

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.





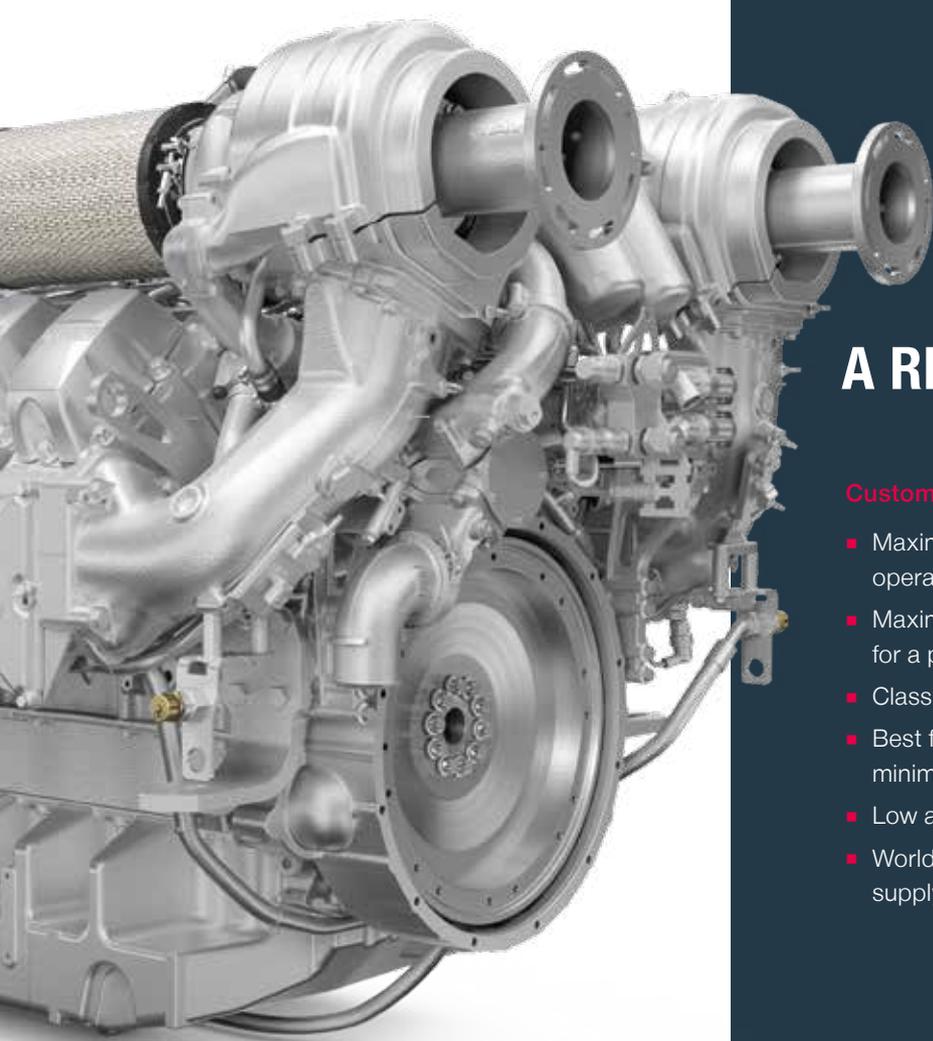
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Description of engines

