

Gearboxes for
Work Boats

WAF/LAF 164 – 573 | 250 – 1,200 kW



Applications for Work Boats

WAF/LAF 164 – 573



Reverse-reduction gearbox, vertically offset



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



Reverse-reduction gearbox, vertically offset



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

Advantages

Gearboxes of the WAF and LAF series have been specially developed for work boats such as tugs, fishing vessels, inland waterway crafts, ferries and special-purpose ships with similarly high performance demands.

We have the backing of over 80 years of experience in marine gearbox design and 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 gearboxes of the WAF series, as well as the reduction gearboxes of the LAF series offer various special advantages:

- High operating reliability
- Simple operation and maintenance
- Compact dimensions
- Low operating noise

Gearbox selection

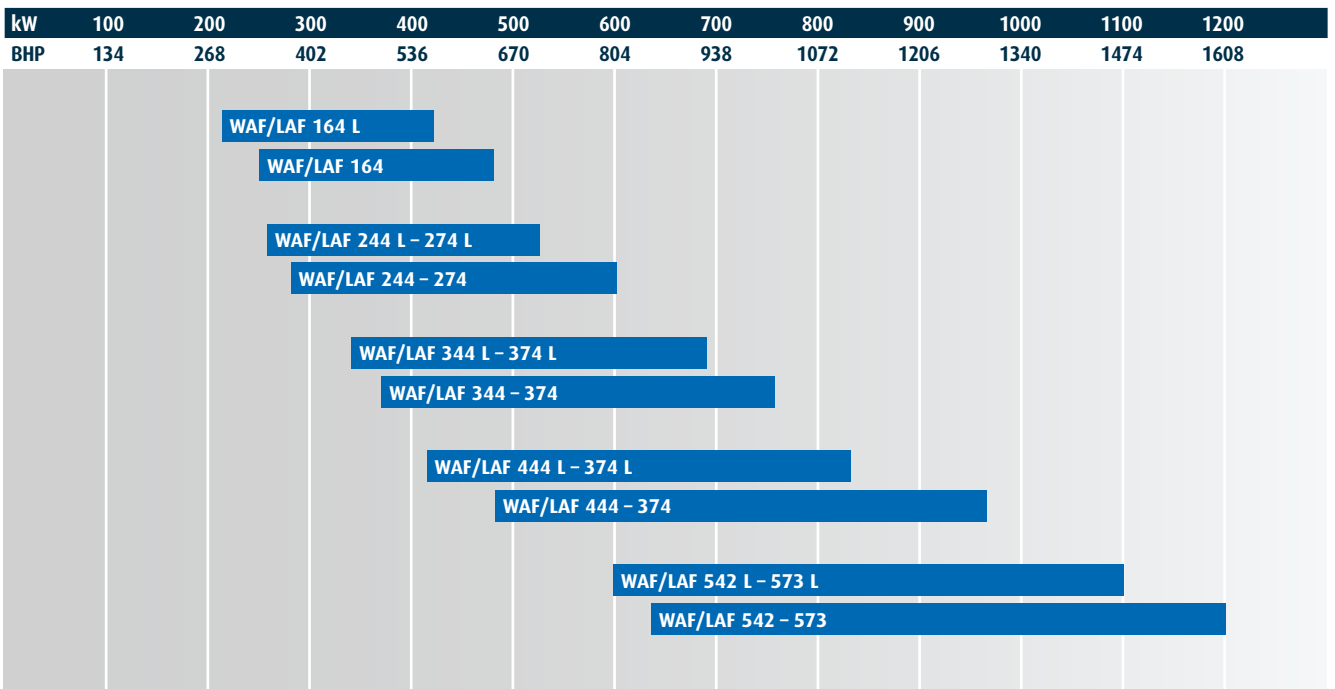
The selection diagram opposite gives an overview of the performance ratings of the basic WAF and LAF types.

However, for the final selection of gearboxes please contact REINTJES.

