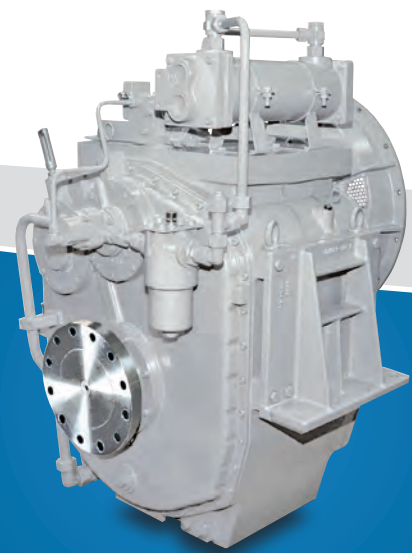


Gearboxes for
Work Boats

WAF/LAF 164 – 573 | 250 – 1,200 kW

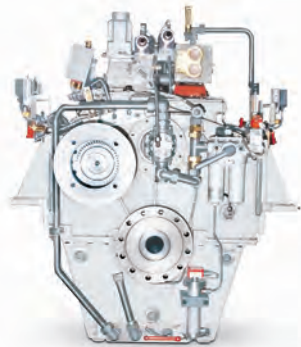


Applications for Work Boats

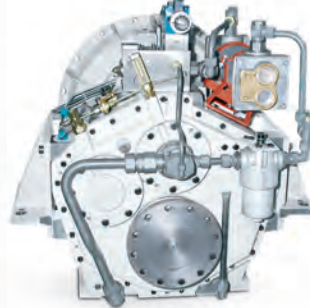
WAF/LAF 164 – 573



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.

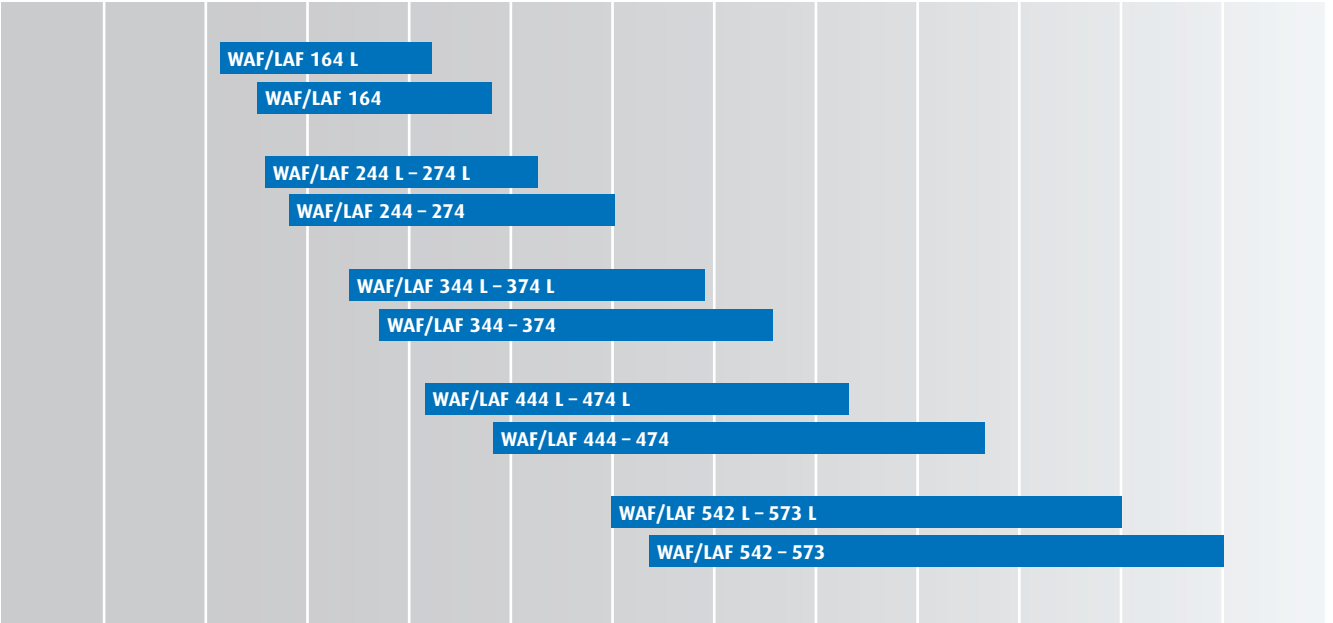
However, for the final selection of gearboxes please contact REINTJES.

