

MARINE

High speed propulsion engines



MAN Engines



MAN MARINE ENGINES

At sea, ships and boats have to contend with elemental forces, while ports require them to navigate precisely through the narrowest of corridors.





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A RELIABLE DRIVING FORCE

Customer Benefits

- Maximum torque at the most fuel efficient point of operation
- Maximum torque across a large range of engine speed for a powerful and steady acceleration
- Class-leading compactness for a space-saving design
- Best fuel consumption values and long service intervals minimizing the TCO
- Low acoustics and low vibrations
- Worldwide service network – spare parts available within 24 hours



Worldwide service network

most certainly represented in your area



MAN Customer Service

as back-up from the headquarters



Servicing and maintenance plans

individually for you

MAN SERVICE FOR NON-STOP OPERATION



Spare parts availability
worldwide available within 24 hours



Extended warranty
up to 3 years with Work PLUS|2



MAN Genuine Oil
customised for MAN engines



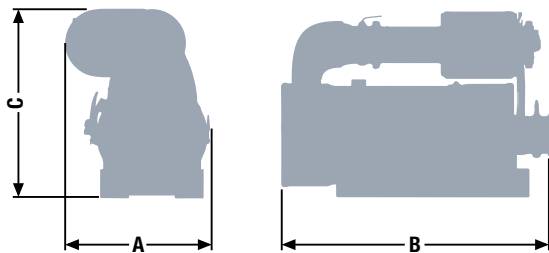
MAN Engine Academy
for a deeper understanding of engines

EXHAUST AFTERTREATMENT LOWER EMISSIONS IN ANY VESSEL

Flexibility makes use of free space – also when it comes to exhaust gas aftertreatment: Individual components of the modular EGA kit from MAN Engines, which can be positioned variably, enable a wide range of installation variants as well as maximum design freedom when installed in machinery and vehicles.

Alternatively, pre-defined complete systems offer practical, space-saving solutions.

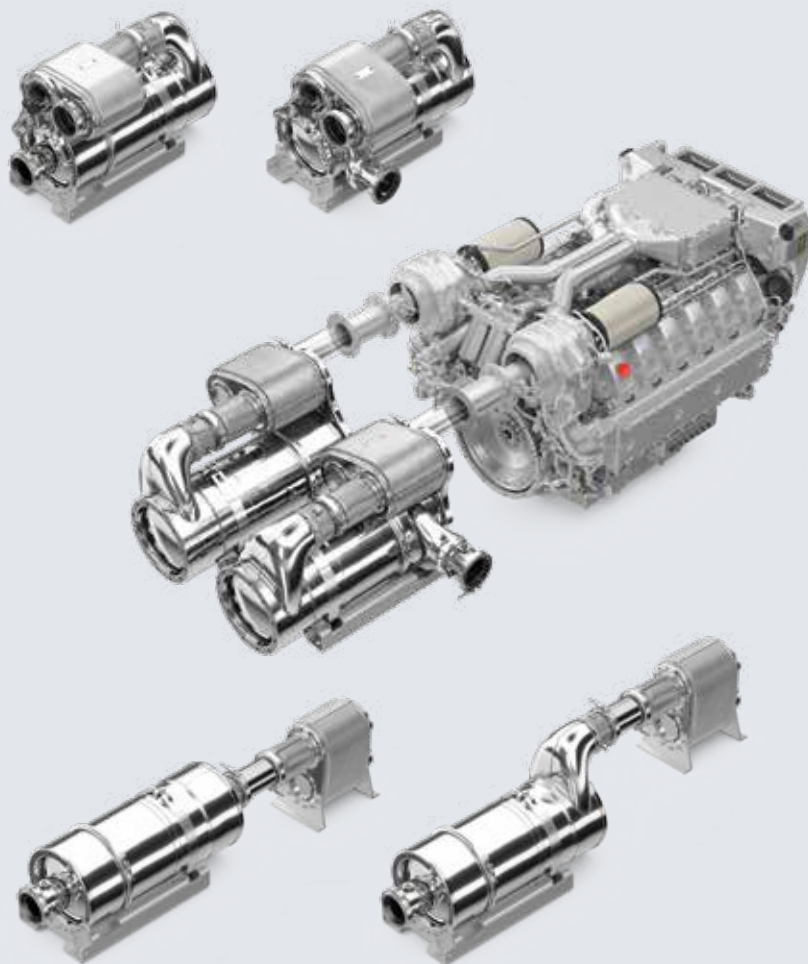




Dimensions

Type designation	SCR system	
A-Overall width	mm	475
B-Overall length	mm	950
C-Overall height	mm	420
Average weight of SCR system with exhaust silencer	kg	115

For detailed examinations of installation dimensions, please order drawings from our factory.



