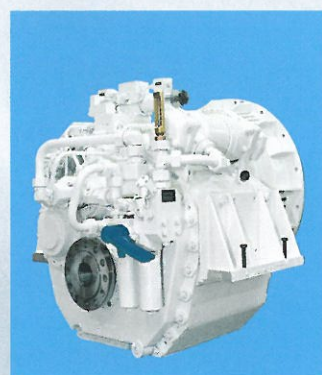


FAST VESSELS



REINTJES

WVS 234/1 – 430/1

WVS 234/1-430/1

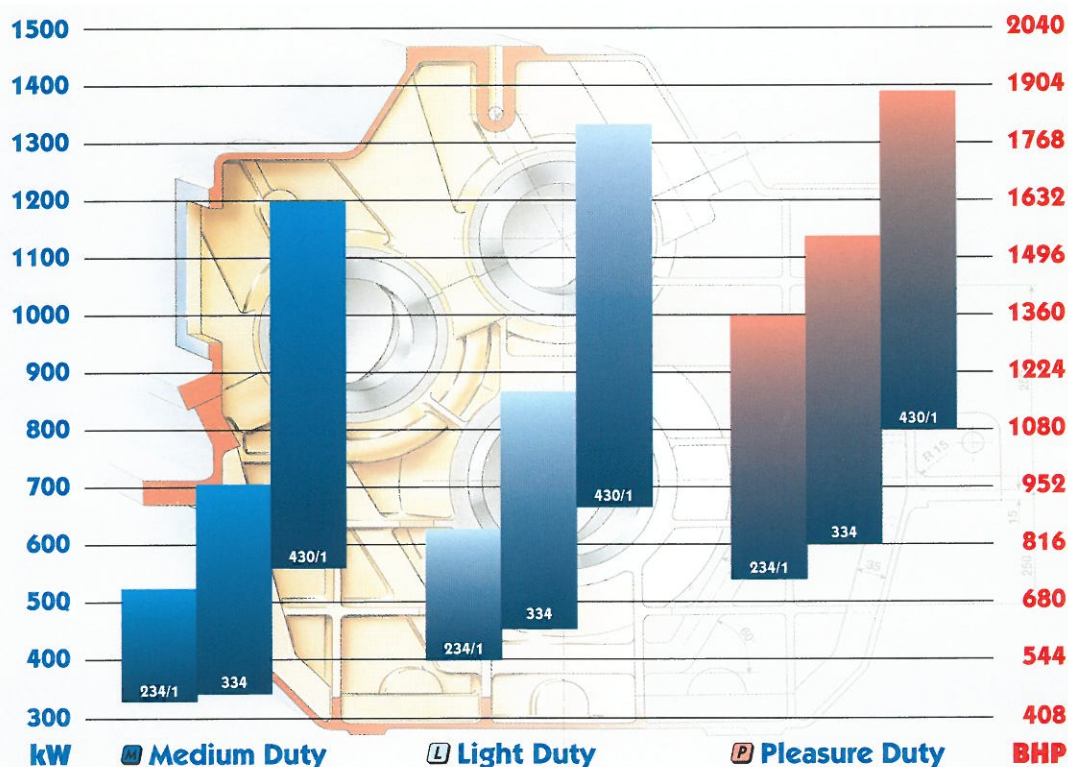


WVS gears have been specially designed for installation in fast ships such as naval units, patrol boats, yachts and other vessels with similarly high requirements. We have the backing of over 70 years of experience in marine gears production and deploy

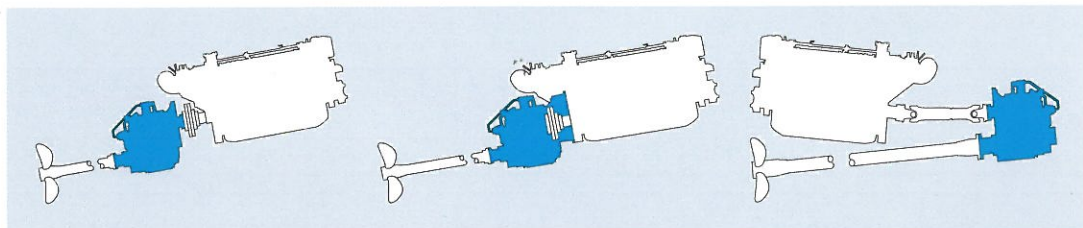
state-of-the-art computation tools and production technologies.