DESIGNED FOR HEAVY DUTY APPLICATIONS



Engine power

kW	100	200	300	400	500	600	700	800	900	1000	1100	1200
BHP	134	268	402	536	670	804	938	1072	1206	1340	1474	1608

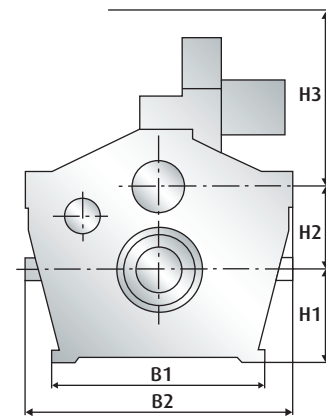
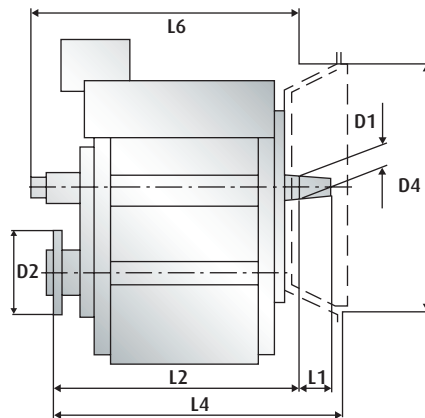


Marine Gearboxes

WAF/LAF 164 – 573

WAF/LAF 164 – 464

Reverse-reduction gearbox with hydraulically operated clutches
Vertically offset

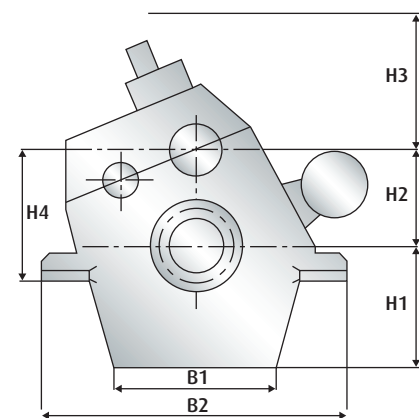
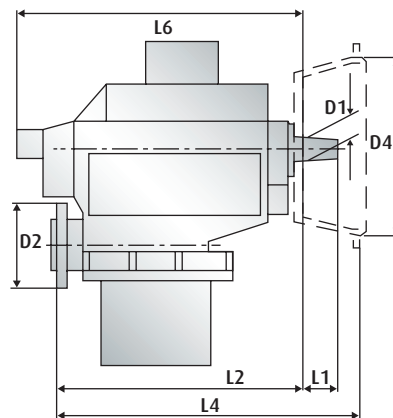


Gearbox	Main Dimensions (mm)														Weight kg ¹⁾	
	WAF/LAF	B1	B2	D1	D2	D4 SAE 1 Norm	D4 SAE 0 Norm	H1	H2	H3	L1	L2	L4 SAE 0 Norm	L6	WAF	LAF
164	505	660	55	285	511.2	647.7	315	290	370	70	595	655	685	525	475	
244	530	640	55	240	511.2	647.7	240	215	355	70	560	625	685	455	405	
264	540	670	55	285	511.2	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	97	720	820	810	760	695	
464	575	800	75	325	511.2	647.7	400	375	510	97	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



