

Durco® Mark 3™ Recessed Impeller Pump

The Mark 3 Recessed Impeller pump features special casing and impeller designs that deliver vortex pumping action to minimize wear and maintain solids integrity.



Ideal for Slurries and Solids-Handling Applications

The Flowserve Mark 3 Recessed Impeller pump combines the best design features of the Mark 3 ANSI Standard pump with the vortex action of a recessed impeller. Its special purpose features along with thick wall wet-end components offer extended service life when handling solid, stringy or fibrous slurries.

The Flowserve Mark 3 family of ANSI process pumps came to prominence in the chemical processing industries under the Durco heritage name. The Mark 3 Recessed Impeller pump represents one of many pioneering innovations from Flowserve and Durco and is suitable for the many specialty, solids-handling applications in process pumping.

Applications

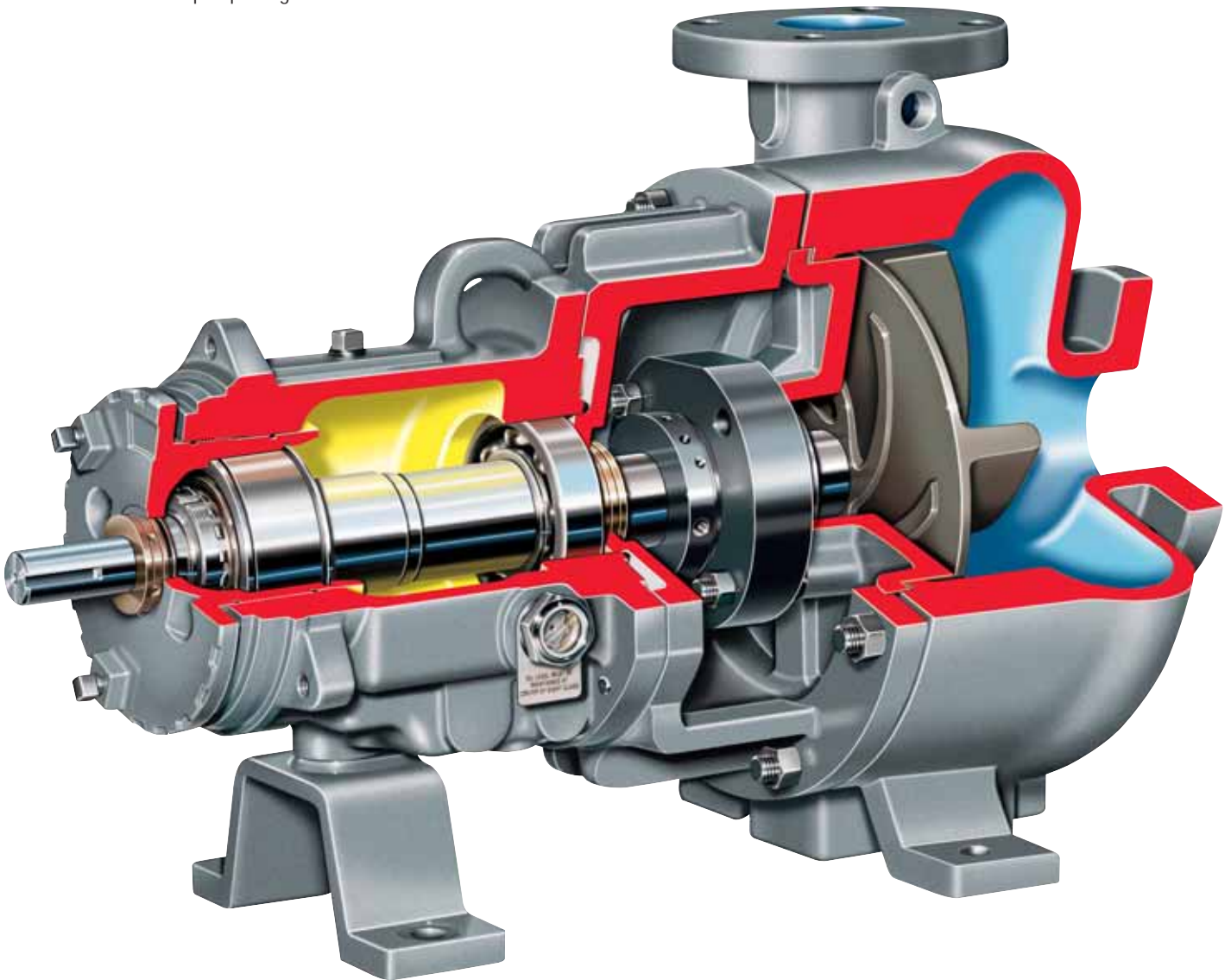
- Light slurries
- Corrosive or erosive services
- Large diameter solids
- Waste streams
- Fluids with which shearing must be avoided
- Protection of solids integrity

