

CENTRIFUGATION RE-INVENTED

CentraSep®



POSITIVE LOCKING CLUTCH

Revolutionizing  
Fluid  
Filtration



## CentraSep<sup>®</sup>

Can your company benefit from a fluid filtration process that revolutionizes the clarification of process fluids, extending fluid life and reducing waste volume? CentraSep Technologies applies innovative Patented<sup>1</sup> technology to centrifugally separate solids from liquids in industrial applications. With the maximized efficiency of centrifugal force, virtual elimination of attended operation, and maintenance-free service, CentraSep makes conventional filtration obsolete.

**Maximum gravitational force of 2,000 G's provides superior filtration, removing particles down to sub-micron range.**

CentraSep reaches speeds generating as much as 2,000 times the force of gravity. With such high centrifugal force, CentraSep removes even sub-micron particles (<.00004") from process fluids. Traditional filtration systems, including paper, cannot economically remove particles smaller than ten to fifteen microns. Unlike conventional filtration using disposable media, CentraSep does not add volume to your waste stream.

**Extends the life of process fluid.**

Removing particulate to a sub-micron range by centrifugation results in cleaner fluid. CentraSep extends fluid life without removing the fats and oils essential to lubrication in coolant applications. In rinse and pretreatment applications, centrifugally clarified fluid eliminates suspended solids and sludge, resulting in cleaner parts and less carryover. More efficient filtration makes your process fluid more productive, reducing replacement and disposal costs.

**Reduces abrasion for longer tooling life.**

CentraSep reduces the total concentration of solids. Greater fluid clarification of metalworking lubricants results in lower friction between tool and work surface. This prolongs tooling life and provides a superior surface finish.



**Designed for easy, automatic operation, step after step and cycle after cycle.**

CentraSep runs unattended, discharging accumulated solids automatically. As a result of advanced PLC programming (patent pending), process performance is continuously self-monitored. CentraSep incorporates cutting edge variable frequency drive technology that, together with the PLC, automatically adjusts to provide optimal performance and worry-free operations. Touch screen controls make it easy to program process parameters.

**Solids are automatically discharged.**

At the end of the cleaning cycle, CentraSep discharges packed collected solids automatically. CentraSep requires no filter media or labor.

**Minimum aeration means clean operation.**

Filtered fluid is discharged at high velocity through a tangential port minimizing aeration, foaming, and splash back, while the no-drip cabinet design keeps your floor and solids receptacle dry.

<sup>1</sup> Portions or the entirety of the CentraSep<sup>®</sup> may be covered by U.S. Patent No. 6,224,532, 6,478,724B1, 6,461,286B1, 6,932,757. Other U.S. and foreign patent applications pending.



**Synchronized rotation ensures efficient liquid/solids separation.**

By locking the scraper blades and stilling vanes to the bowl drive, the positive locking clutch synchronizes the rotation speed of the dirty fluid with the rotation speed of the bowl, ensuring efficient accumulation of solids. The blades and vanes channel the fluid smoothly and evenly, eliminating slip to maximize the impact of centrifugal force. This force pulls solid particles to the bowl wall where they accumulate until the blades are unlocked and the solids removal phase (scrape cycle) begins.

**High reliability and low maintenance mean less down time.**

Routine maintenance is as simple as semiannual lubrication of the single vector duty motor.

CentraSep utilizes an accelerometer, feeding an analog signal to the PLC to monitor machine vibration. Based on this accurate measurement—and feedback from the drive—CentraSep provides information for proactive maintenance.

When bearings need replacement, the unique, quick-change rotor assembly facilitates a rebuilt rotor exchange in less than 10 minutes from stop to start up.

