



**SMART  
TURNER  
PUMPS**

## Manufacturing & Commissioning of a Horizontal ASME B73.1 End Suction Centrifugal Pump for the Oil Industry



Customer in service of the oil industry is integral to **Smart Turner Pumps Inc** and can be exemplified through the manufacturing, start up, and aftermarket support of this horizontal ASME B73.1 end suction centrifugal pump used to pump bio oil. In house quality control, attention to expediting requirements, on-site commissioning inclusive of startup supervision, and effective warranty guarantees are just some of the assurances that we are able to provide our end users. As per the drawings and customer specifications, we designed the pump to handle the bio oil at 65°C, with a viscosity of 8.5 cP, achieving a 300 M3/hr flow rate with a 27.5 M head.

To suit the installation application, Smart Turner Pumps supplied a group three bearing frame, oil lubed sealed with Inpro bearing isolators. For the mechanical seals, we chose a double cartridge seal with an integrated pumping ring, and an API plan 53A external pressurized tank configuration. We drew on our expertise with a number of metals in constructing the pump, including 316 stainless steel for the pump casing and shaft, and cast iron for the bearing housing. Combined, an effective and high caliber pump was provided on time and to exact specifications for the environment stipulated.

### Project Details of this End Suction Centrifugal Pump

<b>Product Description</b>	This ASME B73.1 End Suction Pump is used to pump bio oil, and has an 8" RF discharge and a 6" RF discharge.	
<b>Capabilities Applied/Processes</b>	Castings, Vertical Boring Mill, Horizontal Boring Mill, CNC Lathe	
	Hydrostatic Testing Tested at 150 25 PSI Tested for 30 5 Minutes	Commissioning On-Site Commissioning Start-Up Supervision
	Transportation	
<b>Overall Pump Dimensions</b>	Length: 80.0" Width: 26.0"	Height: 37.0" Discharge: Ø8", Ø6"
<b>Tightest Tolerances</b>	±.0005	
<b>Material Used</b>	<b>Casing, Stuffing Box, Cover, Open Impeller:</b> 316 Stainless Castings ASTM A351 Grade CF8M <b>Shaft, Sleeve:</b> 316 Stainless Steel <b>Bearing Housing:</b> Cast Iron	
<b>Features</b>	Pumps Operate at 1185 RPM Motor Specifications: Bearing Housing: Heavy Duty Oil Lubricated 60 HP Radio & Thrust Ball Bearings 1,200 RPM Sealed Shaft by Inpro Bearing 3/60/575 Volt	

	Labyrinth Isolators Flow of 300 m3/hr Mechanical Seal: Double Cartridge Mechanical Seal with intergraded pumping ring for API Flush Plan 53A, external pressurized tank.	TEFC Enclosure 405T Frame
<b>Pump Date</b>	Fluid: Bio-Oil 65°C	Viscosity of 8.5 cP
<b>Industry for Use</b>	Oil	
<b>Quantity</b>	2	
<b>Turn Around Time</b>	12-14 Weeks After Approval of Drawings	
<b>Delivery Location</b>	Guelph , Ontario , Canada	
<b>Standards Met</b>	Customer supplied specifications, ASME B73.1	
<b>Product Name</b>	Manufacturing & Commission of End Suction Pumps	