



interfil

IC45-A Semi Auto Centrifuge



Solid/Liquid High G Force Centrifuge

IC45-A Semi Auto High Performance Solid/Liquid Centrifuge



The Interfil IC45-A Centrifuge is a high speed Centrifuge designed for efficient separation of solids from liquids applicable for solids with soft gelatinous properties. The Centrifuge is a continuous uninterrupted operation with auto ejection of solids. Ideal for Biofuel production including cleaning of used Vegetable Oil, Wash Down Bays, Wine and Fruit Juice production, Waste Water Streams WWTP and many other industrial processes. The IC45-A is ideal as a stand-alone system or can be included to compliment an existing system. It is also suitable as a mobile unit due to its light weight and low power consumption.

For applications such as wine production, a nitrogen blanketed system is available as an optional extra.

The system is offered as a turn-key system, requiring only electrical connection and plumbing to and from the Centrifuge. The capability to Remote Start or utilising the system Stand-by Function of high/ low tank level detection makes the system operator free.

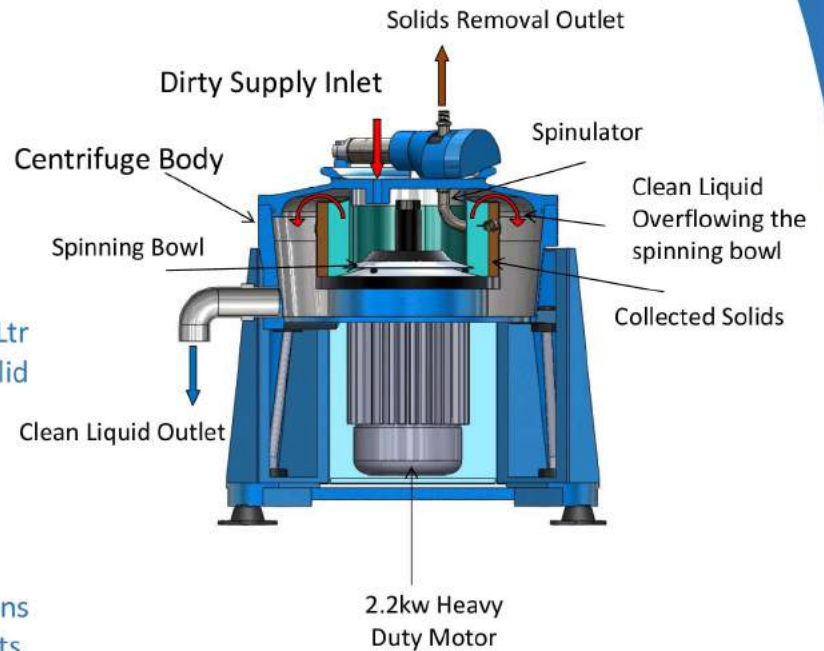
Cleaning Device for auto
ejection of solids



IC45-A Semi Auto High-performance Solid/ Liquid Centrifuge Model

BENEFITS OF THE INTERFIL IC45-A

- Choice of Manual and Fully Automated Self Cleaning
- Compact Design
- One Pass Separation with Flow Rate 0-4800Lph
- High Speed Precision Balanced For Greater Separation
- Super Quiet Operation
- No Wearable Parts
- Automatic Solid Removal
- 304 Stainless Steel Heavy Duty Bowl (6Ltr Liquid Holding Capacity and 3Ltr Solid Holding Capacity)
- 4 Point Vibration Isolation Points
- Quick and Easy Removal of the Bowl
- High G Force 3000G at 3900rpm
- Tungsten Carbide Cleaning Tip
- Single Phase and 3 Phase Power options suitable to specific Country requirements.



ABOUT THE IC45-A CENTRIFUGE

High G force of 3000 Gravities and a processing rate of 4800 Litres per hour allows for optimum separation. The rotating stainless steel bowl is dynamically balanced at 4000rpm for extra smooth operation and direct driven by a heavy duty three phase induction motor with extra duty bearings and heavy sectioned locating flange and housing. The precision spinning bowl is encased by a heavy machined cast aluminium lid and bucket, with powder coating for standard applications and optional chemical resistant and FDA approved coatings for specific applications.