DESIGNED FOR HEAVY DUTY APPLICATIONS



Engine power

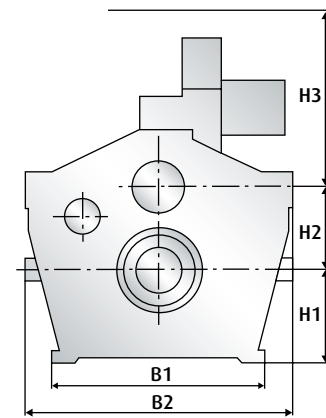
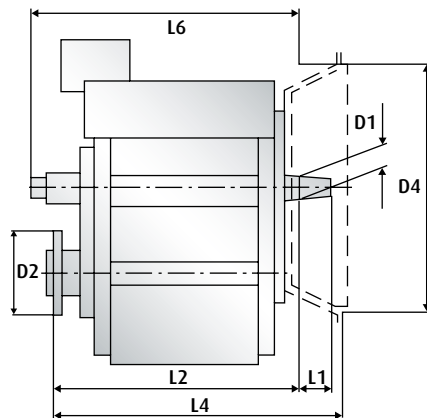


Marine Gearboxes

WAF/LAF 164 – 573

WAF/LAF 164 – 464

Reverse-reduction gearbox with hydraulically operated clutches
Vertically offset

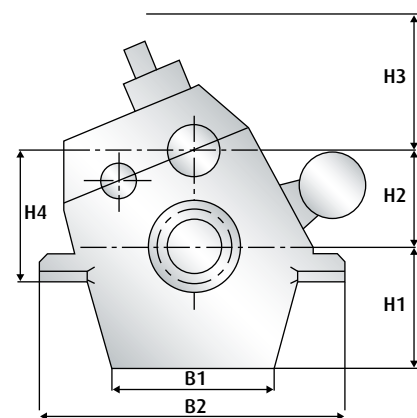
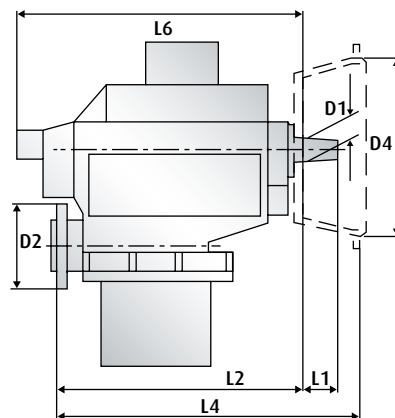


| Gearbox | Main Dimensions (mm) | | | | | | | | | | | | | | | Weight kg ¹⁾ | |
|---------|----------------------|-----|----|-----|-------|---------------------|---------------------|-----|-----|----|-----|-----|---------------------|------|------|-------------------------|--|
| | WAF/LAF | B1 | B2 | D1 | D2 | D4 SAE 1 Norm | D4 SAE 0 Norm | H1 | H2 | H3 | L1 | L2 | L4 SAE 0 Norm | L6 | WAF | LAF | |
| 164 | 505 | 660 | 55 | 285 | 511.2 | 647.7 | 315 | 290 | 370 | 70 | 595 | 655 | 685 | 685 | 525 | 475 | |
| 244 | 530 | 640 | 55 | 240 | 511.2 | 647.7 | 240 | 215 | 355 | 70 | 560 | 625 | 685 | 685 | 455 | 405 | |
| 264 | 540 | 670 | 55 | 285 | 511.2 | 647.7 | 345 | 315 | 365 | 70 | 595 | 660 | 685 | 700 | 650 | | |
| 274 | 700 | 830 | 55 | 325 | 511.2 | 647.7 | 420 | 380 | 365 | 70 | 600 | 665 | 690 | 725 | 675 | | |
| 344 | 570 | 720 | 60 | 285 | 511.2 | 647.7 | 265 | 250 | 395 | 80 | 645 | 750 | 740 | 730 | 640 | | |
| 364 | 580 | 750 | 60 | 325 | 511.2 | 647.7 | 380 | 345 | 415 | 80 | 665 | 775 | 755 | 810 | 740 | | |
| 374 | 800 | 930 | 60 | 325 | 511.2 | 647.7 | 460 | 410 | 430 | 80 | 670 | 775 | 860 | 1200 | 1130 | | |
| 444 | 495 | 740 | 75 | 300 | 511.2 | 647.7 | 285 | 270 | 505 | 95 | 720 | 820 | 810 | 760 | 695 | | |
| 464 | 575 | 800 | 75 | 325 | 511.2 | 647.7 | 400 | 375 | 510 | 95 | 725 | 825 | 810 | 940 | 880 | | |

