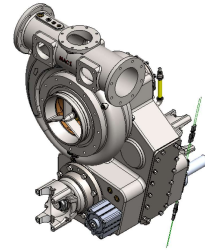


TAC Midship Pump

DETAILED SPECIFICATIONS

SPECIAL NOTE:

When preparing the specifications for your new pumper, assure the use of the MAC1 Products pump by incorporating these pump specifications as written. No competitive pump can match MAC1 Products construction or performance.



Pump Assembly

General Description: The fire pump with integrated gearbox is designed for midship split driveline driven chassis installations meeting the current edition of NFPA 1901.

Performance: The pump shall perform to the current edition of NFPA 1901 at ratings from 1250, 1500, 1750, or 2000 gpm. The pump shall be free from objectionable pulsations and vibration. From sufficient engine and hydrant water source the performance should exceed 3000gpm.

Impeller- Bronze mixed flow single suction impeller with a closed shroud design with front and rear wear hubs. Brass castle nut and cotter pin hold impeller onto the pump shaft.

Wear Rings- Front and rear replaceable bronze wear rings

Pump Shaft- The pump shaft is a one piece design made of 17-4PH heat-treated stainless steel. Shaft is rigidly supported by a matched set of tapered roller bearings on one end and a roller bearing on the other end, no outboard bearing is required.

Seal System- Maintenance free self-adjusting mechanical seal with stainless steel spring and hardware is provided. Seal will have O ring and bellows seal, carbon rotating element and a tungsten carbide seat.

Volute- Single cut water, vertically split design, cast ductile iron volute designed with integrated discharge manifold.

Hydrostatic Rating- 500PSI per NFPA 1901

Hydrodynamic Rating- 350PSI

Volute Connections- Suction intake has a combination flange and 8" Victaulic connection. The discharge has two side 5" flange connections, a top 4 flange and two front and one rear 3" flange connections.

Manifold Options- A range of stainless steel suction manifolds and discharge extensions are available.

Inboard Head- Cast iron housing holding rear wear ring and mechanical seal seat, the head is integrated into the gearbox housing. Head is attached to the volute by 1/2" studs and is sealed by an O-ring.

Gear Case- The case and tail shaft housing are made of 30,000psi fine grain cast iron. Mounting points will be provided on the top rear of the gearbox and on both lower sides of the main case. A side gearbox access plate is provided for servicing. The gearbox is designed to be mounted either as a front or rear-facing pump. Mounting location is provided on the main case to machine an optional port for an auxiliary drive.

Optional Auxiliary Drive- This system drives off the idler gear and is available as a SAE C, 2 or 4 bolt, hydraulic pad connection or 1.25 keyed drive shaft end with a rating of 75HP.

Bearings- Pump shaft is supported by a matched set of tapered roller bearings on one end and a roller bearing on the other end. The idler gear is supported by a matched set of tapered roller bearings. The lower drive has front and rear matched sets of tapered roller bearings and cages roller bearings between the front and rear drive shafts and under the main drive gear.

Lubrication System- The lubrication system is a splash type with an upper bearing distribution baffle. Case has a magnetic drain plug, filler plug with vent and front oil level plug.

Gears- The gears are class 11, 20 degree helical 6DP gears made of heat treated 8620 steel. With ratio of 1:1.92, matched to normal 2100 or 2200 rpm diesel engines. The main output drive is designed for an output rating of 550HP.

Oil Seals- Front and rear main drive and the top output, will have double lip oil seals.

Drive Shafts- The lower drive shafts are made of heat treated 8620-alloy steel and are splined to fit 2-3/4" X 10 drive shaft yokes. Yokes available include SPL170, SPL140, 1710, 1760, 1810, RPL-20R, RPL-25R, 176N or 18N. The lower drive is rated for 18,000#ft of torque.

Road to Pump Shifting System- The shifting system shall include a shifting ring, a fork, shifting shaft riding in bushings in the gear case, a hard anodized aluminum air cylinder with piston, a housing with twin shifter switches. The design incorporates a full neutral position where neither the road nor the pump position is engaged. The end of the shifter shaft extends out of the air cylinder to allow manual shift override.

Priming Pump

1. The priming pump shall be a positive displacement, air primer conforming to the requirements of NFPA 1901. The pump body shall be manufactured of heat treated anodized aluminum for wear and corrosion resistance.
2. The pump shall be capable of producing a minimum 24 Hg vacuum at 2000 feet above sea level.
3. The air primer totally enclosed unit.
4. The priming pump shall not require lubrication.
5. The priming pump shall be operated by a single push button control switch mounted on the pump operator panel.