Owing to their design for specific areas of deployment, the hydraulically shifting reverse-reduction gears of the WVS series offer various special advantages:

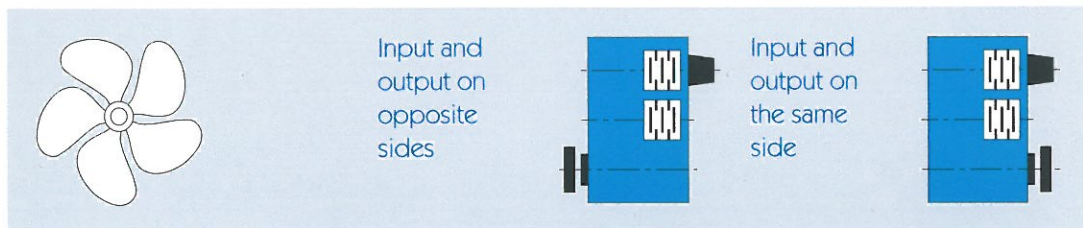
- Low performance weight thanks to light metal casing and weight-optimized design
- Small dimensions
- Finely tuned shifting
- Optimally quiet running characteristics



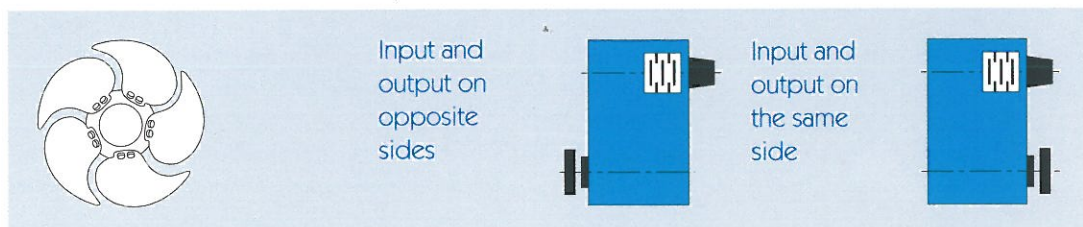
WVS series
Free-standing
Flange-mounted
U-drive



WVS series
Reverse-reduction gear
for propulsion with
fixed propeller



WLS series
Reduction gear
for propulsion with
controllable pitch propeller

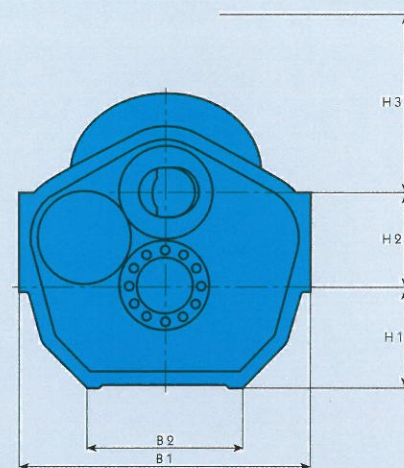
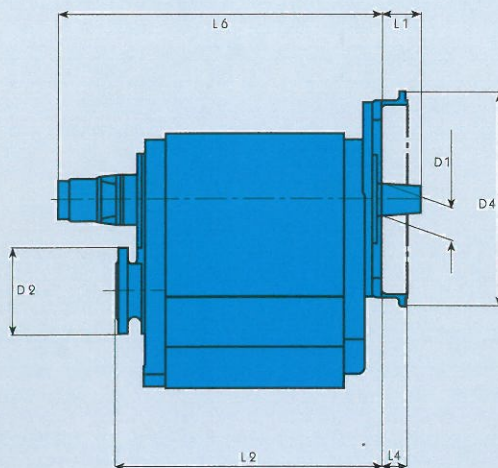


WVS 234/1 – 430/1

Reverse-reduction

gears with hydraulically operated clutches. Vertically offset.

