

Down Angle Gearboxes for **Fast Vessels**

WVSA 240 – 1540 | 500 – 4,900 kW



Down Angle Gearboxes for Fast Vessels

REINTJES Down Angle Gearboxes

... are suitable for both pleasure and commercial applications for all types of fast crafts, from mega-yachts to patrol vessels and crew boats. With a space-saving design, this three shaft reverse reduction gearbox has hydraulically operated clutches mounted on both the input and intermediate shafts and is compatible with all types of engines and propulsion systems.

The down angle configuration allows the engine to be installed horizontally while the output shaft is angled downwards to

the propeller. This reduces the overall height of the engine room which is crucial for new buildings. The 8 to 10 degree down angle is accomplished by beveloid gears on input and output shaft with a wide reduction range of 1.5 to 4.

The WVSA Down Angle gearboxes extend the product portfolio for fast vessels, based on our well-known WVS gearbox series.



High Performance

- High power-to-weight ratio
- Efficient performance due to weight-optimised design
- Power speed ratio up to 2 kW/rpm



Comfort

- Low operating noise due to optimal tooth flank corrections
- Excellently synchronised engagement
- Noise and vibrations absorbing by resilient mounting



Space Saving

- Reduced height of the power train resulting in a smaller engine room
- Space saving design for new building
- Design freedom of shaft angles

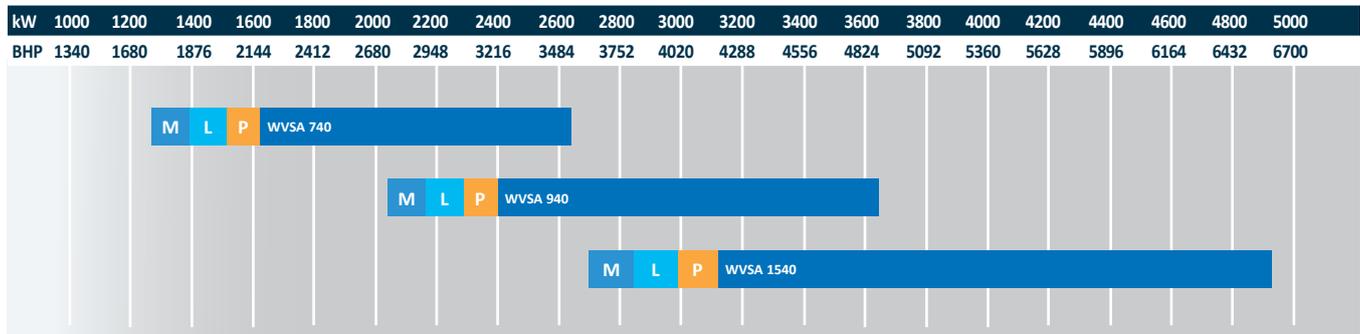


Operation and Service

- Low lifecycle cost
- Worldwide sales & service
- Service availability 24/7/365



Engine power



WWSA 240, WWSA 340, WWSA 440 on request.

Duty Cycle Classification

- | | | |
|---|--|---|
| <p>M MEDIUM DUTY</p> <ul style="list-style-type: none"> ■ 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, displacement, catamaran ■ Allowable applications: private, charter, commercial craft (example: crew boats, high speed ferries), naval and police activities | <p>L LIGHT DUTY</p> <ul style="list-style-type: none"> ■ 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 and leisure activities, naval and police activities | <p>P PLEASURE DUTY</p> <ul style="list-style-type: none"> ■ 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 and leisure activities |
|---|--|---|

DESIGNED FOR MEDIUM, LIGHT AND PLEASURE DUTY APPLICATIONS

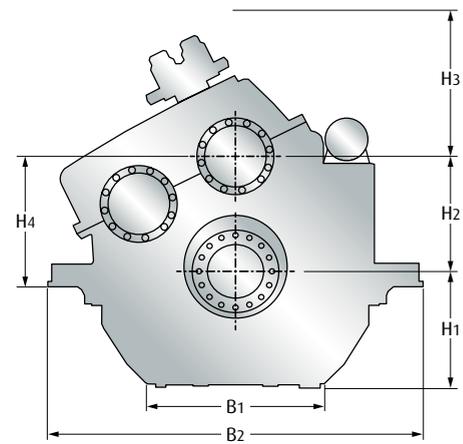
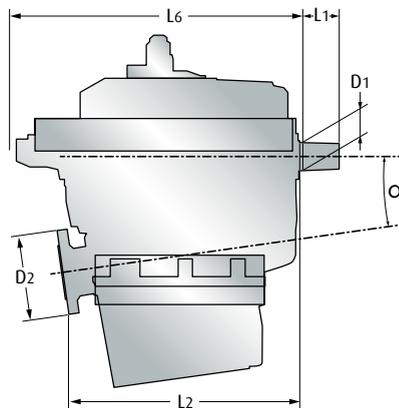