EXTENDED WARRANTY MORE COMFORT FOR YOUR BUSINESS


Work PLUS|1 and Work PLUS|2 warranty extension

All MAN engines for working boats are delivered ex works with a one-year warranty. This warranty is valid for the entire scope of supply from MAN, and is therefore also valid for all engine parts. Wearing parts and components that have to be replaced at regular maintenance intervals are excluded from the warranty.

You have the option of taking out additional coverage for yourself and your investment beyond the one-year warranty: Work PLUS|1 and Work PLUS|2 offer you an extension of the warranty by up to two additional years, meaning that the total warranty would be up to 3 years. The operating hours of your engine will depend on the application.

Customer Benefits

- The Work PLUS|1 and Work PLUS|2 extensions cover all the MAN components in your engine room, including cost-intensive components such as the electronics and turbo charger
- The transferability of the extension increases the resale value of your vessel
- All maintenance work and repairs are carried out by an authorised MAN service partner
- You can be sure that all servicing and repairs will be performed exclusively using MAN Genuine Parts

 For more information, please contact your local dealer.



MAN GENUINE PARTS AVAILABLE 24/7 AROUND THE WORLD

Of course, the premium quality of your MAN engine is also reflected in high-quality MAN Genuine Parts. And because 'first class' doesn't only apply to our products here at MAN Engines, we ensure that our MAN Genuine Parts are available to you within 24 hours on working days.

Customer Benefits

- High utilization of your ship and flexibility when organising your journeys
- Quick alternative in original manufacturer quality
- Standard two-year warranty on all MAN Genuine Parts and MAN Genuines Parts ecoline
- Delivery to 2,000 shipping addresses in 95 countries

This is made possible by our global service network, external warehouses across all the continents, and the logistics network of our MAN utility vehicles. This round-the-clock availability for MAN Genuine Parts applies to working days, and is for all spare parts for maintenance work on MAN engines for commercial shipping, such as filters, turbochargers, seawater pumps, seals and many more.

Our genuine engines deserve MAN Genuine Parts with two-year warranty and worldwide around-the-clock availability.



THE NEW iSEA ENGINE ELECTRONIC

Everything important at a glance

Intelligent monitoring of engines, gearboxes and exhaust gas aftertreatment on working boats – that's iSea (intelligent surveillance of engines and auxiliaries) from MAN Engines. iSea provides state of the art technology but still looks good – with the optional iSea bridge display. With its numerous connection options and interfaces it is the ideal solution for use on the world's limitless oceans. All the MAN Engines components are perfectly coordinated and intuitively designed. iSea is the future that gives you the best view of the present.

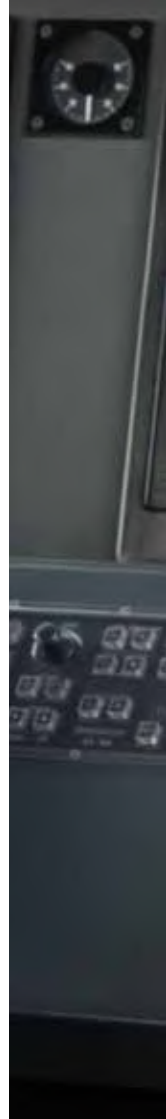
iSea

Throttle lever

A modern classic, the MAN throttle lever for single or multiple engine systems is used in various drive concepts, as well as in hybrid drives.

Different modes can be selected at the push of a button. The MAN throttle lever makes sailing and docking more efficient than ever before.

- A perfectly coordinated system offering excellent fuel savings and system reliability
- Better running properties and increased convenience thanks to ergonomic, high quality operator controls
- Less space required thanks to integration of the controller into the iSea box





Customer Benefits

- Modern multifunction touch screen display (5" or 7")
- Maximum space savings thanks to visualisation of 7 peripherals on a single display: instrumentation, alarm handling, start/stop panel, emergency drive, CAN converter, video screen, digital I/O
- Reduction in number of cables thanks to proven CAN bus wiring



ALWAYS READY FOR ANY APPLICATION





FJORDS

VISION OF THE FJORDS

2 x D2862 LE422 (2 x 749 kW)

13

LIGHT DUTY

Characteristics

- Annual operating hours:
≤ 1,000
- Percentage of time at full load:
≤ 20 %
- Average load application:
≤ 50 %