The IC-45A is supplied with four isolators for anchoring points for secure location to the ground or a pallet/trolley for mobility around the plant. The system design incorporates four point dampeners for vibration isolation to help prevent an out of balance state.

The automatic removal of solids is activated by means of a timer within the cabinet. The timer activates the auto clean function and discharges the solids into a collection bin. The high speed bowl is easily removed with the bowl removal tool supplied with the centrifuge. The bowl having light weight and stainless steel construction makes the removal, if required, easy and safe from accidental damage.

Optional Extras include the addition of VSD Control for the Supply Pump, Flow Metering Control, PLC plus HMI Touch Screen Control, B2B Monitoring for Fault Alert, Vibration Sensor and pH Dosing and

OPERATION

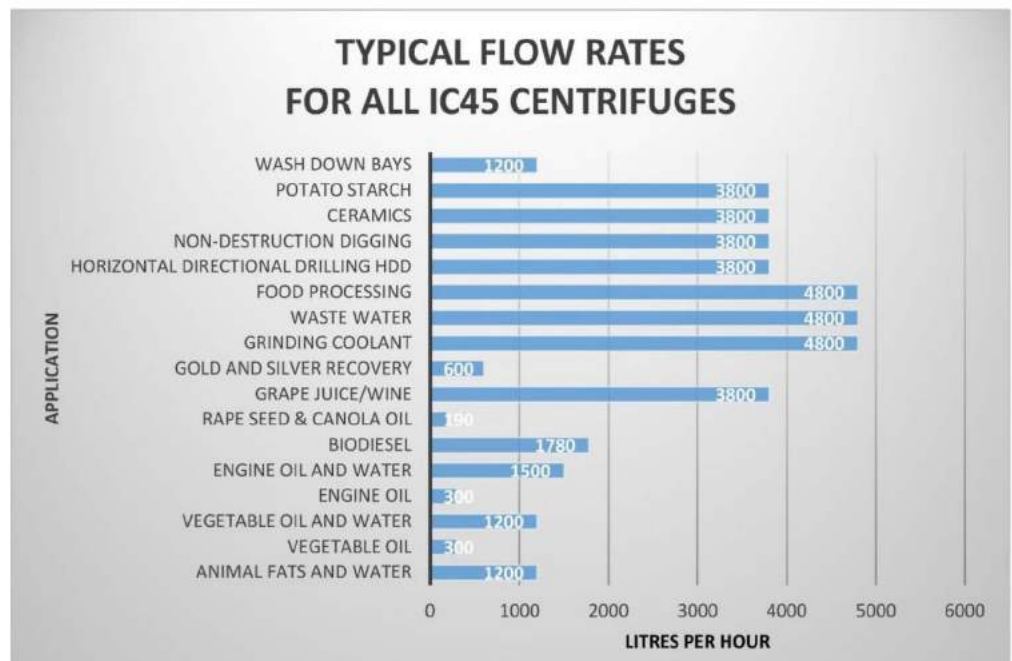
The Interfil IC45-A Centrifuge works with the use of centrifugal force, allowing separation of solid particles from liquid. The centrifugal force has a maximum 3,000 gravities. The separation of solids is greatly improved when the liquid is exposed longer to the centrifugal force. This can be achieved by simply slowing the supply rate to the centrifuge. Extended retention time enables improved clarity and cleanliness in the end product.

The liquid is fed through a 1/2" bsp inlet connection located on top of the lid of the centrifuge, entering directly into the high speed rotating bowl where the centrifugal force then throws the heavier particulate solids out to the inner peripheral wall of the rotating bowl, whilst the clean liquid flows up the centre of the bowl and discharges by gravity through a 2" outlet at the bottom of the Centrifuge. The solids remaining within the bowl are then removed automatically by the self-cleaning device activated via the pre-set timers located in the control cabinet. The flow to the centrifuge continues during the self-cleaning operation as removal of solids consists of seconds only. The rotating force of the bowl forces the gelatinous solids up the tube and discharges to a collection bin, eliminating the requirement for an additional pump.

