



LiquaPac[®]
Centrifugal Separators and Clarifiers

Sanborn LiquaPac® Clarification Systems

Designed to meet a wide range of applications and operational requirements for the metal cutting and finishing industry. Sanborn Technologies supplies LiquaPac Centrifuges in a variety of sizes and configurations.

TMC Tank-Mounted LiquaPac Centrifuge

High-efficiency centrifugal separator with high solids-holding capacity

The TMC is designed for retrofit or OEM applications where the machine tool includes its own holding tank and pumps. This basic centrifuge provides high-efficiency separation with minimal maintenance due to its design. Like all LiquaPac models, the TMC features our patented feed accelerator for higher solids removal efficiencies over conventional centrifuges. The removable sludge liner holds a total of 1.4 gallons of solids which can greatly reduce downtime for solids removal maintenance.



LDC Long-Deck Centrifuge

LiquaPac system designed to improve fluid filtration for machine tools that have an existing sump. Flow rates to 30 GPM.

Dirty fluid from the machine tool flows directly into the LDC lifting tank located under the centrifuge component. An integrated feed pump lifts the fluid into the centrifuge where the fluid is cleaned and then flows by gravity into the existing sump to be returned to the cutting surface. The LDC does not include a clean tank or supply pump. Your existing sump is transformed into a clean (only) tank, thereby improving the quality of the fluid being returned to the cutting surfaces.



RCS Self-Contained LiquaPac Centrifuge System

Complete LiquaPac clarification systems including tanks and pumps

The completely self-contained RCS system includes heavy-duty supply and feed pumps, a dirty tank with trash strainers and a large clean tank. The unit comes fully assembled. Options include liquid-level controls, a chiller and high pressure pumps. The inlet height to the dirty tank is 13" allowing for a gravity feed from most machine tools. The RCS is available in multiple configurations to accommodate flow rates up to 120 gpm.

Machines can be customized to meet specific plant requirements. For example, a post-separation one micron cartridge filter can be integrated for customers that require absolute filtration.



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Features

- Reduced cleanout frequency due to its 1.4 gallon holding capacity.
- Removes both ferrous and non-ferrous contaminants.
- Accommodates water-based or oil-based fluids.
- Feed cone rapidly accelerates fluid to bowl rotation speed, improving separation efficiency.
- Does not use disposable media such as paper or cartridges.
- May be started and stopped at any time without the need to clean out the bowl.
- Self-draining feature automatically removes standing fluid from the centrifuge bowl.
- Sealed rotating assembly virtually eliminates premature bearing failure.
- Cover interlock keeps operators safe during processing.
- High temperature model can operate up to 250 degrees F.

Superior Design Simplifies Cleaning

- Snap-lock, swing-away cover permits easy access to centrifuge bowl.
- Unit can be completely disassembled and cleaned with minimal maintenance.
- Open cover safety interlock.
- High capacity, heavy duty sludge liner is easily removed and cleaned.



Benefits

Significant Cost Savings

- Low-moisture solids cake means more fluid recovery.
- Eliminates expensive roll paper media and filter cartridges.
- Recovers more oil than disposable filter systems.
- Easy recovery of valuable solids such as carbide and tungsten.
- Reduces maintenance and labor expenses to keep the machine tool and sump clean.
- Minimizes energy requirements.

Increases Quality and Productivity

- Increases production quality and consistency.
- Reduces or eliminates downtime for sump cleaning and grinding wheel dressings.
- Reduces or eliminates operator involvement.
- Use of consistently clean fluids extends tooling life.

Environmental Advantages

- Reduces liability for manifesting and storing contaminated fluids.
- Anticipates increasingly stringent waste disposal regulations.

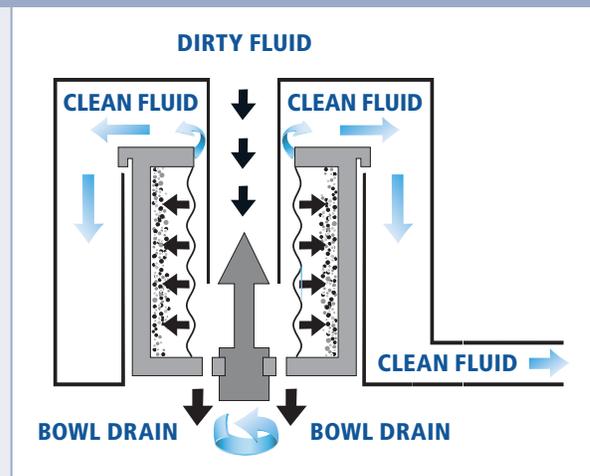
LiquaPac HS Centrifuge Operating Summary

Solids-laden liquid is pumped into the center inlet feed pipe and jetted to the bottom of the bowl. With the aid of the conical feed cone, the liquid is quickly accelerated to the speed of the rotating bowl. Centrifugal force then causes the solids in the liquid to conform to the inside vertical surfaces of the bowl liner.

