

# Gas engines

PRODUCT  
RANGE





## Application

Most gas engines are used in block-type thermal power stations for co-generation, such as for generating electricity and heat. Alongside the large gas engines in engine power stations, conventional petrol and diesel engines are also increasingly used in smaller systems and vehicles as gas engines thanks to simple retrofitting. In operation, combustion gas mixtures with reduced heat values – so-called “lean gases” – are often used. Lean gases are generated from the fermentation of organic waste, e.g. from biogas and landfill gas plants.

## Efficiency

The efficiency of the gas engines is determined by the gases used. The higher the quality of the gas is, the better the combustion will be, and therefore also the overall efficiency of the system. High-quality combustion gases such as methane allow for very clean combustion with a good CO<sub>2</sub> balance.

## Emission

In most countries, stationary driven systems are subjected to emissions guidelines which are considerably higher than the emissions requirements for motor vehicles. Exhaust gas purification using three-way catalytic converters is performed for smaller engines which are operated according to the  $\lambda=1$  principle. Medium-speed engines require oxidation or NO<sub>x</sub> storage catalytic converters, and also optionally urea or ammonia injection systems to reduce NO<sub>x</sub>.



## MAN E0836

Products			Engines*						
Item no.	Product	Comment	E0836 E302	E0836 E312	E0836 LE202	E0834 E302	E0834 E312	E0824 E302	E0826 E302
20 9002 G0830	Kit set	Engine full set			●				
79 333 600	Engine bearing	Connecting rod bearing, pair, standard	●	●	●	●	●		
77 588 600	Engine bearing	Connecting rod bearing, set, standard						●	
77 589 600	Engine bearing	Connecting rod bearing, set, standard							●
77 744 600	Engine bearing	Main bearing, set, standard	●	●	●				
77 743 600	Engine bearing	Main bearing, set, standard				●	●		
77 586 600	Engine bearing	Main bearing, set, standard, incl. flanged bearing						●	
77 587 600	Engine bearing	Main bearing, set, standard, incl. flanged bearing							●
79 299 600	Engine bearing	Thrust washer, pair (top/bottom)	●	●	●	●	●		
79 235 600	Engine bearing	Flanged bearing, pair, standard						●	●
20 9102 G0830	Piston				●				
20 0502 08361	Crankshaft	With bearing	●	●	●				
20 0502 08240	Crankshaft	Without bearing, with gear wheel for differential						●	
20 0502 08260	Crankshaft	Without bearing							●
20 1002 08361	Camshaft		●	●	●				
20 0602 08261	Connecting rod							●	●
20 0202 G8360	Short block		●	●	●				
20 9402 G8361	Valve	EX	●	●	●	●	●		
20 9402 G8360	Valve	IN	●	●	●	●	●	●	●
81-25105	Valve guide	IN	●	●	●	●	●	●	●
81-25104	Valve guide	EX	●	●	●	●	●	●	●
20 0802 G8364	Valve seat insert	IN	●	●	●	●	●	●	●
20 0802 G8365	Valve seat insert	EX	●	●	●	●	●	●	●
20 0802 G8362	Cylinder head		●	●	●	●	●		
89 470 110	Cylinder liner	Dry, finished	●	●	●	●	●	●	●

