

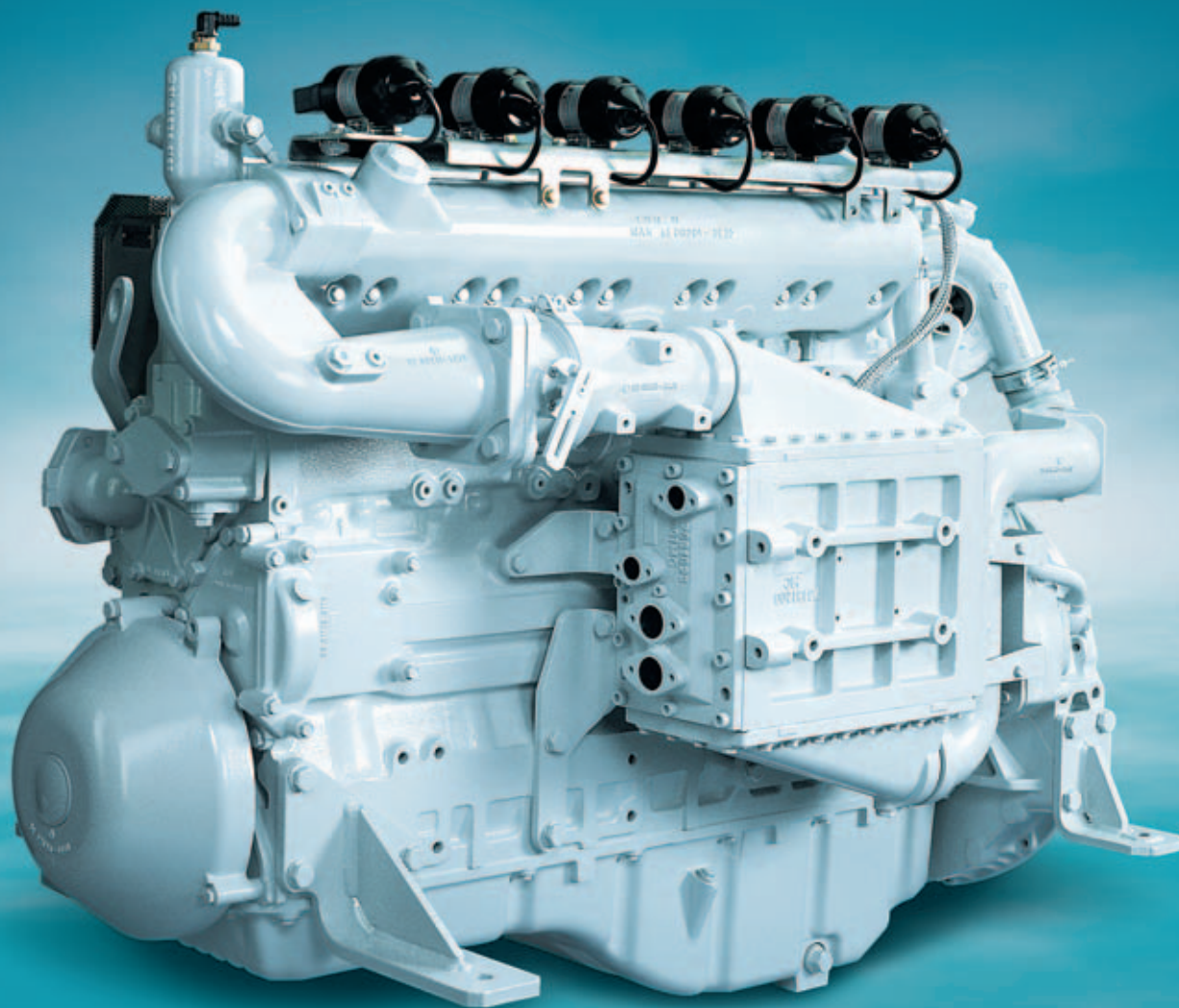
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E2876

6-cylinder gas engine for cogeneration plants



Efficient and Clean

Producers and operators of cogeneration plants have stringent demands. Robust and compact engines have to work reliably round-the-clock. Economic operation is important for the lifetime of the complete plant. Economic means highly efficient use of resources and low running costs of the plant. Due to continuous development MAN engines always work highly efficiently, reliably and environmentally-friendly.

Engine Description E2876

Characteristics

Cylinder and arrangement	6-cylinder in line
Operation mode	4-stroke otto gas engine
Charging	Exhaust turbocharger with watercooled turbine housing for the LE 302 und TE 302
Type of cooling	Watercooled
Mixture cooling	Two-stage for the LE 302

Dimensions E2876

Type of engine		E 312	TE 302	LE 302
A-Overall length	mm	1 330	1 545	1 520
B-Overall width	mm	830	835	830
C-Overall height	mm	1 035	1 210	1 210
Weight (dry)	kg	830	920	990

Customer Benefits

- High efficiency due to optimal combustion
- Compact design
- Reduced operating costs due to low fuel and oil consumption as well as long service life
- Sophisticated and well-tested technology ensures reliable operation and long lifetime
- Low emissions to save the environment

Technical Data E2876

Operation mode		COP with natural gas				COP with biogas		
		1 500 (50 Hz)		1 800 (60 Hz)		1 500 (50 Hz)		1 800 (60 Hz)
Type of engine		E 312	LE 302	E 312	LE 302	TE 302	LE 302	LE 302
at speed	rpm	1 500 (50 Hz)		1 800 (60 Hz)		1 500 (50 Hz)		1 800 (60 Hz)
Bore	mm	128	128	128	128	128	128	128
Stroke	mm	166	166	166	166	166	166	166
Displacement	l	12.8	12.8	12.8	12.8	12.8	12.8	12.8
ISO standard rating	kW	150	210	170	210	130	200	200
Air ratio	λ	1.0	1.6	1.0	1.6	1.4	1.4	1.4
Coolant heat ¹	kW	128	99	145	106	124	98	106
Exhaust heat up to 120°C ¹	kW	79	143	98	157	57	129	137
Efficiency ¹								
mechanical	%	38.4	39.0	38.0	37.0	38.0	40.6	38.5
thermal	%	52.8	48.9	54.1	50.7	52.8	49.4	50.8
total	%	91.2	87.9	92.1	87.7	90.8	90.0	89.3
Emissions ² NO _x	mg/Nm ³	< 4 500	< 500	< 4 250	< 500	< 500	< 500	< 500
Combustion ³		st	m	st	m	m	m	m

¹ At 100% load. ² Correlation 5% oxygen. ³ m=lean burn, st=stoichiometric.

Definition of Application

Engines for COP (continuous power) are designed for 8 000 annual operation hours at a load factor of 100%. Usually, these engines are used in cogeneration plants.