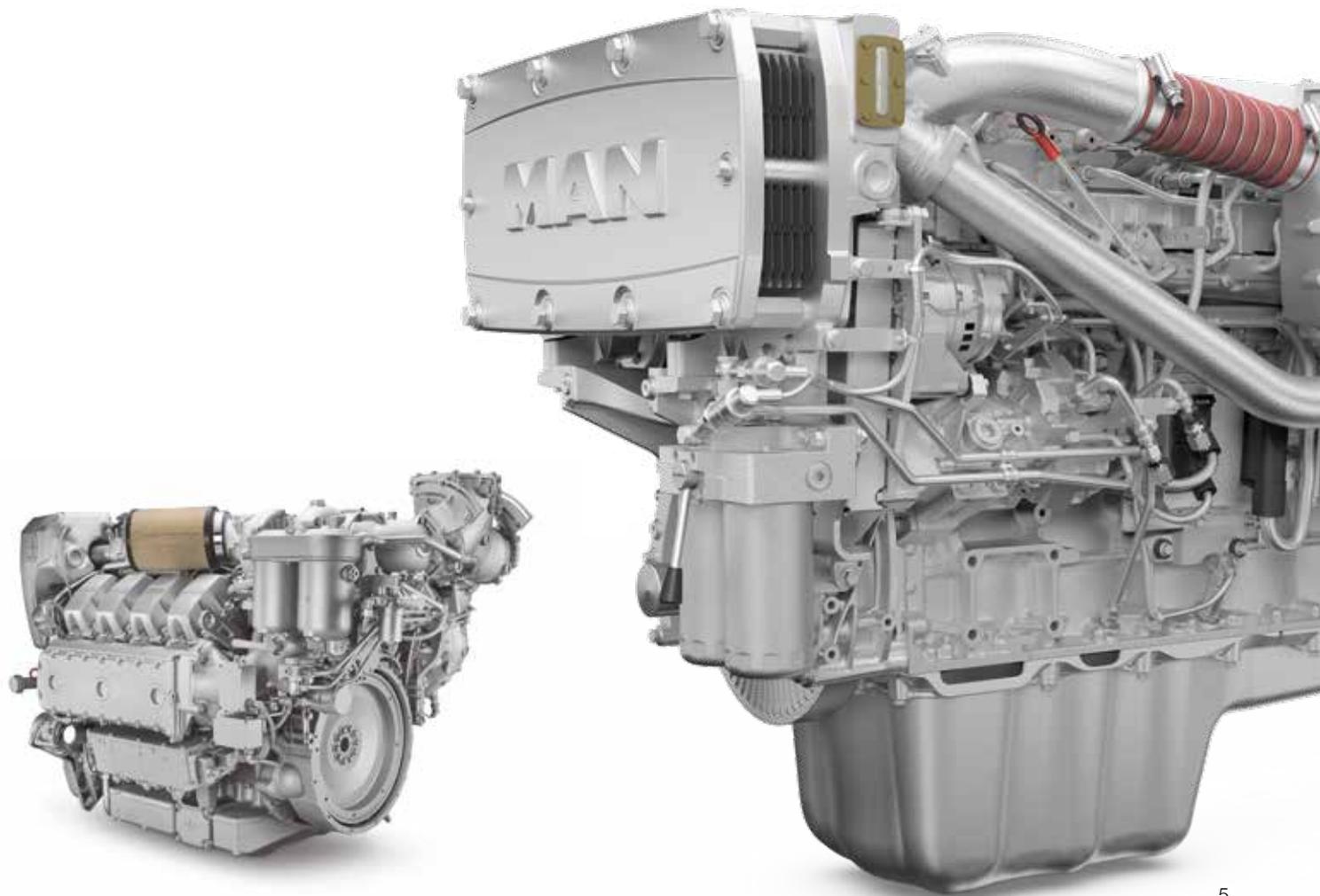
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A RELIABLE DRIVING FORCE

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
- World-wide service network with rapid spare parts supply





MEDIUM DUTY

Characteristics

Medium duty

- Annual operating hours: $\leq 3,000$
- Percentage of time at full load: $\leq 50\%$
- Average load application: $\leq 70\%$

Extended medium

On request for special applications, e.g. windfarm vessels, waterjets etc.

- Annual operating hours: $\leq 4,000$
- Average load application: $\leq 60\%$

Medium performance

- Annual operating hours: $\leq 3,000$
- Percentage of time at full load: $\leq 20\%$
- Average load application: $\leq 50\%$

