ROUSSELET ROBATEL®
ROUSSELET CENTRIFUGATION GROUP

Fine chemistry
Pharmacy
Food industry
Hydrometallurgy
Nuclear

MULTI-STAGE CENTRIFUGAL EXTRACTOR LX

LX 576 on skid with peripheral equipment

PHARMACY
Purification of active pharmaceutical ingredients (antibiotics).

CHEMISTRY
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...

MAIN FEATURES

- All parts in contact with the product are made of stainless steel AISI 316L, 904L, or Alloy C22, with PTFE seals.
- Tank assembly mounted on a support frame equipped with all piping (inlets and outlets for different phases, drainage for bowl emptying when stopped, nitrogen injection, vent, etc.).
- Transmission assembly includes a sealed or ATEX electric motor connected to a frequency converter.
- Frame mounted on anti-vibration supports.
- Bearing box with ball bearings (LX 120/200) or roller bearings lubricated with grease and pneumatic seal.
- Equipment complies with CE directives and ATEX standards (for applicable countries).

MAIN CHARACTERISTICS

The phase to be extracted (heavy phase in the principle diagram), initially containing one or more solutes in solution, and the solvent (light phase in the principle diagram), which must be immiscible with the phase to be extracted and of different density, circulate counter-currently in the extractor rotor, where a stack of mechanical parts defines several distinct stages. Successive mixing and separation operations performed at each stage allow solutes to dissolve into the solvent.

Each stage includes:

• Mixing chamber: Where the two phases are stirred, enabling solute transfer. A fixed disk ensures mixing and generates a fine dispersion. It acts as a pump, drawing the two phases from previous stages..

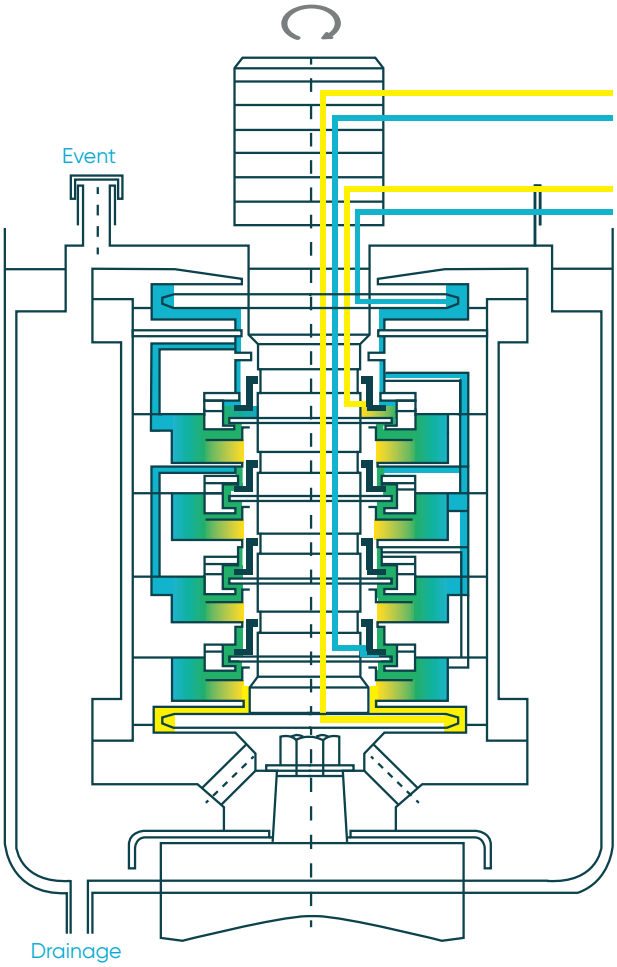
• **Decantation chamber:** Where the previously mixed liquids are separated by centrifugal force. A set of two outlet weirs stabilizes the separation zone independently of flow rates. The interphase position depends on the diameter of the heavy phase weir, which is interchangeable and defined based on the density ratio of the two phases.

• The two phases are introduced via two pipes mounted on the upper part of the tank: the heavy phase is fed at the upper stage, and the light phase at the lower stage for models LX 320/360/520/570, and vice versa for models LX 120/200, ensuring counter-current circulation through all stages.

Phase evacuation is done either by gravity or via centripetal turbines (depending on the model).

