



COMMERCIAL MARINE





CRUISE VESSELS CONTAINER VESSELS BULK CARRIER VESSELS OIL TANKERS OFFSHORE SUPPLY VESSELS PLATFORMS/RIGS SPECIALIZED VESSELS

EXCELLENCE IN FLOW CONTROL

Whether on the open seas or in the shipyard, you need confidence in the reliability of your ship's pumps and fluid handling systems. CIRCOR delivers to meet your needs, bringing more than 70 years of experience and expertise in commercial marine, along with unmatched insight into the industry's ever-changing compliance and regulatory demands. You can count on the CIRCOR brands you know and trust – ALLWEILER®, HOUTTUIN™, IMO® – to provide a wide range of solutions and support that help control costs, while keeping your fleet and business operating at peak performance.

APPLICATION OVERVIEW

PRODUCTS AND SYSTEMS YOU CAN RELY ON FROM START TO FINISH

Ship owners and operators face a distinct set of fluid-handling challenges, which CIRCOR meets straight-on with solutions designed and built for the specific needs of the **ENGINE ROOM, CONTROL ROOM, BOILER ROOM, DECK and CARGO SPACE**. Innovative and time-tested for precision performance, our pumps, systems and solutions for these applications withstand any number of rigors, from high-flow speeds and seawater seepage to unique needs for submersible design or handling bitumen and asphalt. Whatever the application requirement, CIRCOR focuses on supporting effectiveness and reliability in your operations, reducing energy use, maintenance requirements, labor costs, replacements, time in port and increasing the life of your pumps and solutions.

THREE-SCREW PUMPS

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Simple design with only three rotating parts, pulse-free flow with extremely low vibration and noise levels and high-pressure boost capabilities even when handling low-viscosity fluids.

ENGINE ROOM CARGO SPACE DECK MACHINERY BOILER ROOM

TWIN-SCREW PUMPS

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Versatile self-priming horizontal and vertical screw pumps with tremendous product viscosity range for lubricating and non-lubricating liquids.

ENGINE ROOM CARGO SPACE

CENTRIFUGAL PUMPS

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Custom designed to specific application requirements with a wide range of low viscosity aggressive and non-aggressive fluids.

ENGINE ROOM CARGO SPACE DECK MACHINERY BOILER ROOM

PROGRESSING CAVITY PUMPS

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Simple and economical pump design requiring only one shaft seal, able to handle fluids contaminated with large percentages of abrasive solids.

ENGINE ROOM CARGO SPACE

PROPELLER PUMPS

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Space-saving inline pump design for shipbuilding applications with large flow rates, delivery heads up to 20 meters, integrated motor and reversible flow direction.

ENGINE ROOM CARGO SPACE

SIDE CHANNEL PUMPS

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Side channel designs fill the hydraulic performance void between positive displacement pumps and centrifugal pumps.

DECK MACHINERY BOILER ROOM

GLOBAL AFTERMARKET SERVICES

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To help you maintain reliable vessel performance even after the sale, CIRCOR stands ready to respond with full support of your needs for service and spare parts wherever you are in the world.

REDEFINING GLOBAL SOLUTIONS

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CIRCOR maintains regional engineering and manufacturing facilities, along with a global network of distributors, to support you around the world and around the clock.



THREE-SCREW PUMPS

The ALLWEILER® and IMO® three-screw pumps are rotary, self-priming positive displacement pumps. The pumping elements consist of three moving parts: the power rotor (main screw) and two symmetrically opposed idler rotors, all operating within close fitting housing bores. The incoming process fluid is conveyed by the rotating power rotor by means of the cavity formed with the intermeshing idler rotors.

From suction to discharge, the fluid is transferred by means of a series of constantly forming and re-forming chambers until it reaches the casing outlet. Symmetrical pressure loading on the power rotor eliminates the need for radial bearings to absorb radial forces. The idler rotors generate a hydrodynamic film which provides radial support similar to journal bearings. Axial loads on the power rotor and idler rotors, created by differential pressure, are hydrostatically balanced. By this design arrangement, high differential pressures can be managed.

Strengths of the technology

- High pressure boost capabilities even when handling low viscosity fluids
- Pump with one of the highest overall efficiencies when aligned with only three rotating parts
- Pulse-free flow with extremely low vibration and noise levels
- Fullfills ISO 2005:8217 and EU-2005/33/EC, e.g. compatible for ECA areas

SN Series for applications up to 100 bar



PERFORMANCE DATA

Capacity:	up to 5,300 l/min
Discharge pressure:	< 64 bar
Viscosity:	2 to 5,000 mm ² /s
Fluid temperature:	max 150°C

Main Applications

Pumping of heavy and diesel oil, circulation of lubricating and hydraulic oils.

Design

The SN series is a three-screw, self-priming screw pump with hardened and ground spindles that rotate in a replaceable casing insert. The idler screws are hydraulically driven and axial thrust is fully compensated hydrostatically.

A groove ball bearing lubricated with the pumped liquid or an external grease lubricated groove ball bearing holds the drive screw in place. The shaft is sealed with either shaft seal rings or mechanical seals. A return pipe connects the seal chamber with the suction chamber. As a result, regardless of the current discharge pressure, only the suction/inlet pressure will affect the shaft seal.