Input and output on opposite sides.

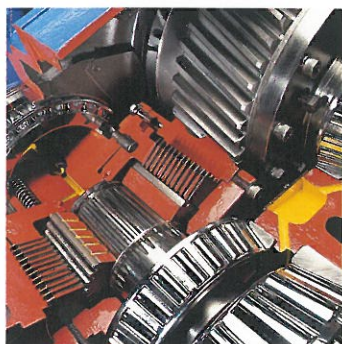


Gearbox WVS / WLS	B 1	B 2	D 1	D 2	Main dimensions (mm)										Weight (kg) ⁽¹⁾		
					D 4 SAE 1	D 4 SAE 0	H 1	H 2	H 3	L 1	L 2	L 4 SAE 1	L 4 SAE 0	L 6	WVS	WLS ⁽²⁾	WLS ⁽³⁾
234/1	640	475	55	220	511,2	–	200	200	420	69	483	64	–	680	295	240	265
334	720	530	62	180	511,2	647,7	240	215	420	100	564	109	109	700	340	275	300
430/1	730	400	75	220	511,2	647,7	260	235	390		675	60	102	840	490	390	450

1) Gearbox standard design (dry). • 2) Counter rotation. • 3) Identical rotation. • Dimensions and weights not strictly binding. Subject to changes.



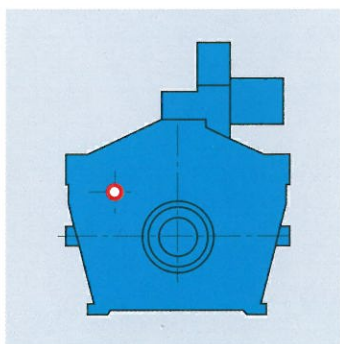
OPTIONS



Basic design

In addition to our comprehensive standard WVS/WLS gears, we offer customers special systems individually tailored to meet their propulsion unit requirements.

OPTIONS



Power take off

If required, the gears can be fitted with an additional power take off (PTO).

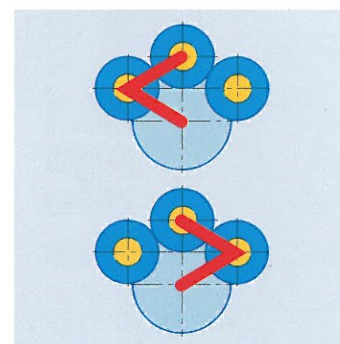
OPTIONS



Unattended operation

All gears can be supplied with additional units for unattended operation. The monitoring instruments are combined into a single system on the basis of the latest findings.

OPTIONS



Two-speed gears

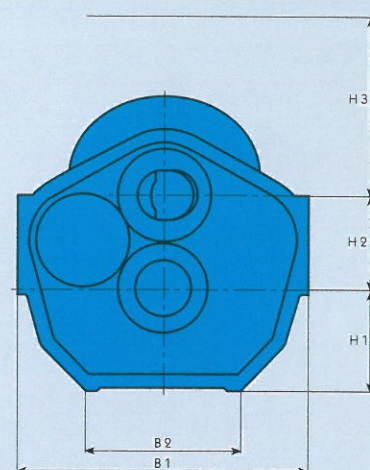
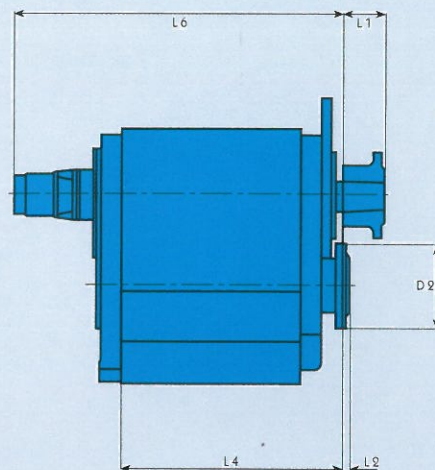
Two selectable gear ratios are provided between input and output shaft, making it possible to operate the propeller closer to optimum pitch.

