# ENGINE ROOM PUMPS





# FOR TOUGH OFFSHORE & MARINE APPLICATIONS

We are proud of our heritage because it is built on the most respected brands in the history of the industry.

We are sure of our capabilities because it is backed by decades of research and engineering.

We believe in our technology because it has an unrivalled performance pedigree.

We depend on our people because their excellence is integral to our success.

We aim to be the most respected and trusted supplier of pump technology in the world.

Engine room pumps are critical for your operations. The costs of pump failures such as loss of engine cooling water are high. That's why Hamworthy pumps are built for ultimate reliability, accessibility and efficiency in the toughest operating conditions. Highest quality materials, proven simplicity of design and responsive support add up to pumps you can trust absolutely as thousands of vessels around the world do.

Following the great success of the renowned Eureka and Dolphin centrifugal pump series, Hamworthy's continued research and development has led to the introduction of a series of pumps to better serve the shipping industry, both in terms of operational costs and hydraulic efficiency. Hamworthy Pumps has more than 100 years experience in design and manufacturing of centrifugal pumps for the marine industry. The design provides considerable flexibility to offer alternative forms of construction to match customer needs and minimum number of parts to facilitate ease of assembly and disassembly during maintenance, etc. Whatever you need from engine room pump technology, talk to Hamworthy Pumps.

#### **COMPLETE PUMP PACKAGES**

Where an operating requirement is not fulfilled by one of our centrifugal pumps, Hamworthy Pumps offers a wide range of pumps, including screw and gear pumps, from partner suppliers to provide a complete pump package for your application.

# COMPREHENSIVE CENTRIFUGAL PUMP RANGE

**PUMP SOLUTIONS** 

| PUMP TYPE  | CAPACITY RANGE<br>& PRESSURE  | DESCRIPTION   | ADVANTAGES  | APPLICATION   |  |
|------------|---|---|---|---|--|
| CG         | Capacity: 30-1100 m <sup>3</sup> /h<br>Differential pressure: 15-120 mlc.   | Vertical in-line single stage pump in single suction impeller, radially split casing with flexible spacer coupling and hydrodynamic sleeve bearing.   | Long-established vertical between-<br>bearings design. Pump is available as<br>a tested bare-shaft replacement with<br>own bearings.  | Ballast, fire, fresh/sea water cooling & general service.             |  |
| C2G        | Capacity: 30-1600 m³/h<br>Differential pressure: 15-150 mlc.  | Vertical in-line pumps with overhung single suction impeller, radially split casing with rigid coupling.  | Very compact size. Intergrated ball bearings and mechanical seal assembly enables a very short maintenance turnaround time.           | Ballast, fire, fresh/sea water cooling & general service.             |  |
| CGX        | Capacity: 30-1600 m³/h<br>Differential pressure: 15-150 mlc.  | Vertical in-line pumps with overhung single suction impeller, radially split casing with flexible coupling.   | Very compact size. Intergrated ball bearings and mechanical seal assembly enables a very short maintenance turnaround time.           | Ballast, fire, fresh/sea water cooling & general service.             |  |
| DOLPHIN    | Capacity: 20-1400 m³/h Differential pressure: 10-130 mlc.   | Vertical in-line, single-stage, single/double suction, overhung pumps with rigid coupling, radially split. Option for external bearings/flexible coupling on vertical single suction pumps. Horizontal end suction, single-stage, single suction, overhung pumps close-coupled or base-plated with flexible coupling. | Very robust design, double suction on larger pumps, end suction variants available.   | ballast, fire, fresh/sea water cooling & general service.             |  |
| CA         | SINGLE STAGE Capacity: 800-4500 m³/h Differential pressure: up to 40 mlc.  TWO STAGE Capacity: 100-400 m³/h Differential pressure: up to 120 mlc. | Between bearings pumps which can operate in both vertical in-line foot mounted and horizontal installations. Available in both single and two stage impeller.   | Compact axially split casing design with double suction capabilities and low NPSH requirement.  | Ballast water, fresh/sea water cooling, sea water lift.               |  |
| СВ         | Capacity: 600-6000 m³/h<br>Differential pressure: 150-180 mlc.  | Between bearings single stage double suction impeller pumps that can operate in both vertical and horizontal installations.   | Low shaft stiffness ratio and compact design in multiple orientations.  | Cargo offloading, firewater, ballast, fresh/sea water cooling.        |  |
| совх       | Capacity: 450-720 m³/h<br>Differential pressure: 80-200 mlc.  | Vertical inline or horizontal pumps with separate bearing bracket and product lubricated hydrodynamic bearing bushing, foot mounted, double suction impeller and double volute design.  | Compact design, ease of maintenance.  | Cargo offloading, firewater, ballast, fresh/sea water cooling.        |  |
| СС         | Capacity: 500-5500 m³/h<br>Differential pressure: 40-160 mlc.   | Radially split pump with double suction impeller, double volute casing, fitted with cartridge seal and hydrodynamic sleeve bearing designed for horizontal or vertical mounting.  | Modern compact design, ease of maintenance, cartridge seal options.   | Firewater, ballast, fresh/<br>sea water cooling, cargo<br>offloading. |  |
| СМ         | Capacity: 5-40 m³/h<br>Differential pressure 10-50 mlc.   | End suction monoblock pump, closed coupled in foot mounted compact design, single suction impeller.   | Compact & inexpensive.  | Water circulation.  |  |
| CBF        | Capacity: 300-1700 m³/h Differential pressure: 100-150 mlc.   | Compact foot mounted end suction pump fitted with angular contact thrust bearings and product lubricated hydrodynamic bearing bushing.  | Compact pump with multiple orientation options. Designed especially as fire pumps for external fire-fighting system (Fi-Fi) purposes. | Firewater, general service.   |  |
| PRIMING SO | PRIMING SOLUTIONS   |   |   |   |  |
| PRIMER     | NOMINAL CAPACITY  | DESCRIPTION   |   | PUMP USED WITH PRIMER   |  |
| РМВ        | 75 m³/hr of free air<br>(7 bar driving air)   | The PMB and the MkIII air ejector systems consist of solenoid valves and a pressure switch that controls the starting of the pump automatically and ensures the pump is primed, with timer controlled in the starter panel.   |   | CG, C2G, CGX, Dolphin.  |  |
| РВ         |   | Vacuum pump stripping system provid capacity regulating.  | les automatic self-priming and  | CA, CB, CC.   |  |
| VK         | 48 m³/hr of free air<br>(1800 rpm)  | The VK priming system consists of mainly an eccentric vane vacuum pump, circulating cooling water tank, mechanical clutch and auto cylinder. The auto cylinder automatic disengages the clutch to the motor coupling when the set pressure is met.  |   | CG only.  |  |
| PC         |   | The PC system is designed to serve a series of centrifugal pumps. This system consist of vacuum pumps, starter panels, pressure switches, valves, water trap tank, heat exchanger etc., to automate the priming of a series of pumps.   |   | All pumps except C2G and CGX.   |  |
| LRP        | 50 m³/hr of free air<br>(LRP50M), 1800 rpm  | The LRP primer system uses a vacuum pump with air separator, float valve and vacuum relief valve to ensure the pumps are fully primed automatically.  |   | All vertical pumps except C2G and CGX.                                |  |

