Combined Heat & Power Solutions

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Company reg No. 07041090 VAT No. 982278775

Technical specification of CHP unit

KE-MNG 70 eco

	400V/50Hz	Natural gas
Electrical power	kW	70
Thermal power	kW	114
Energy input	kW	204
Fuel consumption	m^3/h	21,3
Electrical efficiency	%	34,7
Thermal efficiency with LT	%	-
Thermal efficiency without LT	%	55,9
Overall efficiency without LT	%	**90.6**

Engine: MAN Type: E0836 E302

No. of cylinders	-	6 in line
Rated speed	min^{-1}	1500
Bore/stroke/swept vol.	mm / mm / dm^3	108/125/6,87
Compression ratio	-	13:1
Engine power max.	kW	75
Lambda air/fule	-	1,00
Lube oil consumption	kg/h	0,1
Lube oil filling quantity	dm^3	34

Generator: LSA Type: 44.3 S5

Voltage/Frequency	V/Hz	400/50
Cos φ	-	0,8 - 1,0
General efficiency	%	94,6
Max. ambient temperature	°C	40

Rating data

					Performance parameters supplied by CHP unit
Load	%	**100**	**75**	**50**	**99**
ISO engine power	kW	75	56	38	**74**
Electrical power	kW	71	53	36	**70**
Coolant heat	kW	63	52	43	**62**
Exhaust heat (120 °C)	kW	51	33	23	**45**
Exhaust heat (90 °C)	kW	-	-	-	**-**
Intercooler heat HT	kW	-	-	-	**-**
Intercooler heat LT	kW	-	-	-	**-**
Total heat power	kW	109	85	66	**108**
Radiation heat max.	kW	15	-	-	**15**
Energy input 1)	kW	204	159	122	**202**
Fuel consumption	m^3/h	21,6	16,8	12,9	**21,3**
Combustion air	kg/h	257	198	151	**254**
Exhaust gas mass flow	kg/h	272	209	160	**269**
Exhaust gas temperature	°C	610	580	550	**608**
Electrical efficiency 1)	%	34,7	33,3	29,5	**34,7**
Thermal efficiency	%	55,9	53,5	54,1	**53,4**
Overall efficiency	%	**90,6**	**86,8**	**83,6**	**88,1**

1) According to ISO 3046.

Fuel: Natural gas

Min. methan no.	-	80
Calorific value	MJ/Nm^3	34
Gas pressure in the inlet pipe	kPa	1,5÷5
Max. gas temperature	°C	30

Secondary circuit

Heat power	kW	108	
Temperature gradient	°C / °C	90/80	
Cooling medium volume flow	m^3/h	9,57	
Pressure loss of PHE	bar	0,1	
Heat transfer medium	-	Treated water	
Max. operating pressure	bar	6	

Ventilation air

Fan air volume flow 1)	m^3/h	4300	
Max. allowable pressure loss of air duct 2)	Pa	70	
Max. inlet air temperature	°C	35	

1) At temperature 35 °C, pressure 101,3 kPa

2) Air ducts between CHP unit and air inlet/air outlet.

Exhaust gas system

Exhaust gas mass flow, wet	kg/h	269	
Exhaust gas temperature after EGHE	°C	120	
Max. allowable pressure loss 1)	mbar	6,7	
Silencer flanges	-	DN 125, PN 10	

1) Exhaust gas pipe between CHP unit and outlet (without silencer).

Emissions

CO	mg/Nm^3	<150	
NO_x	mg/Nm^3	<125	alternatively 80

Correlation 5% O_2

Noise level

Without Canopy 1)	dB(A)	98,8	
With canopy 1)	dB(A)	74	
Container 2)	dB(A)	70	
Exhaust line at 1 meter distance from silencer 3)	dB(A)	80	
Input/Output ventilation 1)	dB(A)	80	

1) Sound pressure level measured at 1 m distance from the CHP unit.

2) Sound pressure level measured at 10 m distance from the container.