WVS 234/1 – 430/1 U

Reverse-reduction

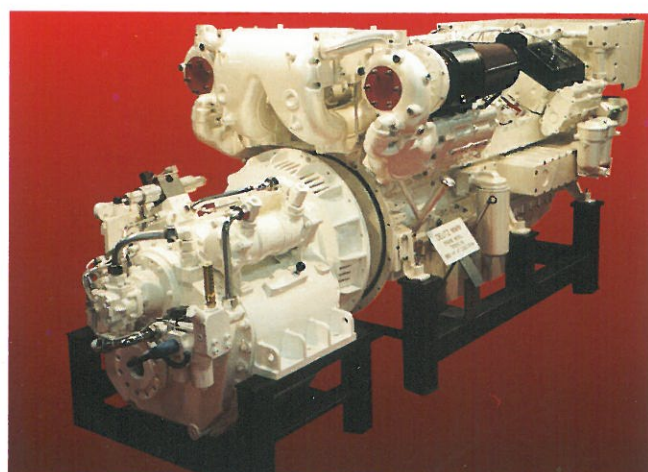
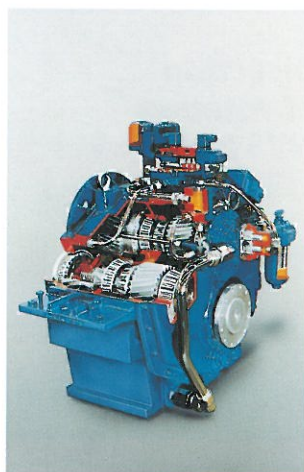
gears with hydraulically operated clutches. Vertically offset.

Input and output on the same side.



Gearbox WVS / WLS	Main dimensions (mm)										Weight (kg) ⁽¹⁾		
	B 1	B 2	D 2	H 1	H 2	H 3	L 1	L 2	L 4	L 6	WVS	WLS ⁽²⁾	WLS ⁽³⁾
234/1 U	640	475	200	200	200	420	72	48	390	680	305	250	275
334 U	720	530	180	240	215	420	83	50	407	700	350	285	310
430/1 U	730	400	220	260	235	390	100	60	531	840	500	400	460

1) Gearbox standard design (dry). • 2) Counter rotation. • 3) Identical rotation. • Dimensions and weights not strictly binding. Subject to changes.



OPTIONS

ADS-Systems

An optimal solution for manoeuvres at slow speed is provided by the electronically controlled creep speed unit ADS. For this solution, speed is adjusted via the oil pressure in the gears' clutch. Pressure is reduced on an infinitely variable basis via a special valve, facilitating precise and secure manoeuvring. ADS operation makes possible an infinitely variable reduction of propeller speed.

An electronic control unit keeps the required propeller speed constant. The ADS system can be operated in both >Ahead< and >Astern< direction. Reversing manoeuvres can be carried out with no difficulty during operation.