LIGHT DUTY

Characteristics

Light duty

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

Light performance

- Annual operating hours: ≤ 500
- Percentage of time at full load: $\leq 5\%$

Typical applications

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

HEAVY DUTY

Typical applications

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

Characteristics

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

Typical applications

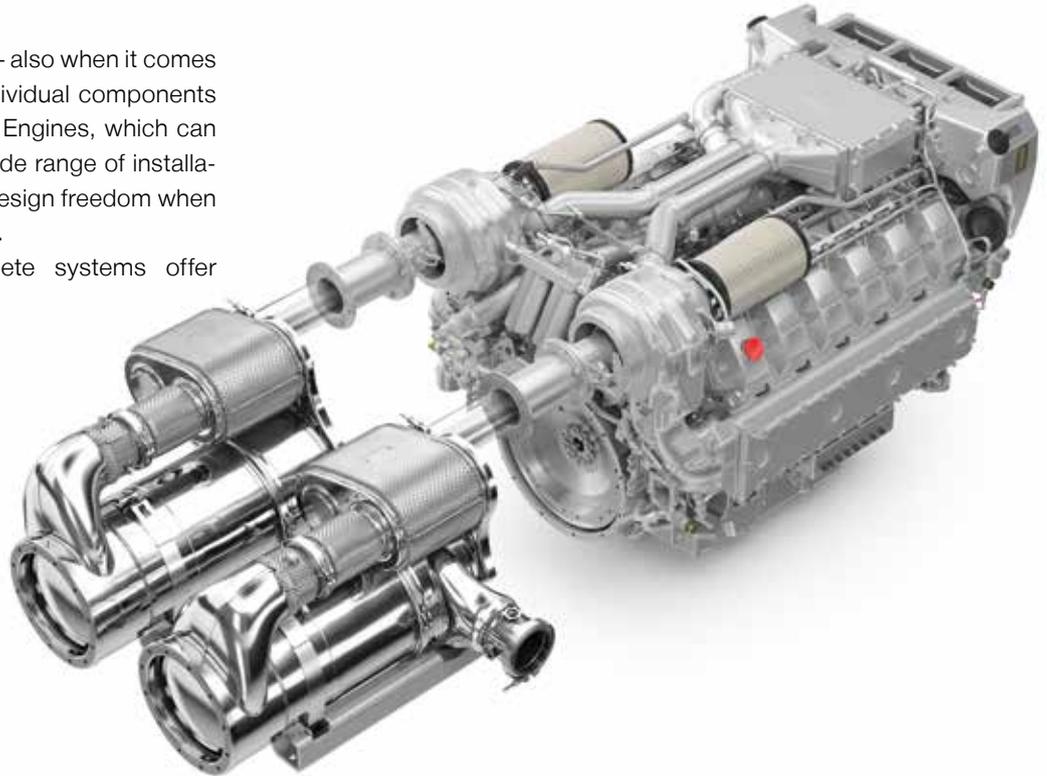
- Trawlers
- Tugs and pushboats
- Freight barges and freighters
- Ferries
- Dredgers

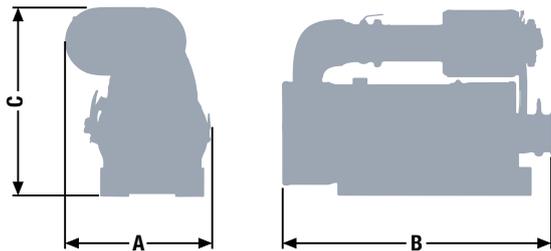


EXHAUST AFTERTREATMENT

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.



WARRANTY

MAN Warranty Relaxing and calculable

With MAN engines for work boats you are on the safe side since MAN Engines goes one step further. With the **“Work Plus”** Warranty you do not only extend the warranty for your engine, but it also gives you the certainty and peace of mind that you have made the right decision. In practice this means an additional year of safety for you and your engine plus attractive pricing which makes this offer even more appealing.





Two years' warranty on MAN service and parts: Higher quality, more time

We know that MAN Genuine Parts are characterised by their quality and precise fit. Combined with the qualified and professional work at MAN service centres, they ensure reliability: reduced downtimes and a longer service life. We are now passing this security on to you. Instead of the one year we offer now the two years' warranty on MAN Genuine Parts and MAN Genuine Parts ecoline. That means double the security for you.

