

Chubu Separator Co.,Ltd

Centrifugal Separators, coolant purifiers



Can remove 90% of 10 μ and larger particles and 70% of 3 μ and larger particles

Cost effective, without requiring filters or other consumable parts

More than 10,000 units purchased since our company was founded in 1976

**CHUBU
SEPARATOR**

Innovating with separators

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Applications and advantages of our centrifugal separators

Features of our centrifugal separators

- Can remove 90% of 10 μ and larger particles and 70% of 3 μ and larger particles
- Sludge and putrefactive bacteria are removed and collected at the same time, preventing coolant from deteriorating
- Cost effective, without requiring filters or other consumable parts
- Can filter water- and oil-based materials, as well as magnetic and non-magnetic materials



Purifies coolant for machine tools

For grinders, tread grinders, polishing machines, electric polishing machines, gear polishing machines, electrolytic deburring machines, electrolytic machines, gun drills, honing machines, super-finishing machines, headers, band saw machines, centerless grinders, glass processing machines, chamfering machines, double-head machines, roughing machines, centering machines, fluting machines, bolt formers, and other such machine tools

- Extends the life span of working fluid and tools significantly, as well as improving processing precision and speed.

Collects sludge from many kinds of drainage

For collecting sludge from drainage from paint booths, barrel polishing, washing machines, *shochu* brewing, etc.

- Sludge and putrefactive bacteria are effectively collected from circulating water used in paint booths, barrel polishing, and other facilities, significantly reducing waste disposal cost as well as improving the work environment.
(A flocculating agent is required for drainage from paint booths and barrel polishing)

Purifies various types of drainage water and oil

For purifying rolling lubricant, wire drawing lubricant, washing machine drainage, frying oil, etc.

- Our products are employed in many industries where purifying drainage water or oil is required including the automobile, IT, and food industries. Use our filtering devices to obtain ISO 14000 certification.

Manually-operated Centrifugal Separators CL-30, CL-50, CL-50K, CL-80, and CL-80K

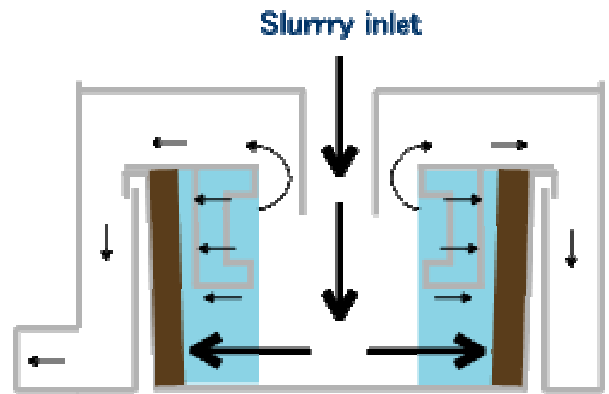
Nozzle-type models are available for all products. (For nozzle-type models, add an "N" to the end of the model number.)

Pipes of nozzle-type models are located at the fluid surface level, where the fluid reaches when the rotor rotates, slightly improving defoaming capability and vibration control quality. For nozzle-type models, add an "N" to the end of the model number, e.g. CL-30N or CL-50KN.

Principle and mechanism

Slurry, water- or oil-based, is continuously sent from the tank or pit to the rotor, where the slurry is centrifuged. If particles in the slurry have larger specific gravities than the working fluid, the centrifugal force presses the particles onto the interior wall of the rotor. This removes water or oil from the slurry, separating it into sludge (solid material) and clean fluid. The clean fluid then continuously overflows from the center part.

