

# V2 SERIES GRINDER PUMPS

## POSITIVE DISPLACEMENT (PD) VS. CENTRIFUGAL LIQUID PUMPING METHOD

The biggest difference between positive displacement (PD) and centrifugal pumps is the way they pump liquid. Positive displacement pumps will constantly build pressure by squeezing the rubber boot in the wet end of the pump. This could be problematic in a dead head situation.

An example is a power outage to a street with grinders. If the power is out long enough to fill all the tanks on the street, when the power is restored, all the pumps will turn on at once. This creates a scenario where the PD pumps fight to break into the force main. Some will win, and some will lose. Often times, the pumps that lose split the rubber boot in the pump. This occurs because the boot is the weakest point in the PD system. This split causes the pump to recirculate and not move liquid.

A centrifugal pump will wait its turn in line to break into the force main given the same situation. During this process, the pump is running without moving water (this does not harm the pump) until it can get into the main. Hydraulically, the system (street) will relieve some pressure from the closest point of the discharge to the farthest. It is possible that one of the centrifugal pumps in the back of the street may start to overheat given the length of time it spins before the system pressure drops to a level that allows the pump to move water again. In that case, the thermal overloads in the pump will open automatically, shutting the pump off and keeping the motor from being damaged. Once the pump cools down, the thermal circuit will close and the pump will return to service.

The axial cutter is yet another great feature Pentair Myers® V-Series Grinder Pumps have over radial cutters. Pentair Patented Axial Cutter Technology is designed with curved leading edges that create a scissor action. Instead of shredding or grinding, the axial cutter makes a cutting and slicing movement, which is less susceptible to clogging.

Consider grinder pumps that feature centrifugal systems and axial cutters when transporting liquids or fighting clogs. [For more information visit pentair.com/vseries-grinders](http://pentair.com/vseries-grinders)



## PRODUCT COMPARISON

Let's look at the features between a Pentair Myers V2 Series Grinder Pump and Environment One® (E/One®) Grinder Pumps. Both models are solids-handling grinder pumps for Sewage Applications. The information for E/One pumps comes from publicly available literature on their website.

|                       | Pentair Myers V2 Series Grinder Pump | Upgrade E/One Pump           | Pentair Myers Value  |
|-----------------------|--------------------------------------|------------------------------|--|
| Pumping Method        | Centrifugal                          | Positive displacement        | Avoids system overload and keeps the motor from being damaged.   |
| Cutter Technology     | Patented Axial Cutter Technology     | 4140 cutter wheel with teeth | Grinds debris into smaller pieces and pushes larger pieces away, clearing the cutter of material.                              |
| Motor                 | 2HP                                  | 1HP                          | Double the HP. Stronger startup torque. Helps assure starting under heavy loads.   |
| Oil Cooled            | Yes                                  | No                           | Provides cooler running temperature and constant lubrication for long motor life.  |
| Warranty              | 36 months                            | 24 months                    | Provides extra 12 months of warranty for peace of mind.  |
| Winding Insulation    | Class F (155°C)                      | Class F (155°C)              | Robust motor temperature rating for better handling of heat.   |
| Cast Iron             | Yes                                  | Yes                          | Pump volute, motor and seal housing built with high quality gray cast iron for durability.                                     |
| Rotor Shaft           | Heavy 416 SST                        | Precipitation hardened SST   | Corrosion resistant. Reduces shaft deflection for long shaft life.   |
| Discharge Orientation | 1-1/4 NPT Vertical                   | 1-1/4 NPT Vertical           | Cast Iron vertical flanged discharge. Helps save time and resources by using existing Pentair Myers Grinder Pump Rail Systems. |

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