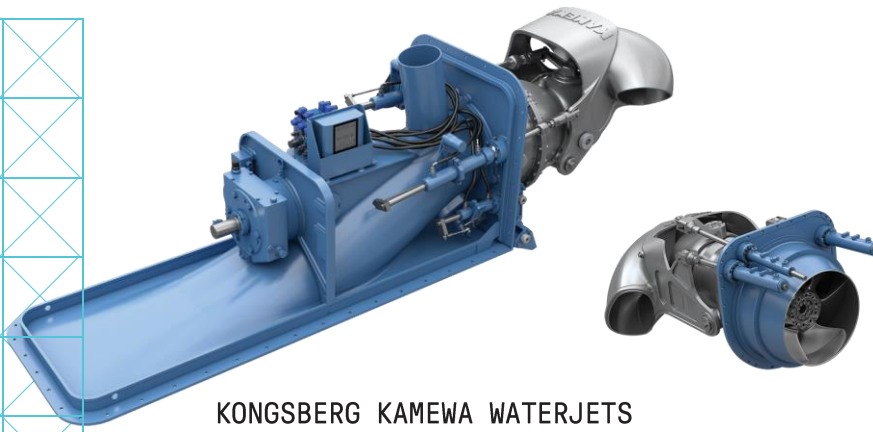


KAMWEWA STEEL SERIES WATERJETS



KONGSBERG

KONGSBERG KAMEWA WATERJETS

Maximum performance at minimum weight

KONGSBERG is improving and streamlining its steel series waterjets, further raising the unit efficiency as well as lowering the cost of ownership. A modular system provides a choice of inlet materials and installation strategies.

Kongsberg Kamewa steel series waterjets provide the best pump efficiency on the market, for each operational profile and purpose. The efficiency is improved over the whole speed range, and matches the increased demand of vessels even below 30 knots. This translates into reduced fuel consumption for a given workload and consequently reduced CO2 emissions, as well as increased range. Environmental benefits are achieved not only by increasing efficiency, the inboard hydraulics also reduce the risk of oil spill.

Improved from the best

The steel series incorporates numerous improvements made possible by advanced design calculation methods and testing and production techniques. The compact reversing bucket and steering nozzle enables superior position keeping and manoeuvrability at low and high speed. This reduces fuel consumption and lowering noise and emissions in harbour manoeuvring, as well as saving time and increasing safety. In high speed turns the steel series maintains speed very efficiently, which is a highly appreciated benefit for patrol vessels and others alike.

Low and high speed performance in the same package

At the heart of the waterjet is the fully stainless steel mixed flow pump. There are different impellers depending on application. Efficiency has been achieved by using the latest computational fluid dynamics (CFD) techniques combined with extensive testing in the cavitation tunnels at the KONGSBERG Hydrodynamics Research Centre. The steel series waterjets can be individually optimised and selected based on boat design requirements and operational profile.

The lightest and most compact jet on the market

The saving in weight has been achieved by integrating the hydraulics into the waterjet.

Heavy duty stainless steel pump unit

The steel series is as always equipped with a duplex stainless steel pump unit providing the best possible durability under any circumstances. Best in class components are used, providing long life and reliable service. These are enabling up to 15,000 h or 5 year time service/replacement of wear parts.

Bollard pull capability closing the gap to conventional propulsors

Kamewa waterjets have a new inlet duct design as standard, providing extremely good low and mid speed performance. In practice this means increased bollard pull thrust comparable to conventional propulsors. High speed inlets are available for speeds exceeding 45 knots.

TYPICAL APPLICATIONS

Larger waterjets - high speed vessels such as:

- Large passenger/vehicle ferries
- Naval vessels
- Coastguard vessels
- Superyachts

Remote control systems

KONGSBERG can supply a number of different control systems, ranging from rugged, standardised systems and up to multi station, custom design systems. Skid version waterjets could even come with factory mounted and pre-calibrated control box. Functionality such as Interceptor trim can be included in the controls, while the Interceptor hardware installation is prepared on the waterjets. Modular bolt installation enables easy retrofitting. The interceptor trim system improves acceleration and low speed characteristics, in addition to trim angle adjustment. Other functionality such as berthing assistance and "stay on spot" can also be provided as extended options to a joystick system.

