



# IC45-M Manual Centrifuge



Solid/Liquid High G Force Centrifuge

## IC45-M Manual Clean High-performance Solid /Liquid Centrifuge Model



The Interfil IC45-M Centrifuge is a high speed Centrifuge designed for efficient separation of solids from liquids for small batching processes, suitable for stopping and cleaning the bowl by hand. For automatic cleaning please refer to the IC45-A or IC45-AV in the Interfil IC45 Centrifuge product range.

Ideal for Biofuel production including cleaning of used Vegetable Oil, Wash Down Bays, Lab Testing, Small Batching Processes, and many other industrial processes. The IC45-M 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.

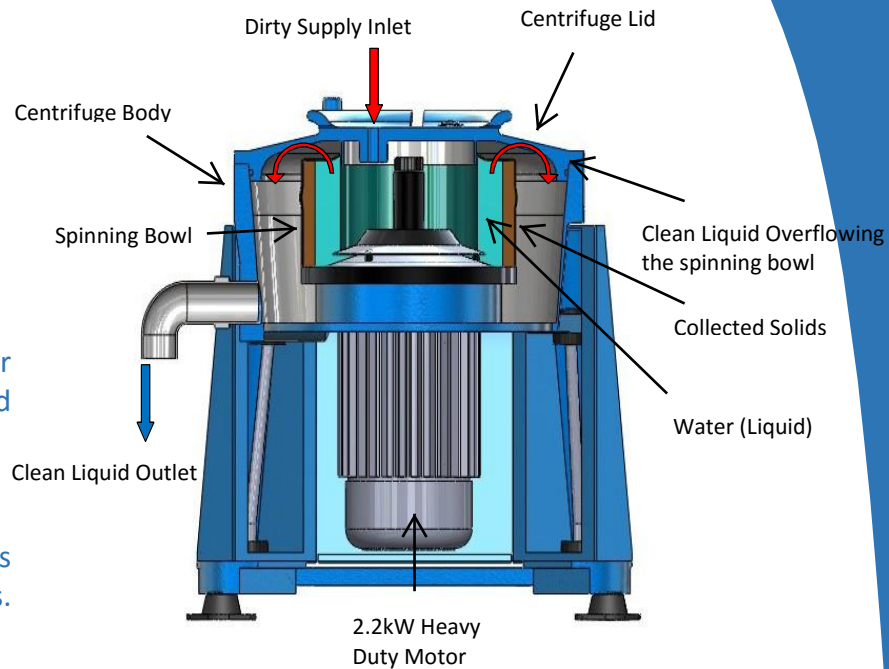
For applications such as wine production, a nitrogen blanketed system is available as an optional extra.

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.

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### BENEFITS OF THE INTERFIL IC45-M

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



### ABOUT THE IC45-M 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 IC45-M is supplied with four isolators for anchoring points for secure location to the ground or to 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 IC45-M Centrifuge is a manual clean centrifuge requiring the removal of the bowl and cleaning of the solids by scraping and removing by hand. The high speed bowl is easily removed via the removal tool supplied with the centrifuge. The bowl having light weight and stainless steel construction makes the removal easy and safe from accidental damage

An optional weight detection system is available for indicating to the operator when the bowl is full and requires cleaning.

