ROUSSELET ROBATEL®
ROUSSELET CENTRIFUGATION GROUP

Fine chemistry
Pharmacy
Food industry
Hydrometallurgy
Nuclear

CENTRIFUGAL EXTRACTOR SINGLE-STAGE BXP

PHARMACY
Purification of active pharmaceutical ingredients (antibiotics).

CHEMICALS
Washing (polymers), extraction (acetic acid), effluent treatment (phenol extraction from an aqueous phase).

FOOD INDUSTRY
Purification of food compounds (carboxylic acid).

HYDROMETALLURGY
Separation and purification (precious metals).

PARACHEMISTRY
Perfumery, aromas, essential oils...

FEATURES AND ADVANTAGES

- Direct bowl drive by inline motor.
- No lower bearing (no bearing in the process zone).
- Possible construction materials: 316L / C22 / PVDF / PP / PVC.
- Highly polished finish available for pharmaceutical applications.
- Very short contact and residence times.
- Reduced solvent quantities used.
- Efficient and accelerated separation by centrifugal force.
- Adaptable agitators available.
- Autonomous operation requiring no supervision.
- High flow rates with remarkably compact equipment.
- High extraction capacity due to intimate mixing of phases.
- Each extractor corresponds to approximately one theoretical extraction stage (stage contactor).

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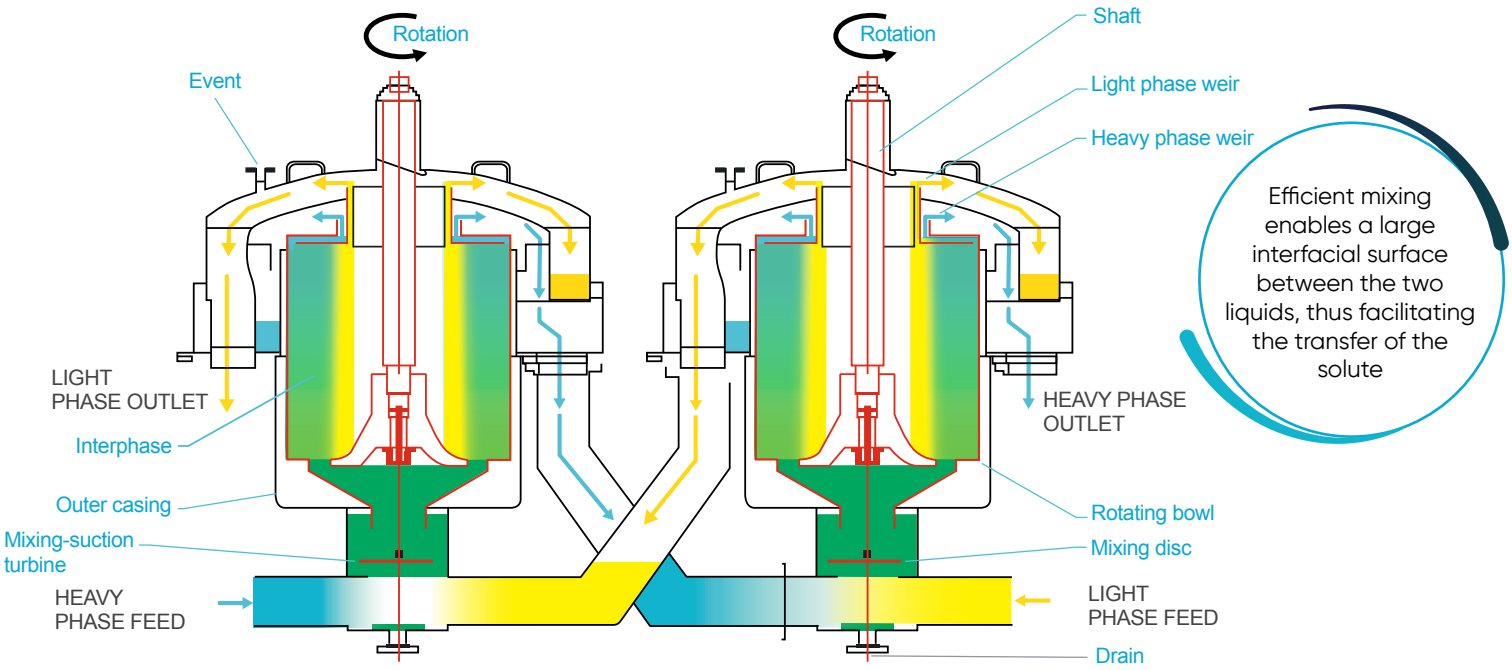
LIQUID/LIQUID EXTRACTOR

