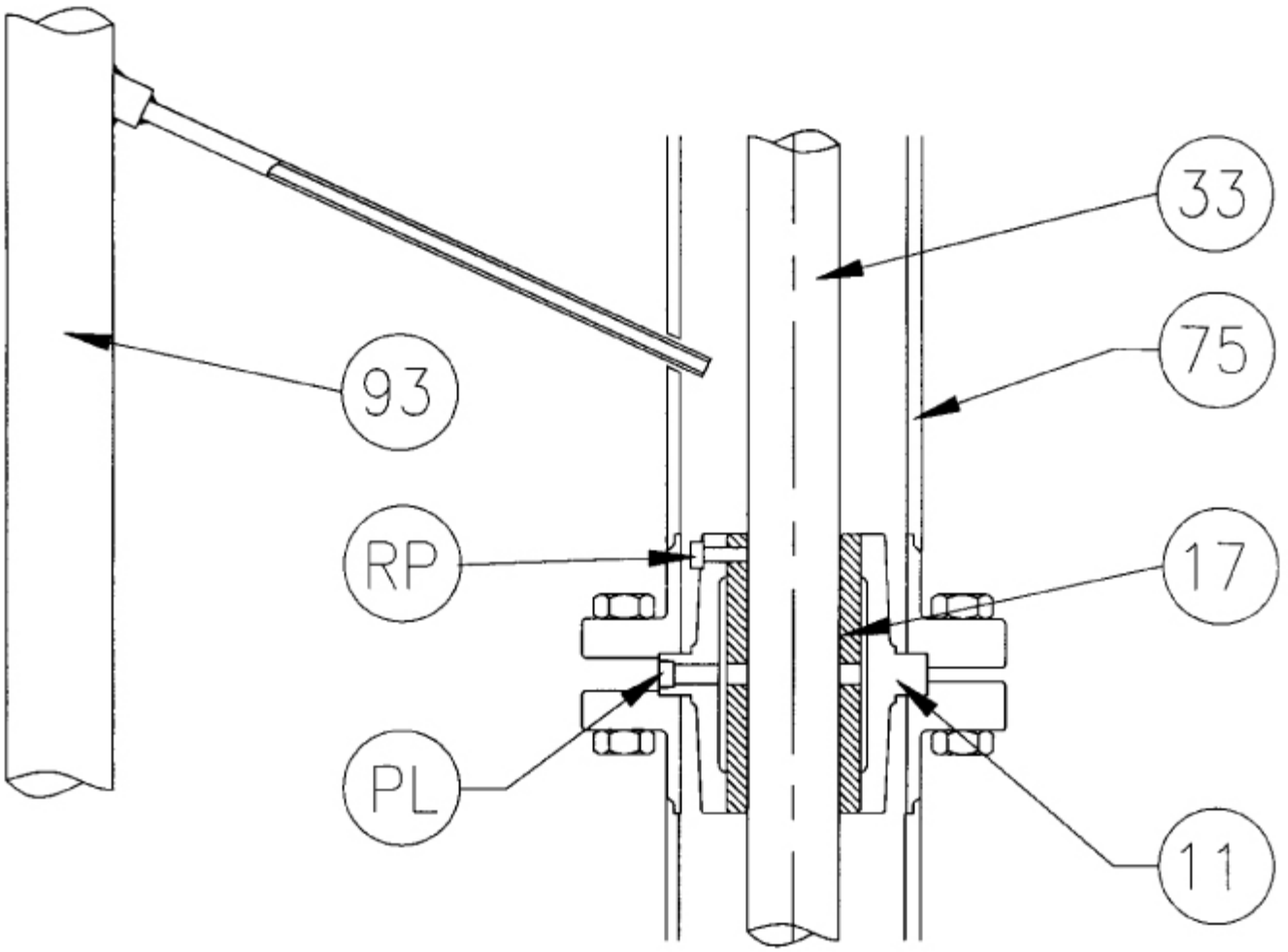
TABER 1000/8000 SERIES CASING, HEAD & IMPELLER ASSEMBLY



TABER 1000/8000 SERIES INTERMEDIATE BEARING ASSEMBLY -20 & -40 MODELS



TABER 1000/8000 SERIES INTERMEDIATE BEARING ASSEMBLY FLOODED LUBE -20 & -40 MODELS ALL MODELS



STUFFING BOX CONFIGURATION -30 & -40 MODELS

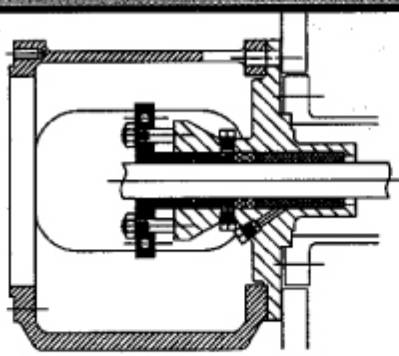


FIGURE 1

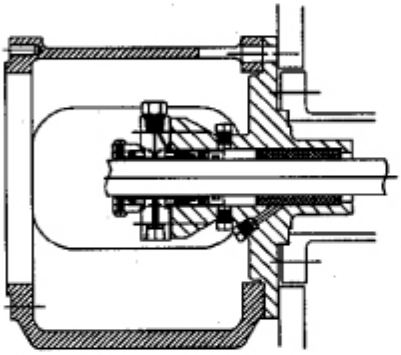


FIGURE 2

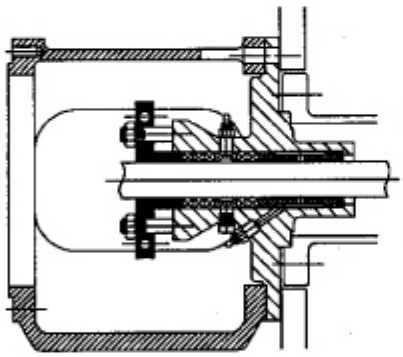
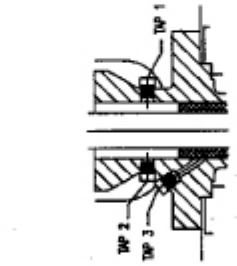


FIGURE 3

FIG.	SHAFT SEAL TYPE	NO. RINGS	SEAL CAGE	PACKING LUBE	S.B. BEARING	S.B. BRG. LUBE	NOTES
1	PACKING DEFORMED GRAFOIL	7 OR AS SPECIFIED	NO	SELF LUBRICATING PLUG TAPS 1 & 2	CARBON GRAPHITE, SOLID	SELF LUBRICATING PLUG TAP 3	STAGGER JOINTS 180. °
2	PACKING, SQ. BRAIDED SEPCO M-4000, GARLOCK 1920, OR EQUIV. APPD. EQUAL	5	YES ·	GREASE. GLR. FTG IN TAP 1, PLUG TAP 2	RELIEF CUT WITH 2 LUBE HOLES	GREASE GREASE FITTING IN TAP 3	GLAND NUTS "FINGER TIGHT" ONLY. DO NOT COMPRESS PACKING IN STUFFING BOX WITH GLAND.