Operating Parameters

- Flows to 455 m³/h (2000 gpm)
- Heads to 120 m (400 ft)
- Pressures to 20 bar (285 psi)
- Temperatures from -75°C (-100°F) to 370°C (700°F)

World Renowned for Reliability and Performance

The Flowserve Mark 3 Recessed Impeller pump incorporates advanced design features, many of which are based on the industry-leading Mark 3 ANSI Standard pump design.



Vortex Action minimizes abrasive wear while maintaining solids integrity because only a fraction of the media contacts the impeller

Duplex Stainless Steel Construction is standard. Available in all standard Mark 3 alloys

Precision Cast Impeller provided in CD4MCuN duplex stainless steel standard. All standard alloy materials available

SealSentry™ Seal Chambers extend seal life and provide advanced self-flushing ability

Cylindrical Volute Casing With Tangential Discharge minimizes turbulence, improving pump performance and decreasing abrasion

Metal-to-Metal Construction assures a true running and concentric shaft, extending bearing and mechanical seal life

Large Shaft and Bearing Components extend bearing life and reduce shaft deflection and vibration

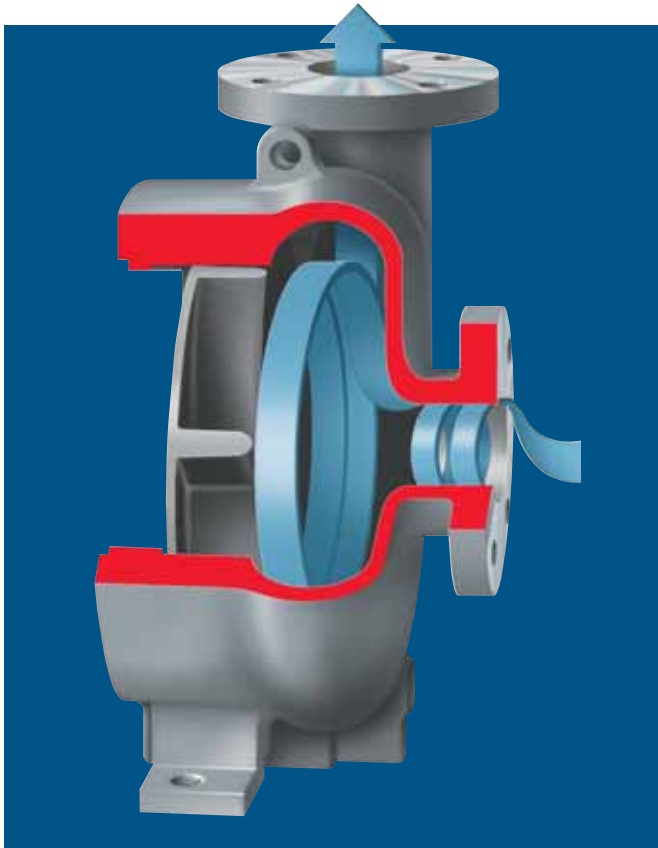
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Benefits of the Mark 3 Recessed Impeller Pump

- Improved solids handling
- Improved air and gas handling
- Improved ability to pass fibrous or stringy substances
- Reduced wear
- Low NPSHR

Cylindrical Volute Casing

Minimizes radial loads on the impeller. The result is longer seal life as well as maximized radial bearing life.



