NATURAL GAS FIRED EM 16NG

SPECIFICATION DATASHEET

Energy efficiency:	A++
Operational mode:	Mains parallel operation
Fuel:	Natural gas or LPG
Electrical output (P_{el}):	16 kW [2] min 8 kW
Thermal output (P_{th}):	35.6 kW [2] min 24.7 kW
Fuel consumption:	51.8 kW[1] (nett) 57.5 kW (gross)
CHP coefficient:	0.43
Efficiency:	EN 50465
Total efficiency:	104.5% (nett) 94.1% (gross)
Electric efficiency:	31% (nett) 28.1% (gross)
Thermal efficiency:	73.5% (nett) 66.0% (gross)
Gas-connection pressure:	20-50 mbar
Gas-flow pressure:	≤16 mbar
Flow rate with natural gas:	5.0 Nm³/h
Flow temperature:	max. 90 ° C
Return temperature:	max. 70 ° C
Max. system pressure:	6 bar (heating side)
Combustion & cooling air requirement:	min. 58 m³/h (65 kg/h)
Ambient temperature:	5°C to max. 35°C
Exhaust gas emissions:	at 0 Vol% remaining oxygen
CO (carbon monoxide):	< 37.0 mg/kWh
NOx (nitrogen oxide):	< 26.9 mg/kWh
Exhaust gas temperature:	~ 50 ° C[2]
Exhaust gas volume flow:	~ 63 m³/h
Exhaust gas mass flow dry:	~ 70 kg/h
Exhaust gas back pressure after CS[4]:	max. 5 mbar
Sound pressure level CHP:	~ 46 dB(A) (1 m distance)

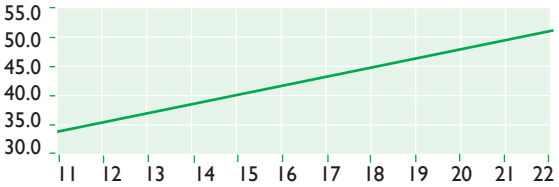
CHP: Dimensions, weights and connections

L x W x H CHP:	1.27 x 0.82 x 0.98 m
Weight CHP: incl. oil and water	740 kg
ϕ x H CS[4]:	0.30 x 1.52 m (w/o flanges)
Weight CS[4]:	30 kg
Colour CHP:	Pantone 5517C
Heating connections (VL):	R 3/4" Flow (warm)
	R 3/4" Return (cold)
Exhaust gas connection CS[4]:	DN100
Gas connection:	R 3/4" NG

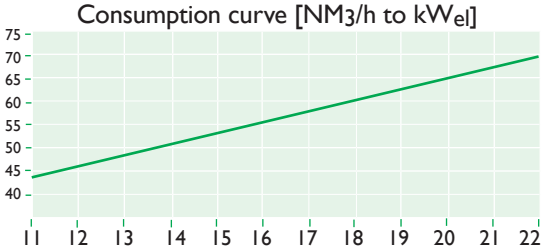
Motor

	K18
Type:	Straight line (Otto)
Operation:	4-stroke
Cylinder:	3
Displacement:	1.8 litres
Nominal engine speed:	1500 1/min

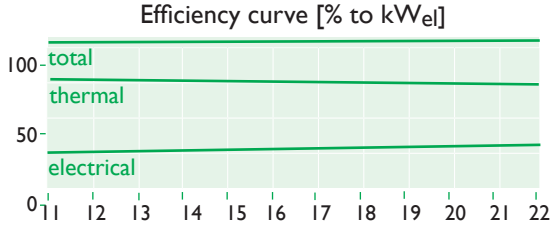
Output curve [kW_{th} to kW_{el}]
Continuous modulation range



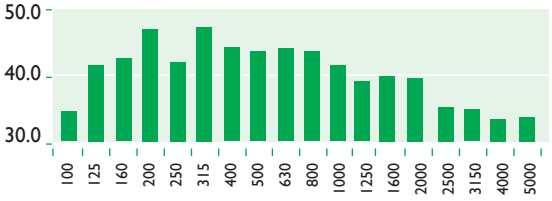
Consumption curve [NM_3/h to kW_{el}]



Efficiency curve [% to kW_{el}]



Sound pressure level curve [dB(A) to Hz][5]



[1] According to DIN ISO 3046-1, tolerance 5%
[2] Return temperature 60° C
[3] According to EU RL 2004/8/EG with 100% internal use
[4] Combination silencer
[5] Test stand measuring without liability
[6] According to EnEVAndV 2009