ALLFUEL AFM-T, AFM-F AND AFM for applications up to 40 bar



PERFORMANCE DATA

Capacity:	< 110 m ³ /h
Discharge pressure:	< 40 bar
Viscosity:	1.0 - 760 mm ² /s
Fluid temperature:	150°C max

Main Applications

Cargo pump, crosshead lube-oil pump, cylinder oil transfer pump, fuel pump (light/heavy oil, diesel oil), heavy oil feeder pump for separator, heavy oil preliminary pressure pump, hydraulic pump, lube oil circulation pump, stern tube lube-oil pump, winch pump.

Design

Self-priming three-screw pump with one driving spindle and two idler spindles acting as rotating element for handling of chemically neutral and lubricating liquids up to 40 bar. Compact single or twin units, with mechanical seal or magnetic coupling. The thread flanks are virtually free of loads and are not subject to wear.

The pumped liquid lubricates all sliding parts and can be categorized as full fluid friction. Main fields of application are soil-fired systems, tank systems and as lube-oil pumps in virtually all areas of industry. They are also used to generate pressure in oil hydraulic systems of all types.

SN-M series



PERFORMANCE DATA

Capacity:	< 3,500 l/min
Discharge pressure:	< 64 bar
Viscosity:	2 to 2,000 mm ² /s
Fluid temperature:	max 250°C

Main Applications

Fuel/diesel oil/lube oil feed (light and heavy oil), hydraulics. Circulation of lubricating and hydraulic oils.

Design

SN Magdrive is an internal-bearing, triple-screw, self-priming, sealless screw pump with magnetic coupling. The magnetic coupling's containment hermetically seals the pump. Hardened and polished screws run inside an exchangeable casing insert. Idler screws are hydraulically driven and axial thrust is fully balanced hydrostatically. A liquid-lubricated groove ball bearing fixes the drive screw in place. The pump's magnetic coupling and suction chamber are connected to each other via a return bore.

TRILUB



PERFORMANCE DATA

Capacity:	11 to 7,500 l/min
Discharge pressure:	< 16 bar
Viscosity:	2 to 1,500 mm ² /s
Fluid temperature:	-20 to 155°C

Main Applications

Pumping of heavy and diesel oil, circulation of lubricating and hydraulic oils.

Design

The pump is designed to be flange-mounted to its electric motor via a connecting frame and a flexible shaft coupling. The pump may be mounted horizontally or vertically. For pumps with capacity above 11 m²/h, the design is of inline DIN type, e.g., inlet and outlet on opposite sides. The pump is equipped with an internal relief valve and for capacity higher than 60 m³/h, there is an adjustable tuning valve to avoid cavitation.

LPE Standard Line



PERFORMANCE DATA

Capacity:	0,6 - 10,8 m ³ /h
Discharge pressure:	16 bar
Viscosity:	1.4 - 3,500 mm ² /s
Fluid temperature:	155°C

Main Applications

LO circulation pump, stern tube LO pump, LO purifier feed pump, HFO/MDO preliminary pressure pump, HFO/MDO circulation pump, HFO/MDO feeder pump for separator.

Design

The pump is designed to be flange-mounted to its electric motor via a connecting frame and a flexible shaft coupling. By the angle bracket, the pump may be mounted horizontally or vertically. The design is of inline DIN type, e.g., inlet and outlet on opposite sides. The pump is equipped with an internal relief valve.

LPE OptiLine



PERFORMANCE DATA

Capacity:	0,6 - 10,5 m ³ /h
Discharge pressure:	16 bar
Viscosity:	1.4 - 3,500 mm ² /s
Fluid temperature:	180°C

Main Applications

HFO/MDO preliminary pressure pump, HFO/MDO circulation pump, HFO/MDO feeder pump for separator.

Design

The pump is designed to be flange-mounted to its electric motor via a connecting frame and a magnet coupling. By the angle bracket, the pump may be mounted horizontally or vertically. The design is of inline DIN type, e.g., inlet and outlet on opposite sides. The pump is equipped with an internal relief valve.

ACE Standard Line



PERFORMANCE DATA

Capacity:	0,6 - 10,8 m ³ /h
Discharge pressure:	16 bar
Viscosity:	1.4 - 3,500 mm ² /s
Fluid temperature:	155° C

Main Applications

LO circulation pump, stern tube LO pump, LO purifier feed pump, HFO/MDO preliminary pressure pump, HFO/MDO circulation pump, HFO/MDO feeder pump for separator.

Design

The pump is designed to be flange-mounted to its electric motor via a connecting frame and a flexible shaft coupling. By the angle bracket, the pump may be mounted horizontally or vertically. Note that inlet and outlet side is placed on the same side and can therefore be mounted on so called valve block. The pump is equipped with an internal relief valve.

ACE OptiLine



PERFORMANCE DATA

Capacity:	0,6 - 10,5 m ³ /h
Discharge pressure:	16 bar
Viscosity:	1.4 - 3,500 mm ² /s
Fluid temperature:	180° C

Main Applications

HFO/MDO preliminary pressure pump, HFO/MDO circulation pump, HFO/MDO feeder pump for separator.

Design

The pump is designed to be flange-mounted to its electric motor via a connecting frame and a magnet coupling. By the angle bracket, the pump may be mounted horizontally or vertically. Note that inlet and outlet side is placed on the same side and can therefore be mounted on so called valve block. The pump is equipped with an internal relief valve.

