Sales Program C&I, Agriculture, Mining

Edition 2/16
valid from 09/2016

Power. Passion. Partnership.



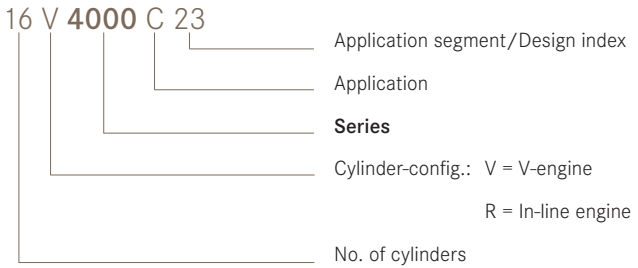


MTU:
Power.
Passion.
Partnership.

MTU is the core brand of Rolls-Royce Power Systems AG, which is a world-leading provider of high- and medium-speed diesel and gas engines, complete drive systems, distributed energy systems and fuel injection systems for the most demanding requirements.
The product range of MTU is one of the widest and most modern in the sector. We offer comprehensive, powerful and reliable engine solutions for yachts, commercial ships and naval vessels, construction and industrial vehicles, agricultural machinery, mining, rail and military vehicles as well as for the oil and gas industry. We also provide a full line of service products to help you maximize uptime and performance.
For over 100 years, MTU has been known for cutting-edge innovation and technological leadership. That same spirit of innovation inspires our sustainability efforts. Today and in the future, our focus is on developing and implementing system solutions to maximize efficiency and meet emissions standards.

Explanation of the engine designation

Series 900, 460, 500, 1000, 1100, 1300, 1500, 1600, 2000, 4000
Example:



Cooling variants	
Separate circuit charge air cooling	1600/2000/4000
Air-to-air charge-air cooling	460/ 500/900/S60/ 1000/1100/1300/1500

For further information on MTU C&I, Agriculture and Mining products please contact your MTU distributor or visit: **www.mtu-online.com**

General specifications

Diesel engine for mobile industrial, agricultural and mining applications
> Four-stroke, direct-injection
> Liquid-cooling and air-cooling
> V or In-line configuration

Power Definition
Rated power of diesel engines in this Sales Program corresponds to ISO 3046
ICFN = ISO standard (continuous) fuel stop power
IFN = ISO standard fuel stop power
(ratings also apply to SAE J 1995 and J 1349 standard conditions)
Barometric pressure: 1000 mbar
Site altitude above sea level: 100 m

MTU applies a policy of continual products and systems improvements. Please note, specifications are subject to change without notice. All dimensions are approximate. Details are subject to options selected. Please contact your MTU distributor for current information and binding data.

Selection Guideline
Typical Applications

Diesel engines for industrial, agricultural and mining applications

75 kW - 350 kW (101 bhp - 469 bhp)

> Intake air temperature: 25°C

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5A – Heavy duty operation

Engine model	Rated power ICFN			Peak Torque			Optimization
	kW	bhp	rpm	Nm	lb-ft	rpm	
	Air-to-air charge-air cooling						
4R 904 C21	**75**	**101**	2200	400	295	1200-1600	⑳㉓㉛*
4R 904 C31	**90**	**121**	2200	470	345	1200-1600	⑳㉓㉛*
4R 924 C22	**95**	**127**	2200	500	370	1200-1600	㊳㊴
6R 906 C21	**130**	**174**	2200	675	500	1200-1600	⑳㉓㉛*
6R 906 C31	**150**	**201**	2200	750	555	1200-1600	⑳㉓㉛*
6R 926 C22	**175**	**234**	2200	850	625	1200-1600	㊳㊴
6R 926 C32	**195**	**261**	2200	1020	750	1200-1600	㊳㊴
6R 460 C11R	**220**	**295**	1800	1300	960	1300	⑳㉓㉛*
6R 460 C11	**242**	**324**	1800	1600	1180	1300	⑳㉓㉛*
6R 460 C21	**260**	**349**	1800	1750	1290	1300	⑳㉓㉛*
6R 460 C31	**295**	**396**	1800	1900	1400	1300	⑳㉓㉛*
6R 460 C22	**265**	**355**	1800	1750	1290	1300	㉙㊳㊴
6R 460 C32	**295**	**396**	1800	1900	1400	1300	㉙㊳㊴
6V 501 C31	**260**	**349**	1800	1730	1275	1300	⑳㉓㉛*
6V 501 C32	**265**	**355**	1800	1850	1365	1300	㊳㊴
8V 502 C21	**330**	**442**	1800	2150	1585	1300	⑳㉓㉛*
8V 502 C31	**350**	**469**	1800	2300	1695	1300	⑳㉓㉛*

Optimization:
⑳ EPA Nonroad T3 Comp (40CFR89)
㉓ EU Nonroad St IIIA Comp (97/68/EC)
㉙ China Onroad Stage V (GB17691-2005)
㉛* China NRMM Stage III (GB20981-2014) upon request
㊳ EPA Nonroad T4i Comp (40CFR1039)
㊴ EU Nonroad St IIIB Comp (97/68/EC)

All 5A-ratings can be used for 5B applications!

Diesel engines for industrial and mining applications

224 kW - 336 kW (300 bhp - 450 bhp)

> Intake air temperature: 25°C

5A – Heavy duty operation

Engine model	Reference no.	Rated power ICFN			Peak Torque			Optimization
		kW	bhp	rpm	Nm	lb-ft	rpm	
	Air-to-air charge-air cooling							
S60 (12.7 l)	6063MK33	**224**	**300**	2100	1424	1050	1350	⑤⑲
	6063MK33	**242**	**325**	2100	1559	1150	1350	⑤⑲
	6063MK33	**261**	**350**	2100	1831	1350	1350	⑤⑲
	6063MK33	**280**	**375**	2100	1831	1350	1350	⑤⑲
	6063MK33	**298**	**400**	2100	1898	1400	1350	⑤⑲
	6063MK33	**298**	**400**	2200	1830	1350	1350	⑤⑲
S60 (14 l)	6063HK33	**336**	**450**	2100	2237	1650	1350	⑤⑲
S60 (14 l)	6063HV33	**242**	**325**	2100	1559	1150	1350	⑳㉓㉛*
	6063HV33	**280**	**375**	2100	1830	1350	1350	⑳㉓㉛*
	6063HV33	**298**	**400**	2100	1898	1400	1350	⑳㉓㉛*
	6063HV33	**317**	**425**	2100	2000	1475	1350	⑳㉓㉛*
	6063HV33	**336**	**450**	2100	2102	1550	1350	⑳㉓㉛*

Optimization:
⑤ EU Nonroad St II Comp (97/68/EC)
⑲ EPA Nonroad T2 Comp (40CFR89)
⑳ EPA Nonroad T3 Comp (40CFR89)
㉓ EU Nonroad St IIIA Comp (97/68/EC)
㉛* China NRMM Stage III (GB20981-2014) upon request

All 5A-ratings can be used for 5B applications!

Diesel engines for industrial and mining applications

100 kW - 400 kW (134 bhp - 536 bhp)

> Intake air temperature: 25°C

5A – Heavy duty operation

Engine model	Rated power ICFN			Peak Torque			Optimization
	kW	bhp	rpm	Nm	lb-ft	rpm	
	Air-to-air cooling						
4R 1000 C10	**100**	**134**	2200	600	443	1200-1500	㉑㉗
4R 1000 C20	**115**	**154**	2200	675	498	1200-1500	㉑㉗
4R 1000 C30	**129**	**173**	2200	750	553	1200-1600	㉑㉗
6R 1000 C20	**180**	**241**	2200	1000	738	1200-1600	㉑㉗
6R 1000 C30	**210**	**282**	2200	1150	848	1200-1600	㉑㉗
6R 1100 C30	**280**	**375**	1700	1900	1401	1300	㉑㉗
6R 1300 C20	**320**	**429**	1700	2100	1549	1300	㉑㉗
6R 1300 C30	**340**	**456**	1700	2200	1623	1300	㉑㉗
6R 1500 C30	**400**	**536**	1700	2600	1918	1300	㉑㉗

Optimization: ㉑ EPA Nonroad T4 (40CFR1039)
㉗ EU Nonroad St IV (97/68/EC)

All 5A-ratings can be used for 5B applications!

Diesel engines for agricultural applications

100 kW - 400 kW (134 bhp - 536 bhp)

> Intake air temperature: 25°C

5A – Heavy duty operation

Engine model	Rated power			Peak Torque			Optimization
	ICFN						
	kW	bhp	rpm	Nm	lb-ft	rpm	
	Air-to-air cooling						
4R 1000 A10	**100**	**134**	2200	600	443	1200-1500	㉑㉗
4R 1000 A20	**115**	**154**	2200	675	498	1200-1500	㉑㉗
4R 1000 A30	**129**	**173**	2200	750	553	1200-1600	㉑㉗
6R 1000 A20	**180**	**241**	2200	1000	738	1200-1600	㉑㉗
6R 1000 A30	**210**	**282**	2200	1150	848	1200-1600	㉑㉗
6R 1100 A30	**280**	**375**	1700	1900	1401	1300	㉑㉗
6R 1300 A20	**320**	**429**	1700	2100	1549	1300	㉑㉗
6R 1300 A30	**340**	**456**	1700	2200	1623	1300	㉑㉗
6R 1500 A30	**400**	**536**	1700	2600	1918	1300	㉑㉗

Optimization: ㉑ EPA Nonroad T4 (40CFR1039)
㉗ EU Nonroad St IV (97/68/EC)

All 5A-ratings can be used for 5B applications!