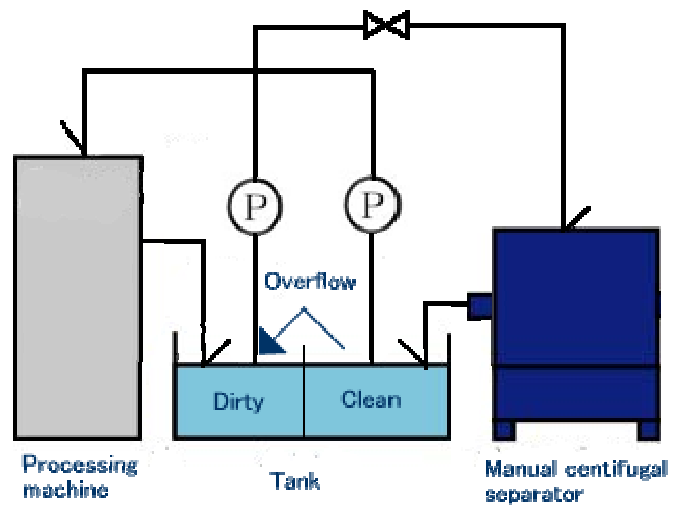
Clean fluid outlet



· Manual-type is easier to clean

The rotor of our manually-operated centrifugal separator can be easily removed from the machine body. The rotor lid can be removed to collect sludge in it.

Our hand-operated centrifugal separator is popular because it is easy-to-use and cost-effective.



The photograph shows the CL-50KN with designated body color and outlet position.

Product information

Model	Recommended flow rate (liters/min)	Motor (200/220V)	Rotor volume (liters)	Dimensions W x L x H (mm)	Weight (kg)
CL-30	0 ~ 30	0.4kw 4P	3	300 x 500 x 490	60
CL-50	0 ~ 50	1.5kw 4P	5.4	380 x 650 x 520	150
CL-80	0 ~ 80	2.2kw 4P	15	500 x 800 x 580	230

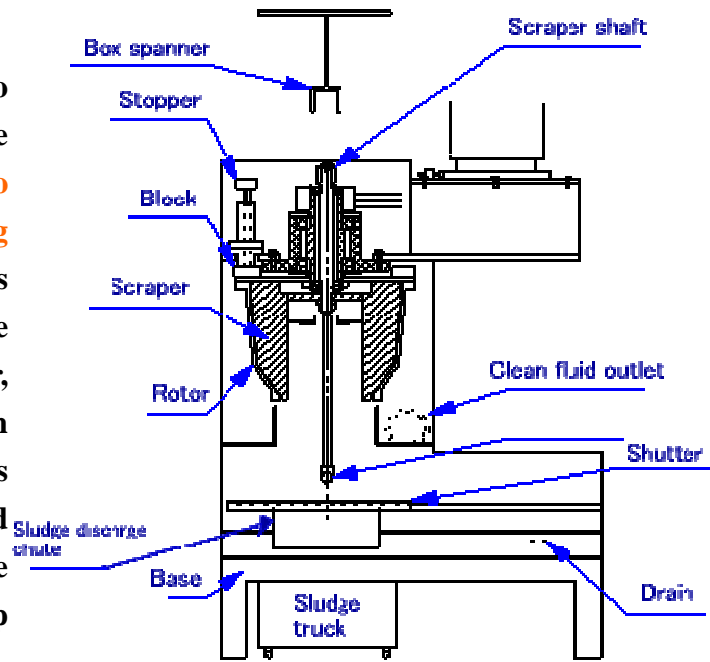
- Material, rotation speed, pipe arrangement, base height, body color, and other specifications can be modified upon request.

Semi-automatic Centrifugal Separators DL-60M, DL-100M, and DL-150M

Semi-automatic models have an "M" at the end of their model numbers, clearly distinguishing them from conventional fully-automatic models. For example, DL-**M indicates a semi-automatic model, and DL-**A indicates an original automatic model.