LX120 AND LX200 EXTRACTORS

LX 204 on skid



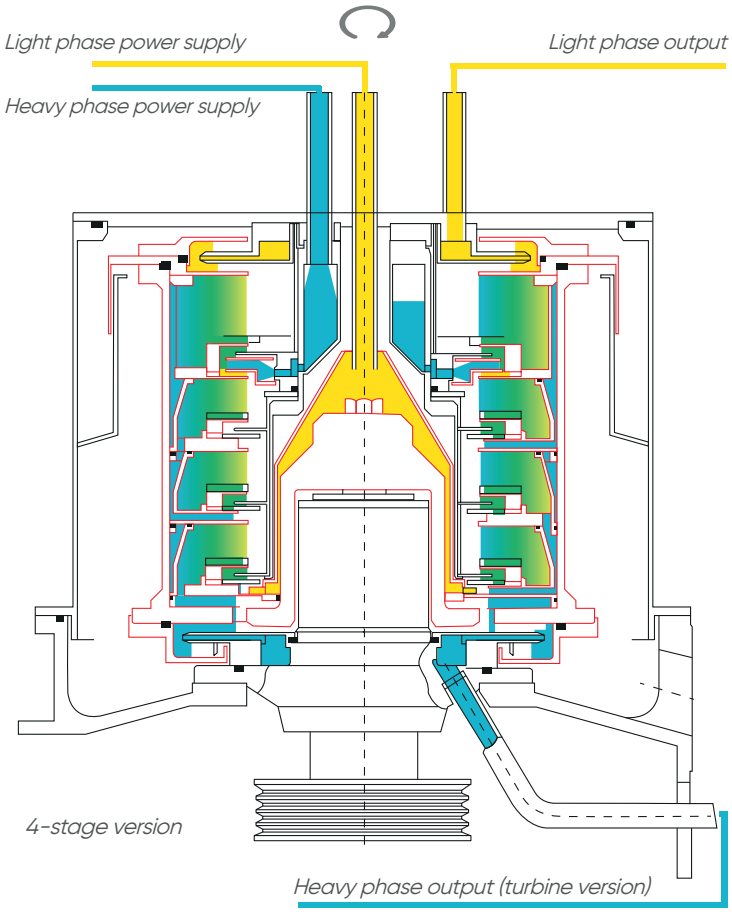
4-storey version

On certain models Intermediate stage feeding is possible for fractional extraction or introducing a third liquid phase miscible with one or the other phase.
In cases where extraction requires only one or two stages, additional stages can be used to refine phase clarification and reduce carryover quantities between phases.

SPECIFIC ADVANTAGES OF MULTI-STAGE VERSIONS

- JUp to 7 stages in a single machine, offering high extraction efficiency.
- Each stage corresponds approximately to a theoretical extraction stage
- Exceptionally compact design with minimal floor space requirements.
- Extractor can be installed on a handling skid for easy mobility.
- Low operating and maintenance costs (single rotor/single motor).
- Centripetal turbines allow pressurized discharge of separated phases to storage tanks or downstream equipment (potentially another extractor for processes processes requiring many stages).

EXTRACTEURS LX320, LX360, LX520, LX570



LX 524

LX 365

TECHNICAL SPECIFICATIONS

TYPE	ø bowl (mm)	Usable Volume (l)	Max G force (G)	Combined Flow Range (l/h)	Stages	Main Construction Materials
LX124	120	0.27	564	2,5 to 25	4	SS316L -904L- C22
LX126	120	0.39	564	2,5 to 25	6	SS316L -904L- C22
LX204	200	1.8	940	25 to 250	4	SS316L -904L- C22
LX324	320	10.2	1 831	150 to 1500	4	SS316L -904L- C22
LX325	320	9.3	1 831	130 to 1300	5	SS316L -904L- C22
LX364	360	13.6	1 811	180 to 1800	4	SS316L -904L- C22
LX365	360	12.6	1 811	150 to 1500	5	SS316L -904L- C22
LX524	517	57	1 156	600 to 6000	4	SS316L -904L- C22
LX525	517	54	1 156	500 to 5000	5	SS316L -904L- C22
LX526	517	52	1 156	150 to 1500	6	SS316L -904L- C22
LX527	517	49	1 156	350 to 2500	7	SS316L -904L- C22
LX574	567	74	1 268	800 to 8000	4	SS316L -904L- C22
LX575	567	70	1 268	700 to 7000	5	SS316L -904L- C22
LX576	567	67	1 268	600 to 6000	6	SS316L -904L- C22

ATEX compatibility available

Construction CE

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