Down Angle Gearboxes

Technical Data

WVSA 240 – 1540

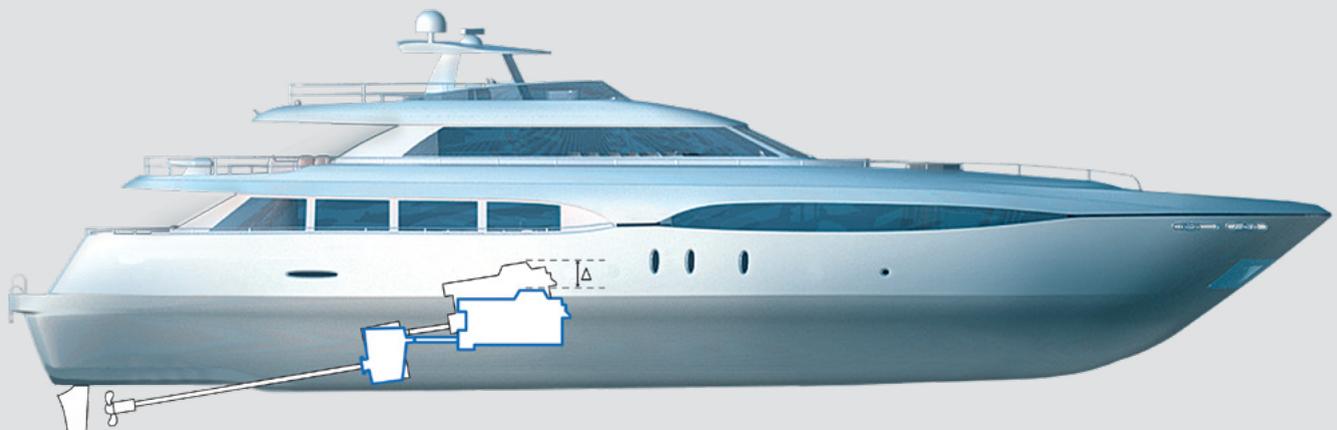
Reverse-reduction gear-box with hydraulically operated clutches. Vertically offset. Input and output shaft on opposite sides.



Gearbox	Main Dimensions (mm)													Weight ¹ kg
	WVSA	B1	B2	D1	D2	H1	H2	H3	H4	L1	L2	L6	α	
740	560	1180	92	345	342	412	300	415	107	781	1050	8°	970	
940	640	1300	107	390	386	457	300	480	142	864	1200	8°	1300	
1540	760	1530	117	420	415	509	400	525	154	970	1250	8°	1800	

1) Gearbox standard design (dry).

Dimensions and weights not strictly binding. Subject to change.
Dimensions for WVSA 240, WVSA 340, WVSA 440 on request.



Conventional Propulsion

Compact Space Saving Design by WVSA

Down Angle Gearboxes Equipment

Basic Equipment

- Housing made from aluminium alloy
- Shaft angle of 8° or 10°
- Rigid mounting
- Beveloid gear helically toothed, case hardened
- Built-in hydraulically operated disc clutches with steel/sinter friction surface
- Smooth engagement by adapted pressure increase during shifting
- Full power transmission and equal reduction ratios in identical and counter rotation application

Scope of Supply

STANDARD

- Gearbox with 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. 38° C, seawater resistant
- Fitted pressure gauge for operating pressure as well as connection facility for remote supervision of pressure and temperature
- Built-on control valve, electrically operated
- Input: free shaft end with taper 1:30
- Output: forged-on-flange
- Paint coating in standard colour: RAL 7001 silver grey

EXTRAS

- SAE-bell housing on request
- Output counter flange
- Flexible coupling
- Supervision instruments as per classification rules
- Spare parts as per classification rules
- Paint coating with synthetic resin in all RAL-colours
- Trolling valve (ADS)
- PTO on request
- Resilient mounting
- Special reduction ratios
- OD box connections on request
- Engine side flange
- Non-standard shaft angles upon customer request

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.