Vortex Pumping Action

The vortex created by the spinning impeller does the pumping with less than 20 percent of media contacting the impeller. Abrasive wear is minimized and solids integrity maintained.



Precision Cast Open Impeller

The Mark 3 Recessed Impeller pump comes standard with an open impeller that ensures peak energy efficiency and low NPSHR. The impeller incorporates pump-out vanes that ensure low, positive seal chamber pressure and expel solids from critical seal areas. Mechanical seal or packing life is maximized.

Choice of Power Ends

- Standard Mark 3A power end with double lip oil seals and top vent/breather
- ANSI 3A™ power end featuring Inpro VBXX bearing isolators and up to a lifetime warranty

Five Sizes Available

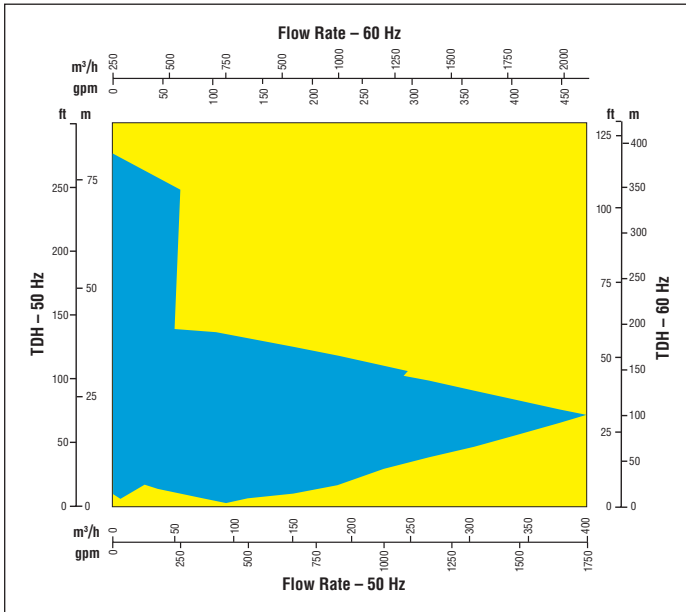
- One Group 1
1J2x2R-6
- Four Group 2
2K2x2R-10
2K3x3R-10
2K4x3R-13
2K6x4R-13

Offered in a wide range of alloys and with a variety of hard coatings to meet application needs.

Additional Configurations

The Mark 3 Recessed Impeller pump can be specified with the Sealmatic dynamically sealing expeller and as self-priming with a priming tank option.

Mark 3 Recessed Impeller Performance Curve



Available Materials of Construction¹

Symbol	ACI Designation	Equivalent Wrought Designation	ASTM Specifications ²
CD4M	CD4MCuN	Ferrallium [®] 255	A995, Gr. 1B
D4	CF8M	316	A744, Gr. CF-8M
D20	CN7M	Alloy 20	A744, Gr. CN-7M
DNI	CZ100	Nickel 200	A494, Gr. CZ-100
DC2	N7M	Hastelloy [®] B-2	A494, Gr. N-7M
DC3	CW6M	Hastelloy [®] C-276	A494, Gr. CW-6M
DM	M351	Monel [®] 400	A494, Gr. M-35-1
DINC	CY40	Inconel [®] 600	A494, Gr. CY-40

1. Other alloys may be available upon request

2. Alloys conform to the chemical and mechanical requirements of the latest edition of the ASTM specification

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[®] Hastelloy is a registered trademark of Haynes International, Inc.

[®] Monel and Inconel are registered trademarks of International Nickel Co., Inc.

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