The MBPX 810SGV-34CGL is a medium-sized unit in the range of centrifuges specially built for microbiological applications. The separation duties met with often require very high bowl speeds for an optimal performance in separation of solid particles with very small diameters.

**Applications**
The MBPX 810 is used for removing suspended solids with particle sizes of approx 0.5 to 500 µm from a liquid having lower density than the solids. The solids content is usually in the range of 0.1 to 20% by volume. The main applications are bacteria separations, rDNA products, enzymes, cell cultures and vaccines. The maximum process capacity of the machine is 10 m³/h.

**Features**
The MBPX 810 centrifuge has a timer-triggered partial discharge system, meaning that only part of the bowl content is emptied during discharge. The volume of the discharge can be varied and takes place at full speed without any interruption of the feed. The bowl is mounted on a vertical spindle, driven by the horizontally mounted motor, via a worm gear. The flanged standard motor has a fixed coupling and is suitable for variable frequency drive. The drive system is splash-lubricated without any need for an external lubrication circuit. The built-in paring disc for the separated liquid eliminates the need for an external pump. It comes in two sizes for different flow ranges. The machine is equipped with nozzles for flushing above and below the bowl and in the sediment outlet.

**Standard design**
All liquid-wetted parts are made of high-grade stainless steel and liquid-wetted gaskets in FDA approved EPDM rubber. The machine is equipped with sensors monitoring vibration level and bowl speed. A cover switch prevents the start of the motor unless the machine top part has been properly mounted. The centrifuge is equipped with anchoring feet and vibration dampers. The tools for assembly and disassembly of the bowl are made of stainless steel.

**Options**
Two different disc stacks for different solids space volumes are available. The centrifuge can be supplied as a complete system with the centrifuge mounted on a fixed base frame. On this frame is included process piping for liquids entering and leaving the centrifuge and for service media. Typically an optional pump removes the solids phase. The built-in electrical system includes starter for variable frequency drive, a PLC unit and a pneumatic unit.
Operating principles
The feed is introduced into the rotating centrifuge bowl via a stationary inlet pipe (1) and is accelerated in the distributor (2) before entering the disc stack (3). It is between the discs that the separation takes place. The liquid phase moves towards the center of the bowl, from where it is pumped out under pressure by means of a built-in paring disc (4). The heavier solids phase is collected in the periphery of the bowl and is discharged at preset intervals through a cyclone. The solids discharge is achieved by a hydraulic system below the separation space in the bowl. When at pre-set intervals, the sliding bowl bottom (5) is forced to drop down, solids ports (6) are opened for the solids to be discharged.

Utilities consumption
- Power consumption: 17 kW @ 10 m³/h (33 hp @ 110 US gpm)
- Water consumption per discharge: 1 l/h (0.26 US gallon)
- Required discharge water pressure: max. 50 kPa (7 psi)
- Jacket cooling water consumption: 150 l/h

Connections
- Product inlet, outlet: DN 50 acc. to DIN 11851
- Solids cyclone pipe: Clamp NW 63,5 acc. to ISO 2037

Shipping data (approximate)
- Centrifuge incl. bowl and motor: 1,385 kg (3,060 lbs)
- Bowl: 300 kg (665 lbs)
- Gross weight: 2,000 kg (4,410 lbs)
- Volume: 4–5 m³

Technical specifications
- Throughput capacity: max. 10 m³/h (44 US gpm)
- Solids handling capacity: max. 360/540 l/h
- Feed temperature range: 0–100 °C (32–212 °F)
- Bowl speed: 7,488 rpm
- Bowl volume: 15 l
- Solids space volume: 6,8/9,4 l
- Motor speed, synchronous 60 Hz: 1,800 rpm
- Motor power installed: 22/25 kW (30/33 hp)
- Starting time, min/max: 8–10 min
- Stopping time without brake (average): 45 min
- Feed pressure required: 0–50 kPa (0–7 psi)
- Outlet pressure available: 600–800 kPa (80–110 psi)
- Sound pressure: 79 dB (A)
- Overhead hoist capacity: 900 kg

Material data
- Bowl body: EN 1.4418
- Bowl hood and lock ring: EN 1.4418
- Distributor: EN 1.4401 UNS 31600
- Solids cover and frame hood: EN 1.4401 UNS 31600
- In & outlet parts: EN 1.4401 UNS 31600
- Frame bottom part: Cast iron
- Gaskets and O-rings: EPDM rubber acc. to FDA 21 CFR
- Bowl tools: EN 1.4401 UNS 31600

How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

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