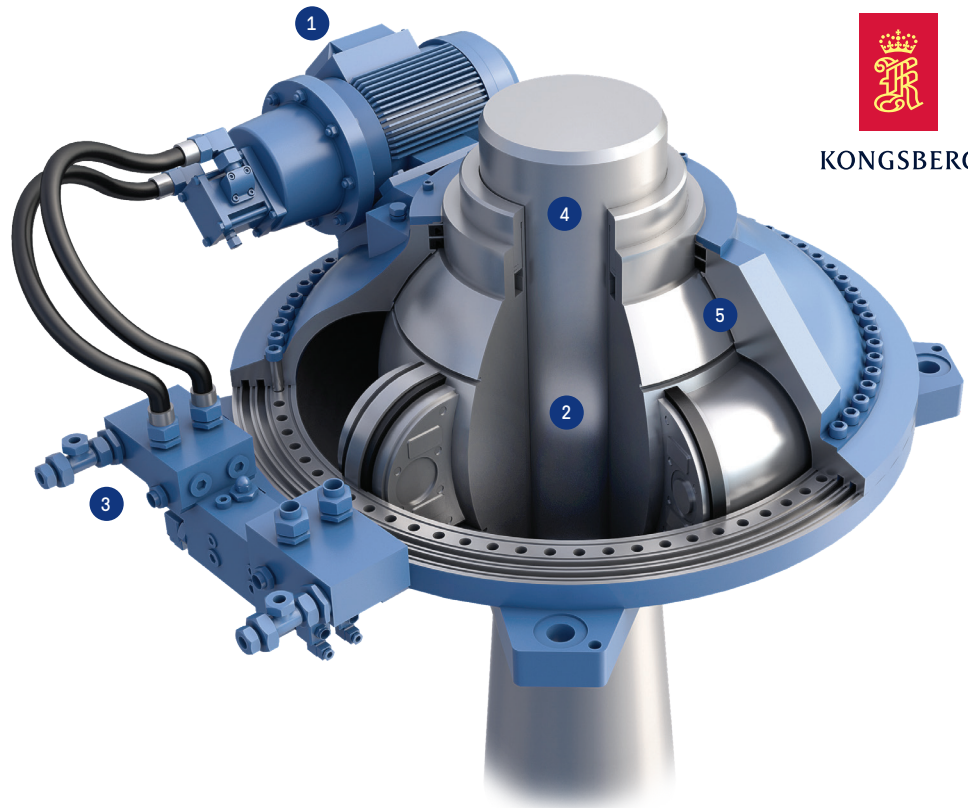


# SR SERIES



KONGSBERG



## KONGSBERG MARITIME STEERING GEAR

### Specialised towards small and medium sized ships

#### ADVANTAGES OF KONGSBERG MARITIME FCP SYSTEM

- Low temperature
- Low spare cost
- Low noise
- Low energy consumption
- Low weight
- Analog control
- Cleaner hydraulic system
- High position accuracy
- High security
- Reduced life-cycle costs
- Simple installation
- Small storage tank
- Smooth start/stop
- Variable rudder speed

#### 1. Reversible pump unit

Actuator with integrated reversible pump units makes it a Plug-in unit. External piping limited to three pipe lines for connection of the expansion tank. The actuator is delivered completely filled with hydraulic oil.

#### 2. Rudder stock connection

Rudder stock connection is based on locking ring assemblies.

#### 3. Valve Block

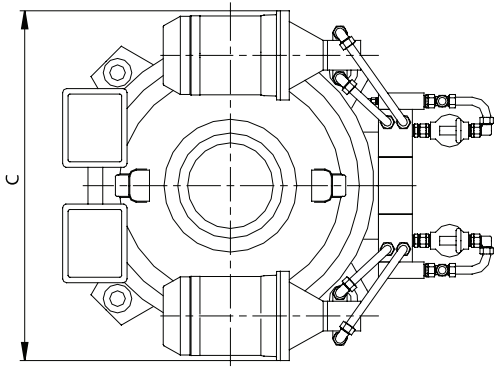
Integrated valve block with filter units.

