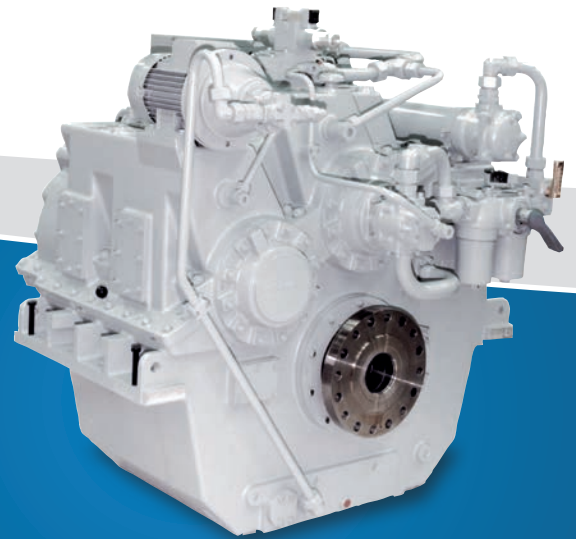


Gearboxes for
Fast Vessels

ZWVS 440 – 930 | 350 – 3,082 kW



Applications for Fast Vessels

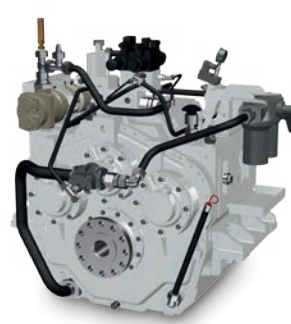
ZWVS 440 – 930



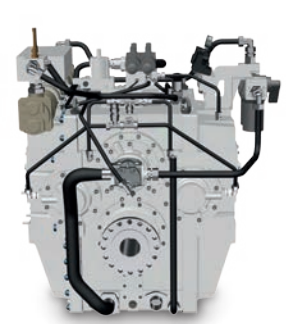
Reverse-reduction gearbox prepared for bell housing, rigid mounting, vertically offset



Reduction gearbox with special supervision and PTO incl. SAE pads, vertically offset



Reverse-reduction gearbox with rigid mounting and PTO incl. SAE-Pads, vertically offset



Reverse-reduction gearbox with special supervision and PTO incl. SAE pads, vertically offset

Advantages

ZWVS gearboxes have been specially designed for fast vessels such as naval units, patrol boats, yachts and other vessels with similarly high performance demands.

We have the backing of over 80 years of experience in marine gearbox production and use state-of-the-art computation tools and production technologies.

Owing to their design for specific areas of deployment, the hydraulically operated reverse-reduction two-speed-gearboxes of the ZWVS series offer various special advantages:

- High power-to-weight ratio
- Low performance weight due to weight-optimised design
- Smooth engagement of the gearbox clutch
- Compact dimensions
- Low operating noise

Gearbox Selection

The selection diagram opposite gives an overview of the performance ratings of the basic ZWVS types.

However, for the final selection of gearboxes only the ratings of the applicable gearbox selection table are binding.

