

# **Magnetic Coolant Separators**



## Barnes Magnetic Separators

### Improving machine efficiencies, lowering cost, and extending coolant life in ferrous metal grinding operations

In ferrous metal grinding operations worldwide, Barnes Magnetic Coolant Separators are considered the industry standard for keeping coolant clean. Over 11,000 units are in use—and almost all paid for themselves in the first months of operation. That's because benefits resulting from use of the Barnes unit are far-reaching. They include:

- **Increased machine uptime.** The Barnes unit automatically removes grinding swarf from coolant, eliminating the downtime usually required to manually remove swarf from the machine's settling tank.
- **Improved wheel life.** Grinding wheels last longer and require fewer dressings because, unlike contaminated coolant, clean coolant won't "load" the surface of the wheel with abrasive waste particles.
- **Better product quality.** The grinding wheel, free of waste particles, generates a more accurate surface finish faster—with fewer rejects.
- **Reduced coolant costs.** By extracting up to 95% of the ferrous contaminant, the Barnes unit extends the useful life of the coolant by many months, greatly reducing both replacement and disposal costs.
- **Unique, "powerful" design.** The Barnes unit uses a unique permanent ferrite magnet design that delivers up to 2-1/2 times the magnetic surface of competitive units (see fig. 1). These powerful magnets are permanently sealed to metal rings on the inside of a continuously rotating drum. As the used coolant is channeled past the rotating drum, the increased magnetic surface and stronger magnetic attraction greatly improve cleaning efficiency, while enabling a smaller, more compact unit to handle higher flow rates. Furthermore, the swarf removal blade is located on the "up" side of the drum so that coolant trapped in the swarf flows back into the tank. As a result, swarf is virtually free of coolant.

The Barnes unit is available in five models to accommodate a wide range of flow rates and machine configurations. The line includes units with 15" diameter drums—the largest available in the industry.

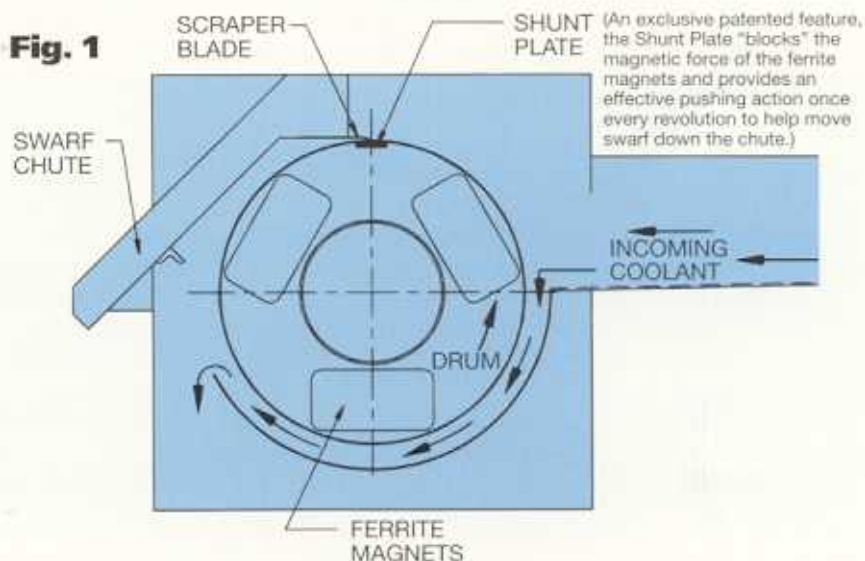


**Model  
MCS 620**

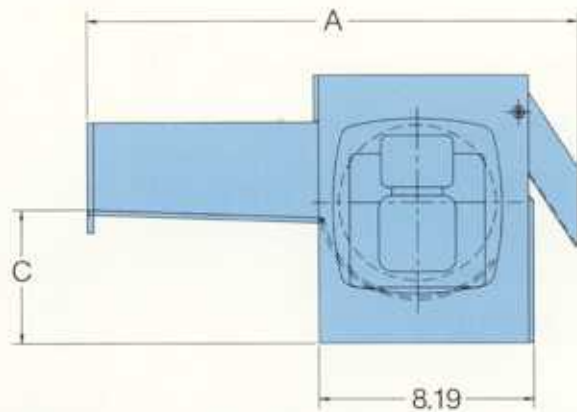
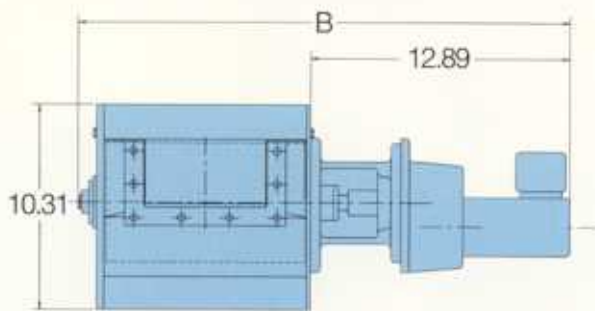


