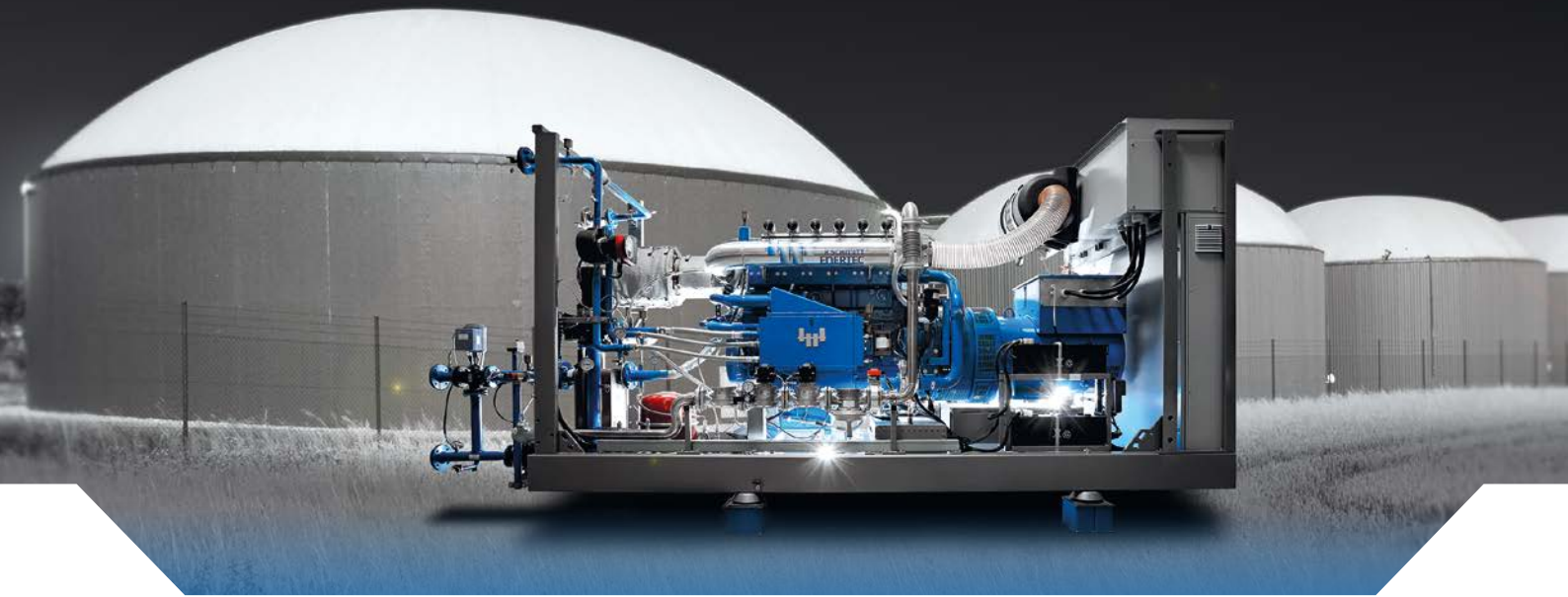


# ENERGIN® GEN+ 60 Hz | Generation 4x

## Generators Sets with Heat Recovery



Our ENERGIN® GEN+ units are compact cogeneration plants with heat recovery from the jacket water. The innovative design allows an easy and space-saving installation. All major components like gas engine generator unit, heat exchanger, circulation pumps and control cabinet are factory mounted on a common frame.

The gas engines of the in-house M-series are the core of our units in the electrical power range of 130 - 500 kW. The engines are specially developed and manufactured by us for the use with different gases. In addition to natural gas and biogas, the engines can also run with LPG, wood gas and other special gases. For the latest engine generation, we rely on the modern 4-valve technology to provide even higher efficiency.

With an optional sound attenuating enclosure, that is mounted on the base frame, the sound pressure level can be reduced to less than 70 dB(A) in 1 m distance. For customers with steam requirements, the ENERGIN® GEN+ can also be supplied in conjunction with a steam boiler.

For higher heat demands we recommend our ENERGIN® CHP units with additional heat recovery from the exhaust gas of the engine.

