



ROUSSELET ROBATEL

CENTRIFUGAL DECANTERS

ROUSSELET ROBATEL offer a wide range of semi-continuous centrifugal decanters used for the separation of liquid and solid phases from a solution containing more or less fine solid particles

According to the concerned industrial sector and application, the characteristics of the inlet solution and of phases to be separated, the identified need of the end-user, ROUSSELET ROBATEL will customize the centrifuge in terms of technical characteristics and performances, accessibility, cleaning facility, finish and automation levels.

RR can customize the centrifuge to meet the clients technical and performance characteristics:



DRC 70 Vx 1S man
for Cosmetics application



DRC 50 Vx 1S mot
for Food industry purpose



DSC 100 Vx 1S mot
in Metal working industry

TYPES OF APPLICATIONS

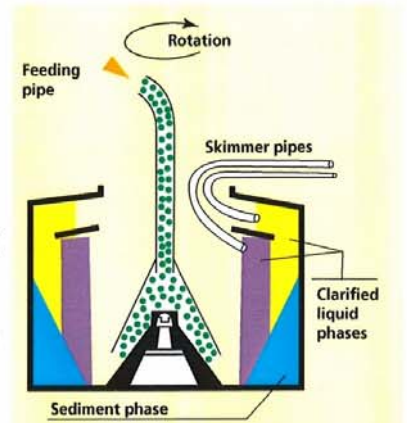
- **Chemical and Pharmaceutical industries and Biotechnologies:** Vaccines, collagen products, enzyme separation from macerated solution, solid separation and purification (ex.: Hydroxides), dyestuff clarification, pigment separation, micro-seaweed concentration, ...
- **Food industry:** Clarification of frying oil used in industrial pastry processing line, of decoction of plants, of gum arabic solution, wine yeast decantation...
- **Metallurgy and metal working industry:** Recovery of carbide powder after grinding, of metal powders from solvent solutions, electrolyte cleaning and recycling in electrochemical machining lines...
- **Environment:** Clarification of glass polishing and shaping liquids, of electrolytic oxidation bath, of detergent products and lye...

WORKING PRINCIPLE

- The centrifuge bowl is rotated up to a selected speed or maximum
- Once the speed is reached, the solution is fed into the bowl, as evenly as possible via the feeding pipe
- By the action of centrifugal force, the heavier phase will move to the bowl
- The « clarified liquid » phase is continuously drained:
 - Either by overflowing over the top of the bowl
 - Either through a pre-adjusted skimmer pipe in order to optimize bowl useful volume
- When the bowl sediment volume is full of solids, feeding is stopped
- For centrifuges equipped with a skimmer pipe, this one is moved into the bowl to remove the remaining lighter phase
- Sediment can be removed:
 - Either with the bowl still rotating, by the skimmer pipe (for centrifuges equipped with) when sediment consistency is favorable (if it can be pumped)
 - Either with the bowl stopped, manually (by the operator using a scraper) or by means of a removable cage (without or with wrapping textile bag)

NOTA 1 For centrifuges without any skimmer pipe, both residual liquid and solid phases can be removed only when bowl has been stopped and lid opened

NOTA 2 In the case of a solid extraction & purification, the centrifuge is batch processing: Following prior separation, re-slurring (with washing liquid) and decantation, one or more times, followed one another...

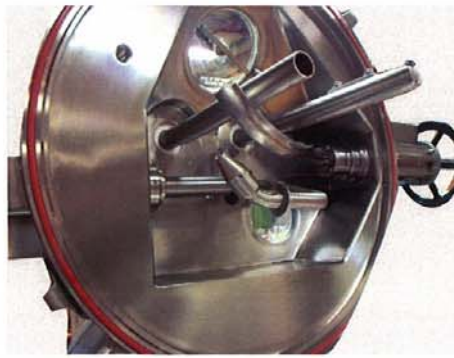


Principle schema in the case of a 3 phases (1 solid / 2 liquids) separation

CHEMICAL, PHARMACEUTICAL... AND FOOD INDUSTRIES



Bowl DRC 60 Vx



Lid inside
DRC 50 Vx 2S man



DRC 50 Vx 2S man



DRC 100 Vx 2S mot



DRC 50 Vx 1S man

MAIN SPECIFICATION

- Vertical axis centrifuge
- Rigid type (DRA / DRC-Vx) or suspended in three points centrifuge (DSC)
- Centrifuge driven in rotation by axial (DRA) or side mounted motor with belt transmission (DRC-Vx / DSC)
- Electric braking - by counter current (DRA) or by the frequency inverter (DRC-Vx) or mechanical (disk) braking (DSC)
- Independent power and control panel
- Safety devices according to European standards

OPTIONAL FEATURES AND EQUIPMENT...

