

PUMPS FOR EXHAUST GAS CLEANING SYSTEMS



An Effective Exhaust Gas Scrubber Relies On Robust,
High Efficiency Pumps At The Heart Of The Systems



FOR TOUGH 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 provide fast on-time delivery of equipment because we know your project is critical.

We know our product works well in Exhaust Gas Cleaning Systems, we have exhaustive references to prove it.

Hamworthy Pumps has more than 100 years experience in providing quality pump solutions that has enabled a solid foundation of understanding and know-how to be built. We know the processes, and we recognise the impact each pump has on the efficient operation of the Exhaust Gas Cleaning (EGC) Systems, especially the Scrubbing Water and Wash Water Pumps operating in aggressive and challenging conditions.

The dirt particles, chemicals, and heat encountered require high quality pump materials and components to ensure uninterrupted operations and long service life. We pay special attention to these applications in all our design and engineering development work. With a focus on continuous development, we are constantly upgrading our pumps to ensure enhanced reliability and the best possible performance.

The upgraded bearing, seal and coupling arrangements are designed to meet the most severe challenges encountered in EGC applications. Regardless of Open Loop, Closed Loop or Hybrid System, Hamworthy Pumps has the right pump solution for your Exhaust Gas Cleaning Systems.

PROMPT, RELIABLE & FAST DELIVERY

The longer the time a vessel spends in the yard undergoing installation of an EGC system, the greater the impact on its revenue earning capability. Hamworthy Pumps maintains a ready stock of key pump frame sizes to ensure prompt, reliable, delivery to meet project scheduling.

PUMP MATERIALS & APPLICATIONS

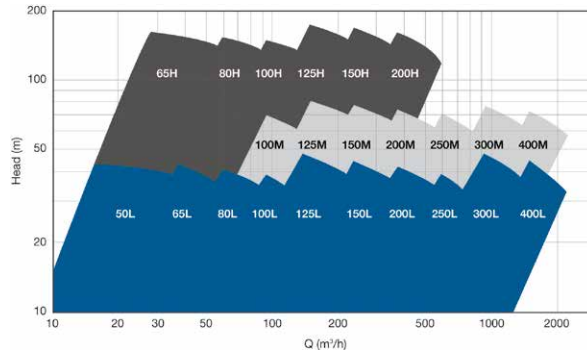
Hamworthy Pumps supplied the first pump for Exhaust Gas Cleaning in 2010 and have supplied in excess of 700 pumps for this application. Our range of products are purposely designed and re-engineered for the arduous scrubbing water applications. The compact size pumps with low NPSHr and high efficiency are also reliable with low lifecycle costs. The series of super duplex (CE3MN, PREN>40) pumps with carefully selected composite materials are well suited to handle aggressive wash water which can reach temperatures up to 60 degC, pH as low as 2.5 with increased solid contents which is both corrosive and abrasive in nature. The standard seawater pumps are also made using the highest bronze grade, Nickel Aluminium Bronze (C95800), to ensure reliability in these harsh conditions.

Having the most appropriate materials for the construction of the casing, impeller and shaft is, nevertheless, only part of the optimal equation. It is also important to have the correct mechanical seal selection and materials, the right bearing arrangement, and the ability of the pump to operate efficiently in a broad operating range and in changing system conditions. That's why Hamworthy pumps are built for ultimate reliability, accessibility and efficiency in the toughest operating conditions.



Pump Model: CG(X)
Capacity: 30-1600 m³/h
Differential pressure: 15-150 mlc.

