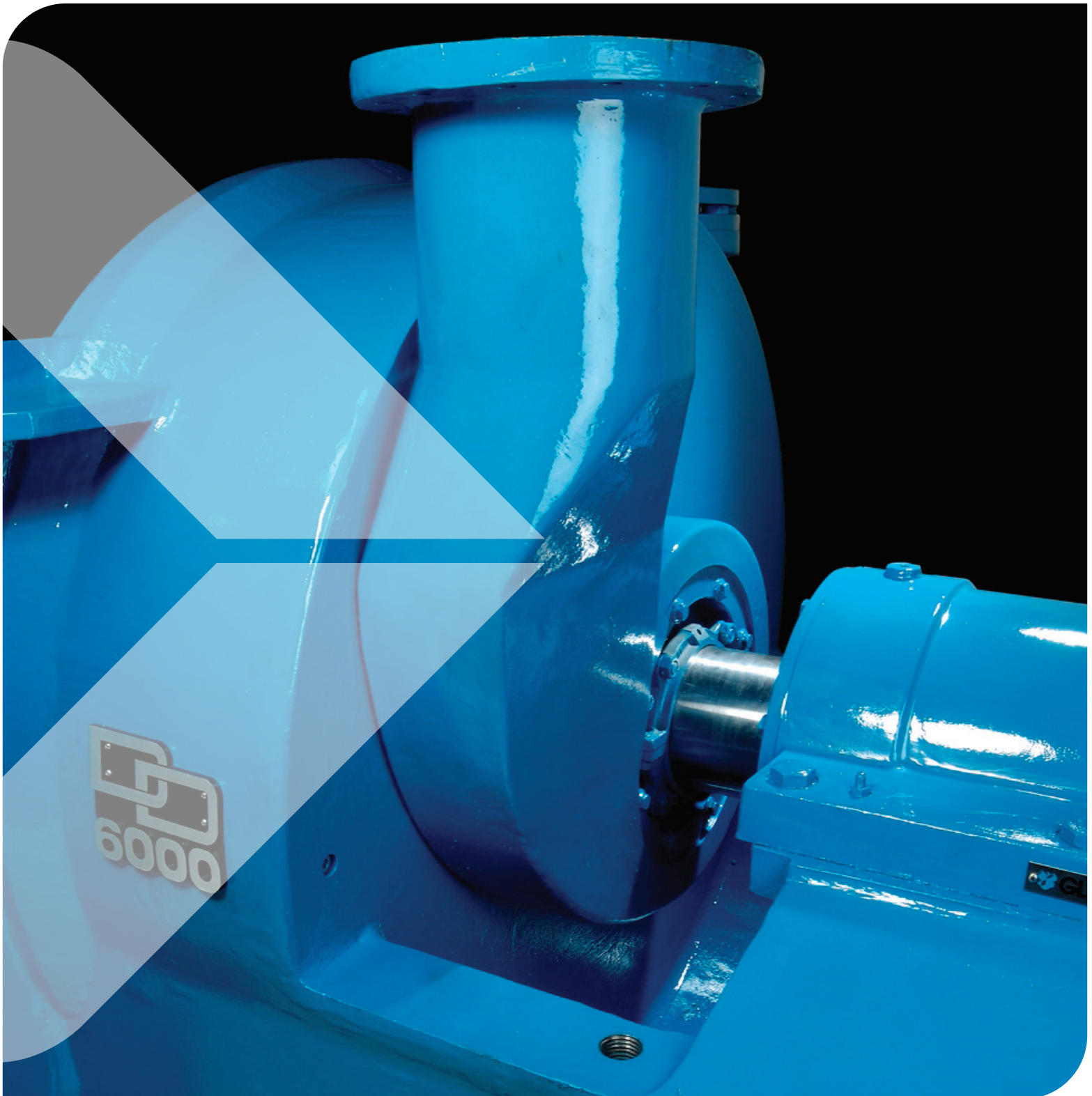


Saving energy and improving performance

Valmet Disk Refiner - DD[®] 6000







Stronger Pulp, Higher Efficiency, Lower Maintenance Costs

With its patented features such as the a tangential inlet and spline technology, Valmet Disk Refiner - DD® 6000 offers 50% greater capacity and 30% higher connected power than any other disk refiner on the market.*

