INDUSTRIAL VERTICAL AXIS BASKET CENTRIFUGES WITH AUTOMATIC DISCHARGE

for solid/liquid separation in the pharmaceutical, chemical and food industries.

You need to process large quantities of material?

You require a closed system, under a controlled atmosphere, to prevent operator exposure and product or environmental contamination?

You will find that ROUSSELET ROBATEL offers the widest range of automatic discharge vertical axis basket centrifuges consisting of:

- Nine basket diameters
- Twelve models
- Tailor made technical designs
- Large choice of optional equipment and ancillaries.
Main design features

- **Vertical Axis**
- **Installation**: 3 column suspension (Model SC) or with integral inertia plate and vibration isolators (Models RC and SLAB)
- **Vapour-tight Construction**: Suitable for inert gas blanketing, pneumatic barrier between double lip seals and bearings.
- **Seals**: Dynamic and static: PTFE encapsulated, Viton, EPDM.
- **Surface Finish**: Finish / Polishing grade to meet application and customer requirements (electro polishing available).

Centrifuge components

- **External Casing**: Optional fully opening design provides total access to internal components.
- **Cover**: Full-opening, flat or domed, hydraulically actuated, with or without clamps. Various types of sealing (static or inflatable). Panoramic sightglasses with wash nozzle or wiper and / or process area lighting.
- **Basket**: Side wall with reinforcing rings or solid and alloy lined or solid alloy base. Filter cloth or backing screen installed with expandable rings or caulking ropes.

Technical characteristics

<table>
<thead>
<tr>
<th>Ø</th>
<th>Height</th>
<th>Useful Volume</th>
<th>Maximum Load</th>
<th>Filtration Area</th>
<th>Speed</th>
<th>Centrifugal Force</th>
<th>Motor Power KW</th>
<th>Model</th>
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<tr>
<td>630</td>
<td>370</td>
<td>50</td>
<td>62</td>
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<td>164</td>
<td>1.23</td>
<td>1450</td>
<td>999</td>
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<td>1000</td>
<td>559</td>
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<td>RC or SC* 100 Vx DEC</td>
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<td>SLAB 1602 DFR</td>
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</table>

*SLAB and RC: Installation with integral inertia plate. SC: 3 column suspension.
Cycle steps and accessories

**FEEDING:**
- With fixed pipe adjustable height and orientation, when machine is stopped or with "up and down" motion adjustment in frequency and movement during centrifuge operation optimizing product distribution over the entire basket height.
- **Feed Control:** Detector, with or without product contact to optimize feeding and prevent any risk of overflowing during feeding and washing.

**WASHING:**
- With fixed pipe adjustable, when machine is stopped with interchangeable nozzles.

**PEELING:**
- Single motion, peeler knife extends over the entire basket length, or double motion, with axial and radial movement. Interlocked for safety, adjustable advance speed, rapid retract, and replaceable knife.

**CAKE DISCHARGE:**
- Through openings in the basket and housing base which diverts the solids into a simple chute or vapour-tight chute for connection to downstream equipment.

**RESIDUAL HEEL REMOVAL:**
- Numerous devices available:
  - Removal from inside the basket: Gas lance installed on peeler blade or independent mechanism with double motion (axial and radial movement) using mains pressure or high pressure which is generated using a compressor.
  - Removal from outside the basket ("blowback"): Installed on the inside of the centrifuge casing.
  - Removal by inflatable membrane: Mechanically pushes the filter media to remove heel (Model SLAB only).

**CLEAN-IN-PLACE (CIP):**
- With strategically located spray nozzles for cleaning of basket and process contact areas.

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**Drive/Controls/Electricals/Safety**

- **Main Drive:** Side-mounted electric motor with speed control by AC variable frequency drive and transmission via antistatic belts.
- **Centrifuge mounted electrical equipment:** Vapour-tight or explosion-proof to European or American standards.
- **Local Control Panel:** Independent, installed near the centrifuge with necessary instrumentation and safeties.
- **Main Control Panel:** Independent, installed outside the processing area, with separate drive and control panels.
- **Hydraulic Unit:** For controlling peeler motion, cover opening, and optional "up and down" feed pipe. Installed near the centrifuge.
- **Cycle Control:** Fully automatic or cycle-by-cycle, with manual intervention and possible DCS communication.
- **Safety:** Fully equipped with safety features and ancillary systems. Vibration or unbalance switch, pressure monitoring.
**"HI-TECH" versions**

- Fully-opening housing with three motions, when combined with a flat bottom basket, allows for immediate visual inspection and integral cleaning of all process contact surfaces.
- Quick release basket for periodic inspection and cleaning, used in conjunction with a fixed casing design.
- Allowing integration of electric, pneumatic, and hydraulic equipment, limiting cover connections to the feed and wash piping.
- Clean room installation through the floor design, isolating the upper process zone from the lower mechanical zone.

**Simplified versions**

- Materials of construction: mild or cast steel
- External casing with partial opening cover or small cover (manually or hydraulically actuated)
- In this version, all internal equipment is fixed on the upper casing
- Cycle manually controlled

**Ancillary equipment**

**DEPENDENT ON THE PROCESS / THE PRODUCT**

- Solid bowl decanter version with liquid discharge by overflowing the bowl rim or with liquid skimmer, or skimmer for initial liquid removal (on basket centrifuge). Double shell casing for temperature control, thermal insulation, earth grounding between static and rotating parts, inert gas blanketing systems via pressure control or oxygen monitoring systems, single or double liquid receivers for separating mother and wash liquors, hydraulic siphon to maintain vapour-tightness.

**DEPENDENT ON THE CENTRIFUGE DESIGN**

- Single or two-piece splash deflector to prevent dripping or projection of liquid into the solids discharge chute. Inflatable cover gasket and front locking without manual clamps (Models RC/SC).