Diesel engines for industrial and mining applications

567 kW - 2375 kW (760 bhp - 3185 bhp)

> Intake air temperature: 25°C
> Charge-air coolant temperature: 45°C (12V2000C12/S4000)
50°C (16V2000C12)

5A – Heavy duty operation

Engine model	Rated power ICFN			Peak Torque			Optimization
	kW	bhp	rpm	Nm	lb-ft	rpm	
	Separate circuit charge-air cooling (SCCC)						
12V 2000 C12	**567**	**760**	2100	3300	2441	1350	⑲
16V 2000 C12	**783**	**1050**	1800/2100	4450	3288	1350	⑲
12V 4000 C11R	**1193**	**1600**	1900	7612/7595	5614/5602	1500	☒②
12V 4000 C15	**1150**	**1542**	1800	7351	5422	1494	㉑
12V 4000 C11	**1286**	**1725**	1900	6985	5151	1500	☒②
12V 4000 C13R	**1193**	**1600**	1800	7595	5600	1500	☒⑲㉛
12V 4000 C25	**1250**	**1676**	1800	7990	5893	1494	㉑
12V 4000 C13	**1343**	**1800**	1800	8550	6306	1500	☒⑲㉛
12V 4000 C13L	**1425**	**1910**	1800	9070	6690	1500	☒⑲㉛
12V 4000 C35	**1500**	**2012**	1800	9588	7072	1494	㉑
16V 4000 C11R	**1600**	**2146**	1800	10188	7515	1500	②
16V 4000 C11	**1715**	**2300**	1900	9313	6896	1500	☒②
16V 4000 C13R	**1492**	**2000**	1800	9520	7022	1350	☒⑲㉛
16V 4000 C13	**1750**	**2345**	1800	11141	8216	1500	☒⑲㉛
16V 4000 C13	**1750**	**2345**	1900	11141	8216	1500	☒
16V 4000 C13L	**1865**	**2500**	1800/1900	11870	8754	1500	☒⑲㉛
20V 4000 C13L	**2375**	**3185**	1800	15120	11152	1500	☒⑲㉛

Optimization: ☒ Fuel consumption optimized
② EPA Nonroad T1 Comp (40CFR89)
⑲ EPA Nonroad T2 Comp (40CFR89)
㉑ EPA Nonroad T4 (40CFR1039)
㉛ China NRMM Stage III (GB20981-2014)

All 5A-ratings can be used for 5B applications!

Data for Tier 4 final engines are preliminary.

Diesel engines for industrial, agricultural and mining applications

110 kW - 375 kW (147 bhp - 503 bhp)

> Intake air temperature: 25°C

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5B – Medium duty operation

Engine model	Rated power ICFN			Peak Torque			Optimization
	kW	bhp	rpm	Nm	lb-ft	rpm	
	Air-to-air charge-air cooling						
4R 904 C61	**110**	**147**	2200	580	430	1200-1600	⑳㉓㉛*
4R 904 C71	**129**	**173**	2200	675	500	1200-1600	⑳㉓㉛*
4R 924 C71	**145**	**194**	2200	750	555	1200-1600	⑳㉓㉛*
4R 924 C52	**115**	**154**	2200	610	450	1200-1600	㊳㊴
4R 924 C62	**129**	**173**	2200	675	500	1200-1600	㊳㊴
4R 924 C72	**150**	**201**	2200	800	590	1200-1600	㊳㊴
6R 906 C51	**170**	**228**	2200	810	595	1200-1600	⑳㉓㉛*
6R 906 C61	**190**	**255**	2200	1000	735	1200-1600	⑳㉓㉛*
6R 906 C71	**205**	**275**	2200	1100	810	1200-1600	⑳㉓㉛*
6R 926 C61	**220**	**295**	2200	1200	885	1200-1600	⑳㉓㉛*
6R 926 C71	**240**	**322**	2200	1300	960	1200-1600	⑳㉓㉛*
6R 926 C52	**210**	**281**	2200	1120	825	1200-1600	㊳㊴
6R 926 C62	**225**	**302**	2200	1200	885	1200-1600	㊳㊴
6R 926 C72	**240**	**322**	2200	1300	960	1200-1600	㊳㊴
6R 460 C41	**315**	**422**	1800	2000	1475	1300	⑳㉓㉛*
6R 460 C51	**335**	**449**	1800	2000	1475	1300	⑳㉓㉛*
6R 460 C61	**360**	**483**	1800	2200	1620	1300	⑳㉓㉛*
6R 460 C71	**375**	**503**	1800	2200	1620	1300	⑳㉓㉛*
6R 460 C42	**315**	**422**	1800	2000	1475	1300	㉙㊳㊴
6R 460 C52	**335**	**449**	1800	2000	1475	1300	㉙㊳㊴
6R 460 C62	**360**	**483**	1800	2200	1620	1300	㉙㊳㊴
6R 460 C72	**375**	**503**	1800	2200	1620	1300	㊳㊴

Optimization:
⑳ EPA Nonroad T3 Comp (40CFR89)
㉓ EU Nonroad St IIIA Comp (97/68/EC)
㉙ China Onroad Stage V (GB17691-2005)
㉛* China NRMM Stage III (GB20981-2014) upon request
㊳ EPA Nonroad T4i Comp (40CFR1039)
㊴ EU Nonroad St IIIB Comp (97/68/EC)

Diesel engines for industrial, agricultural and mining applications

290 kW - 480 kW (389 bhp - 644 bhp)

> Intake air temperature: 25°C

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5B – Medium duty operation

Engine model	Rated power ICFN			Peak Torque			Optimization
	kW	bhp	rpm	Nm	lb-ft	rpm	
	Air-to-air charge-air cooling						
6V 501 C51	**290**	**389**	1800	1850	1365	1300	⑳㉓㉛*
6V 501 C61	**315**	**422**	1800	2000	1475	1300	⑳㉓㉛*
6V 501 C52	**300**	**402**	1800	2000	1475	1300	㊳㊴
6V 501 C62	**320**	**429**	1800	2100	1550	1300	㊳㊴
6V 501 C72	**350**	**469**	1800	2300	1695	1300	㊳㊴
8V 502 C41	**390**	**523**	1800	2400	1770	1300	⑳㉓㉛*
8V 502 C51	**420**	**563**	1800	2700	1990	1300	⑳㉓㉛*
8V 502 C61	**450**	**603**	1800	2700	1990	1300	⑳㉓㉛*
8V 502 C71	**480**	**644**	1800	2800	2065	1300	⑳㉓㉛*
8V 502 C42	**375**	**503**	1800	2400	1770	1300	㉙㊳㊴
8V 502 C52	**405**	**543**	1800	2600	1915	1300	㉙㊳㊴
8V 502 C62	**440**	**590**	1800	2800	2065	1300	㉙㊳㊴
8V 502 C72	**480**	**644**	1800	3000	2210	1300	㉙㊳㊴

Optimization:
- ⑳ EPA Nonroad T3 Comp (40CFR89)
- ㉓ EU Nonroad St IIIA Comp (97/68/EC)
- ㉙ China Onroad Stage V (GB17691-2005)
- ㉛* China NRMM Stage III (GB20981-2014) upon request
- ㊳ EPA Nonroad T4i Comp (40CFR1039)
- ㊴ EU Nonroad St IIIB Comp (97/68/EC)

Diesel engines for industrial and mining applications

317 kW - 429 kW (425 bhp - 575 bhp)

> Intake air temperature: 25°C

5B – Medium duty operation

Engine model	Reference no.	Rated power ICFN			Peak Torque			Optimization
		kW	bhp	rpm	Nm	lb-ft	rpm	
	Air-to-air charge-air cooling							
S60 (12.7 l)	6063MK33	**317**	**425**	2100	2000	1475	1350	⑤⑲
	6063MK33	**332**	**445**	2200	2000	1475	1350	⑤⑲
	6063MK33	**336**	**450**	2100	2102	1550	1350	⑤⑲
	6063MK33	**354**	**475**	2100	2102	1550	1350	⑤⑲
S60 (14.0 l)	6063HV33	**354**	**475**	2100	2102	1550	1350	⑳㉓㉛*
	6063HV33	**373**	**500**	2100	2102	1550	1350	⑳㉓㉛*
	6063HV33	**391**	**525**	2100	2373	1750	1350	⑳㉓㉛*
	6063HV33	**397**	**533**	2000	2373	1750	1350	⑳㉓㉛*
	6063HV33	**410**	**550**	2100	2373	1750	1350	⑳㉓㉛*
	6063HK33	**391**	**525**	2100	2373	1750	1350	⑤⑲
	6063HK33	**397**	**533**	2000	2373	1750	1350	⑤⑲
	6063HK33	**410**	**550**	2100	2373	1750	1350	⑤⑲
	6063HK33	**410**	**550**	2300	2373	1750	1350	⑤⑲
	6063HK33	**429**	**575**	2100	2373	1750	1350	⑤⑲

Optimization: ⑤ EU Nonroad St II Comp (97/68/EC)
⑲ EPA Nonroad T2 Comp (40CFR89)
⑳ EPA Nonroad T3 Comp (40CFR89)
㉓ EU Nonroad St IIIA Comp (97/68/EC)
㉛* China NRMM Stage III (GB20981-2014) upon request

Diesel engines for industrial and mining applications

150 kW - 736 kW (201 bhp - 987 bhp)