A Long History of Performance

Since the launch of the DD® 2000 in the early 1950s, DD® Series Disk Refiners have been improving the refining process for papermakers for over 65 years. Throughout that time, more than 5,000 total units have been installed worldwide, across all DD® refiner models. Beyond that, approximately 90% of the installed base for DD® Series refiners is still in operation today.

Whether through the installation of new DD® 6000 refiners, or repairs/rebuilds of existing equipment that take advantage of the increased capacity and efficiency of newer technology, DD® Series refiners have a proven design that mills trust. Now, with legacy OEM brands GL&V®

and Beloit-Jones as part of the Valmet family, Valmet is the authentic OEM for DD® Series Disk Refiners, and the industry leading provider of refiner technology.

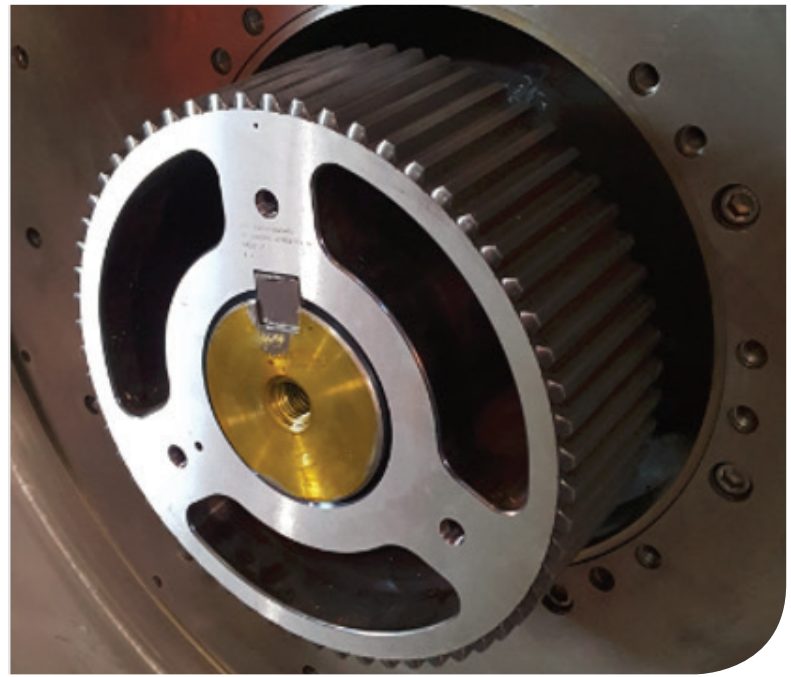
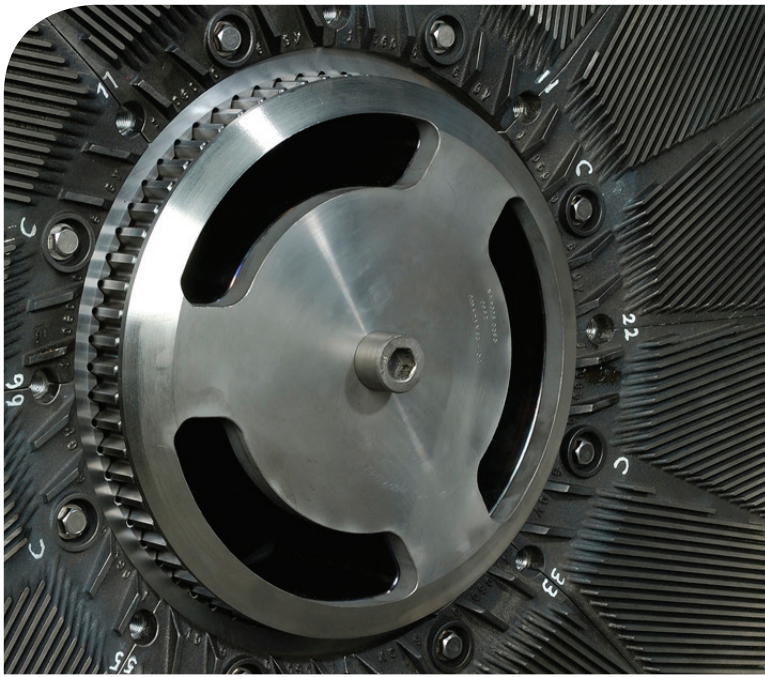
Leader in Refining Efficiency