ACG Standard Line



PERFORMANCE DATA

Capacity:	4.8 - 72 m ³ /h
Discharge pressure:	16 bar
Viscosity:	1.4 - 3,500 mm ² /s
Fluid temperature:	155° C

Main Applications

LO circulation pump, LO Transfer pump, Crosshead LO pump, HFO/MDO feeder pump for separator, HFO transfer pump, HFO/MDO preliminary pressure pump, HFO/MDO circulation pump.

Design

The pump is designed to be flange-mounted to its electric motor via a connecting frame and a flexible shaft coupling. By the angle bracket, the pump may be mounted horizontally or vertically. The design is of inline DIN type, e.g., inlet and outlet on opposite sides. The pump is equipped with an internal relief valve.

ACG OptiLine



PERFORMANCE DATA

Capacity:	4.8 - 70 m ³ /h
Discharge pressure:	16 bar
Viscosity:	1.4 - 3,500 mm ² /s
Fluid temperature:	180° C

Main Applications

HFO/MDO feeder pump for separator, HFO transfer pump, HFO/MDO preliminary pressure pump, HFO/MDO circulation pump.

Design

The pump is designed to be flange-mounted to its electric motor via a connecting frame and a magnet coupling. By the angle bracket, the pump may be mounted horizontally or vertically. The design is of inline DIN type, e.g., inlet and outlet on opposite sides. The pump is equipped with an internal relief valve.

ACF Standard Line



PERFORMANCE DATA

Capacity:	18,6 - 174 m ³ /h
Discharge pressure:	16 bar
Viscosity:	1,4 - 1,500 mm ² /s
Fluid temperature:	130° C

Main Applications

Main Engine LO pump, LO Transfer pump, Crosshead LO pump, HFO transfer pump.

Design

The pump is designed to be flange-mounted to its electric motor via a connecting frame and a flexible shaft coupling. By the connection frame, the pump may be mounted horizontally or vertically. For vertical installations, a stand called TRIPOD can be supplied. The design is of inline DIN type, e.g., inlet and outlet on opposite sides. The pump is equipped with an internal relief valve and tuning to avoid cavitation.

LPQ Standard Line



PERFORMANCE DATA

Capacity:	87 - 450 m ³ /h
Discharge pressure:	16 bar
Viscosity:	2,0 - 800 mm ² /s
Fluid temperature:	90°C

Main Applications

Main engine LO pump, LO transfer pump, crosshead LO pump, HFO transfer pump.

Design

The pump is designed to be flange-mounted to its electric motor via a connecting frame and a flexible shaft coupling. The pump may be mounted horizontally or vertically but due to the size, vertical installation is recommended. The design is of inline DIN type, e.g., inlet and outlet on opposite sides. The pump is equipped with an internal relief valve and tuning to avoid cavitation.

E4 Standard Line



PERFORMANCE DATA

Capacity:	0,6 - 51 m ³ /h
Discharge pressure:	100 bar
Viscosity:	12 - 400 mm ² /s
Fluid temperature:	90°C

Main Applications

Pitch pump/thruster pump, lubrication pump.

Design

The pump is designed to be flange-mounted to its electric motor via a connecting frame and a flexible shaft coupling. By the connection frame, the pump may be mounted horizontally or vertically. Note that the inlet side is flexible; meaning it can be turned 4 x 90°.

D4 Standard Line



PERFORMANCE DATA

Capacity:	0,6 - 51 m ³ /h
Discharge pressure:	160 bar
Viscosity:	1,4 - 1,500 mm ² /s
Fluid temperature:	155°C

Main Applications

HFO burner pumps for boilers, hydraulic pumps in cranes.

Design

The pump is designed to be flange-mounted to its electric motor via a connecting frame and a flexible shaft coupling. By the connection frame, the pump may be mounted horizontally or vertically. Note that the inlet side is flexible; meaning it can be turned 4 x 90°.



TWIN-SCREW PUMPS

The HOUTTUIN™ Twin-Screw Pumps (TSP) are rotary, double suction, timed, self-priming positive displacement pumps. TSPs can come as compact vertical and horizontal pumps. The basic pump design comes with two screw-twins (4 screws) in double suction configuration to achieve high flow rates. The fluid entering the suction port is split and guided to the screw inlets. As the rotating screws intermesh, transfer chambers are formed, trapping and conveying the fluid axially to the discharge location, which is typically located at the mid span of the pump casing.

The fluid is handled carefully without mixing. TSPs are known for very low NPSH requirements. Because the TSP moves fluid volumes trapped inside the chamber, it can handle virtually any fluid, from gas to high viscose liquids. The pumps operate very smooth and pulsation free. Very accurate flow control as well as excellent pressure and cavitation control. The two pumps' shafts are supported between bearings and synchronized by the timing-gears. By means of this design arrangement, a close clearance can be maintained between the four pumping screws and the pump casing without the risk of metal-to-metal contact.

When pumping clean, lubricating fluids like lube oils, bearings and gears can operate inside the pumped fluid and only one seal is required. To permit the handling of contaminated, corrosive process fluids and dry running, the bearings and timing gears are located outside of the process envelope and are independently lubricated.