INDICATIVE FLOW RATES

There are several factors that are considered when determining the flow rate through the centrifuge, these include:

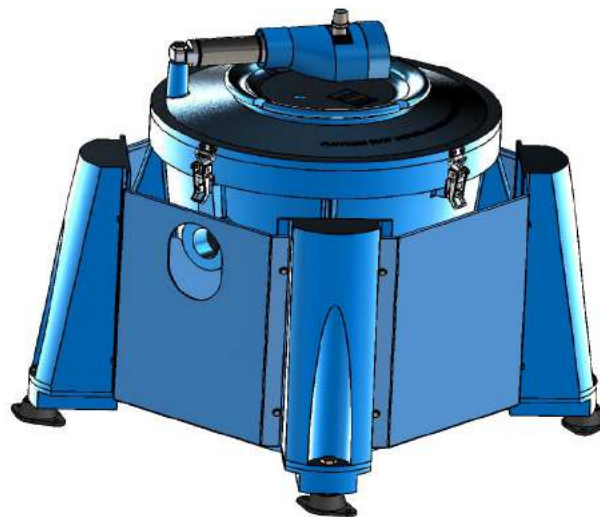
- Viscosity of the liquid (can be changed by increasing or decreasing the temperature)
- The percentage of solids present in the liquid- ppm- (Recommend less than 5% solids to liquid)
Particle size um
- Difference in specific gravity with the solid and liquids sg.
- If the liquid Sinks or Floats - Bowl and Centrifuge Selection



IC45 Centrifuge Data Sheet

IC45-A Semi Auto High-performance

Solid/ Liquid Centrifuge model



General Information

Typical Application	Solids and Water
Max. Design temp.	80 Degrees Celsius
Centrifugal G-Force	3000G @ 3900 rpm
Dry Weight	150kg
Casing Material of Construction	Heavy Duty Cast Alloy
Inlet Size	½" BSP Female Thread
Outlet Size	2" BSP Female Thread
Solid Discharge Port Size	½" BSP Male Thread

Bowl Assembly and Solid Discharge

Effective Bowl Diameter	300mm
Effective Bowl Length	150mm
Bowl Material	304 Stainless Steel
Solid Discharge Tube Material	316 Stainless Steel
Solid Discharge Tube Wear Protection	Full Tungsten Carbide
Pneumatic Air Pressure Requirements	80 PSI (550Kpa)

Typical Properties

Hydraulic Capacity	4800 Litres per Hour
Recommended Flow Rate	3600 Litres per Hour
Solid Removal Capacity (1200kg/m3)	180 Litres per Hour
Removal Efficiency @ 5um	99%

Automatic Self Discharge- Solids

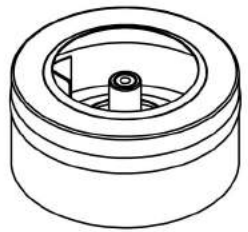
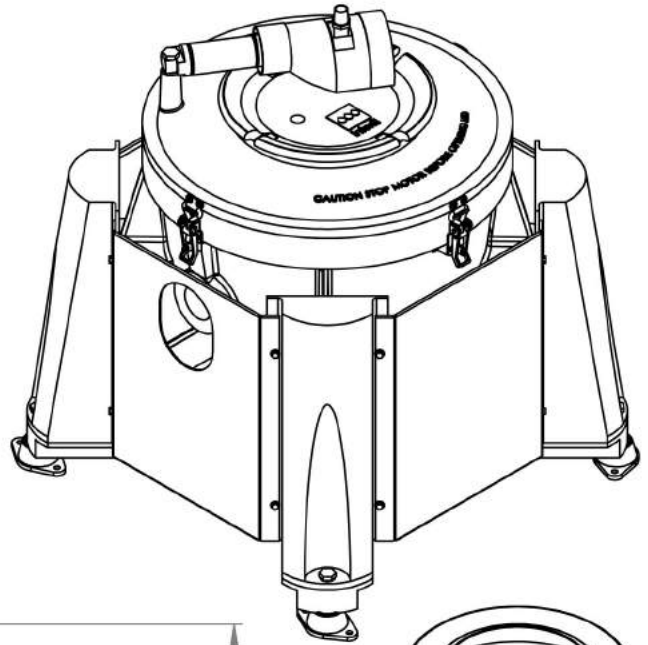
Solid Discharge Tube Material	316 Stainless Steel
Solid Discharge Tube Wear Protection	Full Tungsten Carbide
Cleaning Device Actuation	Horizontal
Pneumatic Air Pressure Requirements	80 PSI (550Kpa)
Solid Discharge Port Size	½" BSP Male Thread