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# MAN 2842

Products			Engines*					
Item no.	Product	Comment	E2842 E302	E2842 E312	E2842 LE302	E2842 LE312	E2842 LE322	E2848 LE322
78 897 600	Engine bearing	Connecting rod bearing (sputter), pair, standard	●	●	●	●	●	●
79 443 600	Engine bearing	Connecting rod bearing (full sputter), pair, standard	●	●	●	●	●	●
87 397 604	Engine bearing	Main bearing, set, standard, incl. flanged bearing	●	●	●	●	●	
87 401 604	Engine bearing	Main bearing, set, standard, incl. flanged bearing						●
40 208 600	Piston	Compression 11:1		●	●	●	●	
20 9102 G2801	Piston	Compression 12:1			●	●	●	●
94 942 600	Piston	Compression 10:1	●	●				
94 943 600	Piston	Compression 12.5:1	●	●				
80 00300 1 0 000	Piston ring	Set	●		●	●	●	●
80 00155 1 0 000	Piston ring	Set		●	●	●	●	
20 0302 28420	Crankcase		●	●	●	●	●	
20 0302 25380	Crankcase							●
20 0502 28421	Crankshaft		●	●	●	●	●	
20 0502 28480	Crankshaft							●
20 0602 28420	Connecting rod		●	●	●	●	●	●
20 0202 G2842	Short block					●	●	
25-1010 20 9499 00002	Valve	IN	●	●	●	●	●	●
25-1015 20 9499 00001	Valve	EX	●	●	●	●	●	●
81-25101 20 0802 28021	Valve guide	IN	●	●	●	●	●	●
81-2536 20 0802 25663	Valve guide	IN	●	●	●	●	●	●
81-25102 20 0802 28020	Valve guide	EX	●	●	●	●	●	●
81-25103 20 0899 00003	Valve guide	EX, oil-lubricated	●	●	●	●	●	●
92-25005	Valve seat insert	IN, height 7 mm	●	●	●	●	●	●
20 0899 00002	Valve seat insert	IN, height 9 mm	●	●	●	●	●	●
92-25004	Valve seat insert	EX, height 7 mm	●	●	●	●	●	●
20 0899 00001	Valve seat insert	EX, height 9 mm	●	●	●	●	●	●
20 0802 G2810	Cylinder head	Bare, exhaust valve guide oil-lubricated	●	●	●	●	●	●
20 0802 G2830	Cylinder head	Bare	●	●	●	●	●	●
20 0802 G2820	Cylinder head	Complete, exhaust valve guide oil-lubricated	●	●	●	●	●	●
20 0802 G2840	Cylinder head	Complete	●	●	●	●	●	●
89 092 120	Cylinder liner	Wet, finished	●	●	●	●	●	●

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## MAN 2876

Products			Engines*						
Item no.	Product	Comment	E2876 E302	E2876 E312	E2876 LE302	E2876 LE202	E2876 LUH01	E2876 LUH02	E2876 TE302
79 261 600	Engine bearing	Thrust washer, set, standard	●	●	●	●	●	●	●
77 682 600	Engine bearing	Main bearing, set, standard	●	●	●	●	●	●	●
79 237 600	Engine bearing	Connecting rod bearing, sputter, pair, standard	●	●	●	●	●	●	●
79 444 600	Engine bearing	Connecting rod bearing, full sputter version, pair, standard	●	●	●	●	●	●	●
40 207 600 20 9102 G2802	Piston				●				
41 498 600	Piston					●			
80 00155 1 0000	Piston ring	Set	●	●	●	●			●
20 0302 28661	Crankcase		●	●	●	●			●
20 0502 28760	Crankshaft		●	●	●	●	●	●	●
20 1002 G2866	Camshaft		●	●	●	●	●	●	●
50 005 870	Oil pump		●	●	●	●	●	●	●
20 0602 G2876	Connecting rod		●	●	●	●			●
25-1010 20 9499 00002	Valve	IN	●	●	●	●	●	●	●
25-1015 20 9499 00001	Valve	EX	●	●	●	●	●	●	●
81-25101 20 0802 28021	Valve guide	IN	●	●	●	●	●	●	●
81-2536 20 0802 25663	Valve guide	IN	●	●	●	●	●	●	●
81-25102 20 0802 28020	Valve guide	EX	●	●	●	●	●	●	●
81-25103	Valve guide	EX, oil-lubricated	●	●	●	●	●	●	●
20 0899 00003	Valve guide	EX, oil-lubricated	●	●	●	●	●	●	●
92-25005	Valve seat insert	IN, height 7 mm	●	●	●	●	●	●	●
20 0899 00002	Valve seat insert	IN, height 9 mm	●	●	●	●	●	●	●
92-25004	Valve seat insert	EX, height 7 mm	●	●	●	●	●	●	●
20 0899 00001	Valve seat insert	EX, height 9 mm	●	●	●	●	●	●	●
20 0802 G2810	Cylinder head	Bare, exhaust valve guide Oil-lubricated	●	●	●	●			●
20 0802 G2830	Cylinder head	Bare	●	●	●	●			●
20 0802 G2820	Cylinder head	Complete, exhaust valve guide Oil-lubricated	●	●	●	●			●
20 0802 G2840	Cylinder head	Complete	●	●	●	●			●
89 186 120	Cylinder liner	Wet, finished	●	●	●	●			●

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# Pistons and kit sets for gas engines

**Gas engines require pistons specially adapted for the combustion process.**

The main difference between gas and diesel engines is the ignition performance of the gas used (e.g. CNG). Therefore the pistons are adapted to the altered combustion processes and a specific compression ratio.

Motorservice offers suitable pistons for current gas engines in premium quality. The pistons are adapted to the particular operation of the specially developed gas engines and offer a high operating reliability as well as durability.



