

4x3-10 Model Side View



4x3-10 Model Front View

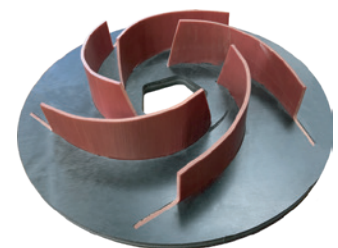
Adapted for Efficiency and Longevity

The highly efficient enclosed impeller for C•Shell® pushes the limits of conventional end suction centrifugal pumps. The Innovative semi-open “Edge” impeller boasts excellent flow performance and solids handling capability. The ultra-strong yet thin vaned design provides for reduced turbulence and frictional loss.

MDM’s selection principles exceed industry standards. We compile extensive bench data for each pump and make the best selection using a proprietary computational program. We focus on the needs of each customer with tailored solutions, by optimizing efficiency and component quality. This partner based philosophy provides customers with the lowest cost of ownership and the highest return on investment.



Enclosed Impeller



Semi-Open Impeller (Edge Technology)



Type 21 Cartridge Mechanical Seal

This conventional and simple seal design allows for a wide range of different face materials to be configured for a wide range of corrosive process fluids. The chamber design provides for easy and fast installation.



EXTERNAL CASE MATERIALS

- Rugged thick wall Cast Ductile Iron
- Chemical resistant epoxy coated surfaces

CORROSION RESISTANT NON-METALLIC INTERNALS

- W35 Vinyl Ester Resin internal lining
- Smooth Internal Passages for High Efficiency
- Low/High temperature rated
- High abrasion resistance

FOOTPRINT

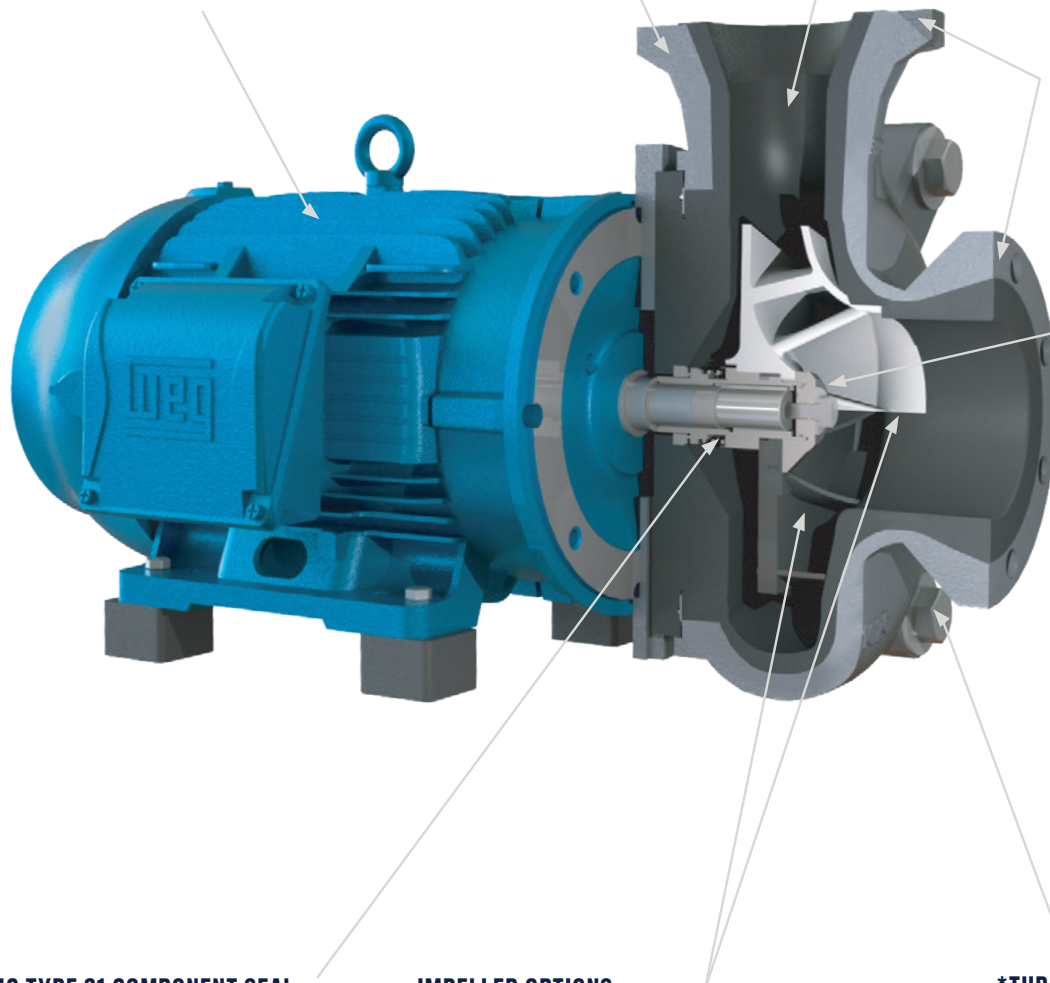
- Close-coupled configurations with NEMA JM motors up to 60 HP
- Compact space saving package
- Major cost reductions compared to frame mounted configurations

OPTIMIZED PORT CONFIGURATION

- ANSI Flanges from 2"-8" (50DN - 200DN)
- Centerline Orientation

SHAFT SLEEVE IMPELLER DESIGN

- Fast and Easy assembly
- No alignment or wear-rings required



SIMPLISTIC TYPE 21 COMPONENT SEAL

- Extended service life
- Increased efficiency
- Multiple material options for specific applications

IMPELLER OPTIONS

- Edge Semi-Open Impeller
- Edge Enclosed Impeller
- Solids handling
- Thin impeller vane design provides significant flows compared to traditional semi-open impeller designs
- 80% peak efficiency

*THROUGH BOLT DESIGN

- Ease of Maintenance
- 4 lug style through bolts make for simple case access
- Fast assembly/disassembly

**3x2-10 excluded from through bolt design.*





3x2-10 Model with VFD

Variable Frequency Drive (VFD)

C•Shell® pumps in combination with a variable frequency drive (VFD) result in a versatile pumping system with the lowest total cost of ownership. This is accomplished by slower operating speeds with a larger more efficient impeller, reducing energy consumption and increasing service life. Pump purchases should be seen as power and labor contracts, since operating cost will far exceed acquisition cost.

The design experts at MDM will size the pump to meet maximum system flow and validate whether a VFD is appropriate for your pumping application. Below is a list of potential operating benefits.

Aegis ground rings and insulated bearings can be provided for additional protection with VFD applications.

Benefits

- Reducing rotational speed will draw less electrical power compared to valve throttling.
- Increased service life by lowering rotational speed (seals, bearings and motor).
- Ability to integrate with system automation and monitoring.
- Rotational speed can be controlled to maintain a desired flowrate as system pressure demands fluctuate.
- Inherent soft starting reduces wear on motor and other system components such as piping and valves.
- Voltage being supplied to the motor is optimized based on the operating load, thus maintaining the right amount of motor slip.
- Some utilities offer rebates for installing VFDs in new or retrofit work.



4 & 6 Pole (60 HZ) Family Performance