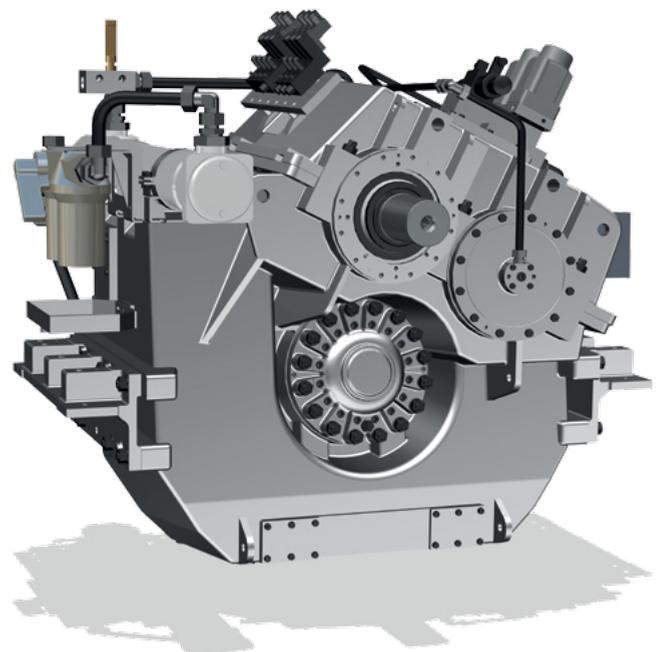
UNATTENDED MACHINERY SPACE

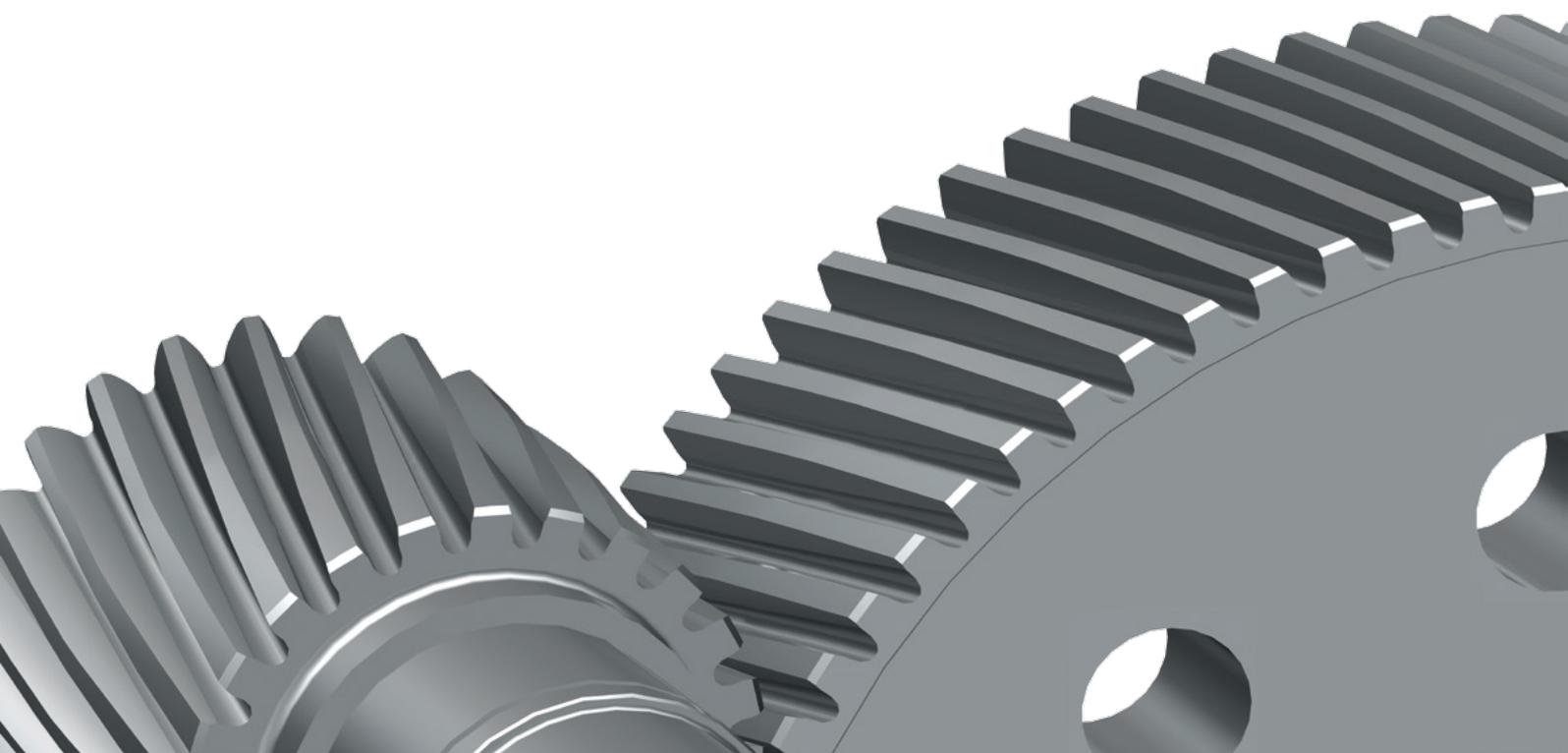
All gearboxes can be supplied with additional supervision instruments, according to classification society rules, enabling the operator to take all necessary information from the bridge.

Proven 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.





REINTJES GmbH
Eugen-Reintjes-Straße 7
31785 Hameln
Germany
Phone +49 51 51 104-0
E-mail marine@reintjes-gears.de
www.reintjes-gears.de

This document and the technical data contained herein are subject to technical modifications and are non-binding. The data serve informational purposes and cannot be guaranteed in any way. In addition, our gearboxes will be assessed and determined individually for each project. This is necessary due to differing characteristics of each project like specific site and operational conditions. If this document is delivered in another language than English and in case of divergences of interpretation between the different language texts, the English text shall prevail.