> Intake air temperature: 25°C

5B – Medium duty operation

Engine model	Rated power ICFN			Peak Torque			Optimization
	kW	bhp	rpm	Nm	lb-ft	rpm	
	Air-to-air cooling						
4R 1000 C40	**150**	**201**	2200	800	590	1200-1600	㉑㉗
4R 1000 C50	**170**	**228**	2200	900	664	1200-1600	㉑㉗
6R 1000 C40	**230**	**308**	2200	1250	922	1200-1600	㉑㉗
6R 1000 C50	**260**	**349**	2200	1400	1033	1200-1600	㉑㉗
6R 1100 C40	**300**	**402**	1700	2000	1475	1300	㉑㉗
6R 1100 C50	**320**	**429**	1700	2100	1549	1300	㉑㉗
6R 1300 C40	**360**	**483**	1700	2300	1696	1300	㉑㉗
6R 1300 C50	**380**	**510**	1700	2380	1755	1300	㉑㉗
6R 1300 C60	**390**	**523**	1700	2450	1807	1300	㉑㉗
6R 1500 C50	**430**	**577**	1700	2750	2028	1300	㉑㉗
6R 1500 C60	**460**	**617**	1700	2900	2139	1300	㉑㉗
	Separate circuit charge-air cooling (SCCC)						
10V 1600 C60	**567**	**760**	2100	3385	2497	1200	⑬㉑
10V 1600 C70	**613**	**822**	1900	3517	2594	1300	⑬㉑
12V 1600 C50	**636**	**853**	1900	4020	2965	1300	⑬㉑
12V 1600 C60	**680**	**912**	2100	4100	3024	1300	⑬㉑
12V 1600 C70	**736**	**987**	1900	4220	3113	1300	⑬㉑

Optimization: ⑬ EPA Nonroad T4 Comp (40CFR1039)
㉑ EPA Nonroad T4 (40CFR1039)
㉗ EU Nonroad St IV (97/68/EC)

Diesel engines for agricultural applications

150 kW - 736 kW (201 bhp - 987 bhp)

> Intake air temperature: 25°C

5B – Medium duty operation

Engine model	Rated power ICFN			Peak Torque			Optimization
	kW	bhp	rpm	Nm	lb-ft	rpm	
	Air-to-air cooling						
4R 1000 A40	**150**	**201**	2200	800	590	1200-1600	㉑㉗
4R 1000 A50	**170**	**228**	2200	900	664	1200-1600	㉑㉗
6R 1000 A40	**230**	**308**	2200	1250	922	1200-1600	㉑㉗
6R 1000 A50	**260**	**349**	2200	1400	1033	1200-1600	㉑㉗
6R 1100 A40	**300**	**402**	1700	2000	1475	1300	㉑㉗
6R 1100 A50	**320**	**429**	1700	2100	1549	1300	㉑㉗
6R 1300 A40	**360**	**483**	1700	2300	1696	1300	㉑㉗
6R 1300 A50	**380**	**510**	1700	2380	1755	1300	㉑㉗
6R 1300 A60	**390**	**523**	1700	2450	1807	1300	㉑㉗
6R 1500 A50	**430**	**577**	1700	2750	2028	1300	㉑㉗
6R 1500 A60	**460**	**617**	1700	2900	2139	1300	㉑㉗
	Separate circuit charge-air cooling (SCCC)						
10V 1600 A60	**567**	**760**	2100	3385	2497	1200	⑬㉑
10V 1600 A70	**613**	**822**	1900	3517	2594	1300	⑬㉑
12V 1600 A50	**636**	**853**	1900	4020	2965	1300	⑬㉑
12V 1600 A60	**680**	**912**	2100	4100	3024	1300	⑬㉑
12V 1600 A70	**736**	**987**	1900	4220	3113	1300	⑬㉑

Optimization: ⑬ EPA Nonroad T4 Comp (40CFR1039)
㉑ EPA Nonroad T4 (40CFR1039)
㉗ EU Nonroad St IV (97/68/EC)

Diesel engines for industrial and mining applications

634 kW - 2013 kW (850 bhp - 2699 bhp)

> Intake air temperature: 25°C
> Charge-air coolant temperature: 45°C (12V 2000/16V 2000 C66/ S4000)
47°C (16V 2000 C22)

5B – Medium duty operation

Engine model	Rated power			Peak Torque			Optimization
	ICFN						
	kW	bhp	rpm	Nm	lb-ft	rpm	
	Separate circuit charge-air cooling (SCCC)						
12V 2000 C22R	**634**	**850**	2100	3750	2766	1500	⑲㉛
12V 2000 C22	**675**	**905**	2100	4000	2950	1500	⑲㉛
12V 2000 C66R*	**783**	**1050**	1800	4636	3419	1100	㊳
12V 2000 C66	**783**	**1050**	2100	4636	3419	1100	㊳
16V 2000 C22	**899**	**1205**	2100	5250	3872	1500	⑲㉛
16V 2000 C66	**970**	**1301**	2100	5286	3899	1400	㊳
12V 4000 C21R	**1398**	**1875**	1900	7610	5613	1500	☒②
16V 4000 C21R	**1492**	**2000**	1900	9494	7003	1500	②
12V 4000 C21	**1510**	**2025**	1900	8199	6047	1500	☒②
12V 4000 C23R	**1510**	**2025**	1800	8482	6255	1700	☒⑲㉛
12V 4000 C23R	**1510**	**2025**	1900	on request	on request	on request	☒⑲
12V 4000 C23	**1680**	**2253**	1800/1900	9435	6959	1700	☒⑲㉛
12V 4000 C55	**1750**	**2347**	1900	9258	6828	1805	㉑
12V 4000 C65	**1864**	**2500**	1800	10409	7677	1710	㉑
12V 4000 C65	**1864**	**2500**	1900	9861	7273	1805	㉑
16V 4000 C21	**1864**	**2500**	1900	10146	7483	1500	☒②
16V 4000 C45	**2000**	**2682**	1900	10581	7804	1805	㉑
16V 4000 C45	**2000**	**2682**	1800	11169	8238	1710	㉑
16V 4000 C21L	**2013**	**2699**	1900	10933	8064	1500	☒②

Optimization: ☒ Fuel consumption optimized
② EPA Nonroad T1 Comp (40CFR89)
⑲ EPA Nonroad T2 Comp (40CFR89)
㉑ EPA Nonroad T4 (40CFR1039)
㉛ China NRMM Stage III (GB20981-2014)
㊳ EPA Nonroad T4i Comp (40CFR1039)
* also available for 2A application

Data for Tier 4 final engines are preliminary.

Diesel engines for industrial and mining applications

1510 kW - 3000 kW (2025 bhp - 4023 bhp)

> Intake air temperature: 25°C
> Charge-air coolant temperature: 45°C (S4000)

5B – Medium duty operation

Engine model	Rated power ICFN			Peak Torque			Optimization
	kW	bhp	rpm	Nm	lb-ft	rpm	
	Separate circuit charge-air cooling (SCCC)						
16V 4000 C23R	**2013**	**2699**	1800	11310	8342	1700	☒⑲㉛
16V 4000 C23R	**2013**	**2699**	1900	on request	on request	on request	☒⑲
16V 4000 C31	**2125**	**2850**	1900	11142	8228	1800	☒
16V 4000 C23	**2240**	**3000**	1800	12566	9268	1700	☒⑲㉛
16V 4000 C55	**2240**	**3004**	1900	11851	8741	1805	㉑
16V 4000 C55	**2240**	**3004**	1800	12509	9226	1710	㉑
16V 4000 C65	**2400**	**3218**	1800	13403	9886	1710	㉑
20V 4000 C22	**2720**	**3650**	1800	15159	11181	1500	②
20V 4000 C55*	**2800**	**3755**	1800	15363	11331	1710	㉑
20V 4000 C23	**2800**	**3755**	1800	15728	11600	1700	☒⑲㉛
20V 4000 C23L	**3000**	**4023**	1800	16852	12429	1700	☒⑲㉛
20V 4000 C65*	**3000**	**4023**	1800	16753	12356	1710	㉑

Optimization: ☒ Fuel consumption optimized
② EPA Nonroad T1 Comp (40CFR89)
⑲ EPA Nonroad T2 Comp (40CFR89)
㉑ EPA Nonroad T4 (40CFR1039)
㉛ China NRMM Stage III (GB20981-2014)
* upon request

Data for Tier 4 final engines are preliminary.