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

WAF/LAF 474 – 573

Reverse-reduction gearbox with hydraulically operated clutches
Vertically offset



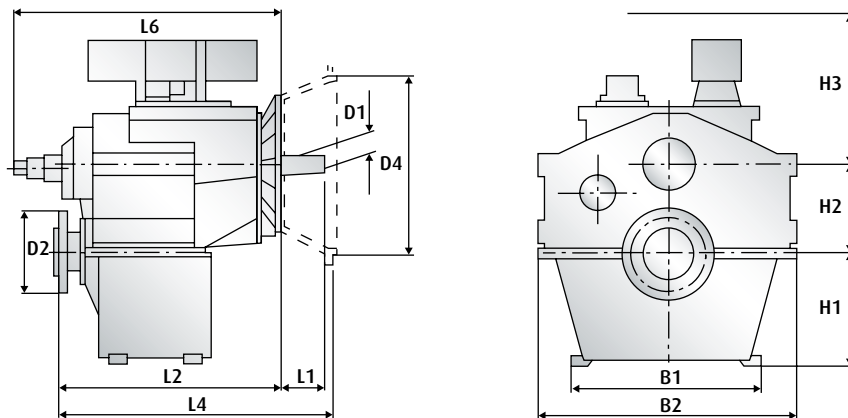
| Gearbox | Main Dimensions (mm) | | | | | | | | | | | | | | | Weight kg ¹⁾ | | | |
|---------|----------------------|------|----|-----|-------|---------------------|---------------------|----------------------|-----|-----|-----|----|-----|-----|---------------------|-------------------------|----------------------|------|------|
| | WAF/LAF | B1 | B2 | D1 | D2 | D4 SAE 1 Norm | D4 SAE 0 Norm | D4 SAE 00 Norm | H1 | H2 | H3 | H4 | L1 | L2 | L4 SAE 1 Norm | L4 SAE 0 Norm | L4 SAE 00 Norm | L6 | WAF |
| 474 | 760 | 1310 | 75 | 350 | 511.2 | 647.7 | - | 510 | 460 | 330 | 600 | 95 | 745 | 845 | 845 | - | 810 | 1830 | 1700 |
| 572 | 690 | 1360 | 75 | 375 | - | 647.7 | 787.4 | 575 | 505 | 500 | 645 | 95 | 835 | - | 955 | 970 | 980 | 2360 | 2190 |
| 573 | 690 | 1360 | 75 | 375 | - | 647.7 | 787.4 | 575 | 505 | 500 | 645 | 95 | 835 | - | 955 | 970 | 980 | 2365 | 2195 |