Environmentally friendly, independent, reliable energy

PRIME MOVER UNIT

ASYNCHRONOUS GENERATOR EMOD WKASYG

Cooling:	water cooled
Power:	16 kW
Voltage:	400 V
Nominal current:	30 A
Frequency:	50 Hz
Operating mode:	S1

ELECTRICAL DATA ENERGIMISER 16

Max. effective power PA_{max}:	16 kW
Max apparent power SA_{max}:	16.6 kVA
cos φ:	0.97
Nominal voltage UN:	400 V
Rated current Ir:	25 A
Grid input:	three phase current
Isolated operation intended?:	No
Motor-driven start intended:	No
Starting current IA:	-
Short circuit current I"K:	0.17 kA
Short circuit stability of the complete system IK:	10 kA
Reactive power compensation:	Existing
Number of compensation steps:	1
Reactive power per step:	7.3 kVArw
Detuning factor respectively resonance frequency:	0
Own requirement:	0.045 kVA

SETTING GRID PROTECTION (VDE-AR-N 41050)

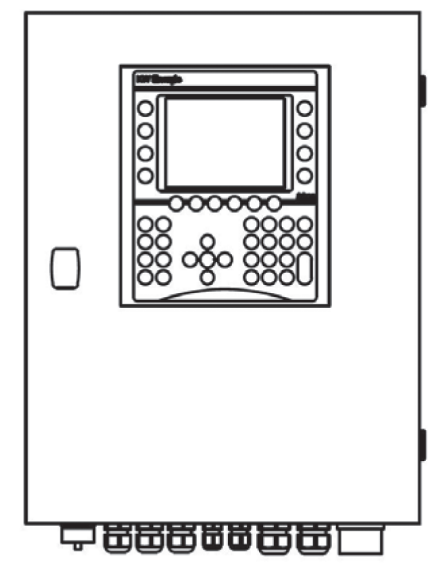
Voltage drop protection U<	0.8 U_n (100 ms)
Voltage increase protection U>	1.1 U_n (100 ms)
Voltage increase protection U>>	1.15 U_n (100 ms)
Frequency drop protection f<	47.5 Hz (100 ms)
Frequency increase protection f>	51.5 Hz (100 ms)

CABINET: DIMENSIONS AND WEIGHT

(Wall mounting, connections at the bottom, standard cable set 6 m)

W x D x H:	0.40 x 0.19 x 0.52 m
Weight:	21 kg
Colour:	Pantone 5517C

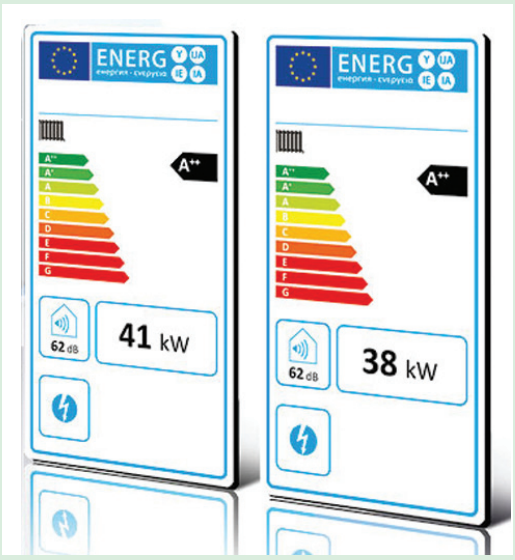
Standard reference conditions according to DIN ISO 3046-1: The technical data are based on natural gas H with a heating value of 10.0 kWh/Nm^3 (total air pressure 100 kPa, air temperature 25°C, relative humidity 30%, 100m above sea level). Power adjustment at ambient conditions according to DIN ISO 3046-1 respectively DIN 6271-3. The tolerance of the specific fuel consumption is +5% at nominal power and the tolerance of the usable thermal output is 7% at nominal power. We reserve the right to change data and characteristics without prior notice in accordance with our business policy and the ongoing development process.



ENERGIMISER 16 CONTROL BR06

Free programmable SPS control system to control, adjust, calculate, measure and display result. The control system is equipped with a full graphics display and all function buttons, required to operate the combined heat and power plant. The 5.7" LCD display shows information about the system and its current status.

The BR06 can optionally be expanded by a heating control system, requirement peak load boiler (up to 2 boilers), data transfer via LAN and Internet with an error notification via email (only with DSL) and an interface connection to external systems (Ethernet UDP, Mod-Bus RTU, RK 512, 3964R).



ENERGIMIZER
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