HAUS DDI 3542

Decanter centrifuge for industrial applications

HAUS DDI 3542 decanter centrifuge, supplied and supported in North America by Archer Separation Inc.



353 mm
Bowl diameter

4,200 rpm
Maximum bowl speed

3,460 g
G-force

18.5 + 7.5 kW
Main + back-drive motor, standard

1,650 kg
Total weight

OVERVIEW

The DDI 3542 is a decanter centrifuge with a horizontal solid bowl, a scroll conveyor that discharges the solids continuously, and a dual drive with variable differential speed. HAUS designed it for general industry – chemicals, pharmaceuticals, fats, oil and protein extraction – and for heavy-duty service such as mining and oil and gas.

It separates a liquid mixture from its solids, to give one or two clean liquids and solids as dry as possible, for the recovery of valuable substances, the treatment of by-products and produced water, and recycling.

HOW IT WORKS

The feed enters at the centre of the bowl and is brought up to speed. Centrifugal force separates solids and liquids by density; the solids settle on the bowl wall and the scroll carries them to the conical end and out through the solids outlets, where they drain further.

The liquid leaves at the cylindrical end over outlets set to the liquid level. The differential speed sets the solids conveying capacity and dryness; the pond depth sets the clarity of the liquid. In three-phase operation an adjustable outlet pipe takes off the lighter liquid.

STANDARD SUPPLY FROM HAUS

- Decanter, stand-alone, two-phase, dual drive
- Main and back-drive motors rated for variable frequency drives
- Set of tools
- Operator manuals

APPLICATIONS

- Animal fats and oils
- Vegetable oil and protein extraction
- Oil and gas; oil recovery
- Chemical and pharmaceutical industry
- Starch and yeast
- Technical products
- Process water treatment

KEY FEATURES

- Flexible configuration: two- or three-phase separation, with a choice of materials, wear protection, motor power and gearbox torque.
- High G-force and high capacity from a long bowl turning at high speed.
- Adjustable liquid level and pond depth, for positive, neutral or negative hydraulic pressure and the best oil recovery from each mixture.
- Variable scroll conveying speed, to handle changing solids loads at the dryness wanted.
- Dual drive: a main motor on the bowl and a back-drive motor on the scroll, each on a variable frequency drive, joined by a gearbox without a friction clutch.
- PLC with operator panel (HMI) for automatic operating modes, solids dryness and process settings, and alarms.
- Stainless steel rotating parts; flight tips, feed zone, solids outlets and bowl wall protected by harder materials chosen for the abrasiveness of the product.
- Double-wall stainless steel casing on friction hinges for bowl inspection and cleaning, separate guards over the motors, and an epoxy-painted steel base with dampers and anchor plates.

TECHNICAL DATA

Configuration	Two-phase standard, three-phase optional; dual drive, variable differential speed
Bowl diameter	353 mm
L/D ratio	3.87
Maximum bowl speed	4,200 rpm
G-force	3,460 g
Main drive motor	18.5 kW standard; 22 or 30 kW optional
Back-drive motor	7.5 kW
Gearbox	Cycloidal or planetary, 3.12 kN·m nominal torque
Electrical supply	480 V or 600 V, 3-phase, 60 Hz, to suit the site
Noise level	LAeq ≤ 85 dB(A)
Total weight	1,650 kg; rotating assembly 650 kg
Dimensions L × W × H	3,524 × 885 × 1,081 mm (standard motors)
Clearance to lift the bowl	2,000 mm minimum
Feed inlet	Ø51 mm tube (DIN 11850) or DN 40 union (DIN 11851)
Polymer inlet; wash water	G 3/4 (ISO 228); 3/4 coupling (ISO 228)

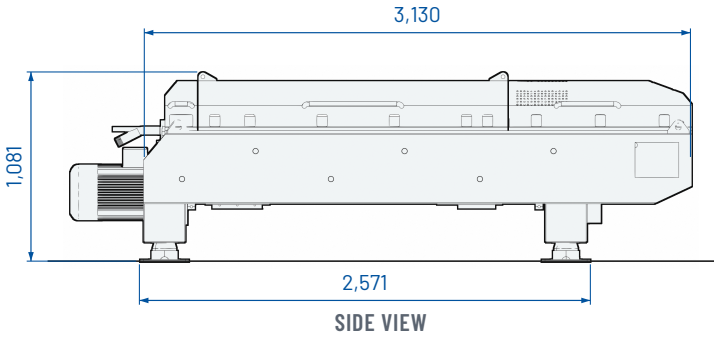
MATERIALS OF CONSTRUCTION

Bowl	Duplex stainless steel; super duplex optional; lean duplex for specific processes
Bowl wear liners	AISI 316Ti strips; super duplex optional
Scroll body and flights	AISI 304; AISI 316L, duplex or super duplex optional
Flight and feed zone protection	Wear protection selected to suit the product
Solids discharge ports	Replaceable ceramic bushings; sintered tungsten carbide optional
Casing	Double-wall stainless steel
Frame	Carbon steel (ST 37), epoxy painted

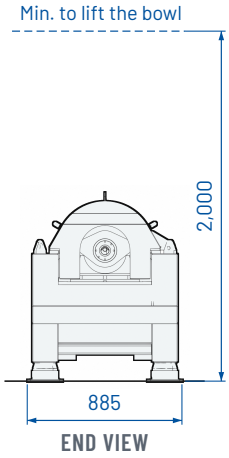
NORTH AMERICAN PACKAGE

- Main and back-drive motors supplied for the site voltage, 480 V or 600 V, 3-phase, 60 Hz.
- Control panel offered with a CSA or cUL label.
- Panel and field enclosures rated to NEMA / EEMAC types to suit the installation.
- Installation supervision, start-up, operator training, parts and service from Archer, Port Coquitlam, BC.

MAIN DIMENSIONS (MM)



SIDE VIEW



END VIEW

Overall length 3,524 mm with the standard motors; it varies with the motor option.

2,571 × 885: outer edges of the mounting plates for floor anchorage.

2,000: minimum clear height above the floor to lift out the bowl.

Main dimensions from the HAUS dimension drawing; use that drawing for installation. All connections to the machine must be flexible.

OPTIONS SUPPLIED BY ARCHER

- Control panel with PLC, operator panel (HMI) and variable frequency drives for both motors.
- Feed pump, valves, flowmeters and process instruments.
- Clean-in-place (CIP) system.
- Solids discharge chute or conveyor and liquid outlet tank.
- Flexible connections for the feed, liquid and solids.
- Automatic bearing lubrication.
- Remote monitoring of the machine and its process data.