CAPACITY RANGE

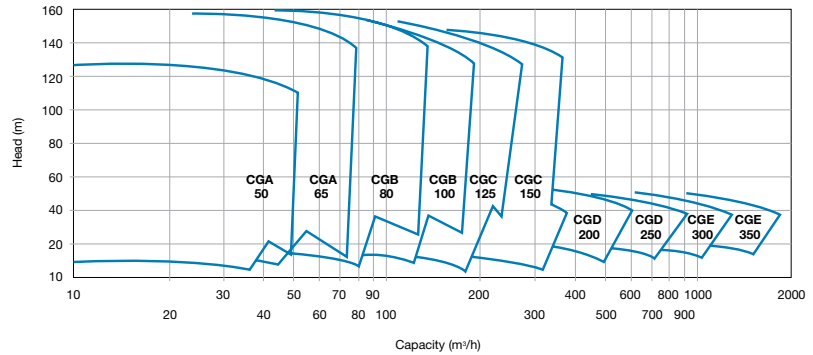


Vertical in-line pumps with overhung single suction impeller, radially split with flexible coupling. Comes with ball bearings and mechanical seal as an integral unit which enables a very quick maintenance turnaround time.

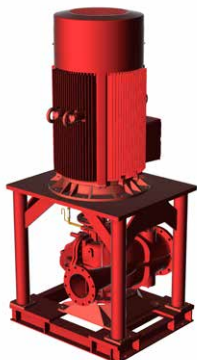


Pump Model: CG
Capacity: 30-1100 m³/h
Differential pressure: 15-120 mlc.

CAPACITY RANGE

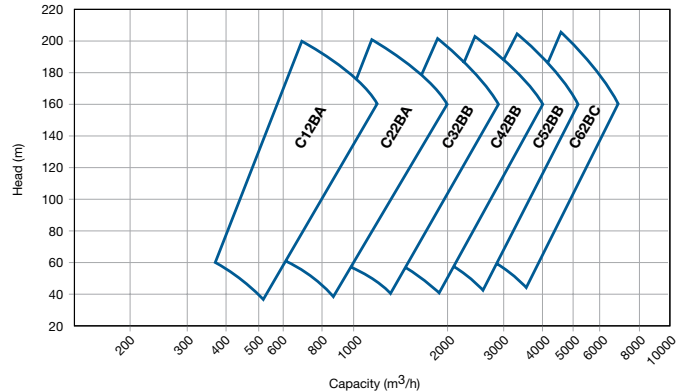


Vertical in-line single stage pump in single suction impeller, radially split casing with flexible spacer coupling and hydrodynamic sleeve bearing.



Pump Model: CB
Capacity: 600-6000 m³/h
Differential pressure: 150-180 mlc.

CAPACITY RANGE

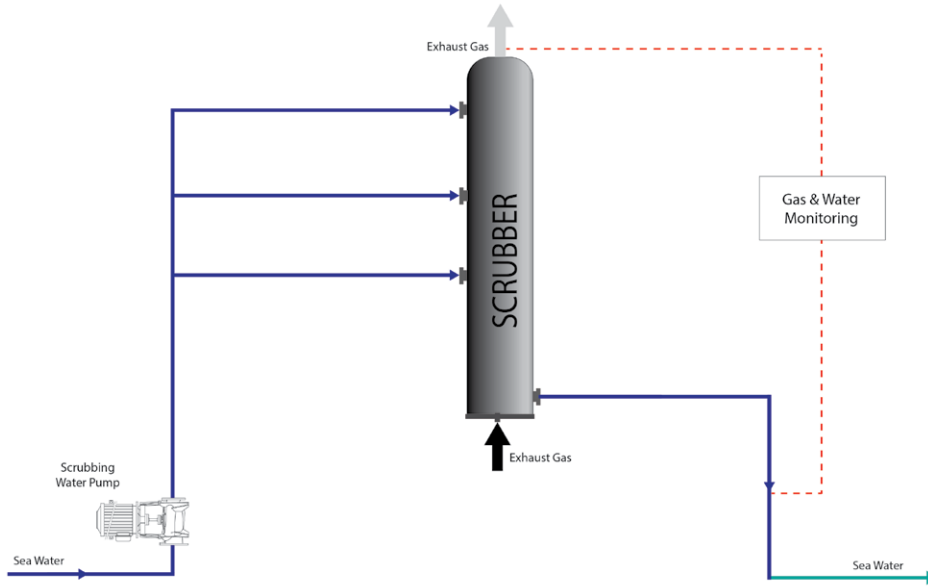


Between bearings single stage double suction impeller pumps that can operate in both vertical and horizontal installations. Low shaft stiffness ratio and compact design in multiple orientations.