**It took a lot of innovation to engineer CentraSep's fully automatic operation.**

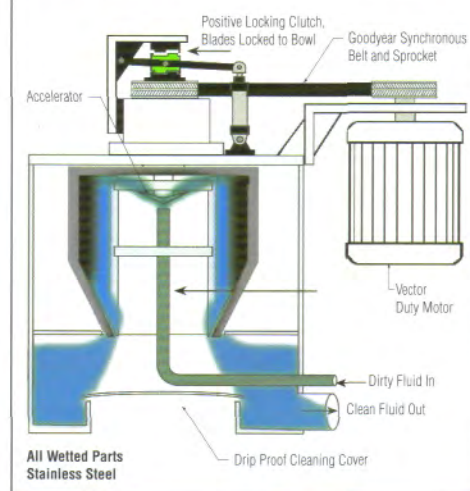
CentraSep is truly a revolutionary system. There are patents pending on its sophisticated PLC programming, torque-reducing scraper blade assembly and positive locking clutch.

**Here is how CentraSep works.**

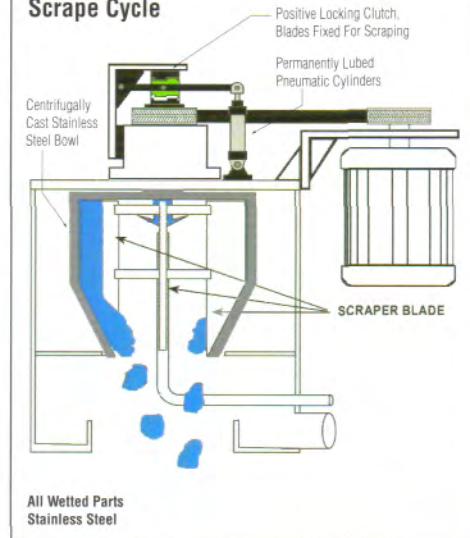
Before the process cycle, the positive locking clutch couples the blade assembly (two scraper blades and two stilling vanes) to the bowl drive. This ensures that the blade assembly rotates at the same speed as the bowl, keeping the fluid flowing smoothly. To begin the cycle, the variable frequency drive rapidly accelerates the rotor assembly to the required processing speed. Dirty fluid is then pumped through the injector tube, where an accelerator forces it into the rotating bowl. The blade assembly eliminates slip while centrifugal force extracts solids and packs them to the bowl wall. As more dirty fluid enters the bowl, clean fluid is forced out through the bowl mouth.

At the end of the process cycle, the feed pump is turned off and the variable frequency drive rapidly decelerates the bowl to a smooth stop. The positive locking clutch uncouples the blade assembly from the bowl drive and locks it into a fixed position. The bowl is then rotated while the blades scrape the bowl wall, discharging the packed particulate into a collection receptacle. When the bowl is clean, the positive locking clutch recouples the blade assembly to the bowl drive and the process cycle begins again. The entire operation is automated, requiring no operator attendance.

**Process Cycle**



**Scrape Cycle**



# Revolutionizing Fluid Filtration



Centrifugally removed copper and aluminum fines



## CentraSep Technologies

CentraSep is engineered by CentraSep Technologies, an innovator in environmental products and fluids management services. For years, CentraSep Technologies has specialized in solving problems through application engineering. Nowhere is this problem-solving approach more apparent than with CentraSep, which was created after listening to client challenges and needs in the filtration and maintenance of process fluids.

## Applications

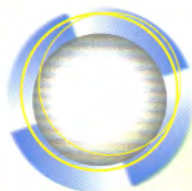
CentraSep is ideal for enhanced liquid/solids separation of process fluids, including:

- wire drawing coolants
- machining coolants
- quench fluids
- phosphate baths
- rinse baths
- paint booth curtain water
- paint strip baths
- grinding swarf
- vibratory finishing and deburring solutions
- honing oils
- glass grinding coolants
- ceramics grinding coolants

**CentraSep revolutionizes filtration in any application requiring particulate-free clarified process fluid.**

## Join the Revolution.

If you would like more information about CentraSep—machine specifications and the technical data that would apply to your business—call CentraSep Technologies at **1-800-258-0099**. We'll analyze your unique challenges and show you how CentraSep can revolutionize your fluid filtration process.



**CentraSep**<sup>®</sup>

Revolutionizing Fluid Filtration

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