Modularisation by customer choice

The new Kamewa waterjet are designed for ease of installation and maintenance as well as meeting a variety of customer needs, such as hull material, hull design and forms and optimised inlet ducts.

Skid version

Initially available between 25 to 71 steel series. As a standard steel series has inlets made of marine grade weldable aluminium as an integral part of waterjet unit. Larger sizes can optionally have inlets in material specified by customer. This alternative means quick and cost effective installation at the shipyard.

Stand alone installation with separate inlet duct

Available from 56 to 200 steel series. Waterjets with inlet duct supplied as loose item. Supplied in material specified by customer. This enables optimised performance, yet reduces labour at the yard.

Stand alone installation with inlet drawing

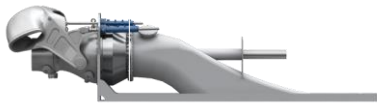
Available from 56 to 200 steel series. Waterjets supplied with drawing of hydrodynamic design of inlet duct. This enables optimal performance and hull stiffness when building in FRP.

DELIVERY PROGRAMME – STEEL SERIES WATERJETS

The diagram shows the three ways of delivering the waterjet to suit yard or owner preferences.

Aluminium inlet

S-3/CA
COMPLETE SKID MOUNTED DELIVERY



S-3 AND S-4
DELIVERED AS SEPARATE UNITS

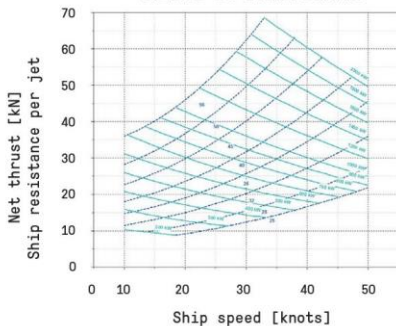


S-3 AND S-4
JET + INLET DRAWING



The final data is subject to application and to be confirmed by Kongsberg Maritime.

KAMEWA WATERJET PROPULSION,
SIZE 25-56 STEEL SERIES



TECHNICAL DATA

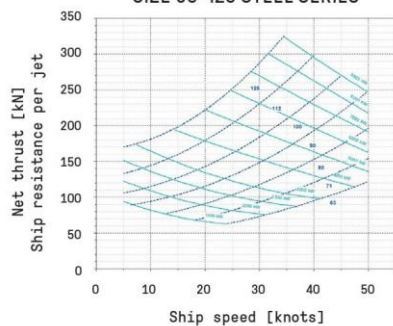
Waterjet size	Max power (kW)
S56-3	3440
S63-3	4300
S71-3	5120
S80-3	6500
S90-3	8300
S100-3	10200
S112-3	12800
S125-3	15900
S140-3*	20000
S160-3*	26000
S180-3*	33000
S200-3*	41000

*on request

TECHNICAL DATA

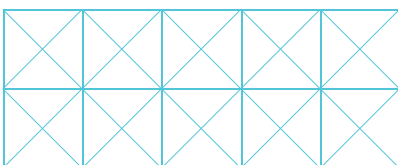
Waterjet size	Max power (kW)
S25-3/CA	450
S28-3/CA	570
S32-3/CA	750
S36-3/CA	950
S40-3/CA	1320
S45-3/CA	1670
S50-3/CA	2060
S56-3/CA	2580
S63-3/CA	2600

KAMEWA WATERJET PROPULSION,
SIZE 63-125 STEEL SERIES



TECHNICAL DATA

Waterjet size	Max power (kW)
S56-4	2300
S63-4	2800
S71-4	3600
S80-4	4600
S90-4	5800
S100-4	7200
S112-4	8900
S125-4	11000



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