3	MECHANICAL SEAL, DOUBLE CARTRIDGE STYLE BURA 1000 OR EQUIV APPD EQUAL	N/A	N/A	N/A PLUG TAPS 1 & 2	CARBON GRAPHITE SOLID	SELF LUBRICATING PLUG TAP 3	INSTALL PER SEAL MFG. INSTRUCTIONS & DRAWING. ADJUST IMPELLER CLEARANCE. LOCK SEAL GRID SHAFT, AND REPOSITION SEAL SETTING CLIPS TO ALLOW ROTATION. REQUIRES FLUSH FOR OPERATION.
4	PACKING GARLOCK 9003-USA 2 HIGH DENSITY TOP & BOTTOM ADAPTER RINGS 3 LOW DENSITY PREFORMS 2 BRAIDED RINGS 1 GASKET SPACER NO SUBSTITUTES	7	NO	SELF LUBRICATING PLUG TAPS 1 & 2	CARBON GRAPHITE SOLID	SELF LUBRICATING PLUG TAP 3	STAGGER JOINTS 90. INSTALL COMPONENTS AS SHOWN, AND INSTALL GLAND & NUTS "FINGER TIGHT ONLY. COMPRESS PACKING .05 – .13 USING WRENCH ON GLAND NUTS. LOOSEN NUTS AND WAIT 10 MIN ADJUST NUTS TO "FINGER TIGHT" PLUS ONE ADDITIONAL FLAT.
5	SUPPLIED BY OTHERS (Not Shown)	N/A	N/A	PLUG TAPS 1 & 2	CARBON GRAPHITE SOLID	SELF LUBRICATING PLUG TAP 3	SHAFT SEALING BY OTHERS. ONLY STUFFING BOX BEARING PROVIDED.
6	PACKING DEFORMED GRAFOIL W/ BRAIDED GRAPHITE END RINGS	4+2 OR AS SPECIFIED	NO	SELF LUBRICATING PLUG TAPS 1 & 2	CARBON GRAPHITE, SOLID	SELF LUBRICATING PLUG TAP 3	STAGGER JOINTS 180. BRAIDED RING ENDS ARE DIPPED TO PREVENT UNRAVELING. DO NOT REMOVE TAPE.