Principle and mechanism

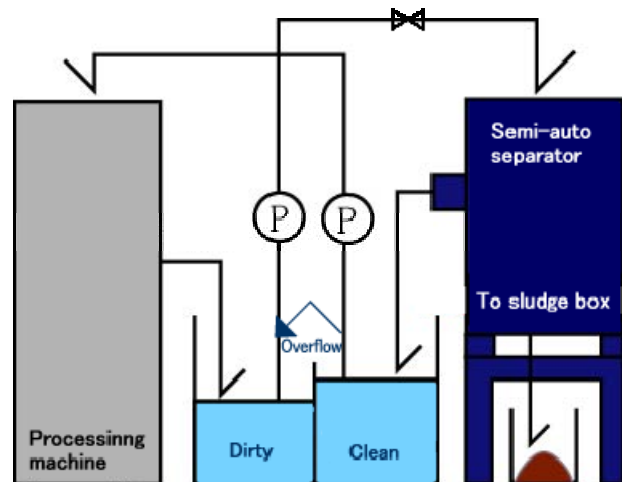
In the filtering operation, the scraper, which has two blades at a 180-degree angle, and the rotor rotate at the same time. **The scraper divides the interior of the rotor into two compartments, significantly improving filtering efficiency.** Slurry is pumped into the rotor, where it is separated into sludge and clean fluid. The centrifugal force presses the sludge onto the interior wall of the rotor, causing the clean fluid to overflow. The weight of the clean fluid discharges it from the outlet. After the rotor stops rotating, the dual-shaft mechanism with the rotor and scraper rotates the box spanner, causing the sludge accumulated on the interior wall of the rotor to drop beneath it.



For semi-automatic models, the upper scraper shaft can be rotated after the rotor stops rotating, causing the scraper to scrape off the sludge inside the rotor. Since the sludge is discharged from the bottom of the rotor, it can be easily collected. A base is required since the sludge is discharged from the bottom.



The photograph shows the DL-60M without base.



Product information

Model	Recommended flow rate (liters/min)	Motor (200/220V)	Rotor volume (liters)	Dimensions W x L x H (mm)	Weight (kg)
DL-60M	20 ~ 60	1.5kw 4P	7	450 x 650 x 1870	250
DL-100M	20 ~ 100	3.7kw 4P	15	550 x 900 x 2060	350
DL-150M	30 ~ 200	3.7kw 4P	25	650 x 1000 x 2100	550

- The machine height includes a base 600 mm high.
- Material, rotation speed, pipe arrangement, base height, body color, and other specifications can be modified upon request.

