

**MACHINE INFORMATION:**

**MODEL MAC 500 BD M**

**Manually Cleaned Centrifugal Hi-Speed Disc-Bowl Separator**

**DESIGNED FOR BIO-DIESEL PROCESSES:**

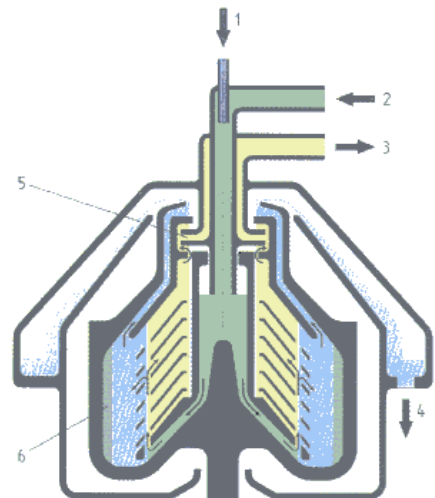
- Yellow stock and rendering oils
- General refining
- Separation of catalysts from bio-diesel oil
- Separation of glycerin from bio-diesel oil
- Separation from the bio-diesel washing process
- Glycerin clarification and refining

**TECHNICAL SPECIFICATIONS:**

- Bowl volume: 3.0-Liters
- Maximum capacity: Up to 500-GPH
- Solids holding capacity: Up to 2.0 Liters
- Maximum RPM: 8,000
- Maximum temperature: 160°F
- Suggested Ph range: 6 to 9
- Motor 5-HP XP 480vac/60hz/3ph
- Weight 420-lbs
- Size 30"L 20"W 36"H
- **Bowl diagram and operating description:** Seal water (1) is introduced into the bowl to seal the heavy phase liquid discharge to begin the process. Product is introduced through the hermetic style product feed (2) and the light phase liquid is discharged under pressure by a centripetal pump (5) installed inside the bowl. The heavy phase liquid (4) discharges into the covers and gravity drains. The sludge chamber (6) features a relatively large volume solids holding capacity for high efficiency separation and maximum process time between centrifuge bowl clean outs. The bowl and all the components that are in contact with the product are easily removed and disassembled for quick easy cleaning.



**MODEL MAC 500 BD M**



**STRUCTURAL CHARACTERISTICS:**

**FRAME:** Manufactured of cast iron, sandblasted, heat-treated, and epoxy painted. The frame must be secured to the floor using the supplied vibration absorbers and foundation bolts.

**MOVING GEARS:** The horizontal shaft is moved through a mechanical coupling by an electric motor flanged directly upon the equipment frame and controlled by an inverter. On the horizontal shaft a worm-wheel gear engages the pinion gear fitted directly on the vertical shaft, and the assembled bowl

fits onto the tapered end. All the rotating shafts are mounted on ball bearings. The top vertical shaft bearing is located inside an appropriate shock-absorber collar, specifically designed to compensate for all radial vibrations.

**LUBRICATION:** Automatic splash lubrication is provided by a constant level oil bath inside the frame. Appropriate caps allow the filling and emptying of the oil. A sight glass provides a means for inspecting and controlling the lubricating oil level.

**CENTRIFUGE BOWL:** Manual clean bowl with the bowl bottom and top made of duplex stainless steel with providing superior mechanical strength and chemical resistance. The bowl lock-ring is made of special AISI 400 series stainless steel. The internal bowl parts such as the distributor, conical discs, feed distributor, and the centripetal pumps for the light and heavy phase discharge are made from AISI 316 stainless steel.

**FRAME COVERS:** The covers are made in aluminium and bolt to the base frame. The covers position the feeding pipe and the centripetal outlet pumps of the clarified liquid phases.

**AUTOMATION / CONTROL PANEL:** Designed and built according to IP 55 class and CEI 44-5 rules including the drive motor VFD, which provides a more gradual starting load. The VFD also provides a controlled gradual stop of the bowl during shut down.

The front of the control panel includes:

- General switch
- Centrifuge start/stop switch
- Working unit light signal
- Active alarm light signal
- Full speed light signal
- VFD fault light signal
- Emergency Stop switch
- VFD Hz visualization

**EQUIPMENT ACCESSORIES:** The centrifuge is equipped with all the accessories and the special keys for the ordinary maintenance operations including a set of spare parts for initial maintenance.

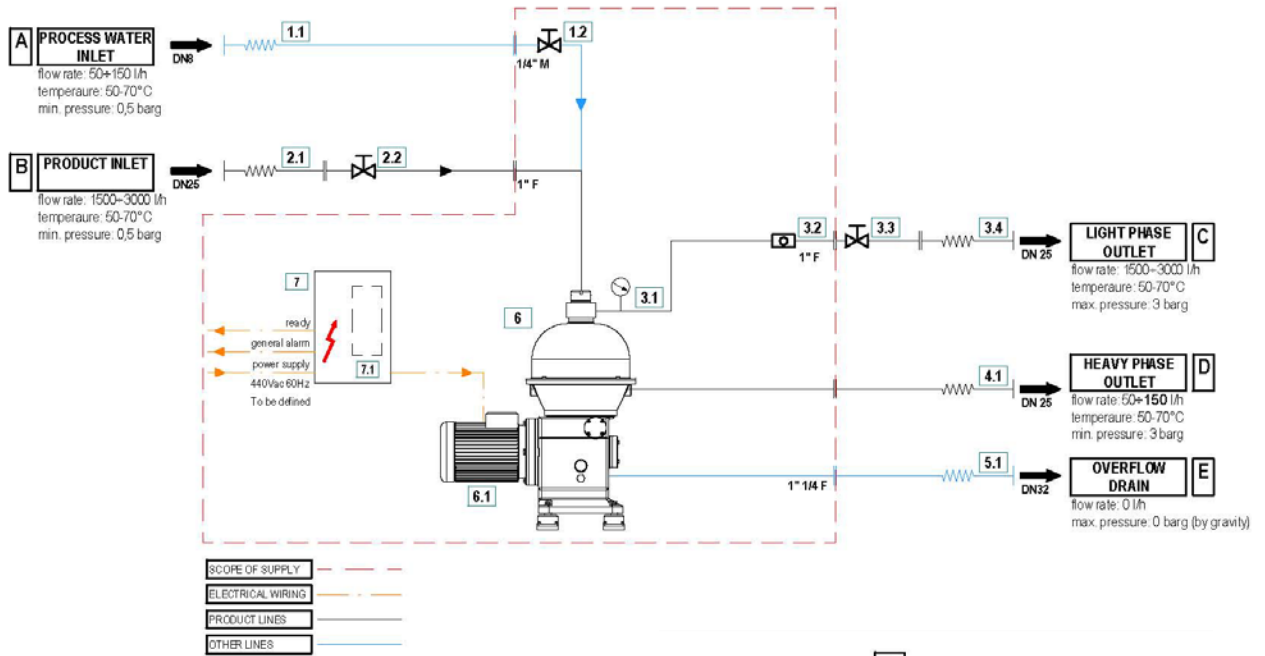
**DOCUMENTATION:**

**1. Technical drawing:** P&ID and assembly drawing

**2. O&M manual:** (1) One hard copy and (1) one CD of the Manual Including:

- Technical features
- Safety, accidental prevention
- Installation procedure
- Operating specification for use
- Maintenance instruction

**MAC 500 BD M Centrifuge Plan View Drawing / Information**



A	Process Water Inlet	¼" hose-barb
B	Product Inlet	1" F-NPT
C	Product Outlet	1" F-NPT
D	Glycerin / Water Outlet	1" F-NPT
E	Overflow Drain	1 1/4" F-NPT