**Model  
MCS 1560**

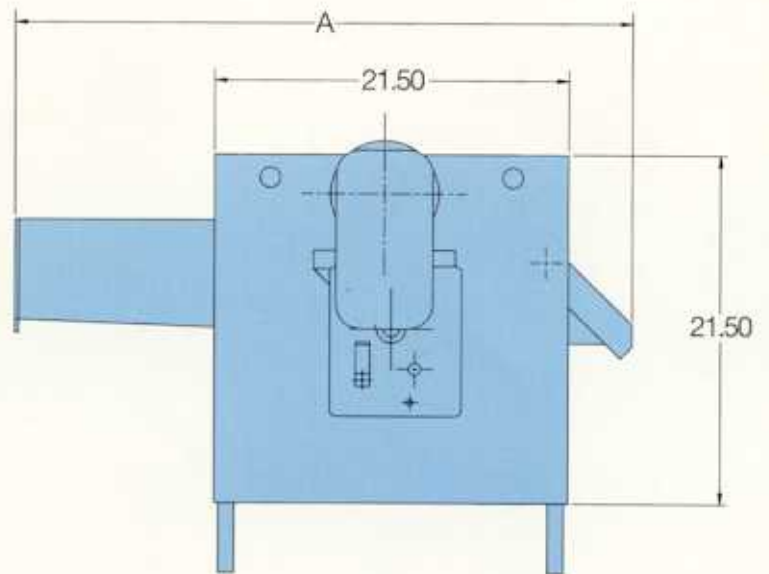
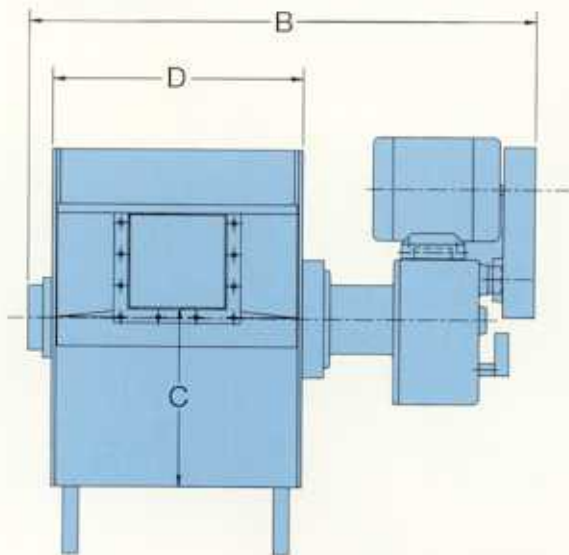
**Fig. 1**



## Specifications 610/620



## Specifications 1515/1530/1560



Model	610	620	1515	1530	1560
Flow Rate (Viscosity 30 SSU at 100 degrees)	20 GPM	40 GPM	65 GPM	125 GPM	250 GPM
Drum Diameter	6"	6"	15"	15"	15"
Drum Width (Dim. D)	10"	20"	15"	30"	60"
Motor	1/50 H.P.	1/50 H.P.	1/4 H.P.	1/4 H.P.	1/2 H.P.
Minimum Inlet Height (Dim. C)	5.12"	5.34"	11.44"	11.44"	11.44"
Overall Length (without sludge hopper Dim. A. <i>Note: this Dim. is approximate</i> )	18.81"	25.30"	38.38"	43.38"	48.37"
Overall Width (Dim. B)	24.89"	34.89"	32.36"	47.36"	77.36"
Weight	200 lbs.	250 lbs.	750 lbs.	1000 lbs.	1750 lbs.
Drum Shell—Stainless Steel	16 GA.	16 GA.	16 GA.	16 GA.	16 GA.

**Barnes  
International,  
Inc.**

## **Barnes Filtration... Helping customers compete in the world's metalworking industries**

**V**ast improvements in the quality and productivity of a manufacturer's metalworking operation can be made as a result of cleaner coolant. Yet, finding the right filtration solution for the job isn't always easy, or available off-the-shelf. That's why many companies worldwide turn to Barnes International's Filtration Systems Division.

We have a half century's experience in dealing with the swarf and chips produced in grinding, honing and cutting operations of all types. So we can apply a complete range of solutions. For instance, we've built units to filter particle sizes smaller than 10 microns. We've also built complete central systems to separate aluminum chips from coolant in volumes higher than 1,000 gallons a minute. We can even offer systems that remove both stringy chips and fines simultaneously from turning and machining center operations.

This technology takes shape at our 160,000 sq. ft. manufacturing plant in Rockford, IL, where we have everything we need under one roof to design, engineer, and build our products. The combination of experience, products and resources that we as a company can offer our customers in the search for better filtration is perhaps unmatched in our industry.



**Filtration  
laboratory**



**Advanced  
engineering  
resources**



**Productive  
CNC  
metalforming  
machinery**



**Flume &  
tank  
fabrication**

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