



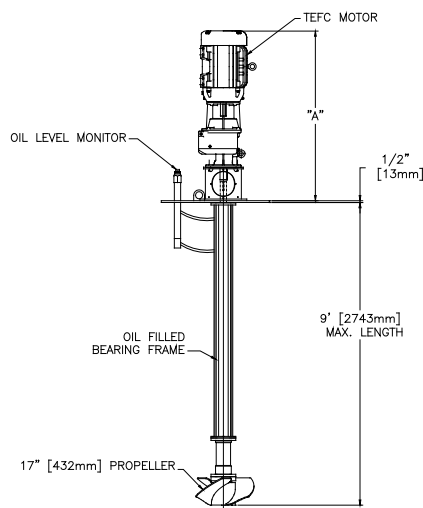
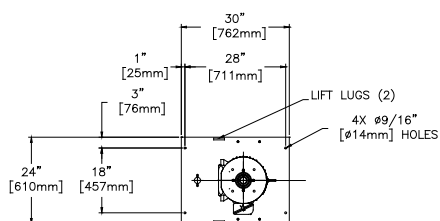
100S – VERTICAL WET WELL MIXER

Materials of Construction:

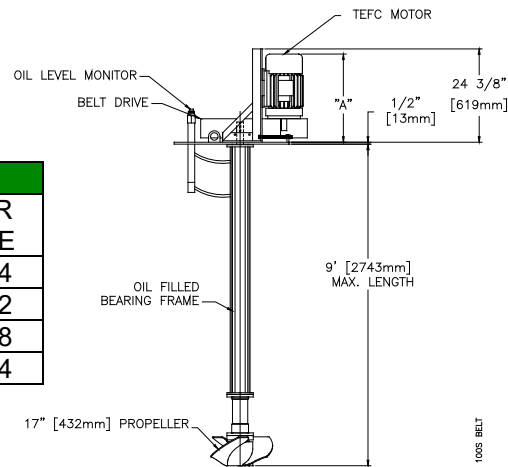
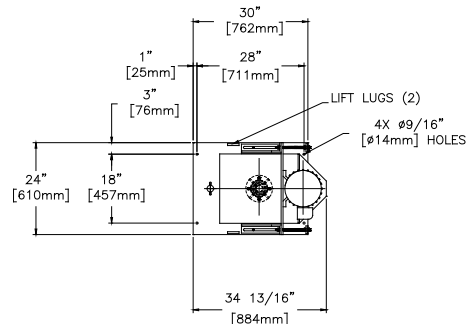
Propeller:	Alloy steel, heat treated to minimum Rockwell C 60.
Upper Cutter:	Cast alloy steel, heat treated to minimum Rockwell C 60.
Mechanical Seal:	Cartridge type with silicon carbide (or tungsten carbide) faces.
Thrust Bearings:	Back-to-back angular contact ball type.
Radial Bearings:	Ball type.
Shaft:	Heat treated alloy steel.
Lubrication:	ISO Grade 46 oil
Mounting Plate:	Carbon steel
Paint:	Epoxy.

DRAWINGS AND DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE. DO NOT USE FOR CONSTRUCTION PURPOSES. CONTACT VAUGHAN FOR CERTIFIED CONSTRUCTION PRINTS.

GEAR DRIVE



BELT DRIVE



A DIMENSION*

	BELT DRIVE	GEAR DRIVE
7.5 HP	21-1/2	38-1/4
10 HP	23	41-1/2
15 HP	26-1/4	42-3/8
20 HP	28	48-1/4

*A DIMENSION WILL VARY SLIGHTLY WITH MOTOR MANUFACTURER

SEE PAGE 2 FOR DRIVES AND SPEED



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For all current patents, see <https://www.chopperpumps.com/patents/>

**MADE IN THE
USA**

SPECIFICATIONS 100S – VERTICAL WET WELL MIXER

Drive	HP	Motor RPM	Mixer RPM	Prop Dia.	Flow (GPM)
Belt Drive	7.5	1765	376	17.0"	5300
	10	1765	405	17.0"	5950
	15	1765	470	17.0"	6600
	20	1765	509	17.0"	7400
Gear Box	7.5	1765	380	17.0"	5470
	10	1765	415	17.0"	6130
	15	1765	474	17.0"	6890
	20	1765	515	17.0"	7695