according to centrifuge model and applications

- Bowl: cylindrical or conical, with reinforcing hoops or manufactured from massive material, without or with (fixed or removable) blades, without or with separator, with quick release device, with holes (filled up by screws) in the upper part of the bowl (in order to process on various useful volumes) or in the bottom plate of the bowl (for gravity draining of remaining liquid) when bowl has been stopped
- Manufacturing materials and finish: Cat iron, carbon steel, various stainless steel grades, alloys, titanium, rust protecting sprays, anti corrosion coatings (HALAR), specific ("food" or "pharmaceutical") polishing and finish for some (or all) wet parts
- Separated phases removal: by bowl overflowing, by skimmer pipe (1 or 2) manually controlled by a handling wheel or motorized by gear motor, set on the centrifuge shell or on its lid, without or with sludge selector and manually or by removable cage for the sediment when it can't be pumped off
- Outer shell: with total or partial opening, and relevant lid with manual, pneumatic or hydraulic opening (according to shell opening, diameter and mass of the lid and its accessories)
- Electrical components : watertight, explosion-proof , with ATEX directive compliance
- Centrifuge tightness: optional gas tightness for gas without pressure or under pressure (to be nitrogen blanketed)
- Inlet solution feeding: via a specific feed pipe set on the shell or on the lid
- Further additional equipment (non exhaustive list)
 - Speed variation by frequency inverter drive (DRA-Vx, DSC-Vx)
 - Rotor grounding between fixed and rotating part of the centrifuge and control of centrifuge hottest point (ATEX directive compliance)
 - Pipe (optionally with nozzles) to remove the sediment cake from the bowl wall (at low rotation speed)
 - CIP (Cleaning In Place) nozzles
 - Double shell for cooling or heating liquid circulation, with optional centrifuge insulation
 - Smaller size centrifuges can be designed to be sterilized (at 1.2 bar maxi) when stopped
 - Smaller size centrifuges can be set on base plate or trolley (for easy handling and moving)



Skimmer pipe

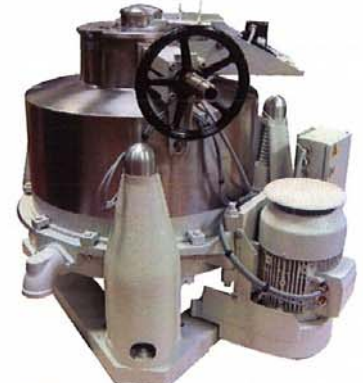
METALLURGY, RECYCLING AND ENVIRONMENT INDUSTRIES



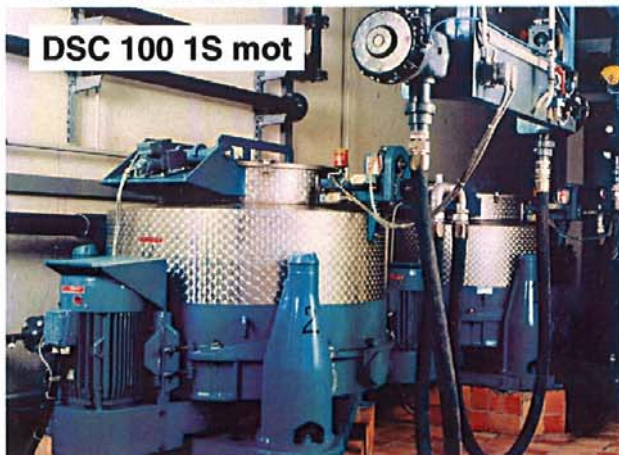
DSC 70 1S mot



DRA 50 1S man



DSC 70 1S man



DSC 100 1S mot



DRC 50 Vx

CENTRIFUGAL DECANTERS WITH REMOVABLE SEDIMENT EXTRACTION CAGE TYPE DRC-Vx K / DSC-K

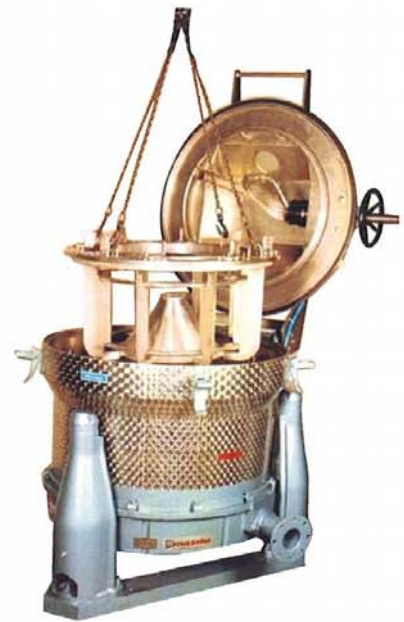
For easier, faster and complete removal of dense cake (sediment phase)

In such version, the rimless bowl receives a removable cage designed with pales

The removable cage can be wrapped with a textile bag to prevent sediment loss, in case of cake collapse (types DRC-Vx KP / DSC-KP)



DSC 70 KP 1S man



DSC 85 K 1S man

TECHNICAL CHARACTERISTICS

Type	BOWL					Hydraulic flow	Motor power	Indicative total weight	Maxi G effect
	Speed	Diameter	Height	Useful volume	Sédiment capacity				
	rpm	mm	mm	litre	litre	litre / min	kW	kg	G
DRA/DRC 40	1500/3000	400	255	17	7	17/25	1,1 à 4	≥ 260	2010
DRA/DRC 50	1500/2750	500	320	40	18	25/40	2,2 à 5,5	≥ 310	2110
DRC 60	870/2600	600	350	60	27	40/65	4 à 9	≥ 550	2265
DSC/DRC 70	1300/1850	700	350	80	35	65/90	5,5 à 7,5	≥ 680	1335
DSC/DRC 85	1100/1650	850	470	180	80	110/140	7,5 à 15	≥ 1350	1290
DSC/DRC 100	1000/1350	1000	500	250	100	150/180	11 à 15	≥ 1650	1015
DSC/DRC 120	900/1150	1200	600	360	150	220/250	22	≥ 2300	885
DSC/DRC 150	750/1000	1500	620	530	250	380/450	37	≥ 4000	835

REMOVABLE CAGE DECANTERS

DRC 50 K	1500/2250	500	320	40	18	25/40	3 à 7,5	450	1415
DSC 70 K	1100/1600	700	350	80	35	65/90	7,5 à 9	600	1000
DSC 85K	1000/1450	850	470	180	80	110/140	11 à 15	1200	1000
DSC 100K	900/1300	1000	500	250	100	150/180	15 à 18,5	1600	945

Admissible flows are depending on solution viscosity, emulsivity and on specific gravity difference and flow ratio between the 2 phases

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