Diesel engines for industrial and mining applications

373 kW - 1000 kW (500 bhp - 1341 bhp)

> Intake air temperature: 25°C
> Charge-air coolant temperature: 45°C (S2000)

5C – Short-time duty operation

Engine model	Reference no.	Rated power ICFN			Peak Torque			Optimization
		kW	bhp	rpm	Nm	lb-ft	rpm	
	Air-to-air charge-air cooling							
S60 (12.7 l)	6063MK33	**373**	**500**	2100	2102	1550	1350	⑤⑲
	6063MK33	**373**	**500**	2300	2237	1650	1350	⑤⑲
S60 (14.0 l)	6063HV33	**447**	**600**	2100	2576	1900	1350	⑳㉓㉛*
	6063HV45	**447**	**600**	2300	2576	1900	1350	⑳㉓
	6063HV33	**470**	**630**	2100	2576	1900	1350	⑳㉓㉛*
	6063HV33	**496**	**665**	2300	2576	1900	1350	⑳㉓㉛*
	6063HV45	**496**	**665**	2300	2576	1900	1350	⑳㉓
	6063HK45	**447**	**600**	2300	2576	1900	1350	⑤⑲
	6063HK33	**447**	**600**	2100	2576	1900	1350	⑤⑲
	6063HK33	**470**	**630**	2100	2576	1900	1350	⑤⑲
	6063HK33	**496**	**665**	2300	2576	1900	1350	⑤⑲
	6063HK45	**496**	**665**	2300	2576	1900	1350	⑤⑲
	Separate circuit charge-air cooling (SCCC)							
12V2000 C92R	-	**750**	**1005**	2100	4100	3024	1500	⑲
16V2000 C92R	-	**1000**	**1341**	2100	5250	3872	1500	⑲

Optimization: ⑤ EU Nonroad St II Comp (97/68 EC)
⑲ EPA Nonroad T2 Comp (40CFR89)
⑳ EPA Nonroad T3 Comp (40CFR89)
㉓ EU Nonroad St IIIA Comp (97/68/EC)
㉛* China NRMM Stage III (GB20981-2014) upon request

All 5A/5B-ratings can be used for 5C applications!

Diesel engines for underground mining applications

75 kW - 429 kW (101 bhp - 575 bhp)

> Intake air temperature: 25°C

Underground Mining

Engine model	Reference no.	Rated power ICFN			Peak Torque			Optimization
		kW	bhp	rpm	Nm	lb-ft	rpm	
	Air-to-air charge-air cooling							
4R 904 C	4R 904 C21	**75**	**101**	2200	400	295	1400	MSHA
	4R 904 C31	**90**	**121**	2200	470	345	1400	MSHA
	4R 904 C	**100**	**134**	2200	520	385	1400	MSHA
	4R 904 C61	**110**	**147**	2200	580	430	1400	MSHA
	4R 904 C71	**130**	**174**	2200	675	500	1400	MSHA
6R 906 C	6R 906 C31	**150**	**201**	2200	750	555	1400	MSHA
	6R 906 C51	**170**	**228**	2200	810	595	1400	MSHA
	6R 906 C	**180**	**241**	2200	900	665	1400	MSHA
	6R 906 C61	**190**	**255**	2200	1000	735	1400	MSHA
	6R 906 C71	**205**	**275**	2200	1100	810	1400	MSHA
S60 (12.7 l)	6063MK32	**224**	**300**	2100	1424	1050	1350	MSHA
	6063MK32	**242**	**325**	2100	1600	1150	1350	MSHA
	6063MK32	**261**	**350**	2100	1830	1350	1350	MSHA
	6063MK32	**280**	**375**	2100	1830	1350	1350	MSHA
	6063MK32	**298**	**400**	2100	1830	1350	1350	MSHA
	6063MK32	**317**	**425**	2100	2000	1475	1350	MSHA
	6063MK32	**336**	**450**	2100	2102	1550	1350	MSHA
	6063MK32	**354**	**475**	2100	2102	1550	1350	MSHA
S60 (14.0 l)	6063HK32	**392**	**525**	2100	2373	1750	1350	MSHA
	6063HK32	**410**	**550**	2100	2373	1750	1350	MSHA
	6063HK32	**429**	**575**	2100	2373	1750	1350	MSHA

Optimization: MSHA (US regulation 30 CFR part 7)

Automation

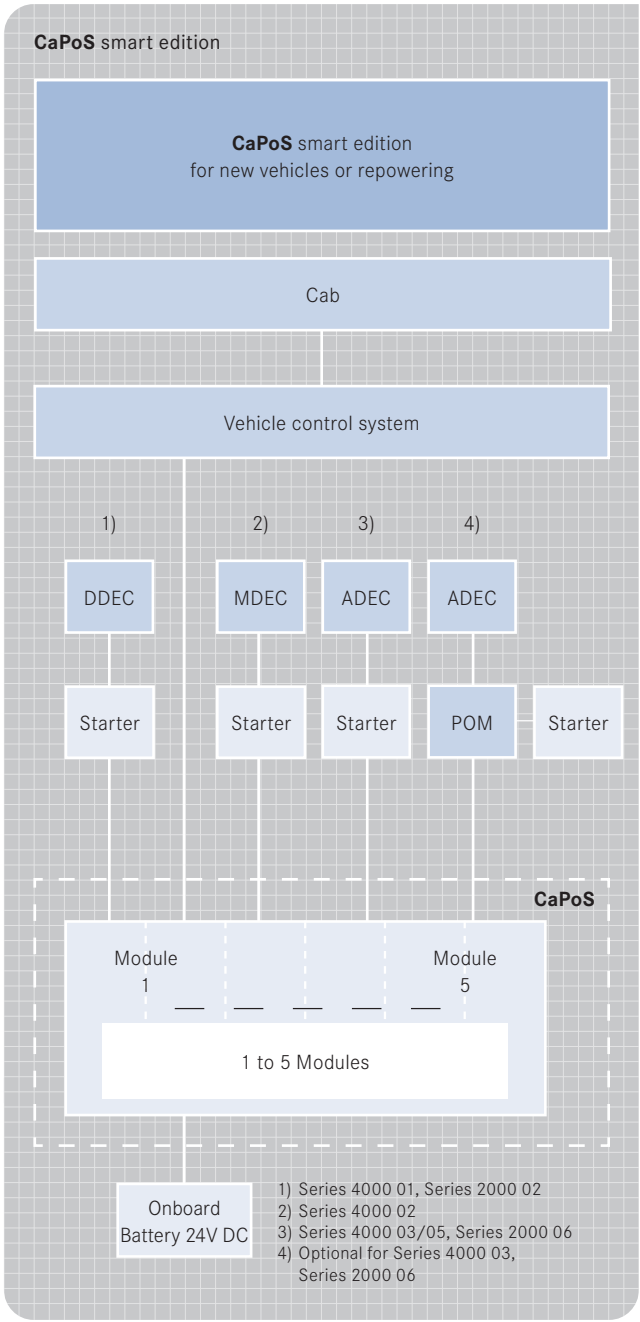
CaPoS smart edition – **Ca**pacitor **Po**wer **S**ystem for Series 2000, 4000

Reliable power right from the start.
CaPoS smart edition was especially developed for heavy and duty applications and provides the high energy required by the 24V DC starters during the starting sequence.

CaPoS uses capacitor technology to optimize startup behavior. The number of modules to be used depends on the type of engine involved and its breakaway torque. CaPoS smart edition may be used autonomously or in conjunction with the **motiv***line* automation system.

The most important features at a glance:
- Autonomous and modular construction
- Maintenance-free system
- Significant reductions in weight and volume compared with conventional starter batteries
- Optimized cold-starting capabilities
- Low life-cycle costs
- No voltage interruption during start-up
- On-board voltage of 24V DC
- Integrated self-monitoring system with interface to vehicle control system
- Integrated DC-/DC converter for automatical recharging
- IP66 protection

CaPoS smart edition



We manage everything for you.

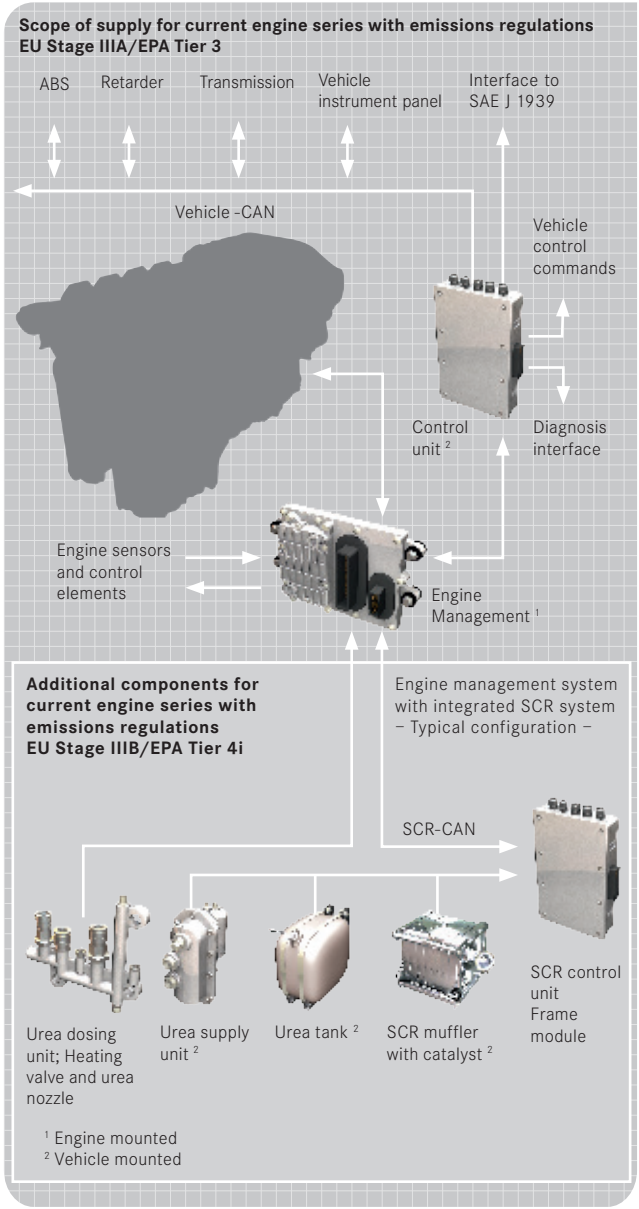
All our engines are equipped with electronic engine controls. Intelligent electronics ensure that performance and efficient operation are achieved under all operating conditions. Innovative, high-end technology takes over the control, regulation and monitoring of the drive system. The systems are modular in order to be able to adapt the diesel engine to the complex optimal operating conditions of the equipment. In addition, operating conditions that could lead to damage are detected in time.