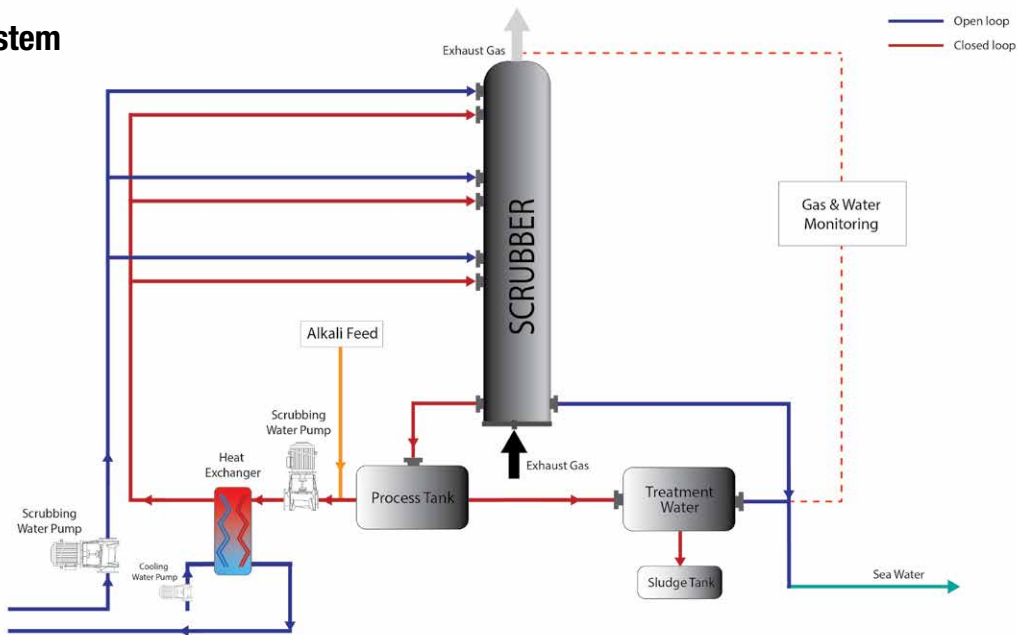
SYSTEMS FLOW DIAGRAMS

We have a range of premium materials optimized for pumping scrubbing seawater or pumping waste washed water containing aggressive impurities after airborne sulphur emissions.

Inline Open Loop



Inline Hybrid System



AN UNRIVALLED MIX OF ADVANTAGES

COMPREHENSIVE RANGE

Capacities to 6000m³ and pressures to 160mlc proven in Exhaust Gas Cleaning applications.

VARIABLE FREQUENCY DRIVE (VFD)

Pump motor is sized for Variable Frequency Drive (VFD) operation, enabling the pumps to operate at different speeds according to the flow and head.

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 (Ni-Al-Br) and Super Duplex (PREN>40) are used for corrosive and abrasive pumped mediums.

PERFORMANCE

Excellent hydraulic performance with high efficiency and low NPSHr. Upgraded bearing and seal arrangements to ensure operational efficiency and reliability.

GLOBAL SUPPORT

Over 85% spares requirements available from stock for distribution worldwide to ensure ability to meet project delivery schedules.

EXPERIENCE AND SUCCESSES



CRUISE & FERRY

Over 30 vessels, the first pump were supplied for EGC in 2010. Our pump references include the largest Cruise Liner in the world.



OIL, CHEMICAL & GAS TANKERS

Over 15 vessels worldwide ranging from VLCC to small chemical carriers.



CONTAINER, BULK CARRIERS, CARGO & OTHERS

From the largest container carrier to a fishing vessel, our pumps are installed on over 20 vessels.

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.

SERVICES

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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