Weir Specialty Pumps

WSP™ Chop-Flow™ Pump

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The WSP™ Chop-Flow™ Pump is a powerful, cost-efficient way to chop and pump at the same time. Solids, fibers, and other hard to pump materials are pulled into the pump suction. Before these materials enter the pump impeller vanes, they are cut by the action of the rotating impeller against the stationary cutter plate, so they easily pass through the pump after being chopped several hundred times per minute.

The WSP™ Chop-Flow™ pump exhibits the same quality you've come to expect from Weir for over 100 years. Rugged, reliable, dependable, and maintenance-free.

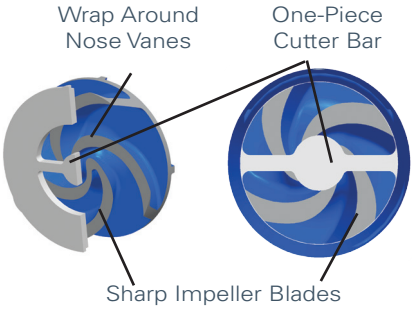
- Wrap around nose vanes ensure effective chopping at the center of the impeller, without the need for an impeller nut.
- A one or two-piece, easily replaceable, rigid cutter bar spans the entire suction opening. Versatility for toughest chopping applications.
- Rear pump out vanes with cutting slots repel and chop any material that gets behind the impeller.
- The wearing parts -cutting bar, impeller and rear cutting teeth are easily and inexpensively replaceable.
- All clearances are easily and externally adjustable, by one person without the hassle to unbolt and move the pump and/or the motor.
- Top quality materials and castings throughout - no flimsy fabricated parts to corrode.
- Available with packing and all conventional mechanical seals, flushed or flushless.

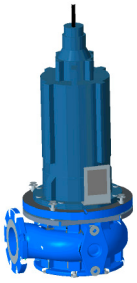
WSP™ Chop-Flow™ Impeller

- Chops stringy and solid materials, and moves it through the pump casing as the impeller runs against the stationary cutter plate
- Has nose vanes that completely wrap around the center of rotation, pulling material into the cutting area and assuring positive and complete chopping action
- Has ultra sharp blade face that maintains a cutting edge as it wears, coupled with a generous and easily adjustable wear allowance to maintain optimum chopping over the life of the impeller
- Made of tough and hard ASTM A148 steel, hardened to RC60

Stationary Cutter Bar

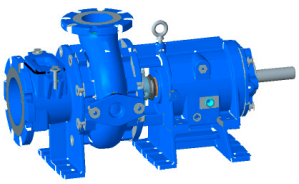
- Single piece – easily removable, replaceable, and economical
- Made of AISI T1 Tool Steel, hardened to RC60





Impeller Reverse Side and Back Plate

- The back side of the impeller is equipped with machined cutting teeth on the pump-out vanes and a labyrinth to protect and prevent any material from reaching the seal area, whether the pump is running or not.
- When running, the back pump-out vanes on the rear shroud of the impeller pump out any material which enters the area between the rear of the impeller and the backplate. These back vanes also incorporate two cutting slots which mesh with replaceable cutting teeth on the backplate to chop stringy materials as they are removed.
- The pumping action/agitation of the vanes in combination with the chopping actions of the cutting slots ensure that any material in this area will be positively ejected and won't reach the seal area.
- The exclusive cutting teeth on the back plate are easily and inexpensively replaced when necessary, eliminating the need to buy the more expensive complete backplate assembly.



Simple 2-step Clearance Adjustment with External Adjusting Screws

Step 1 Adjust bearing assembly and impeller forward to set clearance with cutter bar