The MAN Truck & Bus AG two-year warranty is valid for all repairs carried out at MAN service centres ¹⁾ from 2017 ²⁾ onwards, including repairs where MAN Genuine Parts and MAN Genuine Parts ecoline are fitted. The scope of service is identical to the previously valid one-year warranty. Please refer to our General Terms & Conditions for more information.

We cover the following costs as part of a warranty case:

- Costs for work time and spare parts directly related to the repair of the defect or to the exchange of faulty parts.
- Installation and removal costs are covered if the original scope of delivery also included the installation of the part ³⁾.
- Certain additional costs are covered after inspection, night time/weekend charges, on-site repairs, courier costs.

Our genuine engines deserve MAN Genuine Parts – now with two years' warranty.

1) MAN-owned service outlets and participating partners

2) See validity of the General Terms & Conditions

3) Installation and removal costs are not covered in the case of counter sales

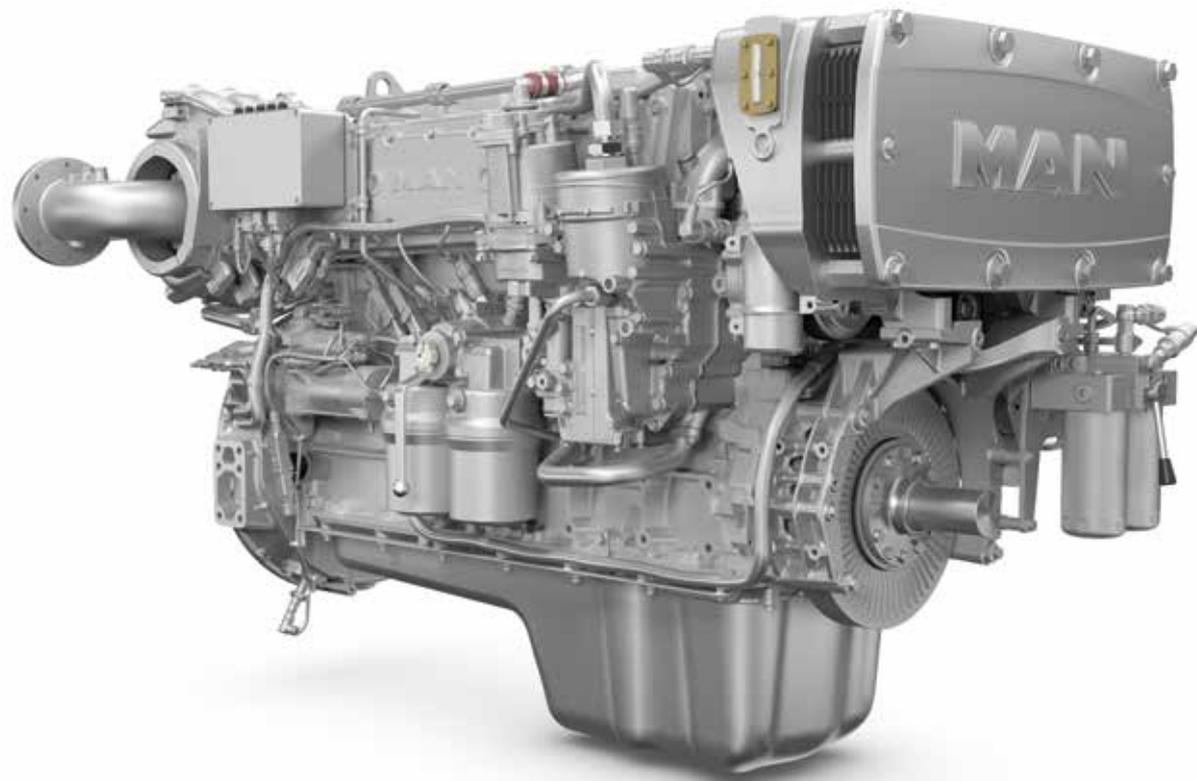
ALWAYS READY FOR ANY APPLICATION





VISION OF THE FJORDS

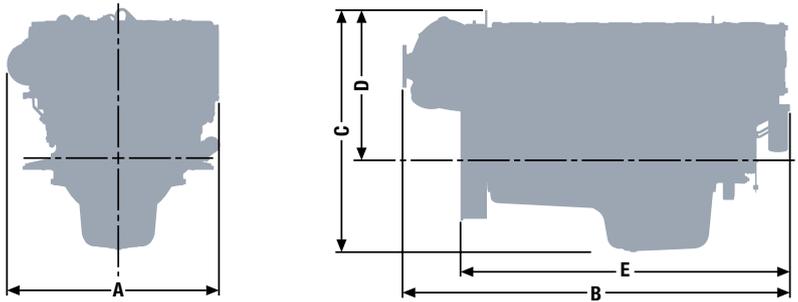
D2676



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
- Engine control: Electronic injection control (EDC) with engine monitoring including diagnostic unit
- Fuel: DIN EN 590

D2676



Dimensions

Type designation		LE 421/422/423/424/425/431/432/ 434/435/441/443/451/453/461
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	1,215

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 423	LE 453	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	2,674	2,845
at speed	rpm	1,300–2,100	1,400–2,000	1,400–2,100