**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 Metering and Weight Detection and Alerting System.

## OPERATION

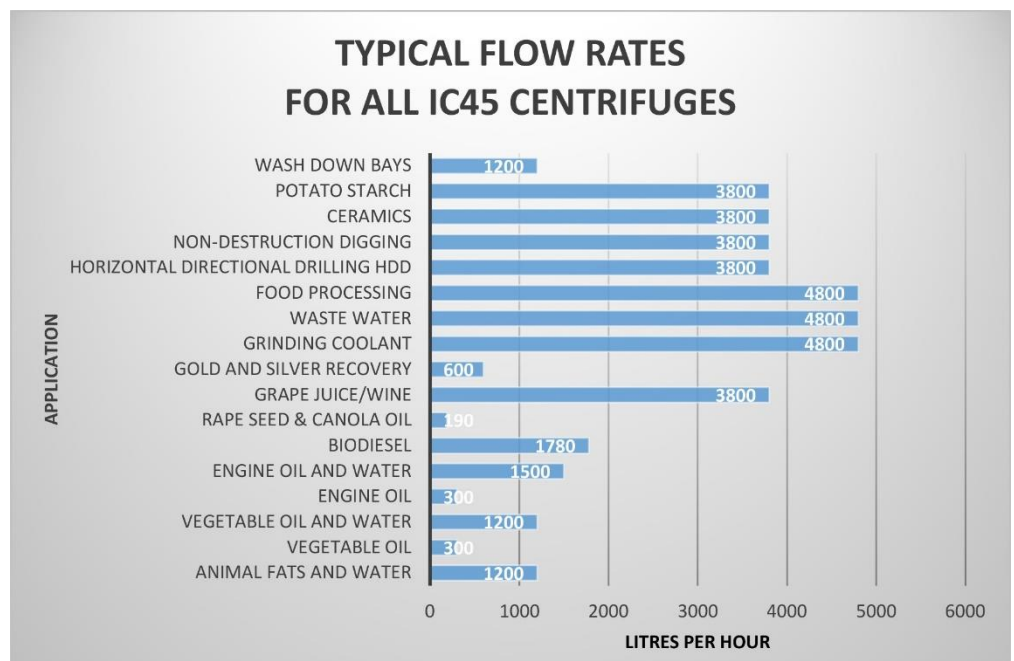
The Interfil IC45-M Centrifuge works with the use of centrifugal force, allowing separation of solid particles from liquid. The centrifugal force has a maximum 3,000 gravities. The separation of solids is greatly improved when the liquid is exposed longer to the centrifugal force. This can be achieved 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" 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 required to be removed and cleaned by hand when the bowl has reached its maximum holding capacity of 3 Litres of solids.

## INDICATIVE FLOW RATES

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

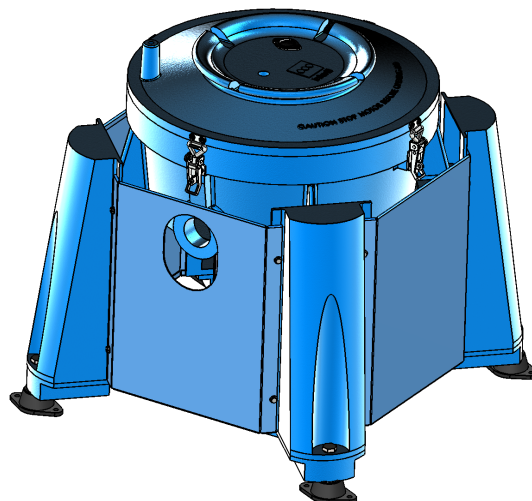
- Viscosity of the liquid  
(can be changed by increasing or decreasing the temperature)
- The percentage of solids present in the liquid- ppm- (Recommend less than 5% solids to liquid)  
Particle size um
- Difference in specific gravity with the solid and liquids sg.
- If the liquid Sinks or Floats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



## IC45 Centrifuge Data Sheet

### IC45-M Manual Clean

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	1" BSP Female Thread
Outlet Size	2" BSP Female Thread

### Bowl Assembly

Effective Bowl Diameter	300mm
Effective Bowl Length	150mm
Bowl Capacity	5.5 Litres
Bowl Material	304 Stainless Steel