FIGURE 4



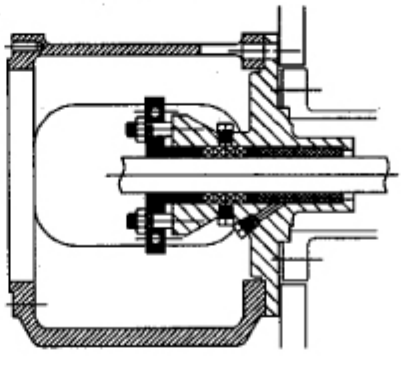


FIGURE 6

1000/8000 SERIES STANDARD MATERIALS OF CONSTRUCTION

Item No.	Part Name	Ductile Iron	304SS	316SS	Elc. K	R-55	Nickel	Y-17	Y-30	Ti
29	Suction Strainer - Cast	C. Iron	304SS	316SS	Elc K	R-55	Ni	Y-17	Y-30	Ti
22	Casing	D. Iron**	304SS	316SS	Elc K	R-55	Ni	Y-17	Y-30	Ti
23	Head	D. Iron	304SS	316SS	Elc K	R-55	Ni	Y-17	Y-30	Ti
*31	Impeller	316SS	304SS	316SS	Elc K	R-55	Ni	Y-17	Y-30	Ti
*33	Shaft	CRS	304SS	316SS	20SS	Hast C22	Hast C22	Hast C22	Hast B	Ti
*-	Impeller Hardware	316SS	304SS	316SS	20SS	Hast C	Hast C	Hast C	Hast B	Ti
*-	Gaskets - All	Sepco 6234 (Optional: Teflon, Gylon, Grafoil, and Flexitallic)								
*17	Bearings - Inter & Head	G.F. Teflon (Options: C.F. Teflon, Rulon, Metal & Carb Graph, C. Iron, & Nitronic)								
*RP	Retaining Pin	316SS	304SS	316SS	20SS	Hast C	Ni	Hast C	Hast B	Ti
-	Fasteners - Wet	Steel	304SS	316SS	20SS	Hast C	Ni	Hast C	Hast B	Ti
112	Discharge Elbow	D. Iron	304SS	316SS	Elc K	R-55	Ni	Y-17	Y-30	Ti
93	Discharge Pipe	Steel	304SS	316SS	20SS	Hast C	Ni	Hast C	Hast B	Ti
75	Support Column	Steel	304SS	316SS	20SS	Hast C	Ni	Hast C	Hast B	Ti
63	Stuffing Box	D. Iron	304SS	316SS	Elc K	R-55	Ni	Y-17	Y-30	Ti
-	Gland Hardware	Steel	304SS	316SS	20SS	Hast C	Ni	Hast C	Hast B	Ti
21	Splite Gland	D. Iron	304SS	316SS	Elc K	R-55	Ni	Y-17	Y-30	Ti
*XX	Packing - Stuffing Box	GFO Fiber (Optional: Die-Formed Grafoil Rings, Graphite, metallic Foil & Teflon)								
*18	Bushing - Stuffing Box	Carbon Graphite (Optional: G.F. & C.F. Teflon, Rulon, Metallized & Carbon Graphite)								
46A	Adapter Plate	CRS Plate (Optional Stainless Steel)								
46	Support Plate	CRS Plate (Optional: Cladding and Solid Stainless Steel Alloys)								
47	Discharge Pipe Clamp	Ductile Iron (Optional Stainless Steel)								
*X	Packing - Disch Pipe Clp	GFO Fiber (Optional: Die-Formed Grafoil Rings, Graphite, metallic Foil & Teflon)								
94/94A	Tripod - Thrust & Motor	Cast Iron (Optional: Fabricated steel and Stainless Steel)								
-	Guard - Tripod	Steel - 30 Gauge (Optional: Non-Sparking AL)								
*71	Bearing - Thrust, Single	Deep Groove Ball Bearing in Cast Iron Housing w/ Pilot Fit								
*-	Bearing - Duplex	Angular Contact Ball Bearings Monted Back to Back (Optional: MRC PumPac)								
71	Bearing Cartridge	Steel (Optional Stainless Steel)								
*SS	Shim Set	300 Stainless Steel								
-	Fasteners - Above plate	Steel (Optional Stainless Steel)								
-	Coupling w/ Steel Key	Woods Flexible Non-Spacer (Optional: Falk, Rexnord, Thomas, & Metastream)								

* - Indicates a Recommended Spare Part. See Bill of materials for applicable parts.
** - For 8000 Series pump, the casing is not available in ductile iron. The pump will be supplied with a 316SS casing.

