



## **M SERIES**

ASTM F998 Close-Coupled Centrifugal Pump



## **M SERIES**

Our end-suction pump for handling fresh water, and naval applications.

Conforming to the requirements of ASTM F998, including the Navy supplement, hydraulic performance extends to 5,000 GPM and 713 feet of head. This range is covered by 24 sizes in 316 SS and CD4MCuN duplex SS as the standard materials. Units can be mounted either horizontally or vertically.

Designed to meet naval requirements including MIL-S-901 Shock, MIL-STD-167-1 Type I Environmental Vibration, MIL-STD-740-1 Airborne Noise and MIL-STD-740-2 Structureborne Noise. All models are back pull-out designs with replaceable wear rings, enclosed impellers and balance holes with dual volute casings, as required. These features combine to produce shaft deflections of less than 0.002" at shutoff, and overall, offer some of the most efficient hydraulics to be found anywhere in a pump of this type.

# seawater and light hydrocarbons in commercial marine







### 1

#### CONNECTIONS

Most sizes rotatable in 90° increments for added flexibility in meeting shipboard piping configurations

## 2 CASING

Short impeller overhangs maintain shaft deflections under 0.002". All drain, vent and gauge connections are straight-thread, O-ring type for positive sealing

#### 3 IMPELLER Enclosed type

Enclosed type with features to reduce axial thrust loads, for longer component life

## 4

#### **COMPOSITE INTERNALS**

Composite impellers, wear rings and shaft sleeves per NAVSEA drawing 803-7226047 reduce corrosion, increase pump life, and greatly decrease weight

#### BACK PULL-OUT

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Allows inspection, maintenance and overhaul of all rotating elements, including the shaft, impeller and mechanical seal, without disturbing system piping

#### MECHANICAL SEAL

In accordance with ASTM F1511, with carbon-onsilicon carbide faces as standard, and auxiliary throttle bushing for added protection from catastrophic seal failure. Cyclone separators provided on all seawater applications



#### CLOSE-COUPLED DESIGN

Smaller and lighter envelope than traditional split-case or frame-mounted designs, totally eliminating issues with pump bearing, shaft coupling, and pump/motor alignment





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#### HYDRAULICS

- Flows to 5,000 US GPM (1,100 m<sup>3</sup>/hr)
- Heads to 700 feet (213 m
- Efficiencies to 88%
- Power to 300 HP (224 KW)
- Temperatures to 300° F (150° C)
- Speeds to 3,550 RPM

#### APPLICATIONS

Marine

- Air Conditioning Chilled Water
- Ballast/Emergency Dewatering
- Central and Auxiliary Seawater
- Chilled Seawater
- Distilling Plant Systems

Fire Fighting

• Gray Water Management

Hot Water Circulation

• JP-5 Transfer Service

- Potable Water Supply
- Propulsion and Auxiliary Engine Cooling

Radar Systems Cooling

#### WHY AN M SERIES?

- Close-coupled to reduce size and weight.
- Enclosed impellers, balance holes and wear rings, for lower thrust loads.
- Dual volute casings for reduced radial loads.
- All casings renewable with wear rings, extending the life of the pump.
- Back pull-out design, for service without disturbing piping.

#### **STANDARD MATERIALS**

Casing	Composite, 316 SS or CD4MCuN
Impeller	Composite, 316 SS or CD4MCuN
Shaft	316 SS or Alloy 20
Shaft Sleeve	Composite, 316 SS or Alloy 20
Wear Ring	Composite, 17-4PH SS or CD4MCuN

Other materials available upon request.

#### **MECHANICAL DATA**

Rotation	Clockwise from Fan End of Motor
Input Power	Up to 300 HP
Connections	ANSI Flanges
Bearings	Grease Lubricated





## **80 years of experience**

Since we built our first pumps, Carver Pump has become recognized as one of the leading centrifugal pump companies, building to the most demanding engineering specifications and military standards in the world.

We were one of the first American pump companies to attain ISO 9001 certification – the most recognized standard for quality in the world. This certification is your assurance that our commitment to quality includes not only our hardware, but also superior customer service, leading-edge R&D, and continuous improvement in everything we do.

So whether the job is refueling fighter jets on the deck of an aircraft carrier, supplying paint to an auto assembly line, or bringing water to the fountain in a city park, we put our reputation on the line everyday with every pump we build.

## **Contact us**

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