

# ENERGIN® CHP | 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 115 - 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	M06 CHP G140	M06-GT0D41	140 kW	38,6 %	187 kW	90,1 %
	M06 CHP G200	M06-GT1D41	200 kW	41,0 %	241 kW	90,4 %
	M06 CHP G250	M06-GT2D41	250 kW	41,8 %	272 kW	87,3 %
	M08 CHP G260	M08-GT1D41	260 kW	41,0 %	315 kW	90,7 %
	M08 CHP G333	M08-GT2D41	333 kW	41,9 %	364 kW	87,7 %
	M12 CHP G400	M12-GT1D41	400 kW	41,1 %	483 kW	90,7 %
	M12 CHP G500	M12-GT2D41	500 kW	42,1 %	539 kW	87,5 %
biogas	M06 CHP B140	M06-BT0D41	140 kW	39,3 %	165 kW	85,6 %
	M06 CHP B200	M06-BT1D41	200 kW	41,8 %	213 kW	86,3 %
	M06 CHP B250	M06-BT2D41	250 kW	42,6 %	238 kW	83,1 %
	M08 CHP B260	M08-BT1D41	260 kW	41,7 %	280 kW	86,6 %
	M08 CHP B333	M08-BT2D41	333 kW	42,6 %	320 kW	83,6 %
	M12 CHP B400	M12-BT1D41	400 kW	41,9 %	427 kW	86,6 %
	M12 CHP B500	M12-BT2D41	500 kW	42,7 %	477 kW	83,5 %
LPG	M06 CHP P115	M06-PT0D41	115 kW	30,7 %	225 kW	90,7 %
	M06 CHP P173	M06-PT1D41	173 kW	34,9 %	277 kW	90,9 %
	M06 CHP P205	M06-PT2D41	205 kW	35,8 %	301 kW	88,3 %
	M08 CHP P233	M08-PT1D41	233 kW	35,0 %	375 kW	91,3 %
	M08 CHP P260	M08-PT2D41	260 kW	35,9 %	382 kW	88,6 %
	M12 CHP P350	M12-PT1D41	350 kW	35,1 %	561 kW	91,4 %
	M12 CHP P450	M12-PT2D41	450 kW	36,0 %	657 kW	88,5 %
woodgas	M06 CHP H122	M06-HT2D41	122 kW	34,8 %	182 kW	86,7 %
	M08 CHP H166	M08-HT2D41	166 kW	34,9 %	248 kW	87,0 %
	M12 CHP H250	M12-HT2D41	250 kW	35,0 %	375 kW	87,4 %

Engine specification				
Bore	[mm]	130		
Stroke	[mm]	142		
Speed	[min <sup>-1</sup> ]	1.500		
Mean piston speed	[m/s]	7,1		
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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