## AN UNRIVALLED MIX OF ADVANTAGES

#### **COMPREHENSIVE RANGE**

Capacities to 6000m<sup>3</sup> & pressures to 160mlc proven in marine & offshore applications.

#### **COMPACT & CONFIGURABLE**

Vertical & horizontal pumps with multiple orientations and configuration options for ease of installation and optimum use of available space.

#### **PREMIUM MATERIALS**

Nickel aluminium bronze used as standard for seawater in offshore applications. Stainless steel and duplex stainless steel options are available.

#### **ROBUST DESIGN**

Robust yet compact construction. Pumps designed for high efficiency and reliable suction performance with many decades of proven offshore service.

#### **PROVEN OFFSHORE CAPABILITIES**

Proven technical support, project management and offshore documentation capabilities. Noise & Vibration testing and factory acceptance test (FAT) facilities.

#### **DEPENDABLE**

A track record of dependable on-time delivery and support provided to all major shipyards.

#### **GLOBAL SUPPORT**

Over 85% spares requirements available from stock for distribution worldwide.





# QUALITY, HEALTH, SAFETY & ENVIRONMENT

Hamworthy Pumps is operating with QHSE management system conforms to ISO 9001:2015, ISO 14001:2015, OHSAS 18001:2007 and certified by DNV GL.

We also hold various product certification under Classification Societies such as ABS, BV, DNV GL, LR, NK and CCS.

### **EXPERIENCE AND SUCCESSES**







#### ENI (FPSO)

Sea water/fresh water cooling pumps for topsides, auxiliary service pumps, bilge pumps: 2 x CBX, 2 x CAD, 2 x C2G

#### TRANSOCEAN INC (DRILLSHIP)

Scope of supply: SW/FW cooling pumps, ballast pumps, bilge pumps, fire pumps: 15 x C2G, 10 x CGD, 9 x CGC, 6 x C12BA, 15 x CG

Shipowner ......TransOcean INC Shipyard .... Daewoo Shipbuilding & Marine Engineering Co., Ltd (DSME), South Korea

# ENERGY DRILLING (SEMI-SUBMERSIBLE DRILLING TENDER BARGE)

Scope of supply: SW/FW cooling pumps, bow monitor pumps, ballast pumps, fire pumps, auxiliary services pumps: 5 x CAC, 3 x CGC, 1 x C12BA, 4 x CBX, 1 x B125, 2 x C2G, 2 x CGB, 4 x CM

Shipowner ......Energy Drilling, Singapore Shipyard ......Cosco Guangdong, China

## **SERVICES**

Hamworthy Pumps offer expertise, proximity and responsiveness for all our customers in the most environmentally sound way.

Our Services & Support solutions range from basic support, installation and commissioning, performance optimization, upgrades and conversions to service projects and agreements focusing on overall equipment performance and asset management.

We always provide first class technical, spares and services support to our customer wherever they are around the world. In addition, we are well supported by agent representatives in all major shipping locations.



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The manufacturers reserve the right to alter the specification and data to incorporate improvements in design. Certified drawings will be issued on request.

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