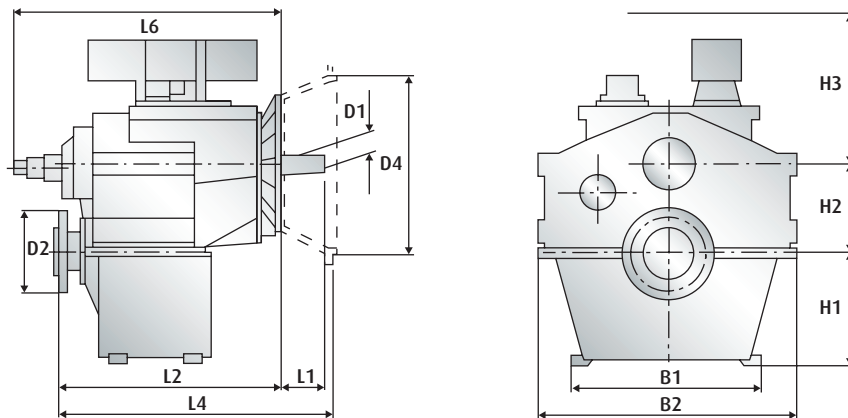
Gearbox	Main Dimensions (mm)														Weight kg ¹⁾				
	WAF/LAF	B1	B2	D1	D2	D4 SAE 1 Norm	D4 SAE 0 Norm	D4 SAE 00 Norm	H1	H2	H3	H4	L1	L2	L4 SAE 1 Norm	L4 SAE 0 Norm	L4 SAE 00 Norm	L6	WAF
474	760	1310	75	350	511.2	647.7	-	510	460	330	600	97	745	845	845	-	810	1830	1700
572	690	1360	75	375	-	647.7	787.4	575	505	500	645	97	835	-	955	970	980	2360	2190
573	690	1360	75	375	-	647.7	787.4	575	505	500	645	97	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

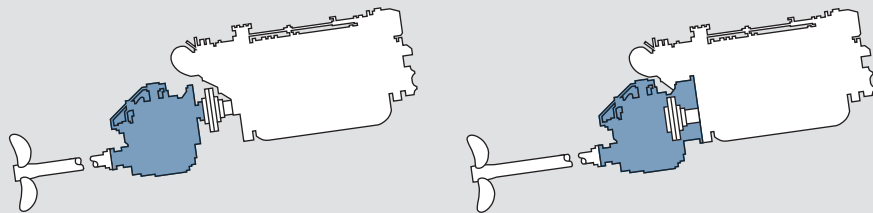


Gearbox WAF/LAF	B1	B2	D1	D2	Main Dimensions (mm)						Weight kg ¹⁾					
					D4 SAE 0 Norm	D4 SAE 00 Norm	H1	H2	H3	L1	L2	L4 SAE 0 Norm	L4 SAE 00 Norm	L6	WAF	LAF
542	530	840	75	325	647.7	787.4	380	310	540	97	775	895	910	935	1035	925
543	530	840	75	325	647.7	787.4	380	310	540	97	775	895	910	935	1040	930
562	570	920	75	350	647.7	787.4	475	410	550	97	820	940	960	1060	1440	1320
563	570	920	75	350	647.7	787.4	475	410	550	97	820	940	960	1060	1445	1325

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

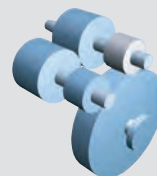
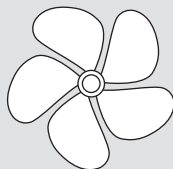
WAF series

Free-standing
Close-coupled

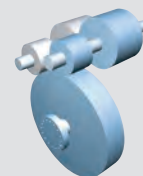


WAF series

Reverse-reduction gearbox for propulsion with fixed pitch propeller

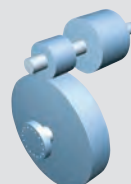
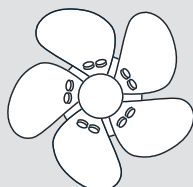