Item no.:	Manufacturer*	Engine*	Ref. no.*	Cyl. Ø			ε
99 747 600	Deutz	GF x L913	04154475 04230305	102	70	24.5	9.5:1
91 244 600	Deutz	FL 413 Gas		125	91.4	12	11.0:1
40 646 600	Iveco	Cursor 8 CNG F2BE 0641A	2995638	115	69.4	29	11.5:1
40 207 600	MAN	E 2876 LE 302	51.02500.6080 51.02500.6246	128	105.8	25.3	11.0:1
40 208 600	MAN	E 2842 LE 312/LE 322	51.02500.6046	128	94	28.2	11.0:1
94 941 600 94 941 960	MAN	G2866 UH/UM/DUH01-05/DUM01	51.02511-7334	128	96	20	10.0:1
94 942 600 94 942 960	MAN	E 2842 E	51.02501.7534 51.02501.0868	128	96	29	10.0:1
94 943 600 94 943 960	MAN	E 2842 E	51.02501.7535	128	96	22	12.5:1
40 709 600	Mercedes-Benz	M 906	A9060304117	106	80.3	22.5	10.5:1
40 249 600	Mercedes-Benz	M 447	A4470300637 4470300637	128	79.5	36.9	
40 250 600	Mercedes-Benz	M 476	A4470304417 4470304417	128	87.74	32.6	
99 803 700	MWB	M 441, M 442, M 444, M 462	70-11047 70-11093	128	92	24	12.0:1
90 256 600 90 256 960	MWM	TBG 234	1218 9032 KY -0120-07 6.234.0.160.912.7	128	114	32.2	9.0:1
93 886 600 93 886 960	MWM	G 234	1216 3133 6.234.0.160.902.7	128	85	27.8	12.0:1
94 811 600	MWM	TBG 616	12278009 12278557 20 910520160 (BF)	132	88	27.5	12.0:1
40 335 600	Scania	DSC 12, DC 16		127	94	25.4	12.0:1
99 393 600	Waukesha	F18/24, L36, P48	300 304 K	152		36.7	11.0:1
20 9102G0830	MAN	E 0836 LE 202	51.02500.6081	108	70.1	20.4	11.0:1
20 9102G2801	MAN	E 2842 LE 312/322	51.02500.6157	128	91.6	26	12.0:1

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\* The reference numbers given are for comparison purposes only and must not be used on invoices to the consumer.

## Semi-finished gas pistons without recesses

Motorservice offers semi-finished pistons without recesses for the special requirements of gas engines for which there is no standard piston. The crowns of these pistons can be freely formed and can therefore be machined to match your precise requirements.

### Scope of supply

The pistons are supplied including an enclosed piston ring set, piston pin and circlips.

### Order information

To order the gas pistons, please get in touch with your contact person from our Sales team.

If required, we can machine the gas pistons in our Competence Centre in Asperg according to your requirements and specifications, and based on drawings or templates.

Our Sales team will be happy to provide you with a quotation for this machining work.

You can obtain corresponding cylinder liners from Motorservice.



Item no.	Engine*	Piston design	Connecting rod support
41 495 600	E2876xxxxx	Without cooling channel	Trapezoidal connecting rod
41 499 600	E2842xxxxx E2848xxxxx	Without cooling channel	Parallel connecting rod
40 822 600	E2676xxxxx	With cooling channel	Trapezoidal connecting rod



### Important note:

The piston may not be installed without machining the piston crown!

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**Motorservice Group.****Quality and service from a single source.**

The Motorservice Group is the sales organisation for the global aftermarket activities of KSPG (Kolbenschmidt Pierburg). It is one of the leading suppliers of engine components for the independent aftermarket, including the premium brands KOLBENSCHMIDT, PIERBURG and TRW Engine Components, as well as the BF brand. Our comprehensive product range allows our customers to obtain engine components from a single source. As a problem solver for dealers and garages, Motorservice offers extensive service and the technical expertise that you would expect from the subsidiary of one of the largest automotive suppliers.

**KSPG (Kolbenschmidt Pierburg).****Renowned supplier to the international automotive industry.**

As long-standing partners to the automotive industry, the companies in the KSPG Group develop innovative components and system solutions with acknowledged competence for air supply and emission control, for oil, water and vacuum pumps, for pistons, engine blocks and engine bearings. The products comply with the high demands and quality standards of the automotive industry. Low emissions, reduced fuel consumption, reliability, quality and safety – these are the forces that drive innovation at KSPG.

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