



Tri-Flo Int'l, Inc.
P.O. Box 2626, Conroe, Texas 77305
Bus: (936) 856-8551 Fax: (936) 856-5668

TRI-FLO 2-10''
DESANDER OPERATIONS
MANUAL



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The feed slurry of solids and liquid is fed through the inlet at a high velocity obtained by steady pressure of forty (30) psi. The high velocity transmitted to the feed section creates a spinning velocity and resulting centrifugal forces. The vortex finder causes the stream to spiral downward towards the underflow solids discharge. Centrifugal force and inertia causes solids to settle outward toward the hydrocyclone wall, in a downward spiraling stream.

The solids separate according to size and weight of the particles. In the density range of solid particles in drilling fluids, size is of far more influence than the variations in density so that the biggest particles settle first and fastest.

The cone section narrows, inner layers of the downward spinning liquid turn back toward the overflow because of the increasing centrifugal forces near the center.

In the TRI-FLO's Hydrocyclone, as the last of the liquid moves to the center and back upward toward the overflow, the downward spiraling solids continue out the apex, not being able to turn back because of their greater inertia and high downward velocity. Therefore, the actual solids removal at the underflow is by inertia, not by settling. The underflow rate and density varies with the volume and size of solids being separated to the underflow. Each TRI-FLO 10" Hydrocyclone handles 500 gpm at 30 psi.

The apex holder and apex valve are designed for easy removal when plugging becomes a problem and are adjustable to permit the required amount of spray discharge desired. When a smaller opening is necessary, tighten the apex holder to the desired setting. The tighter the adjustment the less air permitted to enter the bottom of the hydrocyclone. At times when plugging is a problem, the apex holder and the apex valve can be removed. This may be necessary when drilling a surface hole or when large amounts of sand are present.

CAUTION:

Over tightening of the apex, holder and apex valve will cause the hydrocyclone to become plugged. When the hydrocyclone becomes plugged, severe erosion will occur in the feed section of the hydrocyclone and may damage the interior of the hydrocyclone. The damage will first be noticed in the zone of maximum wear on Figure 1 and may make the hydrocyclone virtually useless.

The TRI-FLO Hydrocyclone consists of a feed section, cone section, apex holder, apex valve and a clamp.



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TRI-FLO 2-10" CONE SAND SILT SEPARATOR

START UP PROCEDURE

1. Install the Cone Unit in such a way that the overflow from the cones can drain into the tank and the solids discharge can be discharged to a suitable container.
2. Install the pump so the suction has a positive liquid head.
3. Pipe the discharge line from the pump to the feed manifold as direct as possible. This will minimize pressure loss in the pipe.
4. Install a butterfly valve in the feed line at the feed manifold inlet.
5. Maintain 30-PSI pressure at the feed manifold by using the valve at the feed manifold.
6. Adjust apex nut to provide desired flow rate.
7. Monitor pressure to insure 30 PSI is maintained and cones are not plugged. Severe erosion will occur and damage will result if cones are plugged.