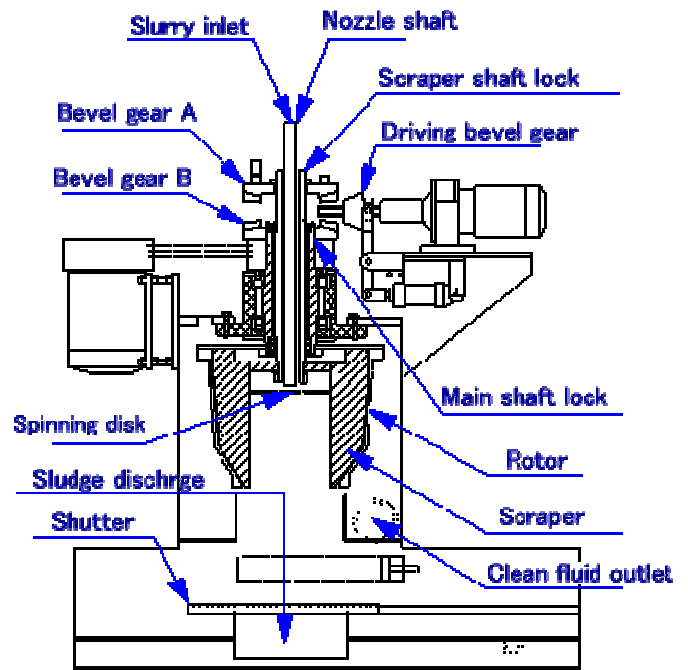
Fully-automatic Centrifugal Separators

DLG-60, DLG-100, DLG-150, and DLG-400

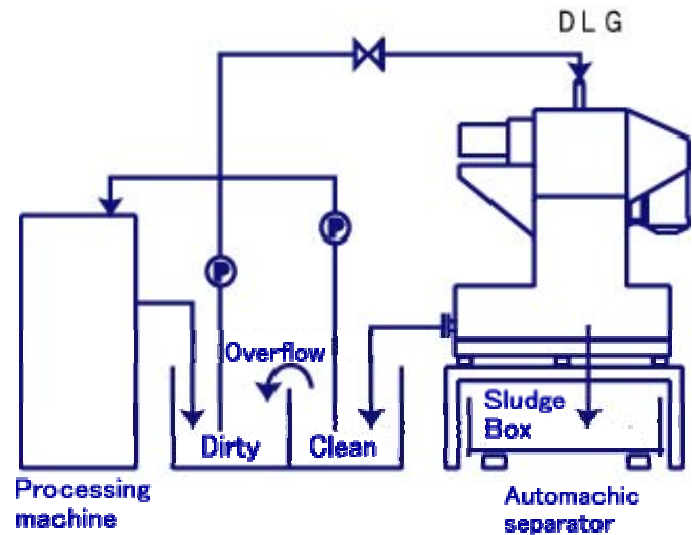
Principle and mechanism

In the filtering operation, slurry is supplied to the rotor from the nozzle at the top of the machine. The slurry is then spun off by the spinning disk and sent to the rotor. **The scraper divides the interior of the rotor into two compartments, significantly improving filtering efficiency.**

The rotor continuously centrifuges the slurry. If foreign matter in the slurry has larger specific gravities than the fluid, the centrifugal force presses the matter onto the interior wall of the rotor, removing water or oil from the slurry and separating it into solid material and clean fluid. The clean fluid is then discharged from the bottom of the rotor and collected in the clean fluid tank



The photograph shows the DLG-100 without base.



Product information

Model	Recommended flow rate (liters/min)	Motor (200/220V)	Rotor volume (liters)	Dimensions including base W x L x H(mm)	Weight (Kg)
DLG-60	0 - 60	1.5kw 4P 0.2kw 4P	7	500 x 900 x 1820	350
DLG-100	0 - 100	3.7kw 4P 0.75kw 4P	15	600 x 1100 x 1990	450
DLG-150	0 - 200	3.7kw 4P 0.75kw 4P	25	650 x 1200 x 2050	700
DLG-400	0 - 400	7.5kw 4P 1.5kw 4P	38	750 x 1500 x 2450	950

- Fully-automatic models require 0.4 MPA air pressure.
- Motors are gear motors for cleaning operations and main motors for filtering operations.
- The machine height includes a base 600 mm high.

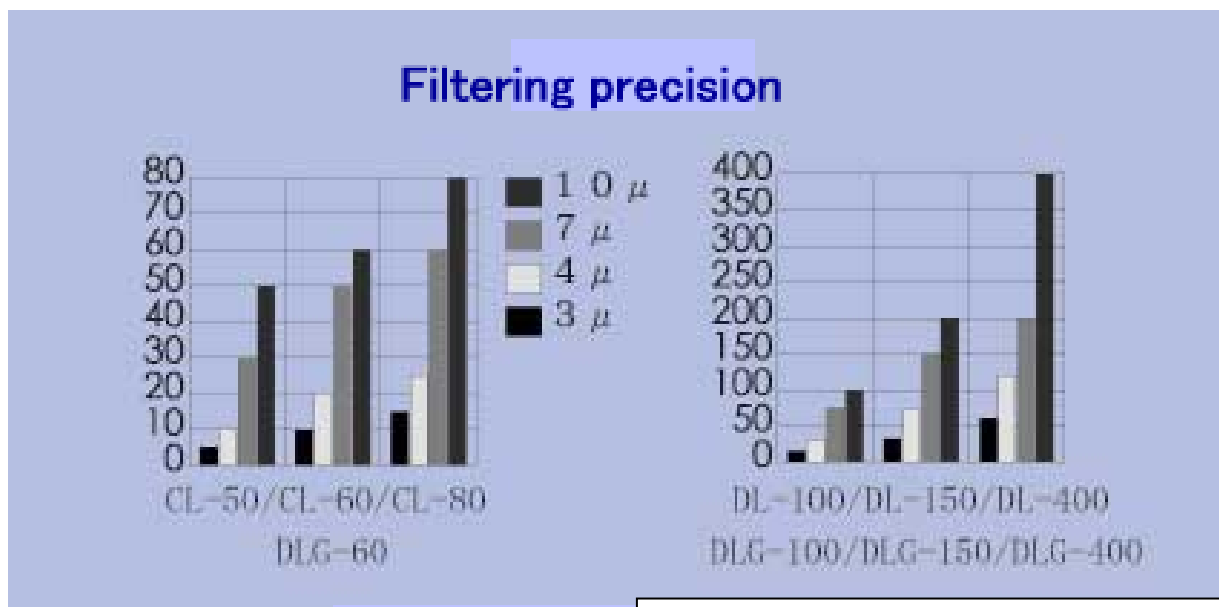
Controlling the movement of the automatic unit, and its advantages