Materials listed above reflect the standard for each item. Optional materials are available and commonly specified by our customers.

FASTENER TIGHTENING TORQUE TABLE NON-LUBE VALUES

Section 8.5 Torque Values

Fastener Size	Torque (Lb-Ft)
5/16-18	11
3/8-10	20
7/16-14	30
1/2-13	50
9/16-12	65
5/8-11	90
3/4-10	160
7/8-9	140
1-8	220
1 1/8-7	300
1 1/4-7	420
1 3/8-6	560
1 1/2-6	740

LUBRICATION REQUIREMENTS

8.6 Lubrication Requirements

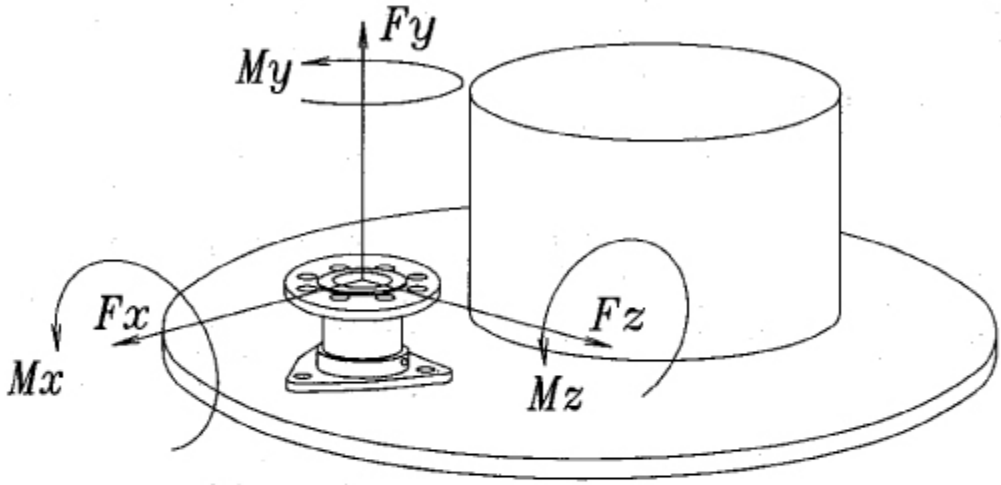
Rotating equipment requires proper and regular lubrication to attain expected service life and required levels of reliability. An understanding of all the points of lubrication will aid the operation and maintenance personnel in appropriate care of the equipment. Refer to the lubrication chart.

Mixing of lubricants of different types (bases) or from different manufacturer's is not recommended. The best practice is to select a grease and continue use as long as satisfactory service is obtained. If it is necessary to switch grease manufacturer or type of grease, purge all old grease form the bearing cavity until fresh grease is noted at the relief port. At the earliest available maintenance period the bearing and bearing cavity should be cleaned of residual greases and repacked with fresh grease. Refer to Section 5 "Inspection/Replacement of Worn Parts" for information regarding condition of used bearings.

Automatic lubricators from bearing supply distributors are labor saving and insure continuous lubrication at fixed rates. Battery operated gas-pressurized lubricators are intrinsically safe in an explosive atmosphere and allows various settings of different lubrication rates. These are available with any grease.