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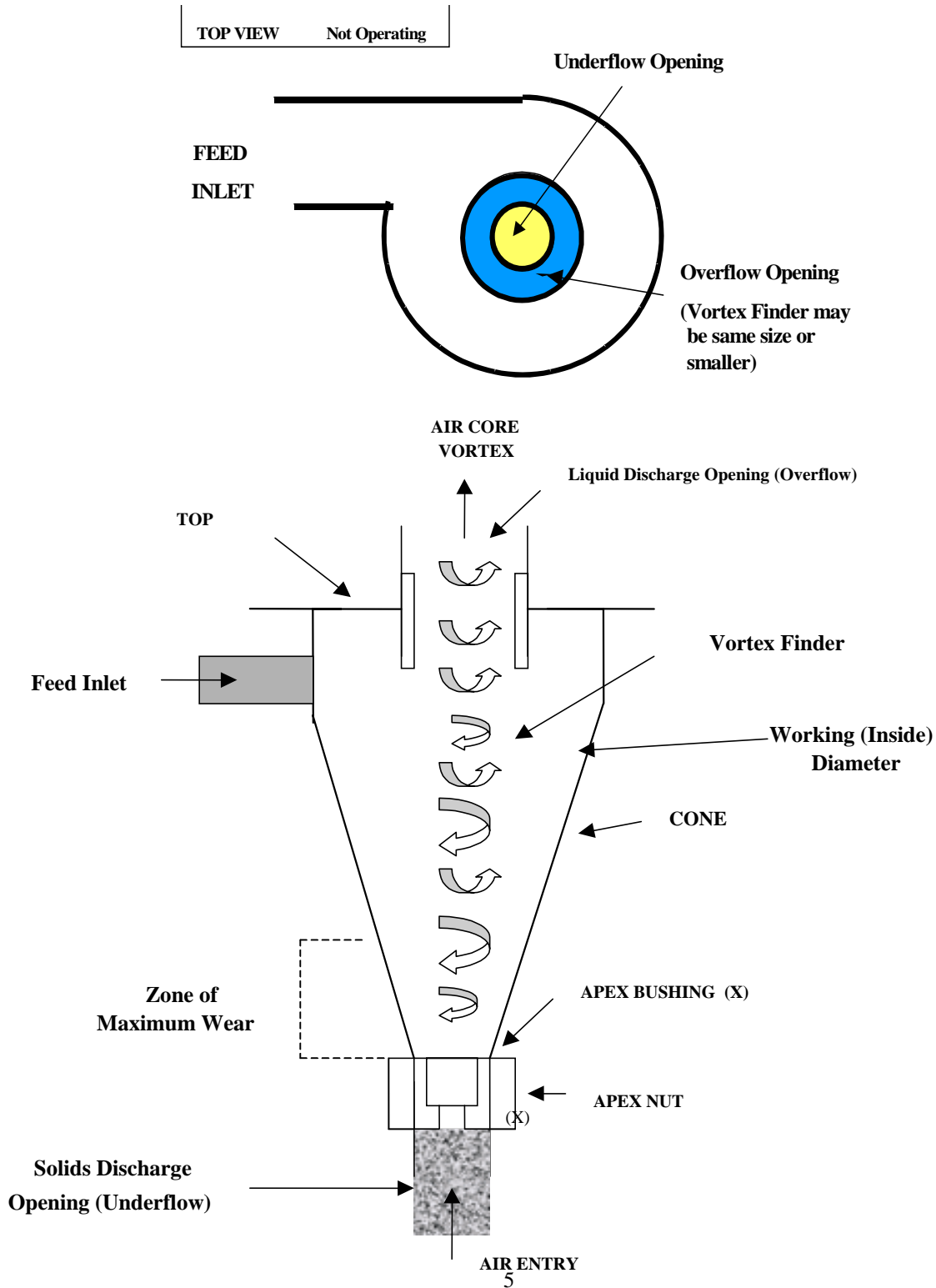
**TRI-1000 2-10" DESANDER
RECOMMENDED SPARE PARTS LIST FOR ONE YEAR
EFFECTIVE 08/01/01**