Strengths of the TSP technology

- Able to handle contaminated and corrosive fluids
- Pumps very low to high viscose liquids and up to 90% of entrained gas
- Self-priming and suitable for stripping operation
- Very low NPSH / NPIP requirements
- Excellent flow control
- Smooth, vibration and pulsation free operation
- Robust cavitation detection solution possible (CIRCOR patent)

Houttuin 211.10

Single seal, very compact, vertical Lube Oil pump



PERFORMANCE DATA

Capacity: 10 to 1100m³/h
 Discharge pressure: up to 16 bar
 Optional: Submerged deep-well pump

Houttuin 216.10

Single seal, compact, horizontal Lube Oil pump



PERFORMANCE DATA

Capacity: 10 to 1100m³/h
 Discharge pressure: up to 16 bar

Houttuin 211.40

Compact, vertical pump for all types of fluids



PERFORMANCE DATA

Capacity: 10 to 1100m³/h
 Discharge pressure: up to 16 bar

Houttuin 216.40

Compact, horizontal pump for all types of fluids



PERFORMANCE DATA

Capacity: 10 to 1100m³/h
 Discharge pressure: up to 16 bar

Houttuin 236.40

High temperature, horizontal pump. Modular design, for all types of fluids and applications



PERFORMANCE DATA

Capacity: 10 to 1100m³/h
 Discharge pressure: up to 50 bar

Houttuin 236.TT

High capacity, compact, horizontal API pump for all types of fluid



PERFORMANCE DATA

Capacity: 200 to 3000m³/h
 Discharge pressure: up to 16 bar



CENTRIFUGAL PUMPS

Each series within the Allweiler® centrifugal pump line is designed for specific application requirements able to handle a wide range of low viscosity aggressive and non-aggressive fluids.

The centrifugal pump method of operation is typically a single-flow, single-stage, volute pump available with a shaft seal or magnetically coupled pump technology. In a centrifugal pump, the process liquid enters through the suction nozzle and then the center of the pump known as the impeller. As the impeller rotates, it spins the liquid sitting in the cavities between the vanes outward. As the liquid leaves the eye of the impeller, a low-pressure area is created causing more liquid to flow toward the inlet. The faster or bigger the impeller, the higher the velocity of the liquid at the vane tip giving greater energy to the liquid.

Strengths of the technology

- **Cost-Effective:** Simplifies maintenance & repairs
- **Operates Efficiently with Water-Like Fluids:** hot or cold | neutral or aggressive | pure or contaminated
- **Flexibility:** Suits diverse applications
- **Simple Design:** Robust & less susceptible to failure

ALLMARINE MI-S / MI-C / MA-S / MA-C



Main Applications

Ballast pump, bilge draining, firefighting pump, cooling water feed, general service.

Design

Single-stage, single-flow volute-casing centrifugal pumps in short, compact designs. Capacity and hydraulics are specifically optimized for the requirements in Shipbuilding and Offshore. Series MI-S and MI-C have a volute casing of the inline design. The MA-S and MA-C volute casings have an axial intake and radial outlet.

Volute casing and bearing unit are joined to the drive motor via a motor bracket. Precise centering of the pump and drive motor in the motor bracket eliminates the need for alignment. Spacer couplings with distance pieces on the MI-S and MA-S series make it easy to dismount the bearing and sealing unit, including impeller, without removing the volute casing, pipes, or drive motor.

The compact MI-C and MA-C series are the right choice when space restrictions require a low overall pump height.

PERFORMANCE DATA

Capacity:	< 1,800 m ³ /h
Delivery head:	< 65 m (size 200-500 up to 140 m)
Discharge pressure:	< 10 bar
Fluid temperature:	sea water < 40°C fresh water < 100°C
Delivery flange:	65 to 350 mm

ALLMARINE NAM-F



Main Applications

Firefighting pump.

Design

Single-stage, single-flow volute casing centrifugal pump. Volute casing with axial inlet and radial outlet. Pump casing and bearing unit are connected with the driving motor by means of a pump bracket. Feet at the lower flange of the pump bracket allow vertical pedestal mounting. Laterally arranged consoles permit vertical wall mounting.

General application of spacer couplings allows dismantling of the bearing unit including impeller without removing the volute casing, pipelines or driving motor. Aligning of the coupling is not necessary as the pump and driving motor are exactly centered in the pump bracket, i.e., intermediate ring. All screw connections are by means of hexagonal head bolts and hexagonal nuts.

PERFORMANCE DATA

Capacity:	< 440 m ³ /h
Delivery head:	80 to 145 m
Discharge pressure:	< 16 bar
Fluid temperature:	sea water < 40°C fresh water < 90°C

NB



PERFORMANCE DATA

Capacity:	< 480 m ³ /h
Delivery head:	< 145 m
Discharge pressure:	< 16 bar
Fluid temperature:	sea < 40°C fresh < 140°C
Nominal diameter	
Delivery flange:	25 to 150 mm

Main Applications

General service, firefighting, bilge, ballast, cooling water, hydrophore, drinking water and sea water pump.

Design

Volute casing centrifugal pump with axial intake and radial outlet for horizontal or vertical installation (motor upwards).

A characteristic feature of this pump is the rigidly coupled pump stub and motor shaft allowing the employment of serial standard motors with a locating-type bearing and normal shaft end.

All screw connections are by means of hexagonal screws and hexagonal nuts so that even after repeated painting (shipbuilding), proper loosening of same will be ensured. 2-stage pump type at define sizes are available.