EXTRACTION MODE

A feed solution (heavy phase) containing one or more solutes (blue in the diagram) and an immiscible solvent (yellow in the diagram) with a different density are fed into a mixing chamber located at the bottom of the centrifuge housing.

A rotating disc mixes the two immiscible liquids to create a dispersion (green in the diagram).

Various disc designs are available to limit the shearing of emulsified liquids.



2-BXP battery for two-stage counter-current extraction

Efficient mixing enables a large interfacial surface between the two liquids, thus facilitating the transfer of the solute

• **The dispersion** is pumped by the turbine at the bottom of the extractor bowl for transfer.

• The liquids then separate under the action of centrifugal force. The heavier phase (blue) is pressed against the bowl wall, while the lighter phase (yellow) occupies the central section of the bowl.

• The liquid/liquid interface position is adjusted by a heavy-phase weir.

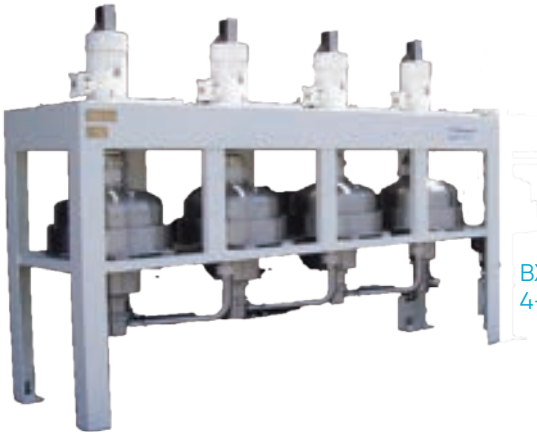
• Interchangeable weirs of different diameters allow for a wide range of density ratios.

• The heavy phase exits into the lower tank of the centrifuge housing, while the light phase overflows into the upper tank.

• The two liquids are transferred by gravity to the adjacent extractor or downstream equipment.

For extractions requiring multiple successive stages, single-stage extractors are installed in series or in a battery with as many units as there are stages, with the two liquids flowing counter-currently
No transfer pump is required between extractors.

External connecting pipes allow liquids to be transferred between extractors or diverted from the process (main extraction washing, or re-extraction) for optimal flexibility.



BXP 360 P
4-stage unit

BXP 012

LIQUID/LIQUID SEPARATOR

SEPARATION MODE

The solution, composed of two immiscible liquids with different densities (green in the diagram), **is fed into the pumping chamber located at the bottom of the centrifuge housing.**

- The solution is pumped by the turbine fixed at the bottom of the centrifuge bowl for transfer.

- The liquids then separate under the action of centrifugal force.