- In the cleaning operation, the rotor stops, and the cylinder pushes out the driving bevel gear, so that it engages with bevel gears A and B. The driving bevel gear moves bevel gears A and B in opposite directions. The scraper moves with bevel gear A, and the rotor moves with bevel gear B. Their movement scrapes off the sludge, enabling continuous operation. In addition, the sequence control copies the cleaning movement of human hands. The rotation angle of the scraper is gradually increased, while continuously changing the direction of the rotation. This movement completely scrapes off the sludge.
- Continuous spraying of oil mist in the spindle protects the bearings. The automatic unit of this new model has a different mechanism from those of conventional fully-automatic models, i.e. CL and DL series. This reduces the burden imposed on the scraper shaft, as well as eliminating the necessity of a mechanism for stabilizing the rotor. Thus, the number of parts is also reduced. This new model has a much longer product-life cycle and shorter overall height, **further reducing necessary maintenance.**



Data on particle removal with different flow rates

- As the chart suggests, the flow rate must be determined according to the filtering precision required. When precise filtering is required, the flow rate must be reduced, and when precise filtering is not required, the flow rate can be increased.



Y-axis shows flow rates (liters per minute)

Experiment conditions: Water-based slurry with particles that have specific gravity of 4

- The above chart shows the results of an experiment. The figures may vary depending on the viscosity of the slurry, specific gravity of the particles, and other factors. The chart does not guarantee the filtering precision of our products. The chart should be used only as a guide for selecting and operating products.

Coolant tanks

We make various types of coolant tanks.

All of our coolant tanks are made-to-order. Please specify the details when meeting with us or in drawings.



Coolant tank with a conveyor (800 liters)

A client wanted to use a scraping conveyor for rough filtering and a centrifugal separator for precise filtering. They ordered this made-to-order coolant tank. With a centrifugal separator, this makes an ideal combination, where large chips are removed with the conveyor and the sludge of small particles is filtered with the centrifugal separator.

Multi-function coolant tank (650 liters)

A tool manufacturer ordered this made-to-order coolant tank, showing us the drawings. This multi-function coolant tank is equipped with a magnetic separator, dirt collector, and cooling system.



Coolant tank for a semi-automatic centrifugal separator

This is a coolant tank for a centrifugal separator, with a 300-liter tank capacity. The parts on the lower left are a liquid level indicator and pump.

Coolant tank for manually-operated centrifugal separator

This simple tank has a 150-liter capacity, and is equipped with a pump and window.

Company Profile

Name: Chubu Separator Co., Ltd.

Address: 94-2, Funatsu, Komaki City, Aichi Prefecture, 485-0073

Foundation Date: April 1978

Capital: 10 million yen

President and Representative Director: Susumu Takahashi

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URL: <http://www.chu-sepa.co.jp>

Banking:

Mitsubishi Tokyo UFJ Bank (Komaki branch)

Nagoya Bank (Komaki branch)

Main business lines:

Centrifugal separators

Coolant devices

Filtering device-related equipment