Typical applications

- Season fishing
- Escort boats and patrol boats
- Ambulance boats
- Police boats



1 x D2676 LE443 (537 kW)

MEDIUM DUTY

Characteristics

- Annual operating hours:
≤ 4,000
- Percentage of time at full load:
≤ 60 %
- Average load application:
≤ 70 %



2xD2862 LE435 (2x882 kW)

HEAVY DUTY

Characteristics

- Annual operating hours: unlimited
- Percentage of time at full load: $\leq 100\%$
- Average load application: $\leq 100\%$

Typical applications

- Trawlers
- Tugs and pushboats
- Freight barges and freighters
- Ferries
- Dredgers

Typical applications

- Escort boats and pilot boats
- Fishing boats
- Passenger boats and ferries
- Cruising vessels
- Seagoing patrol boats



Repowering – 2xD2862 LE424 (2x662 kW)

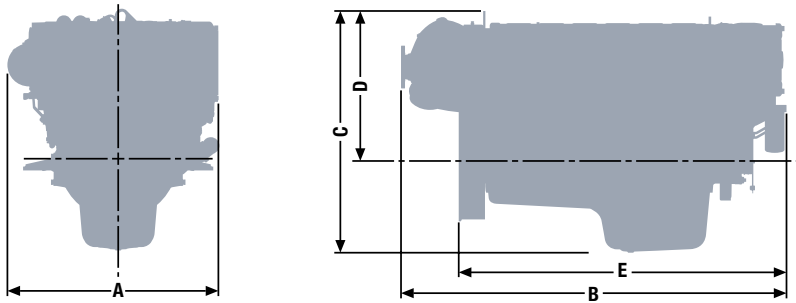
D2676



Characteristics

- Cylinders and arrangement: 6 cylinders in-line
- Operation mode: 4-stroke diesel engine, watercooled
- Turbocharging: Turbocharger with charge air intercooler and wastegate
- Number of valves: 4 valves per cylinder
- Fuel system: Common Rail direct fuel injection with high pressure pump and electronic control
- Engine block: High-strength casting with integrated oil and water ducts and replaceable cylinder liners
- Engine lubrication: Force-feed lubrication, lubrication oil cooler in cooling water circuit of the engine
- Type of cooling: Seawater cooled charge air cooler, plate heat exchanger by rubber impeller pump
Optional: external keel cooling
- Engine control: Electronic injection control (EDC) with engine monitoring including diagnostic unit
- Fuel: DIN EN 590

D2676



Dimensions

Type designation		LE 421/422/424/425/426/428/431/432/ 434/435/438/443/456/477/487/497
A-Overall width	mm	986
B-Overall length	mm	1,795
C-Overall height – standard oil pan	mm	1,096
D-Top of engine to crankshaft centre	mm	674
E-Length of engine from front end to edge of flywheel housing	mm	1,527
Average weight of engine ready for installation (dry)	kg	1,251

For detailed examinations of installation dimensions, please order drawings from our factory.



RPA 8

Port of Rotterdam

Port Authority

D2676

Technical features

Type designation	Light duty			Medium duty
	LE 443	LE 426	LE 456	LE 432
Displacement	l	12.42	12.42	12.42
Nominal rating ¹⁾	kW (hp)	537 (730)	588 (800)	625 (850)
Rated speed	rpm	2,300	2,300	2,300
Maximum torque	Nm	2,450	2,685	2,740
at speed	rpm	1,300–2,100	1,300–2,100	1,400–2,100
Lowest specific fuel consumption ¹⁾	g/kWh	199	207	214
Classifiable		✓	-	-
Exhaust gas aftertreatment		-	-	-
Exhaust gas status		IMO Tier II, EPA Tier 3, RCD 2013/53/EC	IMO Tier II, RCD 2013/53/EC, EPA Tier 3	IMO Tier II, RCD 2013/53/EC, EPA Tier 3 ²⁾

1) Tolerance +5% according to DIN ISO 3046-1

2) For private use only

Medium duty				
LE 435	LE 438	LE 428	LE 422	LE 425
12.42	12.42	12.42	12.42	12.42
412 (560)	412 (560)	441 (600)	478 (650)	478 (650)
2,100	2,100	2,100	2,100	2,100
2,065	2,075	2,214	2,402	2,402
1,200–1,900	1,300–1,900	1,400–1,900	1,200–1,900	1,200–1,900
204	201	201	197	205
✓	✓	✓	✓	✓
–	✓	✓	–	–
IMO Tier II, EPA Tier 3, RCD 2013/53/EC	IMO Tier III	IMO Tier III	IMO Tier II	IMO Tier II, EPA Tier 3, RCD 2013/53/EC