Valmet Disk Refiner - DD® 6000 is the 5th generation of DD® series designs, featuring the most advanced technology and patented plate design that enables lower refining intensity and increased opportunities for fiber strength development. Its rugged, cast construction contributes to its long-term durability, while eliminating weld stress and distortion. Also, its unique, modular sub-assemblies make for easy maintenance, low operating costs and minimal downtime.

Refining Options to Meet Your Capacity Needs:

Valmet Disk Refiner DD 6000	Size	16"	24"	30"	38"	46"	54"
Plate Diameter	in	16-20	20-26	26-32	34-40	42-48	50-56
Max Power	kW	400	700	1120	2000	2500	4500
Max Power*	HP	550	950	1500	2750	3500	6000

*Depends on rotational speed



Spline Technology for Disk Refiners

Valmet Spline Technology for Disk Refiners, also known as Equa-Flo® technology, improves refining results and refining efficiency while delivering minimal spline wear.

A driving force behind the improved performance of the DD® 6000 is its patented spline technology, commonly known as Equa-Flo® technology. This optimized flow distribution and improved rotor centering delivers stronger pulp at lower applied energy. These key features, along with an increase in splined teeth of as much 60%, provide advantages that include:

- Lower stress loads per tooth
- Unique ports in the splined hub that eliminate rotor imbalance
- Reversible splined hub and rotor capable of two-duty cycles for maximum life and usability
- Longer plate life

Product Advantages

Decades of innovation as part of the development of DD® Series of Disk Refiners have led to the design and subsequent performance of Valmet Disk Refiner - DD® 6000.

Patented Tangential Inlet

Specifically designed to capture the benefits of pre-rotating the pulp, Valmet Disk Refiner - DD® 6000 includes a patented tangential inlet that increases hydraulic capacity by 50% over other disk refiners.*

Improved Refiner Loading

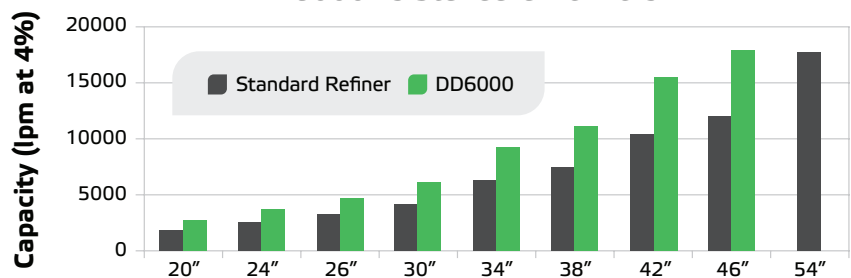
Valmet Disk Refiner - DD® 6000 includes standard, Variable Frequency Drive (VFD), providing a 25% increase* in refiner loading and

unloading, which results in improved control and better fiber quality. VFD Conversion kits are also available for DD® 3000 and DD® 4000 models.

Higher Motor Capacity

Separating the design of Valmet Disk Refiner - DD® 6000 from other disk refiners is its unique rotating assembly that provides higher motor capacity, while still enabling the flexibility of using smaller diameter refiners with existing motors.