Counter or identical rotation of input and output as standard

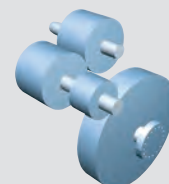


LAF series

Reduction gearbox for propulsion with controllable pitch propeller

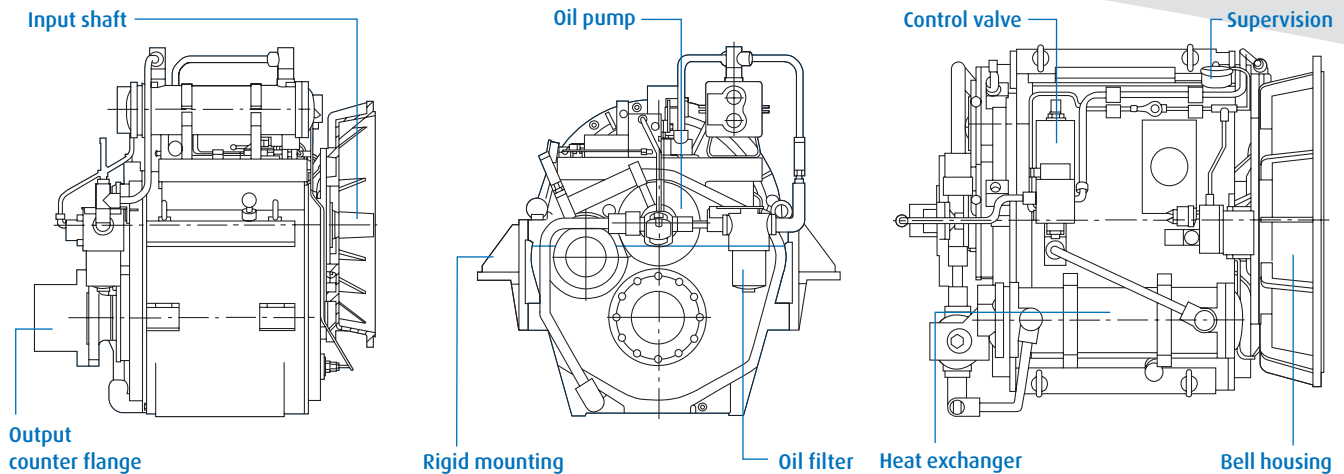


Counter rotation of input and output as standard, identical rotation available as option



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

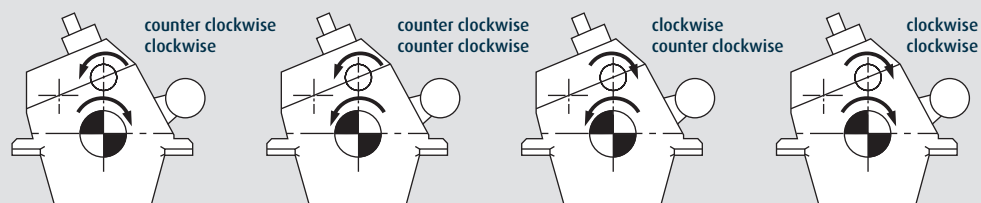
EXTRAS

- 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





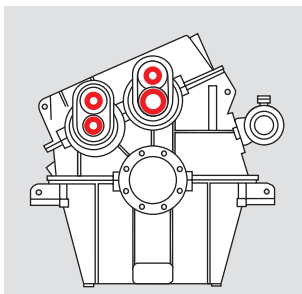
O P T I O N S A N D F E A T U R E S



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).

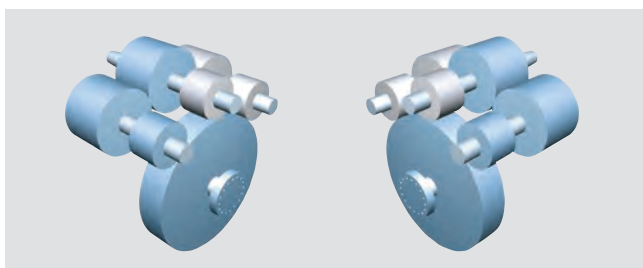


UNATTENDED MACHINERY SPACE (from 344)