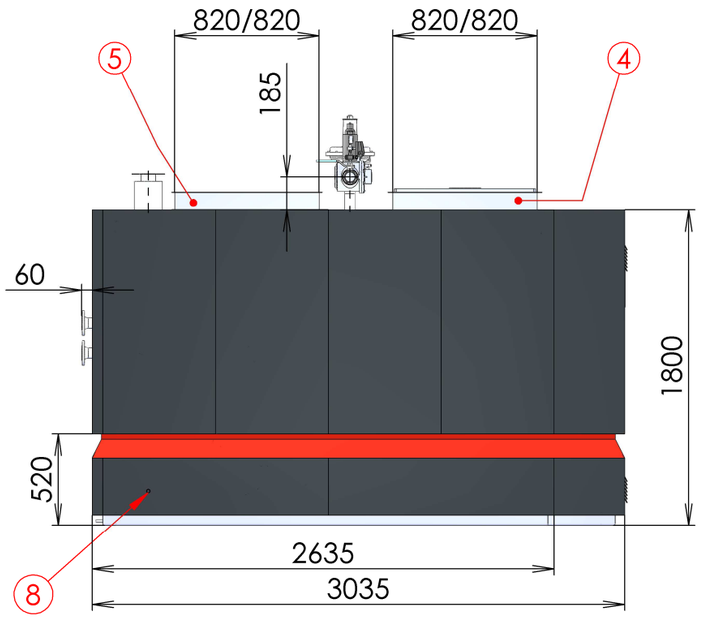
3) Depending on the requirement, noise can be reduced by additional optimization of the standard silencer.

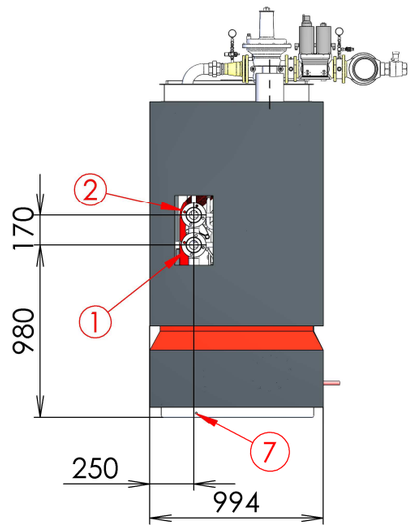
Standard conditions, tolerance, weigth

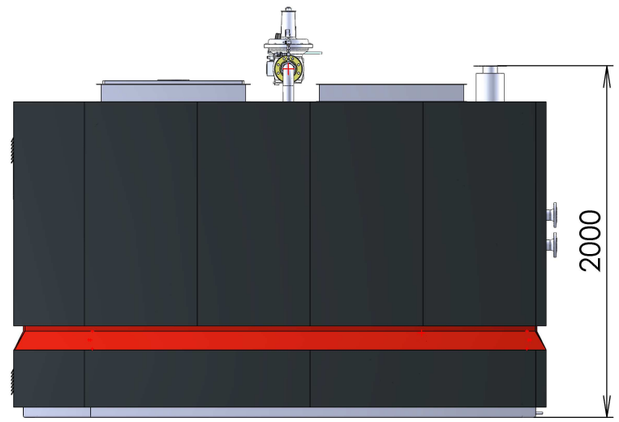
Atmospheric pressure	kPa	100	
Air temperature	°C	25	
Relative air humidity	%	30	
Tolerance for the electrical output	%	±3	
Tolerance for the usable heat	%	±7	
Tolerance for the specific fuel consumption	%	±5	
Dimensions of canopy L / W / H	mm	3035/1100/1800	
Dry weight	kg	3200	