ALLHEAT NTWH / CTWH / NBWH / CBWH / NIWH / CIWH



PERFORMANCE DATA

Capacity:	< 1,450 m ³ /h
Delivery head:	< 100 m
Discharge pressure:	< 25 bar
Fluid temperature:	water 207°C max oil 350°C max

Main Applications

Thermal oil pumping (thermal oil boiler), hot water circulation (steam boiler systems).

Design

Series NTWH/CTWH: Process models of a horizontal volute centrifugal pump. Single-flow, single-stage with optimized bearing support (consisting of housing cover including throttle/cooling section and bearing support). Shaft bearing consisting of a silicon carbide or carbon sliding bearing lubricated by the pumped medium on the pump side and a grease-lubricated deep groove ball bearing on the drive side. Volute casing with cast-on pump feet.

Series NBWH/CBWH: Block model of a volute centrifugal pump. Single-flow, single-stage with optimized bearing support (consisting of housing cover including throttle/cooling section and bearing support). Plug-in shaft and motor shaft are rigidly connected to each other. Shaft bearing consisting of a silicon carbide or carbon sliding bearing lubricated by the pumped medium on the pump side and the grease-lubricated deep groove ball bearing of the drive motor. Motors with axial thrust bearings. Volute casing with cast-on pump feet. The pump can be installed horizontally or vertically.

Series NIWH/CIWH: In-line model of volute casing.

ALLMARINE NIM / NAM



PERFORMANCE DATA

Capacity:	< 2,400 m ³ /h
Delivery head:	< 100 m
Discharge pressure:	< 10 bar
Fluid temperature:	sea water < 40°C fresh water < 140°C
Delivery flange:	65 to 300 mm

Main Applications

Ballast and firefighting pump, bilge draining, cooling water feed, general service.

Design

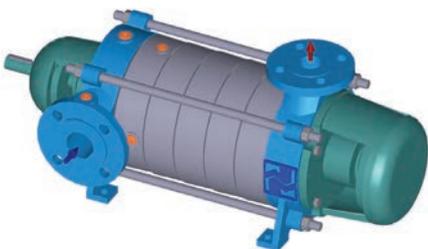
Single-stage, single-flow volute casing centrifugal pump.

NIM type of construction: Volute casing of the inline design.

NAM type of construction: Volute casing with axial intake and radial outlet.

Both pump series are designed to permit removal of the bearing unit without requiring removal of volute casing, pipelines or driving motor. This makes these design types particularly well suited to situation where heavier motors are needed to achieve higher flow rates. Feet at the lower flange of the pump bracket allow vertical pedestal installation. Optional, laterally arranged brackets permit vertical wall mounting.

L / LV



PERFORMANCE DATA

Capacity:	< 120 m ³ /h
Delivery head:	< 250 m
Discharge pressure:	< 25 bar
Fluid temperature:	< 160°C

Main Applications

Ballast pump, bilge pump, boiler circulation pump, boiler water pump, cargo pump, firefighting pump, fresh water cooling pump, general service pump, heat transfer pump, hydrophore pump, lube-oil circulation pump, potable water pump, sea water cooling pump.

Design

L: horizontal, two or multi-stage high-pressure centrifugal pump of the segmental-type of construction. **LV:** vertical, two or multi-stage high-pressure centrifugal pump of the segmental-type of construction.

Replaceable impellers and diffusers as well as shaft sleeves and shaft protection sleeves. The casing parts sealed by O-rings are held together by external casing tie bolts. Axial thrust compensation by single-wheel balancing. Any residual forces are absorbed by the bearings arranged in the bearing casings and motor brackets, respectively. With series L, the pump feet are cast to the suction and delivery casing. Thus, the pipeline forces are directly passed into the base plate and foundation. Vertical and horizontal pumps of the same size have identical hydraulic capacities.

NI



PERFORMANCE DATA

Capacity:	< 460 m ³ /h
Delivery head:	< 140 m
Discharge pressure:	< 16 bar
Fluid temperature:	sea water < 40°C fresh water < 140°C
Delivery flange:	25 to 150 mm

Main Applications

General service, firefighting, bilge, ballast, cooling water, hydrophore, drinking water and sea water pump.

Design

Volute casing centrifugal pump of inline design for horizontal or vertical installation (motor upwards). Optional feet permit vertical base arrangement. A characteristic feature of this pump is the rigidly coupled pump stub and motor shaft allowing the employment of serial standard motors with a locating-type bearing and normal shaft end.

All screw connections are by means of hexagonal screws and hexagonal nuts so that even after repeated painting (shipbuilding), proper loosening of same will be ensured.

2-stage pump type at define sizes are available.

ALLMARINE MELO



PERFORMANCE DATA

Capacity:	< 1,600 m ³ /h
Delivery head:	< 155 m
Discharge pressure:	< 16* bar
Fluid temperature:	< 100°C
* Sizes 200, 250, and 300 as two-stage version	

Main Applications

Circulation of lubricating oil, main lube oil circuit.

Design

Installed in the oil reservoir vertically as an immersed centrifugal pump. One-stage versions are available for all sizes. Sizes 200, 250 and 300 are also available in a two-stage version. Different submerged-part lengths are available in 100-mm increments.

Series MI-D



PERFORMANCE DATA

Capacity:	< 2,400 m ³ /h
Delivery head:	< 40 m
Discharge pressure:	< 10 bar
Fluid temperature:	sea water < 40°C fresh water < 100°C

Main Applications

Bilge, ballast, cooling-water and sea water pump.

