

# ENERGIN® CHP 60 Hz | Generation 4x

## Combined Heat and Power Units



Our ENERGIN® CHP units are compact cogeneration plants with highly efficient heat recovery from the jacket water and the exhaust gas of the gas engine. The innovative design allows an easy and space-saving installation. All major components like gas engine generator unit, heat exchangers, circulation pumps, primary exhaust silencer 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.

	ENERGIN® type	Engine type	Electrical power	Electrical efficiency	Thermal power	Overall efficiency
natural gas	CHP G150/60 Hz	M06-GT0D41	150 kW	37,0 %	215 kW	90,1 %
	CHP G210/60 Hz	M06-GTID41	210 kW	39,5 %	272 kW	90,6 %
	CHP G250/60 Hz	M06-GT2D41	250 kW	40,3 %	294 kW	87,7 %
	CHP G280/60 Hz	M08-GTID41	280 kW	39,5 %	364 kW	90,8 %
	CHP G333/60 Hz	M08-GT2D41	333 kW	40,4 %	393 kW	88,0 %
	CHP G420/60 Hz	M12-GTID41	420 kW	39,6 %	546 kW	91,1 %
	CHP G500/60 Hz	M12-GT2D41	500 kW	40,5 %	584 kW	87,8 %
biogas	CHP B150/60 Hz	M06-BT0D41	150 kW	37,8 %	192 kW	86,2 %
	CHP B210/60 Hz	M06-BTID41	210 kW	40,2 %	242 kW	86,6 %
	CHP B250/60 Hz	M06-BT2D41	250 kW	41,1 %	258 kW	83,5 %
	CHP B280/60 Hz	M08-BTID41	280 kW	40,2 %	324 kW	86,8 %
	CHP B333/60 Hz	M08-BT2D41	333 kW	41,2 %	345 kW	83,8 %
	CHP B420/60 Hz	M12-BTID41	420 kW	40,4 %	485 kW	87,0 %
	CHP B500/60 Hz	M12-BT2D41	500 kW	41,2 %	513 kW	83,5 %
LPG	CHP P130/60 Hz	M06-PT0D41	130 kW	31,0 %	250 kW	90,7 %
	CHP P173/60 Hz	M06-PTID41	173 kW	33,5 %	298 kW	91,1 %
	CHP P205/60 Hz	M06-PT2D41	205 kW	34,3 %	325 kW	88,6 %
	CHP P233/60 Hz	M08-PTID41	233 kW	33,5 %	402 kW	91,3 %
	CHP P260/60 Hz	M08-PT2D41	260 kW	34,3 %	411 kW	88,6 %
	CHP P350/60 Hz	M12-PTID41	350 kW	33,6 %	604 kW	91,6 %
	CHP P450/60 Hz	M12-PT2D41	450 kW	34,5 %	708 kW	88,8 %
woodgas	CHP H140/60 Hz	M06-HT2D41	140 kW	33,3 %	226 kW	87,0 %
	CHP H180/60 Hz	M08-HT2D41	180 kW	33,4 %	289 kW	87,0 %
	CHP H275/60 Hz	M12-HT2D41	275 kW	33,5 %	446 kW	87,8 %

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



## CHP 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, exhaust and if applicable 1 <sup>st</sup> stage mixture cooling	●
Cooling of exhaust to 120 °C for natural gas, wood gas or LPG and 180 °C for biogas applications	●
Remote radiator for 2 <sup>nd</sup> stage (if applicable)	○
Remote radiator for jacket water, lube oil, exhaust 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	●
Primary exhaust silencer, set mounted	●
Secondary exhaust silencer, supplied loose	○

● included    ○ as an option



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