Step 2 Adjust backplate to the impeller

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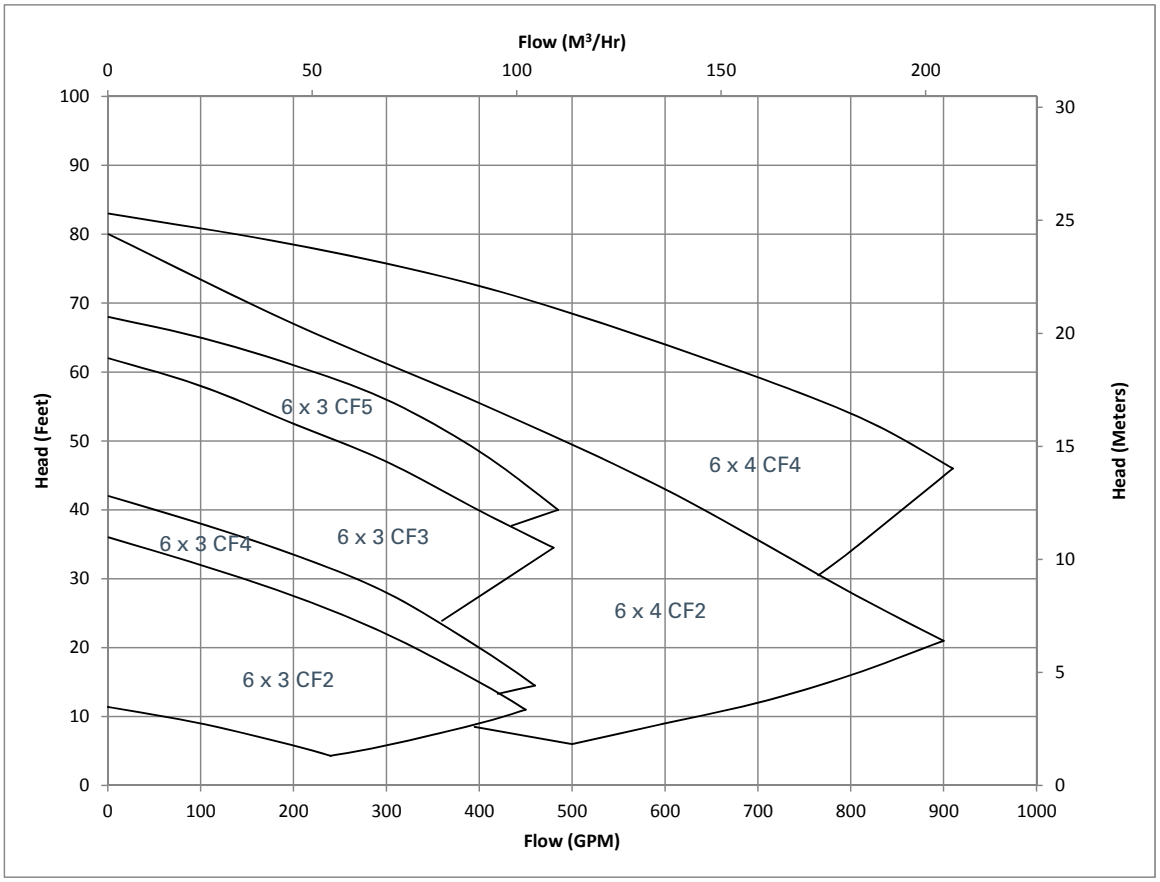
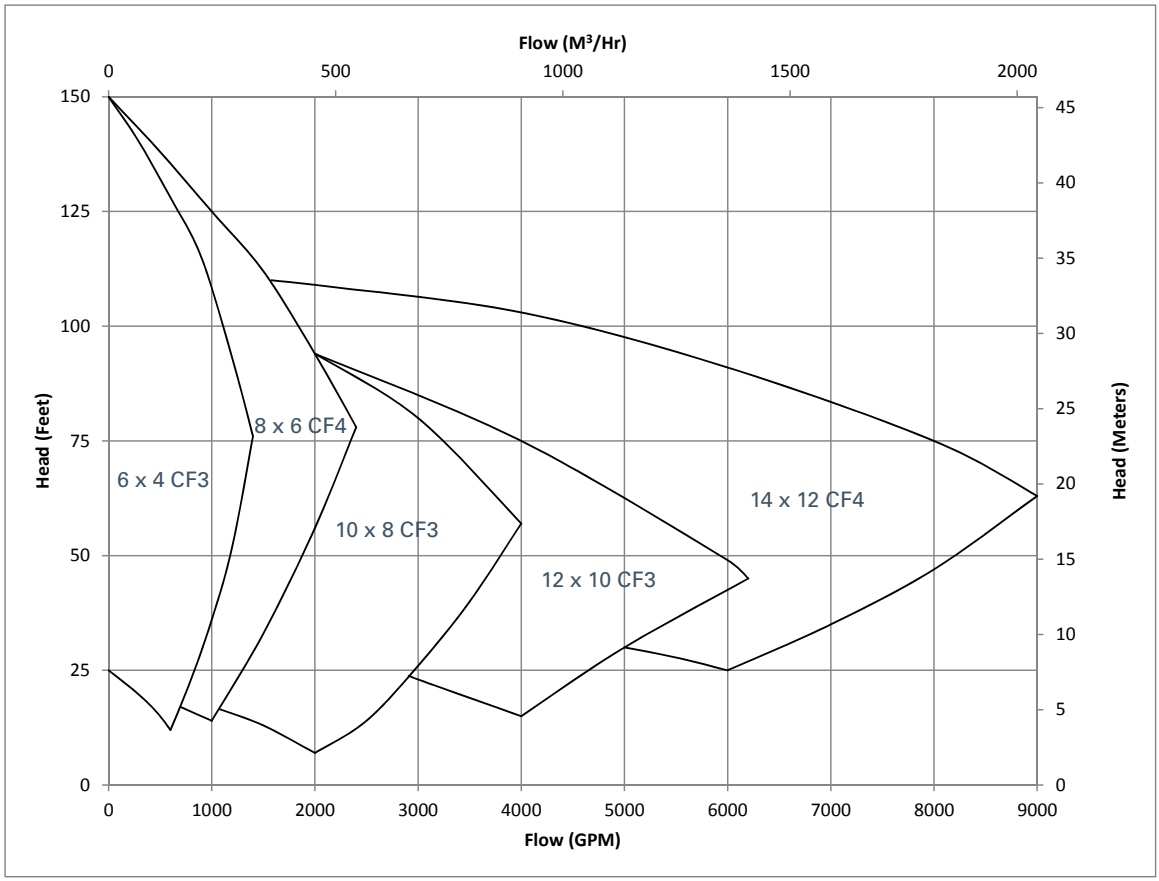
Low Flow