Lowest specific fuel consumption ¹⁾	g/kWh	199	213	196
Classifiable		✓	-	-
Exhaust gas aftertreatment		-	-	-
Exhaust gas status		IMO Tier II, EPA Tier 3, RCD 2013/53/EC, EU Stage IIIA	IMO Tier II, EPA Tier 3 ²⁾ , RCD 2013/53/EC, EU Stage IIIA	IMO Tier II, EU Stage IIIA

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

2) For private use only

Medium duty		
LE 435	LE 422	LE 425
12.42	12.42	12.42
412 (560)	478 (650)	478 (650)
2,100	2,100	2,100
2,065	2,402	2,402
1,200–1,900	1,200–1,900	1,200–1,900
204	197	205
✓	✓	✓
-	-	-
IMO Tier II, EPA Tier 3, RCD 2013/53/EC, EU Stage IIIA	IMO Tier II, EU Stage IIIA	IMO Tier II, EPA Tier 3, RCD 2013/53/EC, EU Stage IIIA

D2676

Technical features

Type designation	Heavy duty				
	LE 461	LE 451	LE 441	LE 431	
Displacement	l	12.42	12.42	12.42	12.42
Nominal rating ¹⁾	kW (hp)	147 (200)	210 (286)	270 (367)	324 (440)
Rated speed	rpm	1,800	1,800	1,800	1,800
Maximum torque	Nm	900	1,260	1,616	1,925
at speed	rpm	700–1,600	1,000–1,600	1,000–1,600	1,100–1,600
Lowest specific fuel consumption ^{1) 2)}	g/kWh	218	209	204	198
Classifiable		✓	✓	✓	✓
Exhaust gas aftertreatment		–	–	–	–
Exhaust gas status		IMO Tier II	IMO Tier II	IMO Tier II	IMO Tier II, EU Stage IIIA

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

2) Consumption at rated power

Heavy duty		
LE 434	LE 421	LE 424
12.42	12.42	12.42
324 (440)	382 (520)	382 (520)
1,800	1,800	1,800
1,925	2,275	2,270
1,100–1,600	1,200–1,600	1,200–1,600
204	197	204
✓	✓	✓
-	-	-
IMO Tier II, EPA Tier 3, EU Stage IIIA	IMO Tier II, EU Stage IIIA	IMO Tier II, EPA Tier 3, RCD 2013/53/EC, EU Stage IIIA

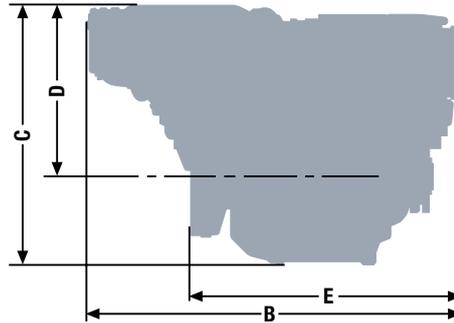
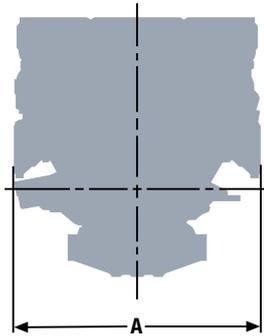
D2868