Size for Size Capacity Comparison
DD6000 vs Standard Refiners



*Based upon size-by-size comparison trials conducted during research and development testing.



Repair & Rebuilds for legacy refining technology include:

- Beloit-Jones
- IMPCO®
- DD® 2000
- DD® 3000
- DD® 4000
- MD 4000
- DD® 4500
- DD® 4600

Optimized Refining Capabilities

Refiner upgrades and rebuild projects are a cost effective way to realize increases in capacity and efficiency within your refining process. Key parts, such as rotating assemblies, adjusting mechanisms, plates and fillings, are stock items, minimizing lead times for refurbishments. Refiner exchange programs are also available.

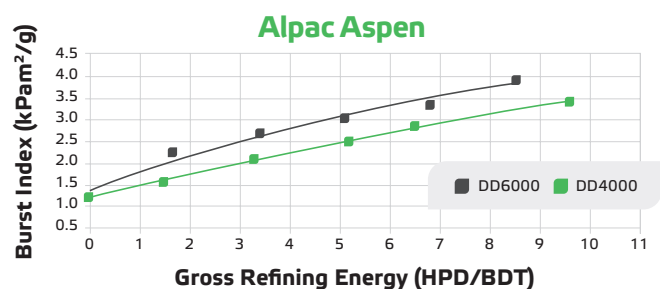
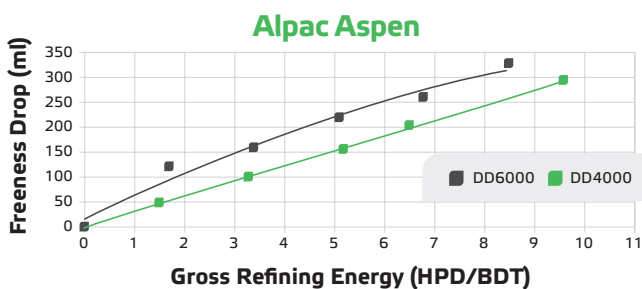
Increased Energy Efficiency

Energy is a critical variable in the refining process, but it is increasingly more important to monitor how that energy is being used. Valmet Disk Refiner - DD® 6000 delivers higher capacity and greater energy efficiency than any of its predecessors.

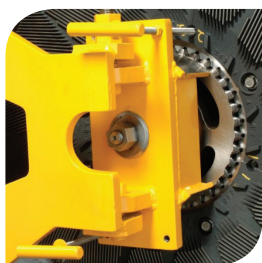
During research trials, Valmet Disk Refiner - DD® 6000 and Valmet Disk Refiner - DD® 4000 were tested and compared on the basis of gross energy consumption to measure the overall energy efficiency of each refiner. Under identical process conditions and control factors that included the type of refiner plates and type of stock

(bleached Aspen pulp), the DD® 6000 operated at a rate that was 40% more efficient than the DD® 4000. This combination of improved energy efficiency and increased capacity/power make a powerful case for upgrading older refining equipment with the technology and design of Valmet Disk Refiner - DD® 6000.

Research & Development Finds Improvements in Energy Efficiency



Focusing on the Features of the Valmet Disk Refiner - DD® 6000



Rotor Removal Arm

- Safer, faster refiner plate changes
- Eliminates need for overhead crane for refiner plate changes
- Available on all DD® Series Disk Refiners