D2676

Technical features

Type designation	Heavy duty				
	LE 487	LE 431	LE 434	LE 497	
Displacement	l	12.42	12.42	12.42	12.42
Nominal rating ¹⁾	kW (hp)	290 (394)	324 (440)	324 (440)	331 (450)
Rated speed	rpm	1,800	1,800	1,800	1,800
Maximum torque	Nm	1,760	1,925	1,925	1,980
at speed	rpm	1,300–1,600	1,100–1,600	1,100–1,600	1,200–1,600
Lowest specific fuel consumption ^{1) 2)}	g/kWh	200	198	204	196
Classifiable		✓	✓	✓	✓
Exhaust gas aftertreatment		✓	–	–	✓
Exhaust gas status		IMO Tier III, EU Stage V	IMO Tier II	IMO Tier II, EPA Tier 3	IMO Tier III

1) Tolerance +5% according to DIN ISO 3046-1

2) Consumption at rated power

Heavy duty		
LE 477	LE 421	LE 424
12.42	12.42	12.42
368 (500)	382 (520)	382 (520)
1,800	1,800	1,800
2,185	2,275	2,270
1,300–1,600	1,200–1,600	1,200–1,600
195	197	204
✓	✓	✓
✓	-	-
IMO Tier III	IMO Tier II	IMO Tier II, EPA Tier 3, RCD 2013/53/EC

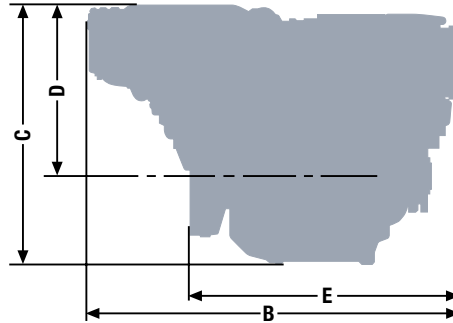
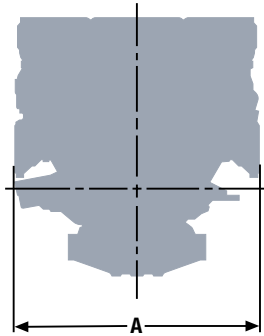
D2868



Characteristics

- Cylinders and arrangement: 8 cylinders in 90° V arrangement
- Operation mode: 4-stroke diesel engine, watercooled
- Turbocharging: Turbocharger with charge air intercooler and wastegate (1-stage: D2868 LE 426, 2-stage: D2868 LE 436)
- Number of valves: 4 valves per cylinder
- Fuel system: Common Rail direct fuel injection with electronic control
- Engine block: High-strength casting with integrated oil and water ducts and replaceable cylinder liners
- Engine lubrication: Closed system with forced feeding, oil cooling and filtering
- Type of cooling: Plate heat exchanger, seawater cooled
Optional: external keel cooling
- Engine control: Electronic injection control (EDC) with engine monitoring including diagnostic unit
- Fuel: DIN EN 590

D2868



Dimensions

Type designation		LE 421/422/424/ 425/426/431/443	LE 453	LE 436/466
A-Overall width	mm	1,153	1,153	1,153
B-Overall length	mm	1,745	1,745	1,736
C-Overall height – standard oil pan	mm	1,243	1,222	1,222
D-Top of engine to crankshaft centre	mm	765	811	811
E-Length of engine from front end to edge of flywheel housing	mm	1,243	1,262	1,262
Average weight of engine ready for installation (dry)	kg	1,780	1,941	1,941

For detailed examinations of installation dimensions, please order drawings from our factory.