Design

Single-stage, double-suction volute centrifugal pump with a short, compact design. Capacity and hydraulics are specifically adapted to the requirements in shipbuilding.

The volute casing and bearing unit are connected via a bracket to the drive motor. The use of a coupling with spacer piece enables removal of the bearing unit and sealing insert with common wearing parts without removal of the volute casing, pipes and drive motor. Since pump and drive motor are precisely centered in the bracket, no alignment work of any kind is required.



PROGRESSING CAVITY PUMPS

The ALLWEILER® progressing cavity pump is a rotary, self-priming positive displacement pump. The pumping elements are the rotating eccentric screw (rotor) and the fixed, abrasion resistant, elastomeric lined casing (stator).

In the cross-sectional plane, both are in contact with one another at two points, forming two sealing lines along the length of the conveying elements. The fluid entering the suction area of the casing (typically located adjacent to the bearing frame) enters a cavity which is being formed as the rotor turns.

As the pump shaft continues to rotate, the cavity is sealed and the captured process fluid is displaced axially along the length of the casing to its ultimate exit point at the casing discharge (typically located at the extreme non-drive end of the pump). This smooth, continuous pumping action ensures an even, uninterrupted volumetric output from the pump and minimizes pressure pulsations at the pump discharge.

Strengths of the technology

- Able to handle fluids contaminated with large percentages of abrasive solids
- Simple and economical pump design requiring only one shaft seal
- Low NPSHr / NPIPr due to large internal cavities and low speed operation
- Gently handles shear-sensitive fluids like emulsions
- Designs available to the latest edition of API 676

AEB-DE:



PERFORMANCE DATA

Flow Rate:	up to 33 l/min / 8.7 US gpm
Differential Pressure:	up to 24 bar / 348 psi
Max. Operating Temp:	up to 100°C / 212°F
Max. Viscosity :	up to 28,000 mPas
Max. Solid Content:	up to 60%

Main Applications

Transfer of bilge, sludge, sewage, waste oil, contaminated oil, liquid mud, brine and other liquids with solids and/or fibres. Metering of urea solution in the exhaust gas cleaning process.

Design

The PC Pumps are available in a compact and space saving close coupled block design which does not require a baseplate.

The pumps can be installed either horizontally or vertically and can be operated CW or CCW.

Utilizing the patented clamp set connection between pump and geared motor provides an easy maintenance solution. As sealings mechanical seals as well as gland packings are available.

Different materials of construction and flange design are available to meet application requirements and market needs.

ALL-OPTIFLOW AEB-1F



PERFORMANCE DATA

Flow Rate:	up to 3,800 l/min / 1,004 US gpm
Differential Pressure:	up to 6 bar / 87 psi
Max. Operating Temp:	up to 100°C / 212°F
Max. Viscosity :	up to 300,000 mPas
Max. Solid Content:	up to 60%

AEB-E/N/H:



PERFORMANCE DATA

Flow Rate:	up to 2,900 l/min / 766 US gpm
Differential Pressure:	up to 24 bar / 348 psi
Max. Operating Temp:	up to 100°C / 212°F
Max. Viscosity :	up to 300,000 mPas
Max. Solid Content:	up to 60%



PROPELLER PUMPS

CIRCOR propeller pumps are used to pump large volumes with a relatively low delivery head. Applications are in the chemical and processing industries, sewage water treatment plants, re-circulation for handling return sludge or rainwater and generating drinking water (seawater desalination plants).

They are available as horizontal or vertical pumps, suspended into the pipeline or horizontally foot-mounted. Pump design, material design, installation and drive can be adapted optimally to the operation and assembling conditions.

The ALLTRIMM series is designed especially for shipbuilding applications. These space-saving inline pumps for large flow rates and delivery heads of up to 20 meters have an integrated motor and a reversible flow direction.

Strengths of the technology

- Excellent for Large Flow Rates and Head
- Application and Installation Flexibility
- Corrosion Resistant
- High Efficiency

ALLTRIMM



PERFORMANCE DATA

Capacity:	< 1,400m ³ /h
Delivery head:	< 20 m
Discharge pressure:	< 2.5 bar
Fluid temperature:	sea water < 40°C

Main Applications

Handling sea water in anti-heeling systems.

Design

Compact and space-saving propeller pump in inline design with reversible flow and integrated drive. Thereby, the need for extensive installation of valve controls is eliminated. The electric motor is integrated in the pump hub. The pumped liquid flows through the motor casing ensuring automatically optimal cooling. Optimal pump capacity because of single- and two-stage designs having the same installation dimensions. Change of pumping direction is achieved through reverse rotation of motor. Low mass moment of inertia allows for very short starting times.

High safety thanks to the shaft sealing with 3 shaft seal rings per stage. Through use of an intelligent electronic leakage monitoring system, the motor is protected from moisture. Delivery as a complete pump set with integrated drive.



SIDE CHANNEL PUMPS

Side-channel pumps complement the pump range between positive displacement and centrifugal pumps. They operate very economically at low flow and high head requirements. The side-channel stage enables pumps to reliably convey liquids with gaseous or vapor-state components (up to 50%). The pumps are capable of generating a high suction vacuum and are therefore self-priming. Due to their low NPSH values, these pumps are often preferred when it comes to liquids close to boiling point.