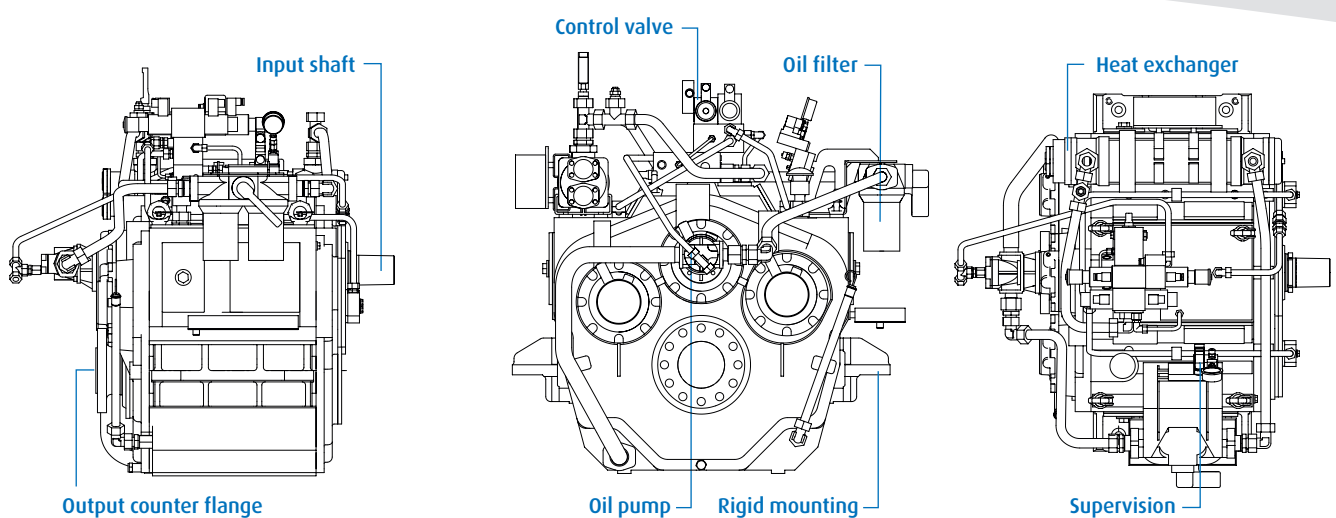
Approved Quality

Several renowned classification societies have granted REINTJES permission to conduct inspection and approval procedures themselves. In the same way many gearbox types come with a type approval or full classification for the main classification societies (IACS members). Since 1990 REINTJES is certified to DIN ISO 9001/EN 29001.

DESIGNED FOR MEDIUM, LIGHT AND PLEASURE DUTY APPLICATIONS

Standards

ZWVS 440 – 930



Basic Equipment

- Housing made from aluminium alloy
- Prepared for mounting of SAE-bell housings
- Spur wheels helically toothed, case hardened and tooth flank ground
- Built-in hydraulically operated disc clutches with steel/sinter friction surface
- Smooth engagement by adapted pressure increase during shifting
- Full power transmission and same reduction in both output senses of rotation

Scope of Supply

STANDARD

- Integrated oil sump. Common circuit for operating pressure and lube oil. Oil pump and oil filter accessible from the outside
- Fitted heat exchanger for cooling water inlet temperature of max. 32 °C, seawater resistant
- Fitted pressure gauge for operating pressure as well as connection facility for remote supervision of pressure and temperature
- Connection facility for remote supervision of pressure and temperature
- Built-on control valve, electrically operated
- Input: free shaft end with taper 1:30 (WVS and WLS) Input flange (WVS/U and WLS/U)
- Output: forged-on-flange
- Paint coating with synthetic resin varnish. Colour: RAL 7001 silver grey

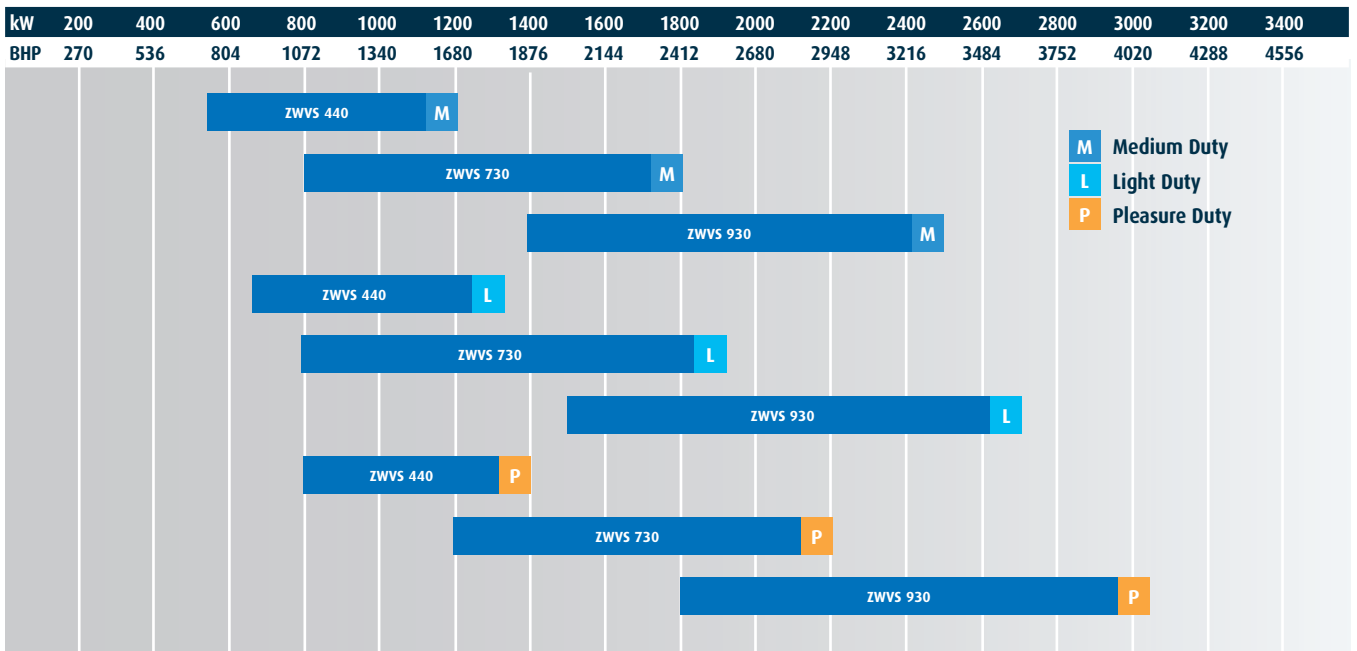
EXTRAS

- Resilient mounting
- SAE bell housing
- Output counter flange
- Flexible coupling
- Supervision instruments
- Spare parts kit as per classification rules
- Trolling Valve (ADS)
- PTO
- Control valve, mechanically operated
- Resilient mounting
- Special reduction ratios