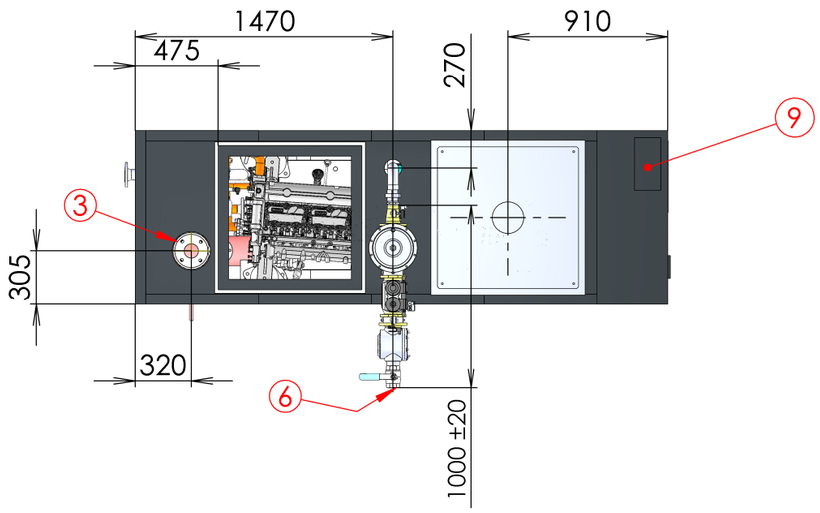
Detailed technical specifications of components on demand.

Change of technical parameters and printing errors reserved.

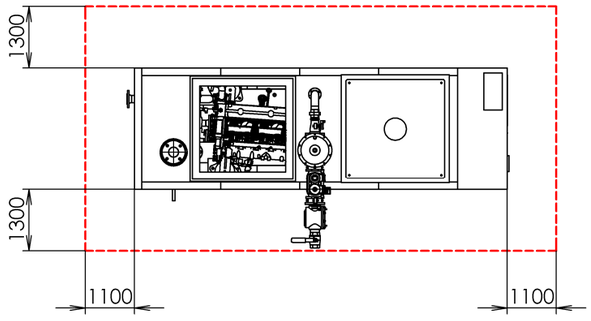








OBSLUŽNÝ PROSTOR
OPERATING AREA



1. Sekundární okruh - výstup DN50 PN16 / Secondary Circuit - outlet DN50 PN16
2. Sekundární okruh - vstup DN50 PN16 / Secondary Circuit - inlet DN50 PN16
3. Spalinové potrubí DN125 PN16 / Exhaust Piping - outlet DN125 PN16
4. Vzduchotechnické potrubí - sání 820/820 / Ventilation Piping - inlet 820/820
5. Vzduchotechnické potrubí - výfuk 820/820 / Ventilation Piping - outlet 820/820
6. Přívod plynu - vnitřní závit Rp 1“ / Gas Train - Rp 1“
7. Uzemnění / Ground
8. Odvod kondenzátu R ½“ / Condensate Drain R ½“
9. Vyvedení elektrického výkonu / Electric Power Output

NADŘAZENÝ VÝKRES/PARENT DRW.	PROMÍTÁNÍ/PROJECTION	TOLEROVÁNÍ/TOLERATION ISO 8015	POVRCHOVÁ ÚPRAVA/SURFACE FINISH	HMOTNOST/MASS [kg] 3200
POZICE/ NR. ITEM 01	ODJEHLENO/DEBURRING	PŘESNOST/ACCURACY ISO 2768 mK	MĚŘÍTKO/SCALE 1:35	
ŘADA/CHP TYPE KE-MNG 70 eco	KRESLIL/DESIGNED BY: PETR ŠEBESTA	DATUM/DATE: 27.04.2017	REVIZE/REVISION: 15.04.2019	ČÍSLO/Nr.# 4
NÁZEV PROJEKTU/PROJECT NAME AN70E-A	SCHVÁLIL/APPROVED BY:	NÁZEV DOKUMENTU/DRAWING TITLE: ROZMĚROVÝ VÝKRES DIMENSIONAL DRAWING		
GENTEC	MATERIÁL/MATERIAL:			
	POLOTOVAR/STOCK PART:	Č. VÝKRESU/DRAWING NUMBER: AN70E-A-01		A3
			LIST 1 Z 1 LISTŮ	