

ENERGIN® M-Series

The R SCHMITT ENERTEC **ENERGIN®** M-series gas engines have been developed especially for stationary use and the combustion of gaseous fuels. The engines are individually fitted for the respective fuel gas of the application. The engines build the base for different arrangements from Power generation sets to highly efficient combined heat and power units.



Bore [mm]	128 [inline] 130 [V]
Stroke [mm]	155 [inline] 142 [V]
Speed [rpm]	1500
Mean piston speed [m/s]	7,75 [inline] 7,1 [V]
Available Arrangements	GEN = Generator Set Gen+ = Generator Set with heat recovery CHP = cogeneration unit
Applicable gas types	G = Natural Gas, B = Biogases, H = low calorific syn gases, P = Propane and other high calorific gases
Aspiration	N = natural T = Turbocharged M = Turbocharged with Miller cycle
Mixture cooling	O = none; I = internal; A = external, 2 = double stage internal/external
Exhaust manifolds	W = watercooled manifolds D = dry, insulated manifolds
Engine types	ENERGIN-M06 ENERGIN-M08 ENERGIN M12
No. of cylinders, configuration	6 inline 8 V/90° 12 V/90 °
Total displacement [ltr.]	12 15,1 22,6

Arrangements

GEN

Generator Set for isolated intermittent load, with engine control and protection function, with set mounted radiator or prepared for remote radiator connection

GEN+

Generator Set including heat recovery from jacket water and as an option from the exhaust. Layout for parallel operation with the national grid or as an option with emergency operation, island, or island parallel operation with other generators. The unit is supplied as a ready build, compact unit. Gas-engine and generator are connected with a flexible coupling and mounted on the baseframe with anti vibration mounts. The heat exchangers for jacket water and as an option for exhaust are also fitted on the same frame and are ready piped. To compensate the oil consumption within one maintenance interval, the unit is equipped with a lube oil make up tank and a automatic lube oil level control on the engine oil pan.

The engine and auxiliary control panel is fitted on the frame and is ready wired and tested in the factory. The power panel with motorized synchronizing breaker is also mounted on the frame and ready wired to the generator. A utility grade Generator and Mains protection relay is also included.

As an option a sound enclosure is fitted on the same frame with engine and generator including an electric fan for ventilation.

All items are piped and cabled, the complete package is tested in the factory and shipped in one piece.



CHP

Combined Heat and Power (CHP) unit for the simultaneous production of electricity and hot water. Layout for parallel operation with the national grid or as an option with emergency operation, island, or island parallel operation with other generators. The unit is supplied as a ready build, compact unit. Gas-engine and generator are connected with a flexible coupling and mounted on the baseframe with anti vibration mounts. Heat exchangers for jacket water and exhaust and a primary exhaust silencer are also fitted on the same frame and are ready piped. To compensate the oil consumption within one maintenance interval, the unit is equipped with a lube oil make up tank and a automatic lube oil level control on the engine oil pan.

The engine and auxiliary control panel is fitted on the frame and is ready wired and tested in the factory. The power panel with motorized synchronizing breaker is also mounted on the frame and ready wired to the generator. A utility grade Generator and Mains protection relay is also included.

As an option a sound enclosure is fitted on the same frame with engine and generator including an electric fan for ventilation.



Ratings, 400 V, 50 Hz

ENERGIN	Aspiration	Mixture cooling	Exhaust manifolds	Fuel	Pel ¹ [kW]	GEN GEN+ CHP Eta el. [%]	CHP		GEN+ without exhaust heat		GEN+ with exhaust heat	
							Pth ² [kW]	Eta total [%]	Pth [kW]	Eta total [%]	Pth ³ [kW]	Eta total [%]
<i>Natural Gas</i>												
MO6	N	0	W	G	100	34,6	166	92,0	115	74,4	151	87,2
	N	0	W	G	122	35,1	198	92,0	137	74,4	180	86,8
	T	1	W	G	173	35,8	264	90,5	179	72,9	228	83,0
	T	2	W	G	185	36,5	260	87,8	169	69,8	221	80,1
	T	2	D	G	205	37,5	266	86,1	142	63,4	223	78,2
MO8	N	0	W	G	125	35,6	-	-	-	-	-	-
	N	0	W	G	151	36,0	235	92,1	162	74,7	213	86,9
	T	1	W	G	220	37,3	314	90,5	210	72,9	270	83,1
	T	2	W	G	233	37,7	309	87,7	199	69,9	262	80,1
	T	2	D	G	260	37,8	332	86,0	176	63,4	278	78,2
M12	N	0	W	G	230	36,1	358	92,3	246	74,7	325	87,1
	T	1	W	G	334	36,6	496	90,9	334	73,2	427	83,4
	T	2	W	G	350	38,1	458	87,9	295	70,2	389	80,4
	T	2	D	G	400	38,5	498	86,4	261	63,6	415	78,5
	M	2	D	G	500	39,5	587	85,8	282	61,7	481	77,5
<i>Biogas</i>												
MO6	N	0	W	B	80	32,7	135	86,7	97	72,2	123	82,9
	T	0	W	M	115	37,0	153	86,2	109	72,0	142	82,6
	T	1	W	B	173	37,2	227	86,0	159	71,4	209	81,9
	T	2	D	B	205	38,8	227	81,8	123	62,1	204	77,3
MO8	N	0	W	B	100	33,8	156	85,6	115	72,6	146	83,1
	T	1	W	B	200	36,4	275	86,5	193	71,6	252	82,3
	T	2	W	B	233	38,1	278	83,5	186	68,5	252	79,1
	T	2	D	B	260	41,6	251	81,8	128	62,1	224	77,4
M12	T	1	W	B	300	36,9	404	86,8	285	72,0	372	82,7
	T	2	W	B	350	38,9	405	83,9	269	68,8	366	79,6
	T	2	D	B	400	40,2	418	82,2	220	62,3	374	77,8
	M	2	D	B	500	41,2	493	81,7	245	61,3	438	77,2
<i>Woodgas</i>												
MO8	T	2	D	H	166	33,1	255	84,0	149	62,7	217	76,3
M12	T	2	D	H	250	33,5	376	83,9	244	66,2	321	76,5

- 1) Electric power based on ISO standard conditions according to ISO 3046/1, at power factor 1.0, with respective tolerance
Minimum Methane Number 76 for Natural gas engines, Minimum CH₄ content 50 % for Biogas engines
 - 2) Thermal power with a tolerance of +/- 8%, with exhaust cooled to 120 °C on natural gas and woodgas engines, or 180 °C on biogas engines
 - 3) Thermal power with a tolerance of +/- 8%, with exhaust cooled to 250 °C
- All values are valid under full load conditions and are subject to change due to technical development



**R SCHMITT®
ENERTEC**

Committed to Performance