- A. Propeller:** Fabricated from alloy steel. Blades are cold forged to helical design with large radius tips along leading edges. Heat-treated to minimum 60 Rockwell C Hardness. Propeller dynamically balanced.
- B. Upper Cutter:** Shall be threaded into the bearing housing behind the propeller, designed to cut against the propeller hub, reducing and removing stringy materials from the mechanical seal area. Upper cutter shall be cast alloy steel heat treated to minimum Rockwell C 60. The upper cutter teeth are positioned as closely as possible to the center of shaft rotation to minimize cutting torque and nuisance motor tripping. The ratio of upper cutter cutting diameter to shaft diameter in the upper cutter area of the mixer shall be 3.0 or less.
- C. Shafting:** Shall be heat treated alloy steel. Upper shaft extension shall be turned, ground and polished. The shaft column shall be minimum 3-1/2" schedule 40 steel pipe welded to steel flanges and machined with piloted bearing fits for concentricity of all components. All support column tubes shall be leak tested. Distance between shaft bearings shall not exceed critical speed dimensions.
- D. Shaft Ball Bearings:** Shall be oil bath lubricated by ISO Grade 46 oil, with the exception of the top bearing, which shall be grease packed. The bearings shall have a minimum L-10 life rated 100,000 hours. Shaft thrust shall be taken up by two back-to-back mounted single row angular contact ball bearings, which bear against a machined shoulder on one side and the seal sleeve on the other side. Overhang from the centerline of the lower thrust bearing to the seal faces shall be a maximum of 1.7", with a mechanical seal to isolate the bearings from the pumped media.
- E. Mechanical Seal:** The mechanical seal shall be located immediately behind the propeller hub to maximize the flushing available from the propeller vanes. The seal shall be a cartridge-type mechanical seal with Viton O-rings and silicon carbide (or tungsten carbide) faces. This cartridge seal shall be pre-assembled and pre-tested so that no seal settings or adjustments are required from the installer. Any springs used to push the seal faces together must be shielded from the fluid to be pumped. The cartridge shall also include a 17-4PH, heat-treated seal sleeve and a ductile cast iron seal gland.
- F. Automatic Oil Level Monitor:** Shall be located above the mounting plate and be fitted with an internal oil level switch to monitor oil level and shut off the motor in event of low oil level.
- G. Mounting Plate:** Shall be fabricated carbon steel, 1/2" minimum thickness, and shall include lifting lugs.
- H. Gear Box with Motor Requirements:**
- **Shaft Coupling:** Shall be T.B. Woods Sureflex elastomeric type with a minimum 1.5 service factor based on the drive rated horsepower, and shall be protected with a guard meeting OSHA requirements.
 - **Motor Stool:** Shall be a fabricated carbon steel weldment machined with piloted fits to positively align the gear box and pump shafts, with no adjustments.
 - **Gear Box:** shall be a helical inline type vertically mounted to the motor stool
 - **Motor Requirements:** Drive motor shall be ___ HP, 1765 RPM, ___ volts, 3 phase, 60 hertz, 1.15 service factor, TEFC enclosure. The motor shall be sized for non-overloading conditions.
- I. Belt Drive Requirements:**
- **Belt Drive:** includes adjustable motor mount, safety guard, belts and sheaves for ___ Mixer RPM
 - **Motor Requirements:** Drive motor shall be ___ HP, 1765 RPM, ___ volts, 3 phase, 60 hertz, 1.15 service factor, TEFC enclosure. The motor shall be sized for non-overloading conditions.
- J. Stainless Steel Nameplate:** Shall be attached to the mixer giving the manufacturer's model and serial number, rated capacity, speed, and all pertinent data.
- K. Surface Preparation:** Solvent wash and a single coat of Tnemec 431 epoxy (except motor).
- L. OPTIONAL Premium Surface Preparation:** Solvent wash, sandblast, and coat with minimum 30 MDFT Tnemec Perma-Shield PL Series 431 epoxy (except motor).