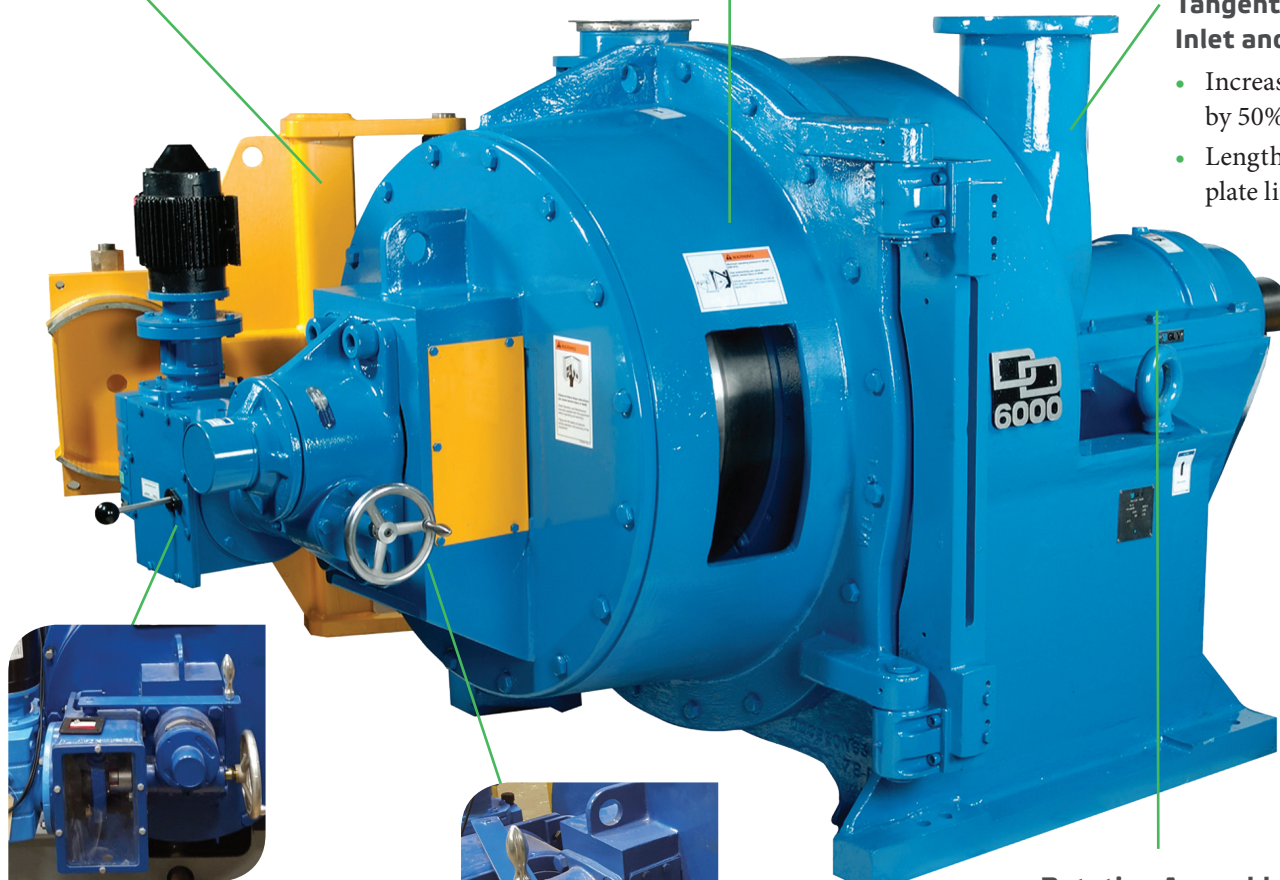


Improved Refiner Plate Mounting Option

- Enables lower refining intensity without increasing plate diameter
- Faster refiner plate installation

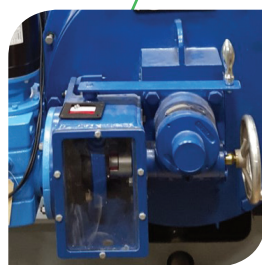
Patented Tangential Inlet and Outlet

- Increases capacity by 50%
- Lengthens refiner plate life



Shear Pin Clutch

- Provides overload protection
- Easy-to-use hand wheel for manual adjustments



Replaceable Actuator

- Easier, more cost effective maintenance

Rotating Assembly

- Facilitates refiner alignment
- Able to be removed without moving main motor





Valmet's professionals around the world work close to our customers and are committed to moving our customers' performance forward – every day.



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