Subject to change



Engine Power



Duty Cycle Classification

- M MEDIUM DUTY**
- Intermittent operation with some variations in engine speed and power
 - Average engine operating hours limit: 4,000 hours/year
 - Allowable hull forms: planing, semi-planing, catamaran
 - Allowable applications: private, charter and commercial craft, navy and police activity (example: crew boats, high speed ferries)

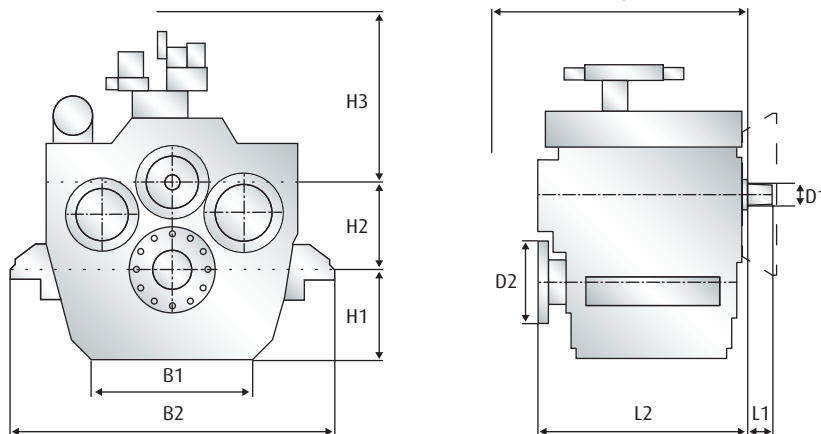
- L LIGHT DUTY**
- Intermittent operation with large variations in engine speed and power
 - Average engine operating hours limit: 2,500 hours/year
 - Allowable hull forms: planing, semi-planing, displacement
 - Allowable applications: private, charter, sport/leisure activities, naval and police activities

- P PLEASURE DUTY**
- Intermittent operation with very large variations in engine speed and power
 - Average engine operating hours limit: 500 hours/year
 - Allowable hull forms: planing, semi-planing
 - Allowable applications: private, non commercial, non charter, sport/leisure activities



ZWVS 440 – 930

Reverse-reduction gearboxes with hydraulically operated clutches.
Vertically offset
Input and output on opposite sides

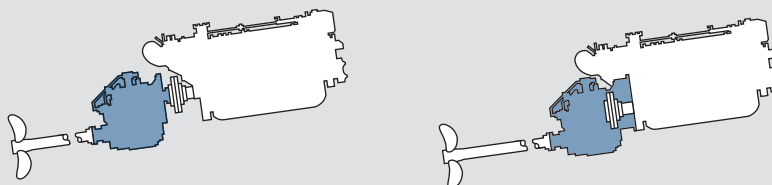


| Gearbox ZWVS | Main Dimensions (mm) | | | | | | | Main Dimensions (mm) | | | Weight kg ¹⁾ |
|-----------------|----------------------|------|-----|-----|-----|-----|---------|----------------------|-----|------|----------------------------|
| | B1 | B2 | D1 | D2 | H1 | H2 | H3 | L1 | L2 | L6 | |
| 440 | 400 | 910 | 75 | 220 | 288 | 250 | 640-560 | 97 | 678 | 770 | 720 |
| 730 | 560 | 1130 | 92 | 260 | 323 | 310 | 674-700 | 107 | 810 | 988 | 725 |
| 930 | 619 | 1300 | 102 | 280 | 348 | 340 | 610-730 | 117 | 983 | 1047 | 925 |

1) Gearbox standard design (dry). Dimensions and weights not strictly binding. Subject to change.

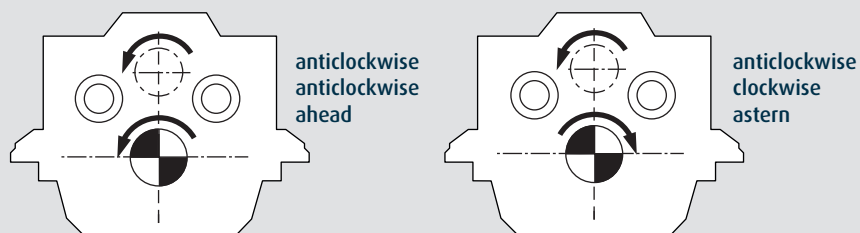
ZWVS series

Free-standing
Close-coupled



Standard direction of rotation ZWVS 930

Seen from propeller
onto engine flywheel



Options

POWER TAKE OFF/IN

If required, the gearboxes can be fitted with additional Power Take Off (PTO) (application: hydraulic pumps) and Power Take In (PTI).