Your benefits:

- Protection of the engine and therefore safety by:
  - Reporting critical operating conditions
  - Temporary reduction in power
  - Automatic shutdown
  - Start inhibitor
  - Over speed regulation
  - Self-diagnosis and regulation for the system
- Standard interfaces for external system connections, such as CAN data bus and SAE J 1939
  - Easy integration with the vehicle
  - Flexible adjustment to the vehicle or vehicle components and project specific needs
  - Interface for engine diagnosis
- High availability and fail-safe operation
- High power efficiency
- Low fuel consumption
- Minimal exhaust emissions that fully meet all legal requirements

For engines equipped with SCR systems, we are your expert technology partner. The latest electronics integrate the necessary SCR components for the reduction of emissions intelligently into the overall system. This ensures optimal tuning of all engine and emission control functions.

Engine management system – Typical configuration Series 460, 500, 900



motiv*line* – the management technology for mining applications with Series 4000-03

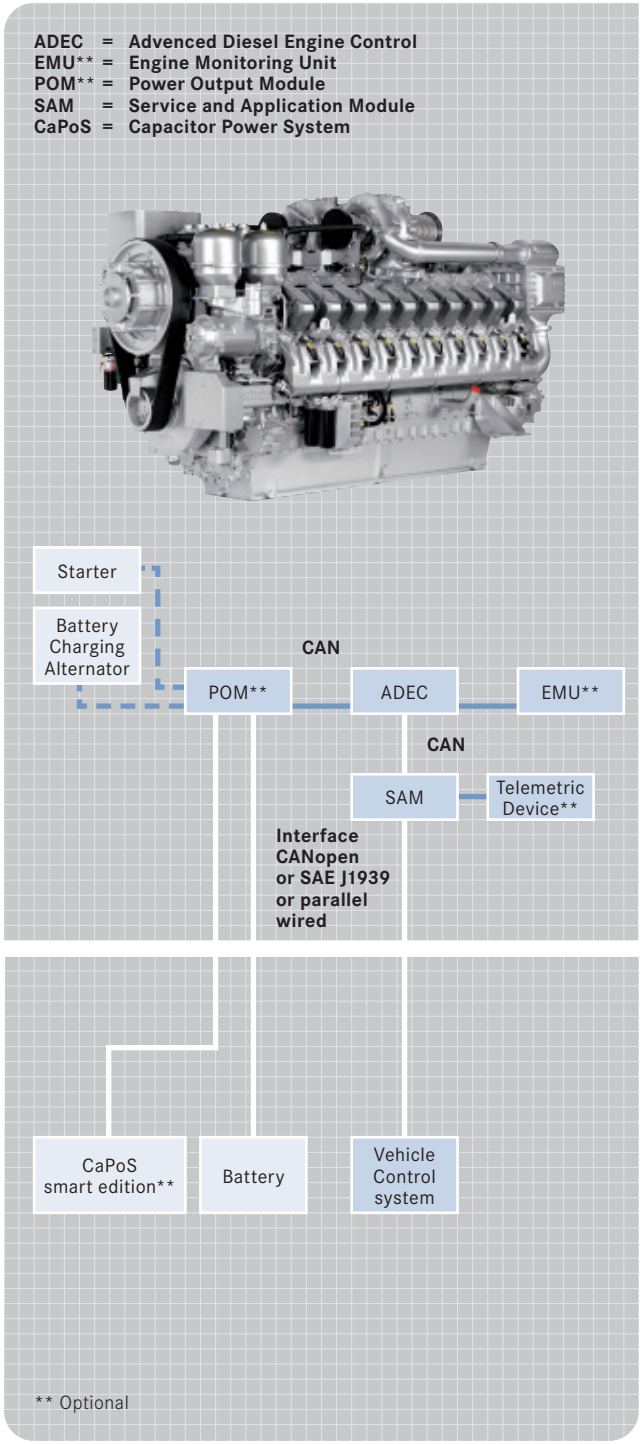
The **motiv***line* automation system is an innovative highend technology developed by MTU for mining vehicles. **motiv***line* performs the control and monitoring functions for the entire engine plant. The modular system guarantees optimum adaptation of the diesel engine to the diversity of operating conditions in mining.

motiv*line* supports:
> flexible adaptation to the vehicle and/or its components and project-specific requirements
> automatic power output adjustment or optional engine shutdown by the integrated safety system and all other necessary monitoring and safety functions
> Interface - MTU telemetric device for GSM* - for MTU **Value**Care Product Remote Services (optional with user agreement), which provides direct access to the data of your MTU engine
> Easy adaptation by means of MTU interface module **SAM**

motiv*line* harmonizes the engine integration into the vehicle. Because of that optimized conditions generates:
> **high power- efficiency**
> **low fuel consumption**
> **minimal exhaust emissions that are substantially below the legal limits**

For the **Series 4000 engines**, a new engine management system **ADEC** has been developed, whilst there is also an extensive range of standardized solutions available - with options for flexible interfaces. The Engine Monitoring Unit **EMU** provides further enhanced availability by means of additional monitoring and diagnostic options for the engine. Complementing the **SAM** interface module, **POM** optimizes the start process and simplifies cabling to the starter and alternator. The complete **Plug & Play** system makes installation of the engine in the vehicle considerably simpler and faster.

* Global System for Mobile Communications

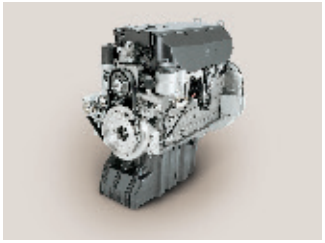


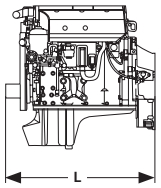
Diesel engine for industrial, agricultural and mining applications

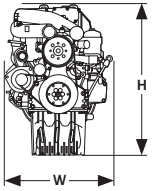
Mercedes-Benz Engineering Excellence

mtu

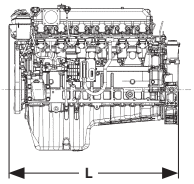
Series 900

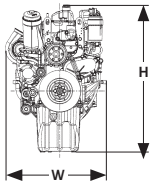






Series 460





Diesel engines for industrial, agricultural and mining applications

Engine	Cylinder data			Dimensions, max.	Mass, max.
	Bore/Stroke mm (in)	Cyl. displac. l (cu in)	Total displac. l (cu in)	L x W x H mm (in)	(dry) kg (lbs.)
4R 904 C01 4 Cyl./In-Line	102/130 (4.0/5.1)	1.06 (65)	4.2 (256)	830 x 672 x 945 (33 x 26 x 37)	395 (870)
4R 924 C01 4 Cyl./In-Line	106/136 (4.2/5.4)	1.20 (73)	4.8 (293)	830 x 645 x 925 (33 x 25 x 36)	405 (893)
4R 924 C02 4 Cyl./In-Line	106/136 (4.2/5.4)	1.20 (73)	4.8 (293)	830 x 645 x 925 (33 x 25 x 36)	415 (915)
6R 906 C01 6 Cyl./In-Line	102/130 (4.0/5.1)	1.06 (65)	6.4 (391)	1087 x 688 x 956 (43 x 27 x 38)	530 (1168)
6R 926 C01 6 Cyl./In-Line	106/136 (4.2/5.4)	1.20 (73)	7.2 (439)	1087 x 681 x 956 (43 x 27 x 38)	530 (1168)
6R 926 C02 6 Cyl./In-Line	106/136 (4.2/5.4)	1.20 (73)	7.2 (439)	1087 x 681 x 956 (43 x 27 x 38)	545 (1202)
6R 460 C11R-C21 6 Cyl./In-Line	128/166 (5.0/6.5)	2.13 (129)	12.8 (781)	1315 x 785 x 1142 (52 x 31 x 45)	920 (2028)
6R 460 C31-C71 6 Cyl./In-Line	128/166 (5.0/6.5)	2.13 (129)	12.8 (781)	1320 x 750 x 1115 (52 x 30 x 44)	920 (2028)
6R 460 C02 6 Cyl./In-Line	128/166 (5.0/6.5)	2.13 (129)	12.8 (781)	1320 x 750 x 1115 (52 x 30 x 44)	930 (2072)

Please note, specifications are subject to change without notice.
All dimensions are approximate. Details are subject to options selected.

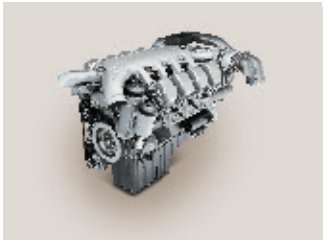
Please contact your mtu distributor for current information and binding data.