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)



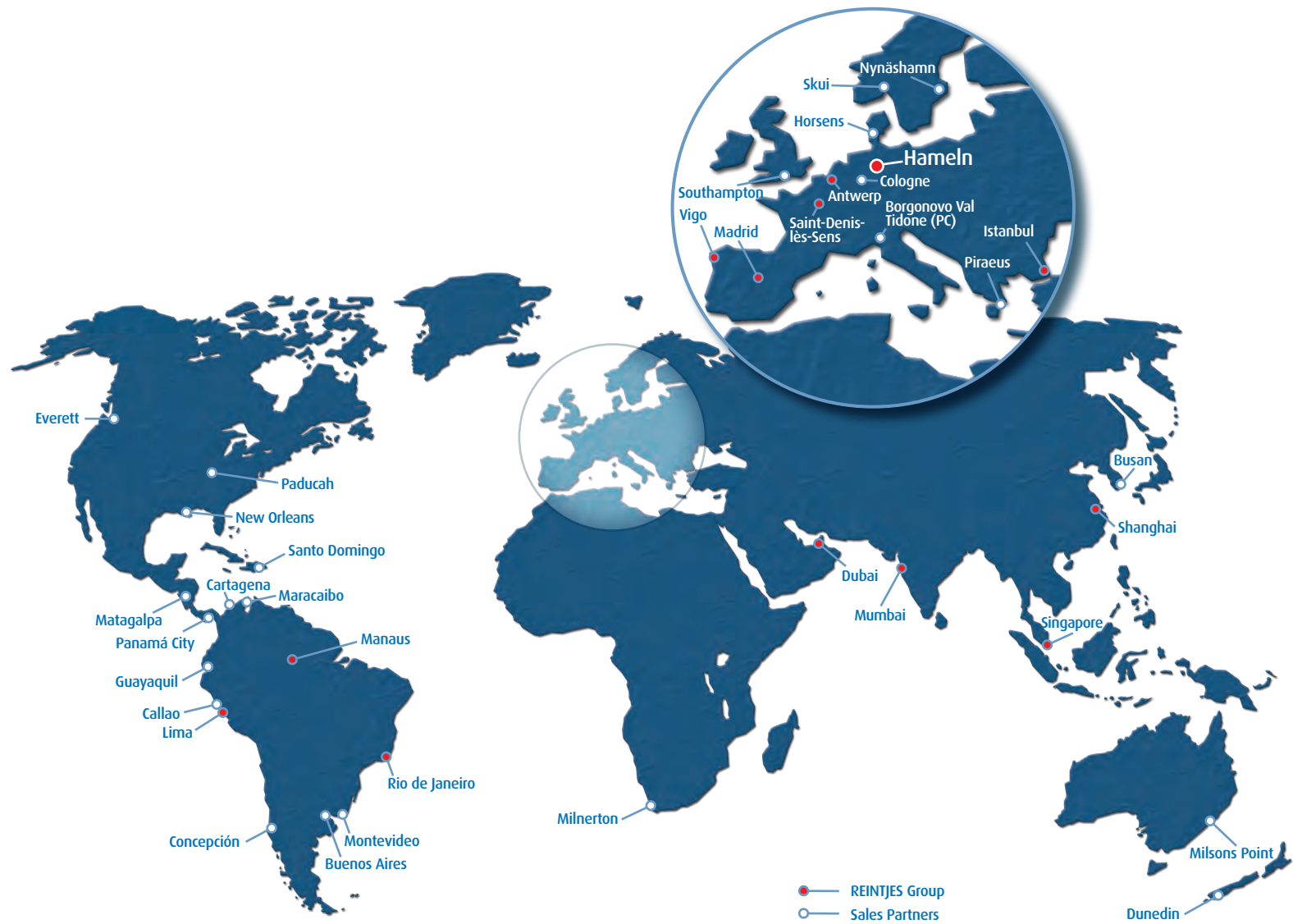
CONTINUOUS DUTY

- 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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