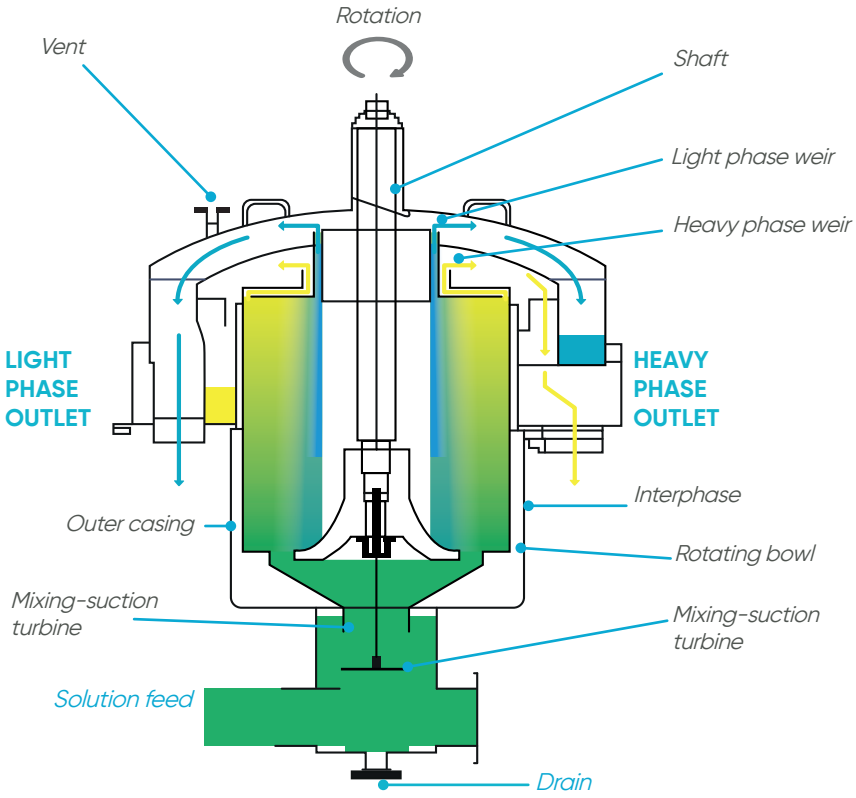
- The heavier phase (yellow) is pressed against the bowl wall, while the lighter phase (blue) occupies the central section of the bowl.

- The liquid/liquid interface position is adjusted by a heavy-phase weir.

- Interchangeable weirs of different diameters allow for a wide range of density ratios.

- The heavy phase exits into the lower tank of the centrifuge housing, while the light phase overflows into the upper tank.

- The separated liquids are discharged by gravity to downstream equipment.



BXP Type Centrifugal Separator

BXP 130P (PVDF) Two-Stage

BXP 520

TECHNICAL SPECIFICATIONS

CENTRIFUGAL EXTRACTORS

These centrifuges can be mounted on independent structures or a common structure, and connected by flexible connecting pipes.

The hourly flow rates depend on the viscosity, emulsifiability, the density difference between the two phases, and the ratio of their respective flow rates.

TYPE	Variant	ø bowl (mm)	Useful capacity (l)	Max G-Force (G)	Combined Flow Range (m^3/h)	Main Construction Materials
BXP012		12	0.0022	671	0,2 à 2	SS316L - C22
BXP025		25	0.019	224	1 à 10	SS316L - C22
BXP030	ECLAIR	30	0,016	1 073	0,3 à 16	SS316L - C22
BXP040		40	0.11	201	5 à 50	SS316L - C22
BXP040	P	40	0.11	201	5 à 50	PP-PVC-PVDF
BXP080		80	0.30	402	12 à 120	SS316L - C22
BXP130		130	1.5	654	90 à 900	SS316L - C22
BXP130	P2	125	1.3	437	60 à 600	PP-PVC-PVDF
BXP190		190	4.2	893	300 à 3000	SS316L - C22
BXP210	P	200	5.6	235	300 à 3000	PP-PVC-PVDF
BXP320		320	17	1 504	600 à 6000	SS316L - C22
BXP360		360	29	1 692	1000 à 10000	SS316L - C22
BXP360	P	345	29	181	1200 à 12000	PP-PVC-PVDF
BXP520		520	110	611	2500 à 25000	SS316L - C22
BXP620	P	620	175	117	6000 à 60000	PP-PVC-PVDF
BXP800		800	320	421	6000 à 60000	SS316L - C22

AVAILABLE MATERIALS

AISI 316 L

AISI 904 L

Alloy C22

ATEX compatibility available

Construction CE

PVDF
PP
PVC

Other special alloys available on request

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