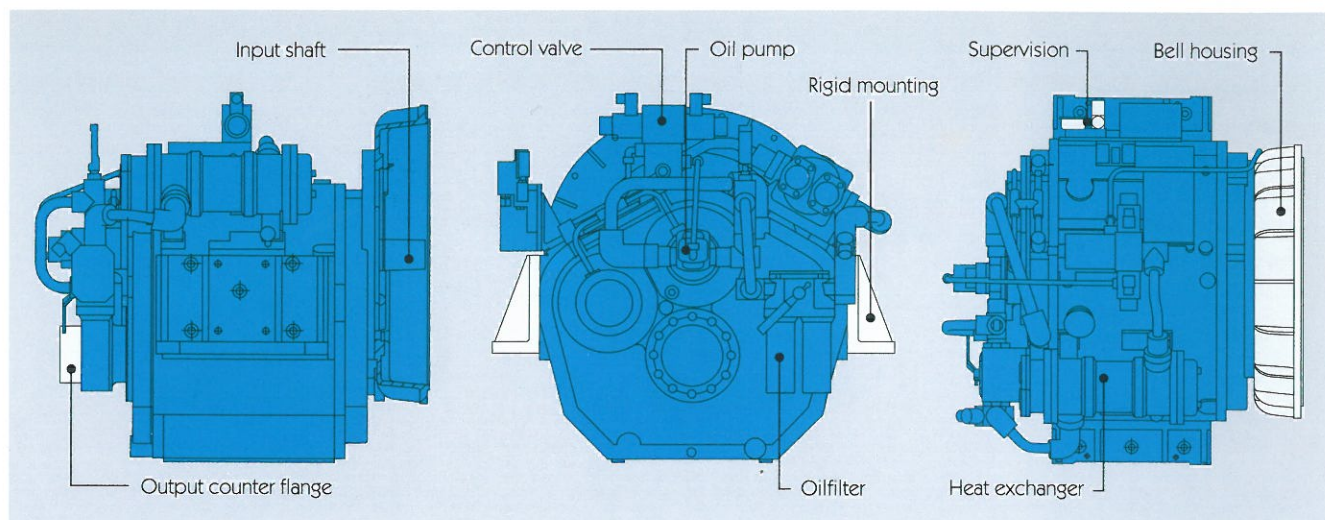


First class partner

Our worldwide service network and versatile system solutions guaranteeing cost-efficiency make us a first class partner.

You can rely on us as the experienced specialists for high-speed gears in fast vessels.

...THE EXPERTS.



Gearbox Selection

The selection diagram opposite gives an overview of the performance ratings of the basic WVS types. These also apply for WVS/U, WLS and WLS/U units. However, for the final selection of gears only the ratings of the applicable gears selection table are binding. Here the particular application groups must be taken into consideration.

Duty Cycle Classifications

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

Allowable applications:

private, non-commercial, non-charter, sport/leisure activities.

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-displacement

Allowable applications:

private, charter, sport/leisure activities, naval and police activities.

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-displacement

Allowable applications:

private, charter and commercial craft (example: crew boats), naval and police activities.

Basic Equipment

Housing made from aluminium alloy, completely prepared for mounting of SAE-bell housings as well as mounting brackets for foundation connection.

Spur wheels helically toothed, carburized 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

Independent oil supply. 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. 35 degr. C, sea-water resistant. (Max. permissible operating temperature for gearboxes and accessories is 90 degr. C).

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). Output counter flange (WVS/U and WLS/U).

Output: forged-on flange

Paint coating with synthetic resin varnish.

Colour: RAL 7001 silver gray.

Options

Rigid mounting

SAE-bell housing

Supervision instruments

Output counter flange

Spare parts kit as per classification rules

Paint coating with synthetic resin varnish in all RAL-colours

Special

Trolling Valve (ADS)

PTO, execution K 21

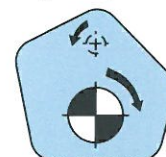
Control valve, mechanically operated

Resilient mounting

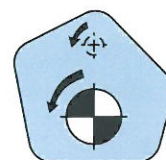
Special reduction ratios

Direction of rotation WVS and WLS

Seen from propeller onto engine flywheel



anticlockwise
clockwise



anticlockwise
anticlockwise

Subject to changes



THE EXPERTS.



REINTJES



XMH

YOUR CONNECTION
TO THE RIGHT MACHINE

**XIN MING HUA PTE LTD
XMH ENGINEERING PTE LTD**

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