Strengths of the technology

- Low flows / High Differential Heads
- Low NPSH requirements
- High entrained gas handling capabilities
- Self-priming capability

SRZS



PERFORMANCE DATA

Capacity:	< 20 m ³ /h
Delivery head:	< 260 m
Discharge pressure:	< 25 bar
Fluid temperature:	-20 up to 120°C

Main Applications

Boiler feed water pump.

Design

Thanks to their open impellers, they can pump even under unfavorable suction conditions and with low intake heights. With a variety of gaskets, materials and a magnetically coupled drive, you can adapt side channel pumps precisely to your installation.

SFH series



PERFORMANCE DATA

Capacity:	< 20 m ³ /h
Delivery head: :	< 250 m
Suction head:	< 7 m
Discharge pressure:	< 25 bar
Fluid temperature:	-20 up to 120°C

Main Applications

Hydrophore and boiler feed, freshwater and hot water applications where self priming is required.

Design

For handling aggressive, uncontaminated liquids, we supply self-priming side channel pumps. These pumps are used especially for applications that involve small flow rates but high delivery heads. There are designs available which offer advantages especially at unfavorable suction conditions or low suction heads. Adapted to the actual fields of application, different material and shaft sealing designs according to series are possible. Also magnetic drive can be provided.

Thanks to the side channel stage, side channel pumps have the ability to move liquids with gaseous or vapor-state components (up to 50%); therefore, they can also handle liquids that are slightly above their boiling points, like liquefied gas. Side channel pumps are insensitive to cavitation at variable vapor pressure.

SRZ series



PERFORMANCE DATA

Capacity:	< 36 m ³ /h
Delivery head: :	< 350 m
Suction head:	< 7 m
Discharge pressure:	< 40 bar
Fluid temperature:	-40 up to 220°C

Main Applications

Hydrophore and boiler feed, freshwater and hot water applications where self priming is required.

Design

For handling aggressive, uncontaminated liquids, we supply self-priming side channel pumps. These pumps are used especially for applications that involve small flow rates but high delivery heads. There are designs available which offer advantages, especially at unfavorable suction conditions or low suction heads. Adapted to the actual fields of application, different material and shaft sealing designs according to series are possible.

Also, magnetic drive can be provided. Thanks to the side channel stage, side channel pumps have the ability to move liquids with gaseous or vapor-state components (50%); therefore, they can also handle liquids that are slightly above their boiling points, like liquefied gas. Side channel pumps are insensitive to cavitation at variable vapor pressure.

SOH series



PERFORMANCE DATA

Capacity:	< 7.5 m ³ /h
Delivery head: :	< 150 m
Suction head:	< 7 m
Discharge pressure:	< 16 bar
Fluid temperature:	-20 up to 120°C

Main Applications

Hydrophore and boiler feed, freshwater and hot water applications where self priming is required.

Design

For handling aggressive, uncontaminated liquids, we supply self-priming side channel pumps. These pumps are used especially for applications that involve small flow rates but high delivery heads. There are designs available which offer advantages, especially at unfavorable suction conditions or low suction heads. Adapted to the actual fields of application, different material and shaft sealing designs according to series are possible. Also, magnetic drive can be provided.

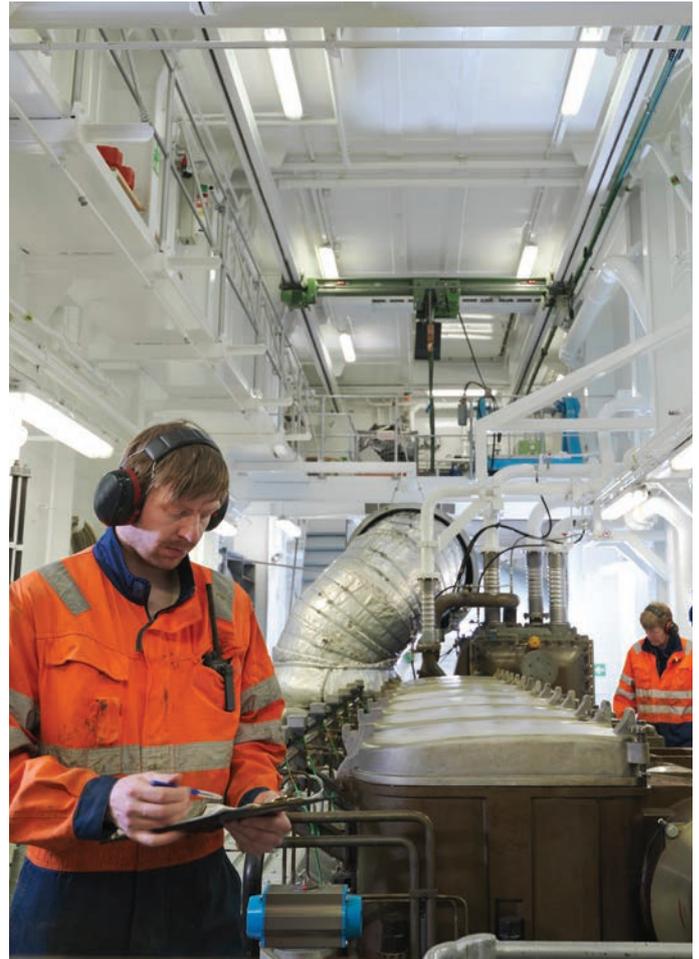
Thanks to the side channel stage, side channel pumps have the ability to move liquids with gaseous or vapor-state components (50%); therefore, they can also handle liquids that are slightly above their boiling points, like liquefied gas. Side channel pumps are insensitive to cavitation at variable vapor pressure.

