



Gear Unit Specification No. : S860367  
for the Single Marine Gearbox Type: RSV-670  
Our Com. No. : 860367, 860368, 860369, 860371, 860370  
AMW-Marine Order No. : 507001/07,507002/07,507003/07,507019/07,508028/07  
Shipyard Peters Kampen : NB816, 817, 818, 819, 820

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Item 0101)

1 Single Marine Reduction Gearbox(es) Type RSV - 670

Single-stage design

Shafts vertically offset

Center distance of the shafts 670 mm.

Power data:

P = 1.980 kW (6M25)

n = 750/170 rpm

i = 4,412 : 1

Survey: LRS (design acc. to edition 7/2005)

Ice class: 1A

For the gear box design in accordance with the Finnish ice class regulations has been considered:

Mass moments of inertia:

Engine incl. flywheel and coupling

J = 435 kgm<sup>2</sup>

Generator incl. Coupling

J = 13 kgm<sup>2</sup>

Propeller with shaft incl. factor for water

J = 2.155 kgm<sup>2</sup>

Propeller diameter 2,95 m.

The calculation of the ice factor was carried out acc. to the a.m. data. We reserve the right to correct our quotation in case of a change.

Gearbox incl. 1 secondary-PTO for

P<sub>mech.</sub> = 394 kW, n = 1.500 rpm.



Main dimensions of the gearbox in accordance with the dimension sheet no. 329742 (2)

PTO shaft(s) located above the input shaft driving out to the propeller side, center distance 335 mm.

Gearbox Input Shaft(s):  
With cylindrical shaft end.

Gearbox PTO-Shaft(s):  
With cylindrical shaft end.

Including mounting of the completely machined coupling hub(s) which are to be supplied to our works free of charge.

Gearbox Output Shaft:  
With flange, flange holes bored on coordinate drilling machine. Flange diameter 600 mm

Gearbox Output Shaft(s):  
Bored to supply oil to the controllable pitch propeller, provided for the installation of an adjustment box or oil supply box on the front side of the gear.

Bearing:  
PTO shaft(s) mounted on standard roller bearings.  
Main gearbox shafts mounted on exchangeable sleeve bearings in accordance with DIN 7474.

Thrust Bearing:  
Construction RENK for a maximum propeller thrust of plus/ minus 472 kN built into the gearbox, located on the foundation-rigid engine side of the gearbox. Inspection and replacement of thrust pads for ahead and astern travel is possible by means of a thrust bearing inspection opening. The thrust bearing area is constantly filled with oil even when the oil supply system is not operating.

Lubrication:

By means of an attached lube oil pump, an electrically driven lube oil pump with electric motor, coupling and bell housing, serving as pre-lubrication pump or stand-by pump, resp. Electric motor 400 V, 50 Hz

Pre-lubrication or stand-by pump(s), fitted to gearbox.

Cooling:

By means of an oil cooler for 38 degrees C fresh water, mounted on the gearbox.

Gearbox incl. reversible double filter with magnetic insert. Double filter attached.

Piping:

Gearbox including piping of the internal and external connecting pipes to the auxiliary equipment mounted at the gearbox. Connecting pipes to the free-standing auxiliaries as well as cooling water pipes are not included in our scope of delivery.

Internal injection pipes are externally flanged and can be checked without having to dismount the gearbox.

The external pipes to be manufactured by the shipyard are to be acidified and must be free of scale and foreign matter.

Instruments:

- 1 thermometer before the cooler
- 1 thermometer behind the cooler
- 1 pressure gauge before the double filter
- 1 pressure gauge behind the cooler
- 1 nonreturn valve behind the main oil pump
- 1 nonreturn valve behind the starting/stand-by pump
- 1 pressure relief valve before the double filter
- 1 suction valve in front of the suction pipe of the attached pump
- 1 lube oil level dip stick

Gearbox including all instruments required for unattended operation, including wiring up to terminal box on the gear.

Instruments as required according to the rules of the classification society LR, UMS.



- 1 resistance thermometer PT100  
lube oil temperature high „Alarm“  
can simultaneously be used for remote indication.
- 1 resistance thermometer 2 x PT100 suitable for  
1 x PT100 thrust bearing temperature high „Alarm“  
1 x PT100 thrust bearing temperature „Reduction“  
can simultaneously be used for remote indication.
- 1 pressure switch, decreasing pressure  
for "stand-by pump start"
- 1 pressure transducer  
lube oil pressure low „Alarm“  
can simultaneously be used for remote indication.
- 1 pressure switch, decreasing pressure  
for "stop main engine"
- 1 pressure switch, increasing pressure  
for "stand-by pump stop"
- 1 oil level minimum contactor with switch
- 1 differential pressure switch lube  
oil differential pressure high "alarm"
- 1 pressure switch, increasing  
pressure, release for „main engine start“

Gearbox Housing:

Of torsionally rigid construction, with strong internal ribs, designed such that thermal expansion will not adversely affect the gear mesh. Special attention is paid to the vibration characteristics and to the prevention of resonant areas.

Housing Material:

Grey cast iron

The oil sump is integrally cast



Gearing:

Optimum helical gearing is achieved by electronical computer calculation, hobbled by protuberance tools, case-hardened through gas carburizing and ground tooth flanks.

Gear Set Material:

Pinion and gear of heat treated, highly wear resistant special steels.

Preservation of Gearbox:

External paint RAL 7031, blue grey

Internal paint red

Internal preservation by means Shell oil S.7294

Unit weight: 6.600 kg approx.

Rheine, 30.11.2005

RENK Aktiengesellschaft  
Rheine works