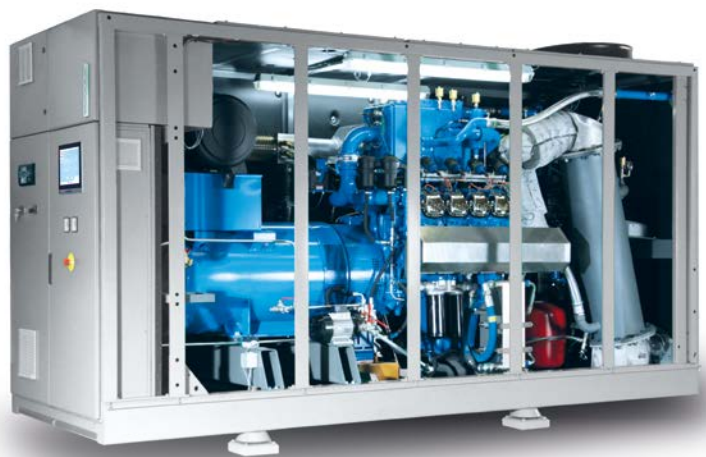
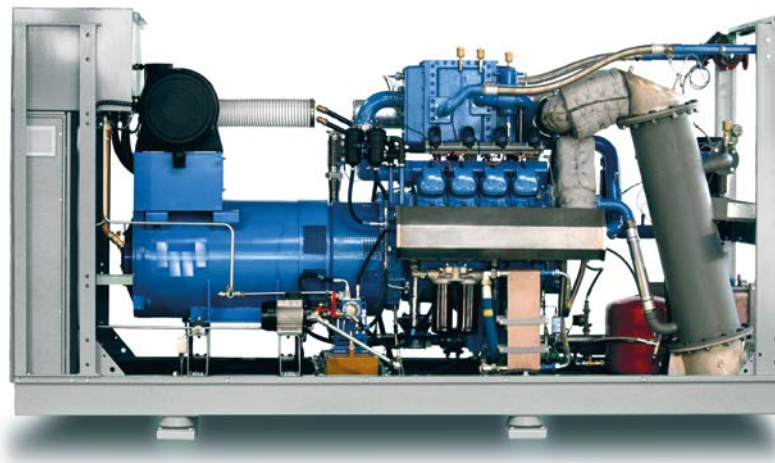
	ENERGIN® type	Engine type	Electrical power	Electrical efficiency	Thermal power	Overall efficiency
natural gas	GEN+ G150/60 Hz	M06-GT0D41	150 kW	37,0 %	127 kW	68,4 %
	GEN+ G210/60 Hz	M06-GT1D41	210 kW	39,5 %	149 kW	67,5 %
	GEN+ G250/60 Hz	M06-GT2D41	250 kW	40,3 %	145 kW	63,7 %
	GEN+ G280/60 Hz	M08-GT1D41	280 kW	39,5 %	200 kW	67,7 %
	GEN+ G333/60 Hz	M08-GT2D41	333 kW	40,4 %	194 kW	63,9 %
	GEN+ G420/60 Hz	M12-GT1D41	420 kW	39,6 %	300 kW	67,9 %
biogas	GEN+ G500/60 Hz	M12-GT2D41	500 kW	40,5 %	285 kW	63,6 %
	GEN+ B150/60 Hz	M06-BT0D41	150 kW	37,8 %	112 kW	66,0 %
	GEN+ B210/60 Hz	M06-BT1D41	210 kW	40,2 %	134 kW	65,9 %
	GEN+ B250/60 Hz	M06-BT2D41	250 kW	41,1 %	130 kW	62,5 %
	GEN+ B280/60 Hz	M08-BT1D41	280 kW	40,2 %	180 kW	66,1 %
	GEN+ B333/60 Hz	M08-BT2D41	333 kW	41,2 %	175 kW	62,8 %
LPG	GEN+ B420/60 Hz	M12-BT1D41	420 kW	40,4 %	270 kW	66,4 %
	GEN+ B500/60 Hz	M12-BT2D41	500 kW	41,2 %	258 kW	62,5 %
	GEN+ P130/60 Hz	M06-PT0D41	130 kW	31,0 %	161 kW	69,4 %
	GEN+ P173/60 Hz	M06-PT1D41	173 kW	33,5 %	184 kW	69,1 %
	GEN+ P205/60 Hz	M06-PT2D41	205 kW	34,3 %	189 kW	65,9 %
	GEN+ P233/60 Hz	M08-PT1D41	233 kW	33,5 %	248 kW	69,1 %
woodgas	GEN+ P260/60 Hz	M08-PT2D41	260 kW	34,3 %	241 kW	66,1 %
	GEN+ P350/60 Hz	M12-PT1D41	350 kW	33,6 %	374 kW	69,5 %
	GEN+ P450/60 Hz	M12-PT2D41	450 kW	34,5 %	407 kW	65,7 %
	GEN+ H140/60 Hz	M06-HT2D41	140 kW	33,3 %	125 kW	63,0 %
	GEN+ H180/60 Hz	M08-HT2D41	180 kW	33,4 %	160 kW	63,1 %
	GEN+ H275/60 Hz	M12-HT2D41	275 kW	33,5 %	249 kW	63,8 %

Engine specification			
Bore	[mm]	130	
Stroke	[mm]	142	
Speed	[min <sup>-1</sup> ]	1.800	
Mean piston speed	[m/s]	8,5	
Applicable gas types	G = natural gas B = biogas P = propane and other high calorific gases H = woodgas and other low calorific gases		
Aspiration	T = turbocharged		
Mixture cooling	0 = none 1 = internal 2 = double stage internal / external		
Exhaust manifolds	D = dry, insulated		
ENERGIN® type	M06	M08	
No. of cylinders / configuration	6 in V90°	8 in V90°	12 in V90°
Displacement [dm <sup>3</sup> ]	11,3	15,1	22,6



## GEN+ Basic scope of supply

4-stroke gas engine coupled with double bearing alternator, mounted on common frame	●
Sound attenuating enclosure with air ventilation, mounted on common frame	○
Heat recovery from jacket water, lube oil and if applicable 1 <sup>st</sup> stage mixture cooling	●
Remote radiator for 2 <sup>nd</sup> stage (if applicable)	○
Remote radiator for jacket water, lube oil and if applicable 1 <sup>st</sup> stage mixture cooling	○
ENERSCREEN® control system with 12" touch panel for engine, alternator and auxiliaries, set mounted in switchboard, with synchronizing and alternator protection functions	●
Generator circuit breaker, set mounted in switchboard	●
Lube oil system designed for long oil change intervals	●
Electric pre-lubrication pump with changeover valve	●
Exhaust silencer in single or two-stage design, supplied loose	○

● included    ○ as an option



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