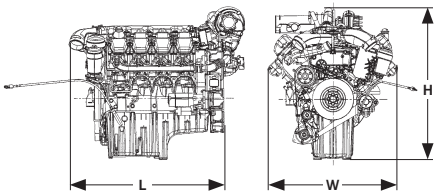
Diesel engine for industrial, agricultural and mining applications

Mercedes-Benz Engineering Excellence

mtu

Series 500





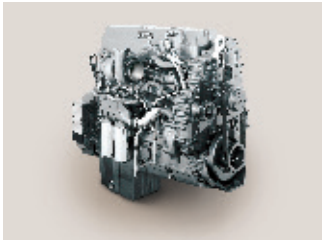
Diesel engines for industrial, agricultural and mining applications

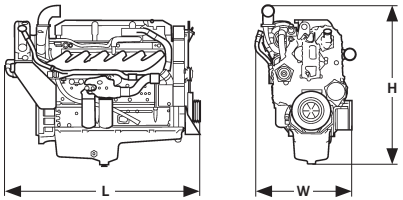
Engine	Cylinder data			Dimensions, max.	Mass, max.
	Bore/Stroke mm (in)	Cyl. displac. l (cu in)	Total displac. l (cu in)	L x W x H mm (in)	(dry) kg (lbs.)
6V 501 C01 6 Cyl./90°V	130/150 (5.1/5.9)	1.99 (121)	12.0 (732)	1206 x 1020 x 1158 (47 x 40 x 46)	885 (1951)
6V 501 C02 6 Cyl./90°V	130/150 (5.1/5.9)	1.99 (121)	12.0 (732)	1190 x 1020 x 1130 (47 x 40 x 44)	895 (1973)
8V 502 C21-C51 8 Cyl./90°V	130/150 (5.1/5.9)	1.99 (121)	15.9 (970)	1515 x 1013 x 1053 (60 x 40 x 41)	1125 (2480)
8V 502 C61-C71 8 Cyl./90°V	130/150 (5.1/5.9)	1.99 (121)	15.9 (970)	1385 x 1021 x 1198 (55 x 40 x 47)	1125 (2480)
8V 502 C02 8 Cyl./90°V	130/150 (5.1/5.9)	1.99 (121)	15.9 (970)	1530 x 1195 x 1080 (60 x 47 x 43)	1135 (2502)

Please note, specifications are subject to change without notice.
All dimensions are approximate. Details are subject to options selected.
Please contact your mtu distributor for current information and binding data.

Diesel engine for industrial and mining applications

Series 60





Diesel engines for industrial, agricultural and mining applications

Engine	Cylinder data			Dimensions, max.	Mass, max.	Weight/Power ratio
	Bore/Stroke mm (in)	Cyl. displac. l (cu in)	Total displac. l (cu in)	L x W x H mm (in)	(dry) kg (lbs.)	kg/kW (lbs./bhp)
S60 6 Cyl./In-line	130/160 (5.1/6.3)	2.12 (129)	12.7 (775)	1455 x 925 x 1380 (57 x 36 x 54)	1290 (2844)	3.5 - 5.8 (5.7 - 9.5)
S60 6 Cyl./In-line	133/168 (5.2/6.6)	2.33 (142)	14.0 (854)	1455 x 925 x 1380 (57 x 36 x 54)	1215 (2680)	2.4 - 5.4 (4.0 - 8.9)

Please note, specifications are subject to change without notice.
All dimensions are approximate. Details are subject to options selected.
Please contact your mtu distributor for current information and binding data.

Diesel engine for industrial and mining applications

Series 1000

Series 1100

Series 1300

Series 1500

Diesel engines for industrial and mining applications

Engine	Cylinder data			Dimensions, max.	Mass, max.	Weight/Power ratio
	Bore/Stroke mm (in)	Cyl. displac. l (cu in)	Total displac. l (cu in)	L x W x H mm (in)	(dry) kg (lbs.)	kg/kW (lbs./bhp)
4R 1000 C00 4 Cyl./In-Line	110/135 (4.3/5.3)	1.28 (78)	5.1 (311)	818 x 755 x 1033 (32.2 x 29.7 x 40.7)	510 (1124)	3.0 - 5.0 (4.9 - 8.2)
6R 1000 C00 6 Cyl./In-Line	110/135 (4.3/5.3)	1.28 (78)	7.7 (470)	1059 x 821 x 1033 (41.7 x 32.3 x 40.7)	669 (1475)	2.6 - 3.6 (4.2 - 6.0)
6R 1100 C00 6 Cyl./In-Line	125/145 (4.9/5.7)	1.77 (108)	10.7 (652)	1325 x 955 x 1230 (52.7 x 37.6 x 48.4)	950 (2094)	3.0 - 3.4 (4.9 - 5.6)
6R 1300 C00 6 Cyl./In-Line	132/156 (5.2/6.1)	2.13 (130)	12.8 (781)	1375 x 980 x 1260 (54.1 x 38.6 x 49.6)	1083 (2388)	2.8 - 3.4 (4.6 - 5.6)
6R 1500 C00 6 Cyl./In-Line	139/171 (5.5/6.7)	2.60 (159)	15.6 (952)	1425 x 1005 x 1290 (56.1 x 39.6 x 50.8)	1235 (2723)	2.7 - 3.1 (4.4 - 5.1)

Please note, specifications are subject to change without notice.
All dimensions are approximate. Details are subject to options selected.
Please contact your mtu distributor for current information and binding data.

Diesel engine for agricultural applications

Series 1000

Series 1100

Series 1300

Series 1500

Diesel engines for agricultural applications

Engine	Cylinder data			Dimensions, max.	Mass, max.	Weight/Power ratio
	Bore/Stroke mm (in)	Cyl. displac. l (cu in)	Total displac. l (cu in)	L x W x H mm (in)	(dry) kg (lbs.)	kg/kW (lbs./bhp)
4R 1000 A00 4 Cyl./In-Line	110/135 (4.3/5.3)	1.28 (78)	5.1 (311)	818 x 755 x 1033 (32.2 x 29.7 x 40.7)	510 (1124)	3.0 - 5.0 (4.9 - 8.2)
6R 1000 A00 6 Cyl./In-Line	110/135 (4.3/5.3)	1.28 (78)	7.7 (470)	1059 x 821 x 1033 (41.7 x 32.3 x 40.7)	669 (1475)	2.6 - 3.6 (4.2 - 6.0)
6R 1100 A00 6 Cyl./In-Line	125/145 (4.9/5.7)	1.77 (108)	10.7 (652)	1325 x 955 x 1230 (52.7 x 37.6 x 48.4)	950 (2094)	3.0 - 3.4 (4.9 - 5.6)
6R 1300 A00 6 Cyl./In-Line	132/156 (5.2/6.1)	2.13 (130)	12.8 (781)	1375 x 980 x 1260 (54.1 x 38.6 x 49.6)	1083 (2388)	2.8 - 3.4 (4.6 - 5.6)
6R 1500 A00 6 Cyl./In-Line	139/171 (5.5/6.7)	2.60 (159)	15.6 (952)	1425 x 1005 x 1290 (56.1 x 39.6 x 50.8)	1235 (2723)	2.7 - 3.1 (4.4 - 5.1)

Please note, specifications are subject to change without notice.
All dimensions are approximate. Details are subject to options selected.
Please contact your mtu distributor for current information and binding data.

Diesel engine for industrial and mining applications

Series 1600

Diesel engines for industrial and mining applications

Engine	Cylinder data			Dimensions, max.	Mass, max.	Weight/Power ratio
	Bore/Stroke mm (in)	Cyl. displac. l (cu in)	Total displac. l (cu in)	L x W x H mm (in)	(dry) kg (lbs.)	kg/kW (lbs./bhp)
10V 1600 C00 10 Cyl./90°V	122/150 (4.8/5.9)	1.75 (107)	17.5 (1068)	1707 x 1258 x 1200 (67.2 x 49.5 x 47.2)	1940 (4277)	3.2 - 3.4 (5.3 - 5.6)
12V 1600 C00 12 Cyl./90°V	122/150 (4.8/5.9)	1.75 (107)	21 (1282)	1873 x 1258 x 1200 (73.7 x 49.5 x 47.2)	2200 (4850)	3.0 - 3.5 (5.0 - 5.7)

Please note, specifications are subject to change without notice.
All dimensions are approximate. Details are subject to options selected.
Please contact your mtu distributor for current information and binding data.

Diesel engine for agricultural applications

Series 1600

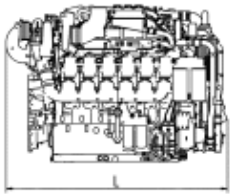
Diesel engines for agricultural applications

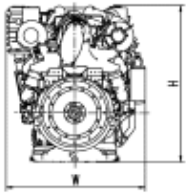
Engine	Cylinder data			Dimensions, max.	Mass, max.	Weight/Power ratio
	Bore/Stroke mm (in)	Cyl. displac. l (cu in)	Total displac. l (cu in)	L x W x H mm (in)	(dry) kg (lbs.)	kg/kW (lbs./bhp)
10V 1600 A00 10 Cyl./90°V	122/150 (4.8/5.9)	1.75 (107)	17.5 (1068)	1707 x 1258 x 1200 (67.2 x 49.5 x 47.2)	1940 (4277)	3.2 - 3.4 (5.3 - 5.6)
12V 1600 A00 12 Cyl./90°V	122/150 (4.8/5.9)	1.75 (107)	21 (1282)	1873 x 1258 x 1200 (73.7 x 49.5 x 47.2)	2200 (4850)	3.0 - 3.5 (5.0 - 5.7)

Please note, specifications are subject to change without notice.
All dimensions are approximate. Details are subject to options selected.
Please contact your mtu distributor for current information and binding data.