Cleaned liquid overflows the top lip of the rotating bowl and drains by gravity

through the tangential outlet in the centrifugal case. When the bowl is stopped, the pool of fluid left in the rotor, automatically drains back to the feed fluid reservoir leaving only solids in the bowl liner.

As necessary, the liner is removed from the bowl and the low-moisture solids cake is removed for recovery or discharge. The liner is then reinstalled and the separating process can begin again.



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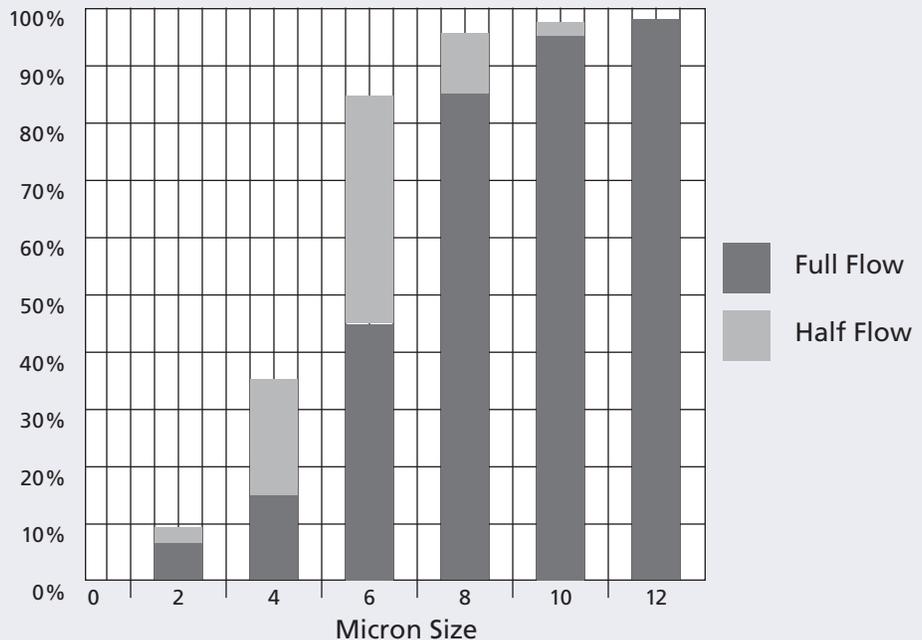
GENERAL SPECIFICATIONS

Model	Maximum Liquid Processing Rate (gpm)	Maximum Solids/Sludge Capacity (Gallons)	Tank Capacity-Dirty (Gallons)	Tank Capacity-Clean (Gallons)	Feed Pump Flow Rate (gpm)	Supply Pump Flow Rate (gpm)	Length (Inches)	Width (Inches)	Height (Inches)	Minimum Inlet Height (Inches)	Discharge Height (Inches)
TMC 30 HS	30	1.4	N/A	N/A	N/A	N/A	45	27	30	N/A	19
LDC 30 HS	30	1.4	5	N/A	30	N/A	62	27	43	5	32
RCS 30 HS	30	1.4	15	40	30	30	66	27	43	13	Via Pump
RCS 60 HS	60	2.8	30	80	60	60	70	57	43	13	Via Pump
RCS 90 HS	90	4.2	45	180	90	90	94	57	43	13	Via Pump
RCS 120 HS	120	5.6	60	230	120	120	112	57	43	13	Via Pump

All systems are shipped factory-assembled; all controls are optional. RCS models require only two piping connections for installation. All models accommodate viscosities from 30-500 SSU. Contaminant density must be greater than liquid density. Power requirements: 230/460 VAC, 3 phase, 60 Hz. Standard liquid temperature range: 35°F - 165°F. pH range: 6-9. Note: All specifications in this brochure are subject to change without notice.

LiquaPac HS Centrifuge Separation Efficiency

Most centrifuge manufacturers provide average removal efficiencies based on the G force and dwell time of the centrifuge of spherical steel particles in water. The 1,800 rpm LiquaPac will remove approximately 95% of the solids above 8 micron at 15 gpm. The 2,500 rpm LiquaPac can remove about 98% of the solids above 5 micron at 15 gpm.



LiquaPac HS liquid clarifiers rotate at 1,800 or 2,500 rpm depending upon model. This rotational speed generates a high gravitation force (850 – 1,130) called G's that cause the suspended particles to rapidly settle out of the fluid and form a layer of solids on the inside surface of the bowl liner.

The size of the particles that can be removed depends upon several factors including the:

- Shape of the particles to settle
- Viscosity of the fluid
- Specific gravity of the solids
- Amount of time the particles are subjected to the gravitation force
- Settling distance that the particles need to travel



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