QTY.	DESCRIPTION	PART NO.
6	Apex Busing	03-00-388
1	One Assembly	03-00-382



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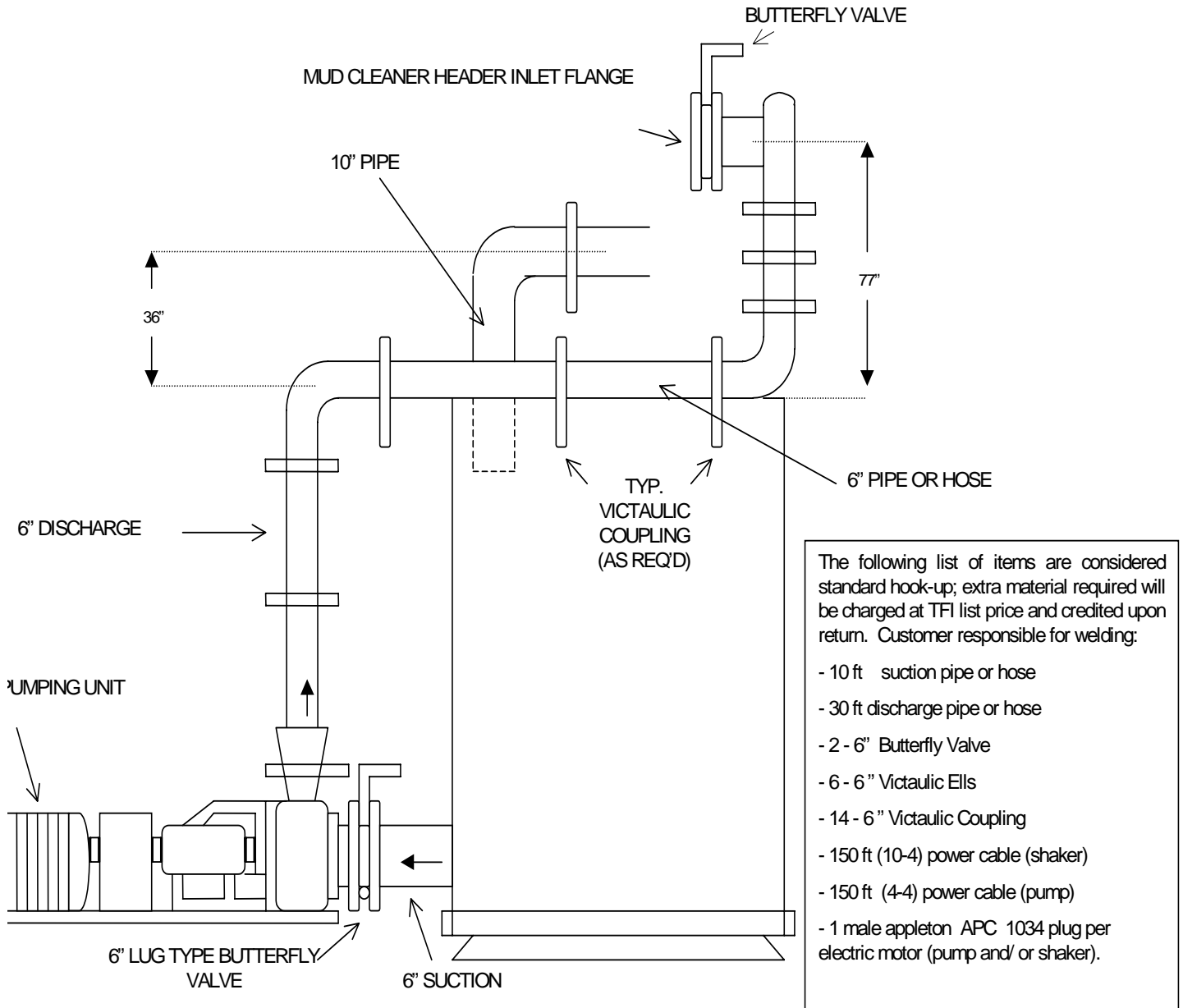
SPRAY DISCHARGE OF HYDROCYCLONE





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GENERAL HOOK-UP FOR MUD CLEANER/SAND SILT SEPARATOR





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Tri-Flo 10" DeSander- DeSilter

Tri-Flo manufactures a DeSander-DeSilter unit that efficiently removes sand and silt sized particles down to a 70 micron cut. Three units are available depending on the volume of the mud being cleaned. Each unit is built on an easily moved compact skid, or without skid depending on specific application.

Specifications of 10" Cone DeSander Units

FEATURES:

Hydrocyclone units are complete with mud trough, manifold, 10" polyurethane hydrocyclones, pressure gauge, and all necessary connections.

Recommended Operating Pressure 25 PSI

Model #	Feed Rate (GPM)	Length (Inches)	Width (Inches)	Height (Inches)	Weight (Lbs.)	Header Diameter Inside (Inches)
500-1	500	40	80	38	660	8
1000-2	1000	48	80	38	760	8
1500-3	1500	57	80	38	1040	8