ADS (ACTIVE SPEED CONTROL SYSTEM) CLOSE LOOP OR CONTROLLED

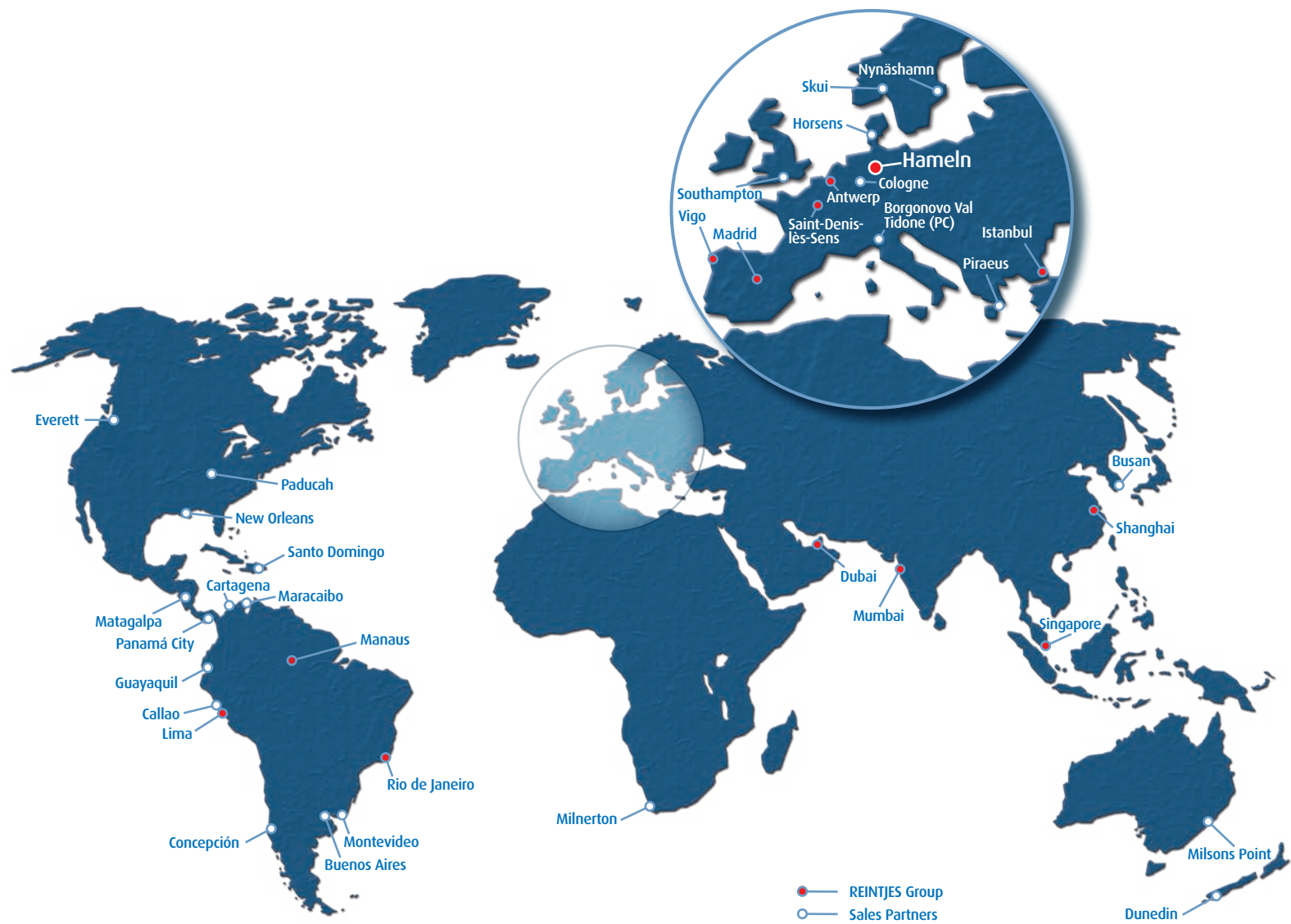
The ADS is used for travelling at low propeller speeds. Speed is varied via the oil pressure in the clutch. The ADS can be engaged in both AHEAD or ASTERN propulsion modes. Reversals with operative ADS are also possible at low ship speeds.

DL/DR GEARBOXES

The gearboxes of the ZWVS model series can be diagonally offset. This variant reverses the direction of travel. Counter rotation: the direction of travel is ahead. Identical rotation: the direction of travel is astern.

UNATTENDED MACHINERY SPACE

All gearboxes can be supplied with additional supervision instruments, according to classification society rules, enabling the operator to take all necessary information from the bridge.



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