Control Equipment

Electrical Cabinet	IP65 Enclosure
Electrical Requirements	1 phase 220V / 60Hz - 240V / 50Hz 10amps
Control Wiring	24Vdc
Solid Discharge Control	Omron 24 Hour Timers
Speed Control	Allen Bradley VSD – 2.2Kw
Feed Pump Control	Contactora/Overload for 1.5Kw Supply Pump
Safety – E-Stop & Lid Tampering Protection	Allen Bradley Cat 2 Safety Relay and E-Stop

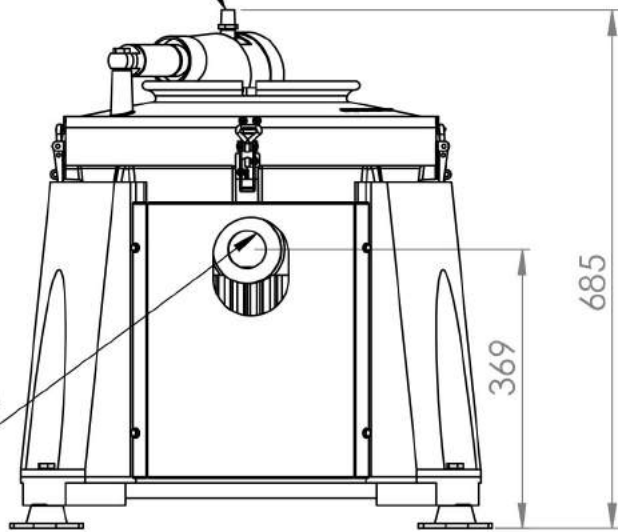
Drives

Main Motor Size	2.2Kw VFD
Main Motor Data	3 phase 415V - 480V 50Hz / 60Hz
Electrical Cabinet	IP65 Enclosure
Electrical Requirements	1 phase 220V / 60Hz - 240V / 50Hz 10amps



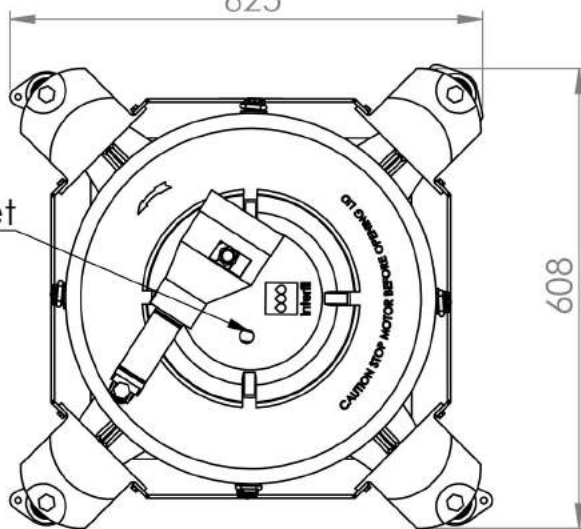
1/2" bsp Solid Outlet

2" bsp Clean Outlet



625

1/2" bsp Inlet



608

TITLE:

INTERFIL IC45 SEMI AUTO CLEAN

DWG NO.
MATERIAL:

IC45-A

A4

SCALE:1:20

SHEET 1 OF 1