Lube Point	Qty (in^3)	Recommended Lubricants
Standard Thrust Bearing 1.25" Shaft 1.63" Shaft 2.00" Shaft	Quarterly 1.0 1.5 2.0	• Carleton Stuart-Magnalube G (TFE) • Accro-Seal Accrolube (TFE) • Dow Chemical - Krytox GPL (Inert) • Mobil - Mobilith SCH 100 (#2) • Shell - Alvania EP #2 • Amoco - Amolith #2 or Ricon #2 (Polyurea) • Pennzoil - TTMEP Grease 302 Exxon - Polyrex (Polyurea) #1.5 Grease
Duplex Thrust Bearing All shaft sizes	5.5 Capty. 2.0 Quarterly.	
Stuffing Box (Ref. Stuffing Box Configuration Drawing)		
• Fig 1 - All taps plugged	N/A	• Dry lubricated by Grafoil packing. No additional required.
• Fig 2 - Taps #1 & #8 have grease fittings	0.5-0.75 weekly	• Grease lubricated - use grease chemically compatible with pumped fluid.
• Fig 3 - Mechanical Seal	Seal Mft. Req'mt	• Lube seal with flush liquid that is compatible with pumped fluid.
• Fig 4 - All taps plugged	N/A	• Dry lubricated by Grafoil packing.
• Fig 6 - All taps plugged	N/A	• Dry lubricated by Grafoil & graphite packing.
Intermediate & Head Bearing		
• Product Lube - Standard or Flooded	Cont.	• Lubricated by pumped fluid during operation
• External Lube	Cont.	• See Certified Dimensional Drawing

DISCHARGE PIPE LOADS CONSTRUCTION



Pump	*Fx* lbs.	*Fy* lbs.	*Fz* lbs.	*Mx* ft.–lbs.	*My* ft.–lbs.	*Mz* ft.–lbs.
1001, 1005, 1008	50	80	65	130	170	85
1002, 1009, 1020, 1050, 8020, 8050	75	120	97	195	255	117
1010, 1030, 1060, 8010, 8030, 8060	100	160	130	260	340	170
1040, 1070, 8040, 8070	150	240	200	530	700	350
1080, 8080	200	320	260	740	980	500
1090, 8090	350	560	460	1300	1700	870
1120, 8120	530	850	700	1900	2600	1300

8.8 Vibration & Predictive Maintenance

Vibration monitoring should be part of a structured predictive failure analysis program. Early detection of pump problems is desirable, when damage is minor, so equipment is analyzed on line for diagnosis. Mechanical problems are determined before catastrophic failure; therefore, maintenance can be scheduled at a time that is convenient. The result of a good predictive maintenance program is reduced downtime, reduced maintenance cost, prevention of secondary damage and improved plant safety.

A predictive maintenance program is specifically tailored to the user's needs; as a result, programs and monitoring equipment vary from user to user. Therefore, we can only offer simple guidelines for vibration monitoring. Ultimately, the success of the program relies on the expertise of the user.

8.8.1 Monitoring Schedules

Pumps should be monitored in accordance with a prescribed schedule where vibration levels are recorded on an equipment data sheet to establish a history of the unit's condition. A trend of increasing vibration level is a sign of developing mechanical problems. These increases are compared to a baseline reading and maintenance is schedule at a predetermined vibration increase. A graph showing vibration trend vs monitoring date is a very useful analysis tool.

The baseline vibration level is the vibration of the unit while it is operating in good condition, without cavitation, with good coupling alignment, without undo pipe strains, and with straight suction piping to the casing for uniform flow. If previous vibration history is unavailable, a baseline reading can be determined from a similar unit in operation in good condition, or the factory can be consulted for a baseline value taken when the pump was tested before shipment.

Monitoring schedules are predetermined by the program administrator and will vary by application and useful failure detection period. This period is based on the time between confirmation of a machine problem and catastrophic failure.

Pumps that are in a very critical or hazardous service should be considered for a continuous monitoring system that will shut down or alarm at the predetermined vibration level increase.

8.8.2 Scheduled Maintenance

Maintenance should be scheduled at a predetermined vibration level increase above the baseline value. This level is determined by the user and will vary depending on the application.

As a general rule, maintenance should be scheduled when:

- Vibration exceed twice the baseline value.
- Vibration level exceeds 0.20 in/sec.

8.8.3 Measuring Procedure

1. Connect the pickup (accelerometer). The pickup should be placed on a rigid part of the pump where it can be securely held, typically in a horizontal/radial position on the bearing housing. The pickup must be connected at the same location each time the pump is monitored. This location should be illustrated on the data sheet an/or physically marked on the pump.
2. Check the operation conditions. The pump vibration will vary at different points along the pump performance curve, so the pump head and capacity should be at the design or baseline condition each time the unit is monitored.
3. Take a reading. Turn the vibration analyzer to the velocity (in/sec) setting and set to an appropriate scale (the lowest setting that will read full amplitude). Make a spectrum plot and mark the maximum velocity on the pump data sheet.
4. Check results. Compare vibration reading to the baseline reading and previous readings. It is useful to have a trend chart that shows changes in vibration level with respect t monitoring dates.

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