Diesel engine for industrial and mining applications

Series 2000





Diesel engines for industrial, agricultural and mining applications

Engine	Cylinder data			Dimensions, max.	Mass, max.	Weight/Power ratio
	Bore/Stroke mm (in)	Cyl. displac. l (cu in)	Total displac. l (cu in)	L x W x H mm (in)	(dry) kg (lbs.)	kg/kW (lbs./bhp)
12V 2000 C02 12 Cyl./90°V	130/150 (5.1/5.9)	1.99 (121)	23.9 (1458)	1864 x 1205 x 1286 (73.4 x 47.4 x 50.6)	2416 (5326)	3.2 - 4.3 (5.3 - 7.0)
16V 2000 C02 16 Cyl./90°V	130/150 (5.1/5.9)	1.99 (121)	31.9 (1947)	2360 x 1247 x 1314 (93 x 49,1 x 51,7)	2994 (6601)	3.0 - 3.8 (4.9 - 6.3)
12V 2000 C06 12 Cyl./90°V	135/156 (5.3/6.2)	2.23 (136)	26.8 (1633)	2028 x 1278 x 1461 (79.8 x 50.3 x 57.5)	2950 (6503)	3.8 (6.2)
16V 2000 C06 16 Cyl./90°V	135/156 (5.3/6.2)	2.23 (136)	35.7 (2177)	2378 x 1288 x 1488 (93.6 x 50.7 x 58.6)	3350 (7385)	3.5 (5.7)

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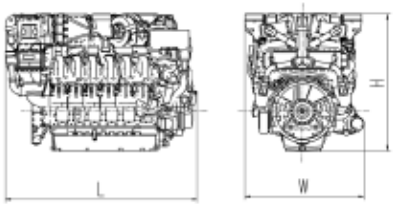
Diesel engine for industrial and mining applications

Series 4000



Diesel engines for industrial and mining applications

Engine	Cylinder data			Dimensions, max.	Mass, max.	Weight/Power ratio
	Bore/Stroke mm (in)	Cyl. displac. l (cu in)	Total displac. l (cu in)	L x W x H mm (in)	(dry) kg (lbs.)	kg/kW (lbs./bhp)
12V 4000 C01 12 Cyl./90°V	165/190 (6.5/7.5)	4.06 (248)	48.8 (2978)	2409 x 1588 x 1736 (94.8 x 62.5 x 68.3)	6045 (13325)	4.0 - 5.1 (6.6 - 8.3)
16V 4000 C01 16 Cyl./90°V	165/190 (6.5/7.5)	4.06 (248)	65.0 (3967)	2879 x 1588 x 1736 (113.4 x 62.5 x 68.3)	7030 (15615)	3.5 - 4.4 (5.8 - 7.3)
20V 4000 C02 20 Cyl./90°V	165/210 (6.5/8.3)	4.49 (274)	89.8 (5480)	3647 x 1609 x 2065 (143.6 x 63.3 x 81.3)	9865 (21750)	3.6 (6.0)
12V 4000 C03 12 Cyl./90°V	170/210 (6.7/8.3)	4.77 (291)	57.3 (3493)	2497 x 1629 x 2065 (98.3 x 64.1 x 81.3)	7000 (15430)	4.2 - 5.9 (6.8 - 9.7)
16V 4000 C03 16 Cyl./90°V	170/210 (6.7/8.3)	4.77 (291)	76.3 (4656)	3020 x 1629 x 2065 (118.9 x 64.1 x 81.3)	8100 (17860)	3.6 - 5.4 (6.0 - 8.9)
20V 4000 C03 20 Cyl./90°V	170/210 (6.7/8.3)	4.77 (291)	95.4 (5822)	3647 x 1609 x 2065 (143.6 x 63.3 x 81.3)	10700 (23590)	3.6 - 4.5 (6.0 - 7.4)

Please note, specifications are subject to change without notice.
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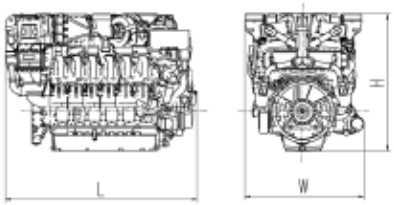
Diesel engine for industrial and mining applications

Series 4000



Diesel engines for industrial and mining applications

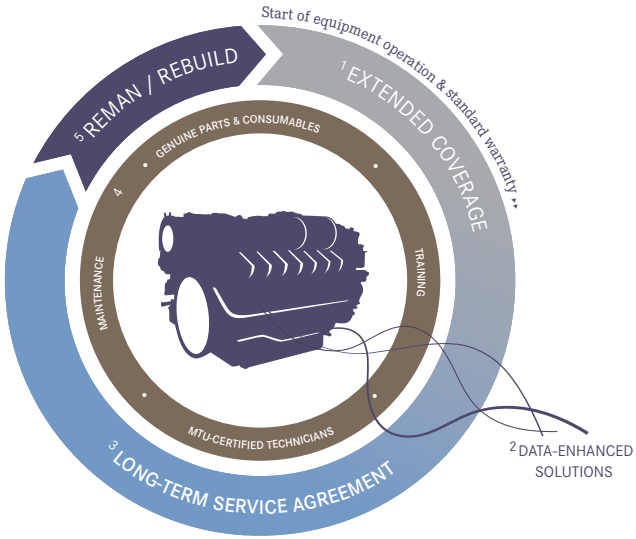
Engine	Cylinder data			Dimensions, max.	Mass, max.	Weight/Power ratio
	Bore/Stroke mm (in)	Cyl. displac. l (cu in)	Total displac. l (cu in)	L x W x H mm (in)	(dry) kg (lbs.)	kg/kW (lbs./bhp)
12V 4000 C05 12 Cyl./90°V	170/210 (6.7/8.3)	4.77 (291)	57.2 (3491)	2633 x 1631 x 1997 (103.7 x 64.2 x 78.6)	7960 (17549)	4.3 - 6.9 (7.0 - 11.4)
16V 4000 C05 16 Cyl./90°V	170/210 (6.7/8.3)	4.77 (291)	76.3 (4656)	3201 x 1631 x 1997 (126.0 x 64.2 x 78.6)	9350 (20613)	4.1 - 4.9 (6.7 - 8.0)
20V 4000 C05 20 Cyl./90°V	170/210 (6.7/8.3)	4.77 (291)	95.3 (5816)	3722 x 1631 x 2001 (146.5 x 64.2 x 78.8)	11250 (24802)	3.9 - 4.2 (6.4 - 6.9)

Please note, specifications are subject to change without notice.
All dimensions are approximate. Details are subject to options selected.
Please contact your mtu distributor for current information and binding data.

MTU **Value**Care

Ensure a long, reliable life.

As your equipment ages, its needs–and yours–change.
MTU **Value**Care wraps around your MTU investment, providing 360 degrees of customized support, for optimal value at every stage of life.



MTU **Value**Care can help you:

1. Avoid the unexpected with added protection beyond the standard warranty*.
2. Make better decisions faster with data-enhanced tools*.
3. Maximize availability and optimize lifecycle costs with an individually tailored Long-term Service Agreement*.
4. Improve system performance and extend equipment life with on-demand support from MTU.
5. Keep a good thing going with MTU reman/rebuild solutions.

* Available for mining engines and systems.

MTU **Value**Care

Rely on MTU expertise.

To give your equipment a long and productive life, choose a partner you can trust. Only MTU-certified technicians know how to get the job done right using proven service methods, MTU-specified maintenance schedules and genuine OEM parts and consumables. Whatever level of support you need, our global network of factory-trained professionals is ready to prepare a customized plan to help you maximize performance and minimize life-cycle-costs.

If you need us a little:

On-Demand Support—including professional inspections and preventive maintenance recommendations from MTU – helps you identify and address problems early, save on repairs or unexpected downtime, and optimize your equipment's performance and longevity. Inspections include visual assessment, test run and leak check, on-site oil and coolant analysis, diagnostic evaluation and reporting.

If you need us a lot:

Long-term Service Agreements for mining applications make it easy to plan the cost of maintenance and maximize availability throughout your MTU equipment's lifecycle. The details, terms and periods of each package are precisely tailored to match your individual needs, with maintenance performed by MTU-certified technicians using only genuine new or remanufactured parts.

Learn from the best.
Training is a great way to become proficient with MTU engines and systems and get maximum efficiency from your equipment. From preventive maintenance to diagnostics and repair, our training programs provide a hands-on learning experience with knowledgeable, expert trainers. We offer a wide range of customized training programs around the world to maximize your return on investment.

Never compromise.
MTU engines and systems are built to last with legendary high standards. When it's time for service, don't settle for anything less. For maximum reliability, performance and uptime, choose a name you can trust – MTU.

MTU **Value**Care

Plan ahead.

The annual cost of maintenance can vary dramatically depending on how and where your equipment is used. At mine sites where optimal equipment availability and performance are essential, and predictable costs are preferred, Long-term Service Agreements can help.

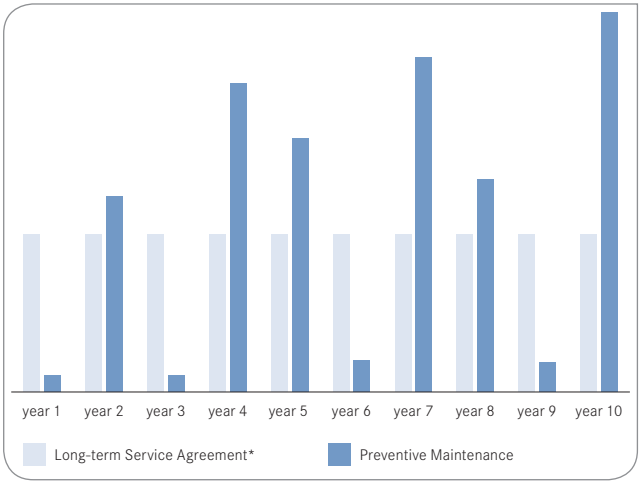
Preventive

All preventive maintenance services up to 10 years according to your approved MTU maintenance schedule, performed by MTU-certified technicians at your local MTU-authorized distributor.