SUPPORT WHEN AND WHERE YOU NEED IT

GLOBAL AFTERMARKET SERVICES

To help you maintain reliable vessel performance even after the sale, CIRCOR stands ready to respond with full support of your needs for service and spare parts wherever you are in the world.

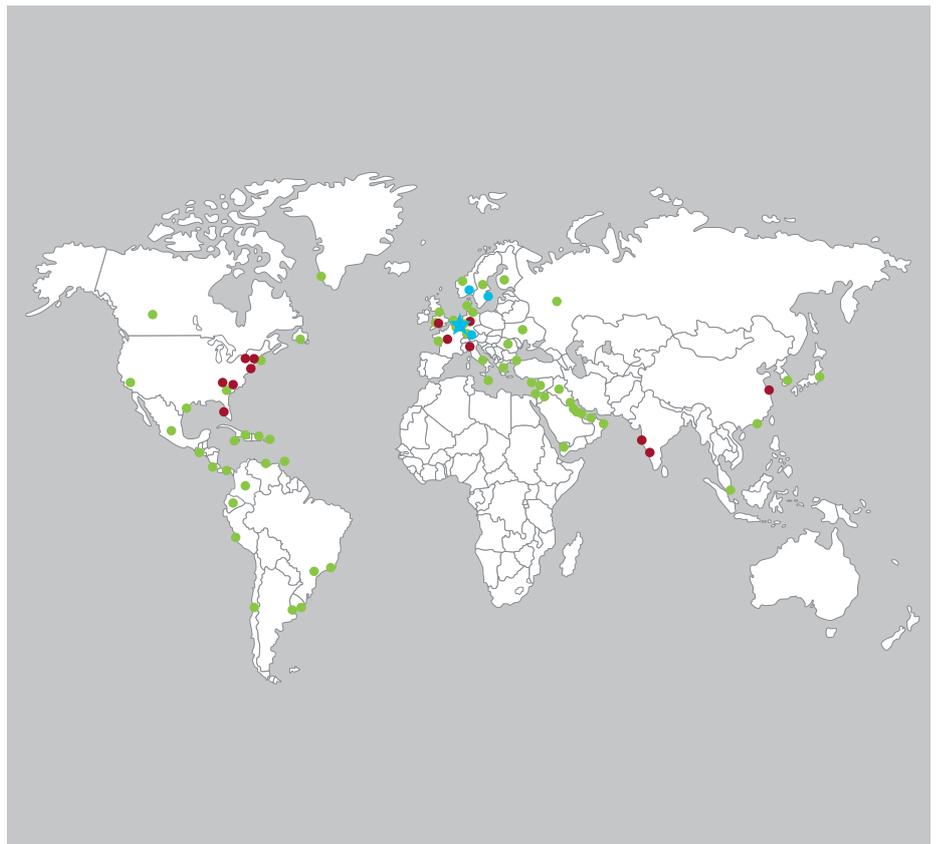
- Quick response to customer request
- 24/7/365 availability
- Service onboard ships as well as factory service and repairs
- Spare parts specifically designed and tested for CIRCOR products, ensuring the highest quality
- Customized spare part inventory to ensure vessel's operation
- Tailored spare parts agreement
- Extensive global distributor network



REDEFINING GLOBAL SOLUTIONS

CIRCOR maintains regional engineering and manufacturing facilities, along with a global network of distributors, to support you around the world and around the clock.

- ★ Global Headquarters
- Commercial Marine Main Offices
- Regional Manufacturing and Engineering Support Facilities
- Global Distributor Network





YOUR PARTNER FOR THE FUTURE

At CIRCOR, our commitment to you goes the distance. As a global company, you can count on the added value of our expertise in different applications, research and development resources. We also understand that every year brings new challenges and that's why we're always ready with advanced solutions, like our Smart Technology to help maximize your success through greater efficiencies, reduced costs and unexpected downtime.

We are dedicated to delivering the best solutions to meet your needs, with the highest levels of reliability, efficiency, longevity – and the greatest total savings of ownership.



CIRCOR is a market-leading, global provider of integrated flow control solutions, specializing in the manufacture of highly engineered valves, instrumentation, pumps, pipeline products and services, and associated products, for critical and severe service applications in the oil and gas, power generation, industrial, process, maritime, aerospace, and defense industries

Excellence in Flow Control

Asia | Europe | Middle East | North America

ALLWEILER GmbH
Postfach 1140
Allweilerstraße 1
78315 Radolfzell
Tel: +49 7732 860
Fax: +49 7732 864 36

IMO AB
Box 420 90
126 14 STOCKHOLM
SWEDEN
Tel: +46 8 50622800

ALLWEILER AS
Nye Vakås vei 4
N-1395 Hvalstad
Norway
Tel: +47 66775050
Fax: +47 66847910

CIRCOR | Allweiler India Pvt. Ltd.
LODHA iThink, 9th Floor, A wing,
Off Eastern Express Highway,
Chirak Nagar, Behind Viviana Mall,
Thane West - 400607,
Maharashtra, India
Tel: +91-22-69197300

CIRCOR Pump (Weihai) Co., Ltd.
No. 120 Jinnuo Road, Gushan,
Economic Technological Development
Zone, Weihai,
Shandong Province, 264207
China
Phone: +86 631 5977 900



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