### Typical Properties

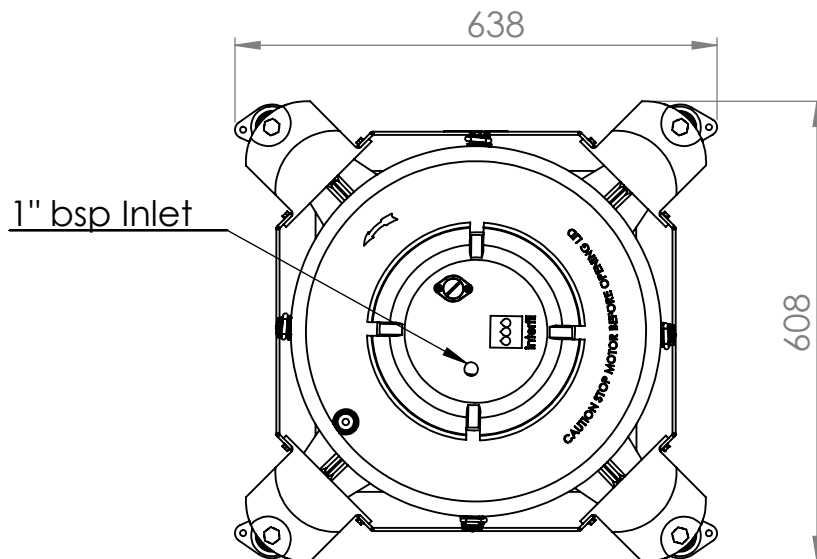
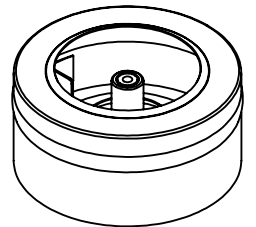
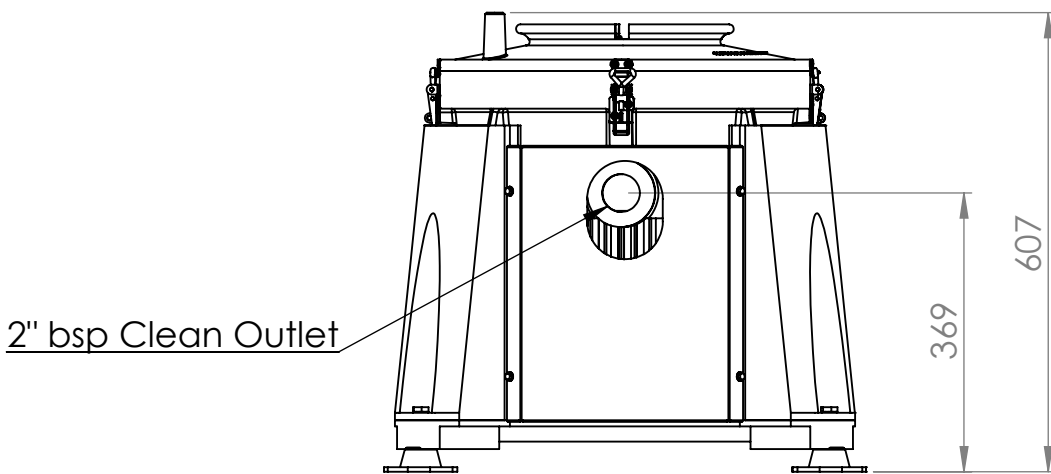
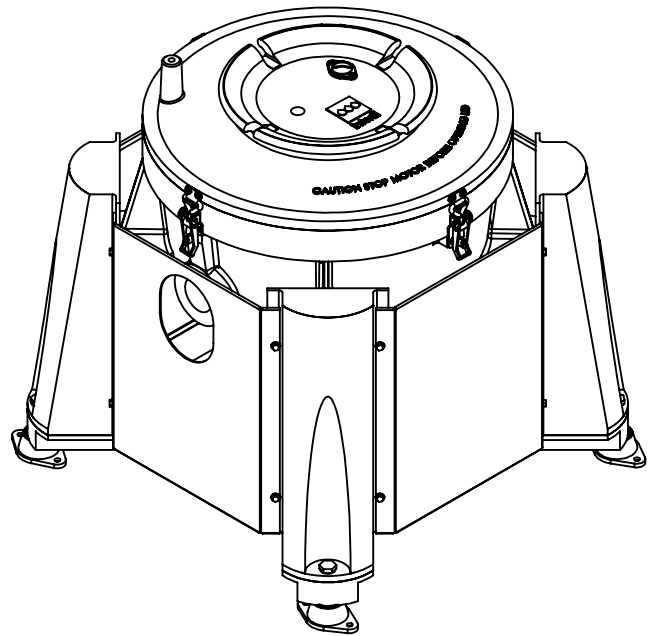
Hydraulic Capacity	4800 Litres per Hour
Recommended Flow Rate	3600 Litres per Hour
Solid Holding Capacity	3 Litres
Removal Efficiency @ 5um	99%

### Control Equipment

Electrical Cabinet	IP65 Enclosure
Electrical Requirements	1 phase 220V / 60Hz - 240V / 50Hz 10amps
Control Wiring	24Vdc
Speed Control	Allen Bradley VSD – 2.2Kw
Feed Pump Control	Contactor/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 2 Pole Induction Motor
Main Motor Data	3 phase 415V - 480V 50Hz / 60Hz
Drive Shaft	#4 Morse Taper 304 Stainless Steel
Motor Bearings	Drive – 6306ZZC3 / Non Drive – 6205ZZC3



TITLE:

INTERFIL IC45 MANUAL CLEAN

DWG NO.  
MATERIAL:

IC45-M

A4

SCALE:1:20

SHEET 1 OF 2