D2868

Technical features

Type designation	Light duty				
	LE 426	LE 453	LE 436	LE 466	
Displacement	l	16.16	16.16	16.16	16.16
Nominal rating ¹⁾	kW (hp)	735 (1,000)	824 (1,121)	882 (1,200)	956 (1,300)
Rated speed	rpm	2,300	2,300	2,300	2,300
Maximum torque	Nm	3,340	3,745	4,010	4,350
at speed	rpm	1,300–2,100	1,200–2,100	1,200–2,100	1,300–2,100
Lowest specific fuel consumption ¹⁾	g/kWh	209	206	205	199
Classifiable		-	✓	-	-
Exhaust gas aftertreatment		-	-	-	-
Exhaust gas status		IMO Tier II, EPA Tier 3 ²⁾ , RCD 2013/53/EC	IMO Tier II	IMO Tier II, EPA Tier 3 ²⁾ , RCD 2013/53/EC	IMO Tier II, EPA Tier 3 ²⁾ , RCD 2013/53/EC

1) Tolerance +5 % according to DIN ISO 3046-1

2) For private use only

Medium duty			Heavy duty		
LE 422	LE 425	LE 443	LE 421	LE 424	LE 431
16.16	16.16	16.16	16.16	16.16	16.16
588 (800)	588 (800)	662 (900)	441 (600)	441 (600)	500 (680)
2,100	2,100	2,100	1,800	1,800	1,800
2,950	2,980	3,325	2,630	2,630	2,985
1,300–1,900	1,400–1,900	1,400–1,900	1,100–1,600	1,100–1,600	1,100–1,600
198	209	201	197	206	199
✓	✓	✓	✓	✓	✓
-	-	-	-	-	-
IMO Tier II	IMO Tier II, EPA Tier 3, RCD 2013/53/EC	IMO Tier II	IMO Tier II	IMO Tier II, EPA Tier 3, RCD 2013/53/EC	IMO Tier II

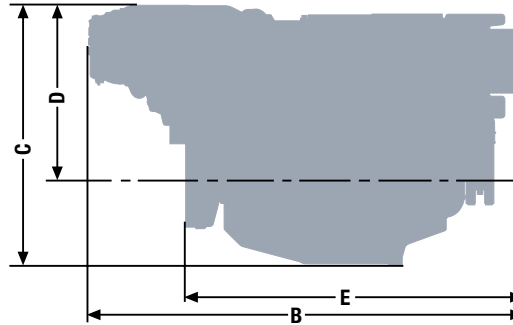
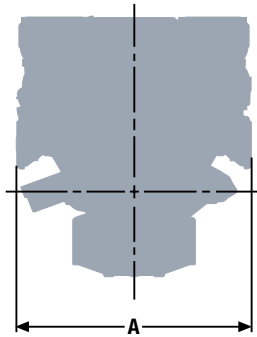
D2862



Characteristics

- Cylinders and arrangement: 12 cylinders in 90° V arrangement
- Operation mode: 4-stroke diesel engine, watercooled
- Turbocharging: Turbocharger with charge air intercooler and wastegate
(1-stage: D2862 LE 446/426, 2-stage: D2862 LE 456/436/476/489/483)
- Number of valves: 4 valves per cylinder
- Fuel system: Common Rail direct fuel injection with electronic control
- Engine block: High-strength casting with integrated oil and water ducts
and replaceable cylinder liners
- Engine lubrication: Closed system with forced feeding, oil cooling and filtering
- Type of cooling: Plate heat exchanger, seawater cooled
Optional: external keel cooling
- Engine control: Electronic injection control (EDC) with engine monitoring including diagnostic unit
- Fuel: DIN EN 590

D2862



Dimensions

Type designation		LE 426/446/422/432/ 435/463/466/421/431/ 434/441/444/454	LE 436/ 456/459/ 476/496	LE 427/428/ 437/438/ 447/469	LE 483/489
A-Overall width	mm	1,153	1,153	1,157	1,153
B-Overall length	mm	2,130	2,139	1,939	2,139
C-Overall height – standard oil pan	mm	1,230	1,272	1,293	1,272
D-Top of engine to crankshaft centre	mm	765	808	827	808
E-Length of engine from front end to edge of flywheel housing	mm	1,630	1,658	1,608	1,658
Average weight of engine ready for installation (dry)	kg	2,270	2,420	2,270	2,420

For detailed examinations of installation dimensions, please order drawings from our factory.



D2862

Technical features

		Light duty			
Type designation		LE 446	LE 426	LE 456	LE 459
Displacement	l	24.24	24.24	24.24	24.24
Nominal rating ¹⁾	kW (hp)	1,029 (1,400)	1,140 (1,550)	1,213 (1,650)	1,213 (1,650)
Rated speed	rpm	2,300	2,300	2,300	2,300
Maximum torque	Nm	4,680	5,180	5,510	5,510
at speed	rpm	1,200–2,100	1,200–2,100	1,200–2,100	1,200–2,100
Lowest specific fuel consumption ¹⁾	g/kWh	203	203	195	196
Classifiable		✓	–	✓	✓
Exhaust gas aftertreatment		–	–	–	✓
Exhaust gas status		IMO Tier II, EPA Tier 3 ²⁾ , RCD 2013/53/EC	IMO Tier II, EPA Tier 3 ²⁾ , RCD 2013/53/EC	IMO Tier II, EPA Tier 3 ²⁾ , RCD 2013/53/EC	IMO Tier III