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



WAF/LAF 542 – 563

Reverse-reduction gearbox with hydraulically operated clutches
Vertically offset

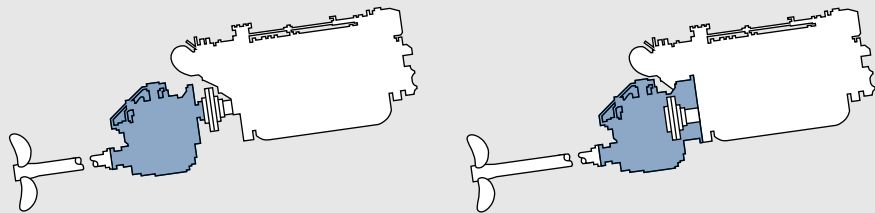


| Gearbox WAF/LAF | B1 | B2 | D1 | D2 | Main Dimensions (mm) | | | | | | Weight (kg ¹) | | | | | |
|--------------------|-----|-----|----|-----|----------------------|----------------------|-----|-----|-----|----|---------------------------|---------------------|----------------------|------|------|------|
| | | | | | D4 SAE 0 Norm | D4 SAE 00 Norm | H1 | H2 | H3 | L1 | L2 | L4 SAE 0 Norm | L4 SAE 00 Norm | L6 | WAF | LAF |
| 542 | 530 | 840 | 75 | 325 | 647.7 | 787.4 | 380 | 310 | 540 | 95 | 775 | 895 | 910 | 935 | 1035 | 925 |
| 543 | 530 | 840 | 75 | 325 | 647.7 | 787.4 | 380 | 310 | 540 | 95 | 775 | 895 | 910 | 935 | 1040 | 930 |
| 562 | 570 | 920 | 75 | 350 | 647.7 | 787.4 | 475 | 410 | 550 | 95 | 820 | 940 | 960 | 1060 | 1440 | 1320 |
| 563 | 570 | 920 | 75 | 350 | 647.7 | 787.4 | 475 | 410 | 550 | 95 | 820 | 940 | 960 | 1060 | 1445 | 1325 |

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

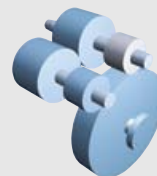
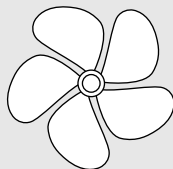
WAF series

Free-standing
Close-coupled

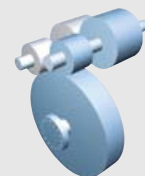


WAF series

Reverse-reduction gearbox for propulsion with fixed pitch propeller

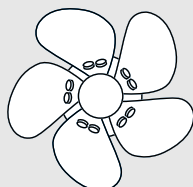


Counter or identical rotation of input and output as standard

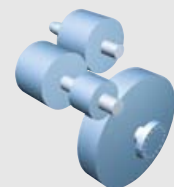


LAF series

Reduction gearbox for propulsion with controllable pitch propeller

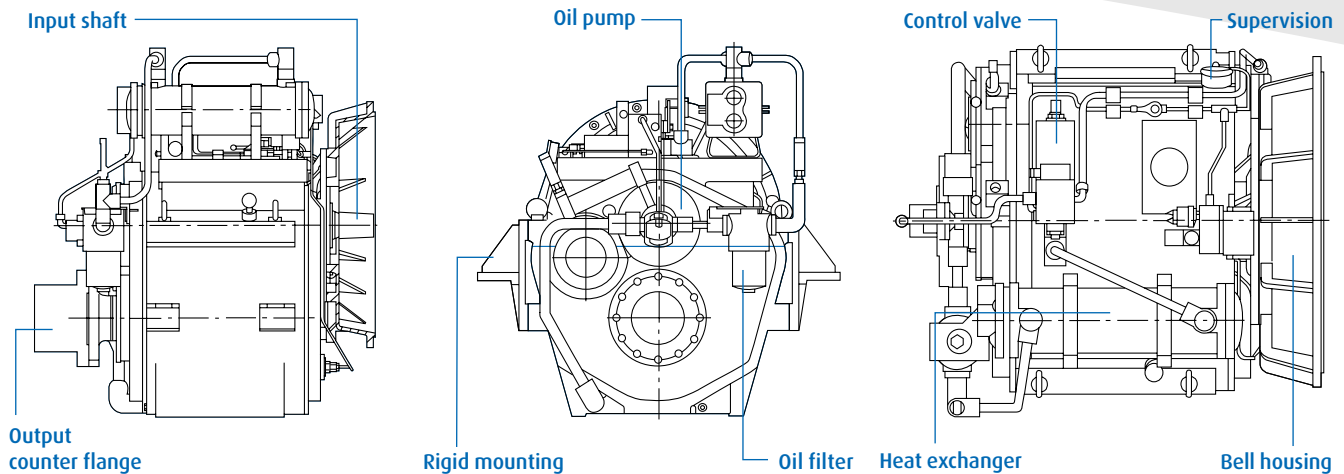


Counter rotation of input and output as standard, identical rotation available as option