High Flow



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WSP™ Chop-Flow™ Pump Brochure
Version 1, Jan 2016

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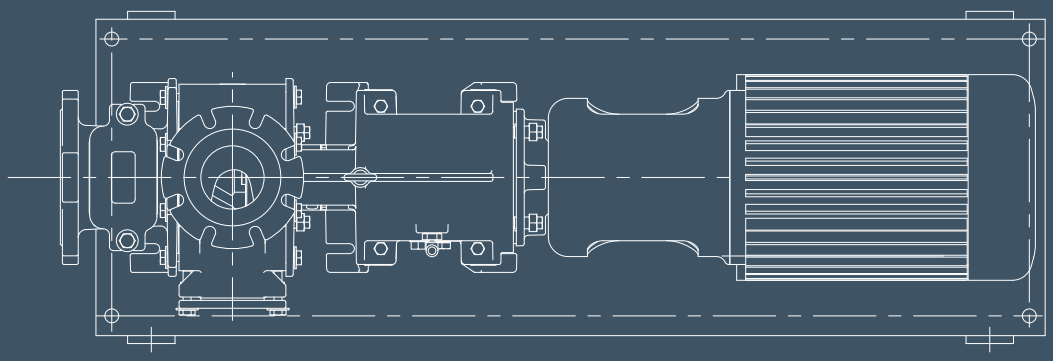

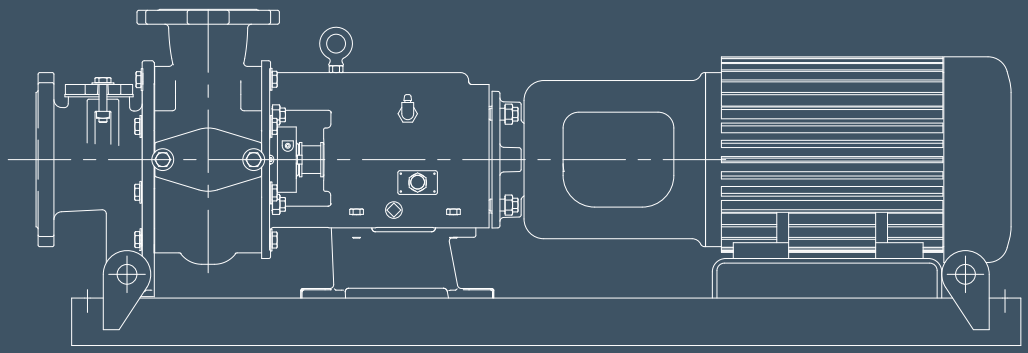

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