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: D2686 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
- 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	1,880	1,880

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, EU Stage IIIA	IMO Tier II, EU Stage IIIA	IMO Tier II, EPA Tier 3 ²⁾ , RCD 2013/53/EC, EU Stage IIIA	IMO Tier II, EPA Tier 3 ²⁾ , RCD 2013/53/EC, EU Stage IIIA

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, EU Stage IIIA	IMO Tier II, EPA Tier 3, RCD 2013/53/EC, EU Stage IIIA	IMO Tier II, EU Stage IIIA	IMO Tier II, EU Stage IIIA	IMO Tier II, EPA Tier 3, RCD 2013/53/EC, EU Stage IIIA	IMO Tier II, EU Stage IIIA

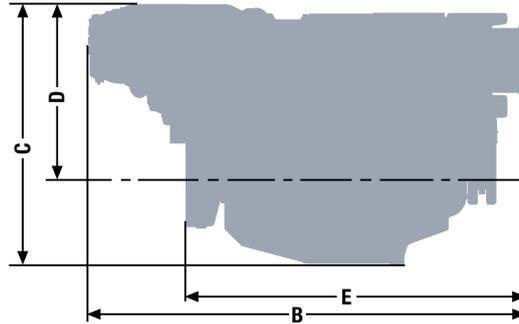
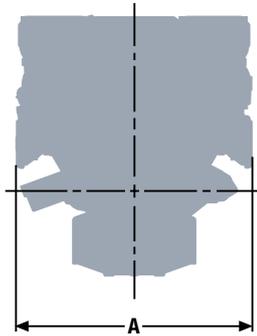
D2862



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
- 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	2,380	2,270	2,365

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



D2862

Technical features

Type designation	Light duty				
	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	197
Classifiable		✓	–	✓	✓
Exhaust gas aftertreatment		–	–	–	✓
Exhaust gas status		IMO Tier II, EPA Tier 3 ²⁾ , RCD 2013/53/EC, EU Stage IIIA	IMO Tier II, EPA Tier 3 ²⁾ , RCD 2013/53/EC, EU Stage IIIA	IMO Tier II, EPA Tier 3 ²⁾ , RCD 2013/53/EC, EU Stage IIIA	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, EU Stage IIIA	IMO Tier II, EPA Tier 3 ²⁾ , RCD 2013/53/EC, EU Stage IIIA	IMO Tier II, EPA Tier 3 ²⁾ , RCD 2013/53/EC, EU Stage IIIA

D2862

Technical features

		Medium duty			
Type designation		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, EU Stage IIIA	IMO Tier III, EPA Tier 4	IMO Tier II, EU Stage IIIA	IMO Tier II, RCD 2013/53/EC, EU Stage IIIA

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	4,897	5,120	5,180	5,355	5,345
1,400–1,900	1,300–1,900	1,300–1,900	1,300–1,900	1,100–1,900	1,200–1,900
197	195	200	203	197	196
✓	✓	✓	✓	✓	✓
✓	✓	-	-	-	✓
IMO Tier III, EPA Tier 4	IMO Tier III, EPA Tier 4	IMO Tier II, EU Stage IIIA	IMO Tier II, EU Stage IIIA	IMO Tier II, EU Stage IIIA	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, EU Stage IIIA	IMO Tier II, EPA Tier 3, RCD 2013/53/EC, EU Stage IIIA	IMO Tier III	IMO Tier II, EPA Tier 3, RCD 2013/53/EC, EU Stage IIIA

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, EU Stage IIIA	IMO Tier III, EPA Tier 4	IMO Tier II	IMO Tier II, RCD 2013/53/EC, EU Stage IIIA	IMO Tier III, EPA Tier 4





**MAN MARINE ENGINES.
RELIABLE. POWERFUL. LIGHT.**

MAN Truck & Bus SE

Vogelweiherstr. 33

90441 Nuremberg, Germany

man-engines@man.eu

www.man-engines.com

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