All Inclusive

All preventive maintenance services up to 10 years according to your approved MTU maintenance schedule, performed by MTU-certified technicians at your local MTU-authorized distributor, including all necessary corrective services.

Example: Scheduled Maintenance Costs



*Excludes corrective services

MTU **Value**Care

Protect your investment.

MTU mining engines – backed by Extended Coverage – provide invaluable peace of mind beyond the standard warranty. With Extended Coverage, you can be assured that the costs of unexpected repairs are covered, with service performed by MTU-certified technicians–upholding resale value and ensuring long-term confidence in your MTU investment.

Extended Coverage protects you from the cost of unexpected repairs beyond your standard warranty, with professional service from MTU-certified technicians and coverage tailored to your needs. Packages can also be extended up to 5 years and are fully transferrable, enhancing resale value. Coverage includes material and labor for troubleshooting, fault clearance and corrective services to engines and on-engine electronics (excluding gearbox, alternators, or similar components). To ensure maximum quality, all repairs are conducted using only genuine MTU parts.

MTU **Value**Care

Make better decisions – faster.

Digitization is more than a buzzword – good data fuels smarter decisions. Available for Mining applications, Data-enhanced Solutions from MTU harness that power, giving you vital information and helpful tools to simplify and streamline MTU equipment ownership, operation and maintenance.

Monitor activity from afar.
Identify faults early and make informed decisions quickly – even thousands of miles from the work site – by accessing vital engine and system information online with Remote Services.

Be proactive.
Remote Services can improve your engine's performance, and your profitability, by helping you avoid downtime. Using a telemetric device, important data such as oil temperature, current location and hours of duty is recorded and transmitted in near real-time or at predetermined intervals. Through early fault identification, you can act decisively to increase engine efficiency, prevent damage, reduce downtime, identify necessary replacement parts and save on service and repairs. All you need is a computer with an Internet connection.

Be secure.
Your data is handled with the strictest confidentiality. We provide a secure infrastructure and user administration via our MTU security design.

An onboard telemetric device transmits vital equipment data, accessible in near real-time on your computer screen.

MTU **Value**Care

Exchange and save.

Factory remanufactured MTU products deliver the same high standards of performance, service life and quality as new MTU products, along with identical warranty coverage – at a fraction of the cost. And with design and model-related updates, they also feature similar technological advancements. Developed by R&D engineers, the remanufacturing process saves you time and money, while benefiting the environment through the reuse of materials. To help you work efficiently, a wide range of remanufactured parts, engines and systems are available worldwide.

Reduce lifecycle costs.
As you evaluate your long-term power needs, you must consider a variety of factors. Factory remanufactured products are a smart solution, helping you reduce the total lifecycle cost of your equipment.

Save time.
Factory remanufactured products put your equipment back to work faster than an overhaul, which reduces downtime, service time and indirect costs such as storage.

Maintain MTU standards.
All products are remanufactured to strict MTU standards by MTU-certified technicians at regional MTU reman centers. Only MTU can remanufacture MTU parts, engines or systems to original MTU factory specifications.

Protect the environment.
Since remanufacturing is an efficient use of resources and energy, factory remanufactured products benefit the environment as well.

Service Network

Local support. Worldwide.

Whenever and wherever you need expert support, MTU specialists are available. Our global service network of more than 1,200 locations – backed by our cutting-edge Parts Logistics Centers – provides you this assurance.To find your local MTU distributor, visit www.mtu-online.com.

Customer Assistance Center

Agents are available 24/7 for fast response to your inquiries and any service needs.

info@mtu-online.com

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Local support. Worldwide.
We ensure that you receive individualized support from our global network of more than 1,200 service centers – anywhere, anytime.

- Global headquarters
- Regional headquarters
- Sales and customer service center

Exhaust emissions

Many countries have implemented environmental legislation to protect people from consequences of polluted air. For this reason an increasing number of countries regulate emissions from specific mobile and stationary sources.

Emission standards may apply internationally, nationally and/or for specific areas. The enforcement of an emission legislation may depend for example on the area where the equipment is used and the way it is operated.

The emission legislations may be categorized by power range and/or cylinder capacity. Emission legislations generally require a certificate which states compliance. Stationary applications may require on-site approvals (on-site emission test) depending on the particular emission legislation.

Please find as follows examples of emission standards which apply to the C&I, Agriculture and Mining Industry. For details please consult the applicable legislation and/or permitting authority.

Emission legislation for C&I, Agriculture and Mining applications may differentiate between mobile and stationary applications/machinery.

Nonroad mobile machinery emission legislation may differentiate between constant and variable speed applications.
Nonroad mobile machinery emission legislation may differentiate between ratings and cylinder volume.

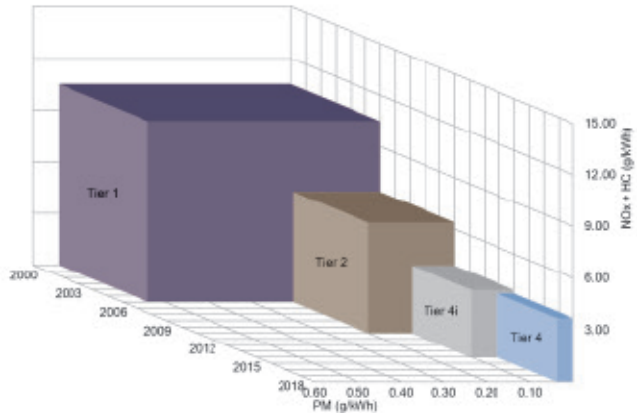
Emission legislation for mobile applications are e.g. US EPA, EU NRMM, China NRMM, MoEF India/CPCB

Stationary emission legislation differentiates between emergency standby and non-emergency applications. Usually non-emergency applications have more stringent emission limits. Engines for emergency standby applications are often limited by operating hours per year. The operating hour limitation may be defined differently from country to country. Especially stationary applications may be subject to more stringent regional or municipal emission limits (e.g. Non-Attainment Areas).

Emission legislation for stationary applications is highly fragmented, e.g. US EPA, EU NRMM, TA-Luft, NEA Singapore, MoEF India/CPCB, China NRMM.

Sample for emission stages in C&I, Agriculture and Mining industry: EPA

EPA NRMM > 560 kW



Examples for emission level description:

- US EPA Nonroad Tier 4 (40CFR1039)
  –> certified
- US EPA Nonroad Tier 2 Comp (40CFR89)
  –> compliant with emission legislation - not certified
- US EPA Nonroad Tier 2 Comp
  –> compliant and corresponding to emission limit values - not certified

Please note that the engines and systems (only) comply with the country or region specific emission requirements and have appropriate emission certification(s) which are explicitly stated in respective RRPS/MTU defined technical specifications. Any Export/Import/Operation of the engine in countries or regions with different applicable emission law requirements is at the customers responsibility.

Notes

Additional available sales programs:

– Marine
– Rail
– Gendrive
– Oil & Gas

Conversion Table

1 kW	= 1.360 PS	g	= 9.80665 m/s²
1 kW	= 1.341 bhp	π	= 3.14159
1 HP	= 1.014 PS	e	= 2.71828
1 oz	= 28.35 g		
1 lb	= 453.59 g	1 lb	= 16 oz
1 short ton	= 907.18 kg	1 short ton	= 2000 lbs
1 lb/HPh	= 447.3 g/PSh	1 ft lb	= 1.356 Nm
1 lb/HPh	= 608.3 g/kWh	1 ft/min	= 0.00508 m/s
1 gal/HPh(US)	= 4264 g/kWh	pDiesel	= 0.83 kg/l
1 kWh	= 860 kcal	1 lb/sqin	= 0.069 bar (1 psi)
1 cal	= 4.187 J	1 mm HG	= 1.333 mbar (133.3 Pa)
1 BTU	= 1.055 kJ	1 mm WS	= 0.0981 mbar (9.81 Pa)
1 inch	= 2.540 cm	T (K)	= t (°C) + 273.15
1 sq. inch	= 6.542 cm²	t (°C)	= 5/9 x (t (°F) -32)
1 cu. inch	= 16.387 cm³	t (°C)	= 5/4 x t (°R)
1 foot	= 3.048 dm	1 foot	= 12 inches
1 sq. foot	= 9.290 dm²	1 yard	= 3 feet
1 land mile	= 1.609 km	1 land mile	= 5280 feet
1 naut. mile	= 1.853 km	1 naut. mile	= 6080 feet
1 GB Gallon	= 4.546 l		
1 US Gallon	= 3.785 l		
1 US Barrel	= 0.159 m³		
	= 42 US Gallons		

Energy:	1 J = 1 Ws = 1 VAs = 1 Nm
Power:	1 W = 1 VA = 1 Nm/s
Force:	1 N = 1 kgm/s²
Pressure:	1 Pa = 1 N/m² (1 bar = 10^5 Pa)
MEP (bar)	$= \frac{P_{cyl}(kW) \times 1200}{n(1/min) \times V_{cyl}(l)}$
Torque (Nm)	$= \frac{P_{ges}(kW) \times 30000}{n(1/min) \times \pi}$

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