1) Tolerance +5% according to DIN ISO 3046-1

2) For private use only

Light duty		
LE 436	LE 476	LE 496
24.24	24.24	24.24
1,324 (1,800)	1,397 (1,900)	1,471 (2,000)
2,300	2,300	2,300
6,010	6,220	6,520
1,200–2,100	1,200–2,100	1,200–2,100
200	200	199
-	-	-
-	-	-
IMO Tier II, EPA Tier 3 ²⁾ , RCD 2013/53/EC	IMO Tier II, EPA Tier 3 ²⁾ , RCD 2013/53/EC	IMO Tier II, EPA Tier 3 ²⁾ , RCD 2013/53/EC

D2862

Technical features

Type designation	Medium duty				
	LE 422	LE 428	LE 432	LE 435	
Displacement	l	24.24	24.24	24.24	24.24
Nominal rating ¹⁾	kW (hp)	749 (1,019)	749 (1,019)	882 (1,200)	882 (1,200)
Rated speed	rpm	2,100	2,100	2,100	2,100
Maximum torque	Nm	3,780	3,750	4,450	4,450
at speed	rpm	1,300–1,900	1,300–1,900	1,300–1,900	1,400–1,900
Lowest specific fuel consumption ¹⁾	g/kWh	199	199	198	203
Classifiable		✓	✓	✓	✓
Exhaust gas aftertreatment		–	✓	–	–
Exhaust gas status		IMO Tier II	IMO Tier III, EPA Tier 4	IMO Tier II	IMO Tier II, RCD 2013/53/EC

1) Tolerance +5% according to DIN ISO 3046-1

Medium duty					
LE 438	LE 469	LE 463	LE 466	LE 483	LE 489
24.24	24.24	24.24	24.24	24.24	24.24
882 (1,200)	974 (1,325)	1,029 (1,400)	1,029 (1,400)	1,066 (1,450)	1,066 (1,450)
2,100	2,100	2,100	2,100	2,100	2,100
4,440	4,895	5,120	5,180	5,355	5,345
1,400–1,900	1,500–1,900	1,300–1,900	1,300–1,900	1,100–1,900	1,200–1,900
197	203	200	203	197	196
✓	✓	✓	✓	✓	✓
✓	✓	-	-	-	✓
IMO Tier III, EPA Tier 4	IMO Tier III, EPA Tier 4	IMO Tier II	IMO Tier II	IMO Tier II	IMO Tier III, EPA Tier 4

D2862

Technical features

Type designation	Heavy duty				
	LE 431	LE 434	LE 437	LE 454	
Displacement	l	24.24	24.24	24.24	24.24
Nominal rating ¹⁾	kW (hp)	551 (749)	551 (749)	551 (749)	588 (800)
Rated speed	rpm	1,800	1,800	1,800	1,800
Maximum torque	Nm	3,305	3,305	3,300	3,510
at speed	rpm	1,000–1,600	1,000–1,600	1,000–1,600	1,000–1,600
Lowest specific fuel consumption ¹⁾	g/kWh	198	202	196	201
Classifiable		✓	✓	✓	✓
Exhaust gas aftertreatment		-	-	✓	-
Exhaust gas status		IMO Tier II	IMO Tier II, EPA Tier 3, RCD 2013/53/EC	IMO Tier III	IMO Tier II, EPA Tier 3, RCD 2013/53/EC

1) Tolerance +5% according to DIN ISO 3046-1

Heavy duty				
LE 421	LE 427	LE 441	LE 444	LE 447
24.24	24.24	24.24	24.24	24.24
662 (900)	662 (900)	735 (1,000)	735 (1,000)	735 (1,000)
1,800	1,800	1,800	1,800	1,800
3,955	3,910	4,380	4,380	4,340
1,100–1,600	1,100–1,600	1,100–1,600	1,100–1,600	1,100–1,600
195	193	193	197	193
✓	✓	✓	✓	✓
-	✓	-	-	✓
IMO Tier II	IMO Tier III, EPA Tier 4	IMO Tier II	IMO Tier II, RCD 2013/53/EC	IMO Tier III, EPA Tier 4

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