#### 4. Cylindrical rudder stock

Cylindrical upper part of rudder stock for all available diameters simplifies rudder stock manufacturing and makes height adjustment possible. Accurate length of rudder stock is not required.

#### 5. Spherical rotor bearing

The SR series utilises spherical rotor bearing which improves the force distribution from rudder stock to rotor. The synthetic bearing maintains 100% surface contact at all times even if the rudder stock flexes. It will also absorb and suppress vibrations and shock pulses. The lifetime of the bearing is almost infinite.



## Frequency controlled pumps

Frequency controlled pumps are used for the whole SR and SV series of Kongsberg Maritime steering gear. This system utilises a reversible hydraulic pump and motor together with a frequency converter for changing the speed and direction of the pump. This gives smooth start and stop of the steering gear and enables a precise analog control system. The pumps and motors are mounted directly on the rudder actuator with all necessary fittings installed at our production facilities. This limits the need for piping onboard the vessel.

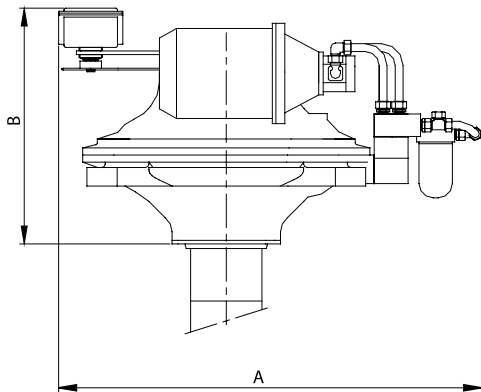
The actuator is completely filled with hydraulic oil, when leaving the factory.

## Functional description

The power unit consists of a reversible pump unit, flexible coupling and electric motor mounted to the top of the actuator. The rudder command signal operates the manoeuvring pump and directs the oil flow to the chambers of the actuator.

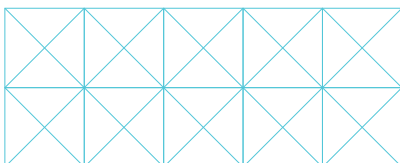
The rudder will then turn in the direction corresponding to the order signal. When the ordered position is reached, the manoeuvring pump will stop and a hydraulic blocking valve will lock the position of the rudder. The actuator is normally supplied with two independent pump units, each driven by an electric motor.

The motor controller (frequency converter) of each pump unit has separate and independent supply from the main switchboard. Each of the two control systems is powered from the corresponding motor controller. The two systems are therefore both hydraulically and electrically separate. A fault in one system will therefore not interfere with the operation of the other system.



## THE SR SERIES OF KONGSBERG MARITIME STEERING GEAR

TYPE	STD. RUDDER STOCK DIA (MM)	MAX WORKING PRESSURE (BAR)	MAX WORKING TORQUE (KNM)	MAX MECH. RUDDER ANGLE (DEG)	DIMENSIONS AXBXC (MM X MM X MM)	WEIGHT APPROX (KG)	MAX RADIAL LOAD (KN)	MAX AXIAL LOAD (KN)
SR562L	120	54	16	2x61	1230 x 390 x 900	400	175	104
SR562	160	133	40	2x61	1230 x 390 x 1150	400	175	104
SR622	200	125	70	2x71,5	1210 x 675 x 980	620	400	200
SR642	240	125	110	2x72	1330 x 765 x 1090	920	600	250
SR662	280	125	170	2x72	1430 x 810 x 1180	1800	700	354
SR722	300	125	275	2x72	1610 x 875 x 1470	2750	855	370
SR723	320	125	412	2x44	1610 x 875 x 1470	2800	855	370
SR742	340	125	433	2x72	1930 x 1060 x 1700	3700	1400	480
SR743	360	125	650	2x44	1930 x 1060 x 1700	3750	1400	480



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