Standards

WAF/LAF 164 – 573



Basic equipment

- Housing made from grey cast iron
- Prepared for mounting of SAE bell housings as well as mounting brackets for foundation connection
- Spur wheels helically toothed, case hardened and tooth flank ground
- Built-in hydraulically operated disc clutches with steel/sinter friction surface
- Built-in thrustbearing
- Smooth engagement by adapted pressure increase during shifting
- Full power transmission 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 switch and gauge for operating pressure and thermometer for operating temperature as well as connection facility for remote supervision of pressure and temperature
- Built-on control valve, mechanically operated

- Emergency control: in case of failure of operating pressure the disc clutch can be locked mechanically
- Input: free shaft end with taper 1:30
- Output: counter flange
- Output: forged on flange
- Paint coating with synthetic resin varnish in all RAL-colours

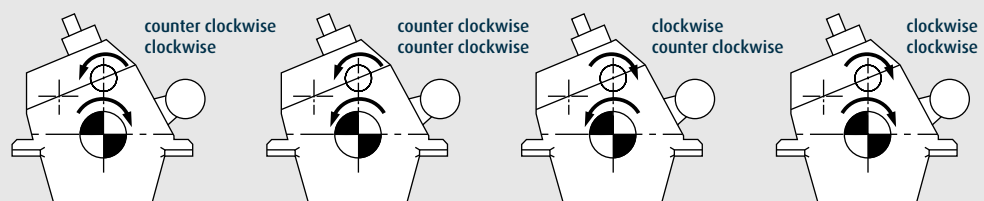
EXTRAS

- Rigid mounting
- SAE bell housing
- Flexible coupling
- Supervision instruments in accordance with classification

- PTO executions incl. SAE pads
- Spare part kit as per classification rules
- Heat exchanger for cooling water temperature higher than 32°C
- Control valve, electrically operated
- Resilient mounting
- Special reduction ratios
- Connection facility for electrical stand-by or trailing pumps

Direction of rotation WAF/LAF

Seen from propeller onto engine flywheel in direction of travel ahead





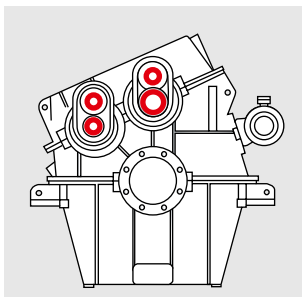
O P T I O N S A N D F E A T U R E S



Options

POWER TAKE OFF (PTO) / POWER TAKE IN (PTI) (from 344)

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

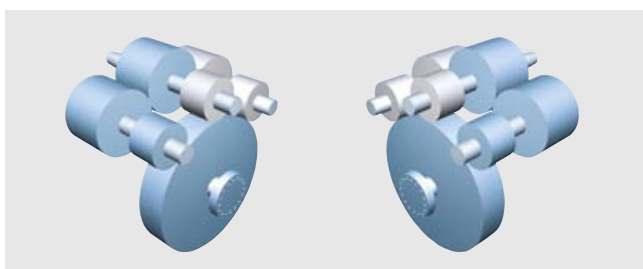


UNATTENDED MACHINERY SPACE (from 344)

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.

TWO-SPEED GEARBOXES

Two selectable gearbox ratios are provided between input and output shaft. This ensures optimal operation of the ship.



Duty cycle classification



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)



CONTINUOUS DUTY

- Continuous operation with little or no variations in engine speed and power
- Average engine operating hours: unlimited
- Allowable hull forms: semi-displacement, displacement
- Allowable applications: commercial vessels

Other duty cycles for special applications such as patrol boats, rescue vessels etc. on request.

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 has been certified to DIN ISO 9001/EN 29001.



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