

Micro 30

BIO | 50Hz

| SOUND ENCLOSURE |

Basic technical data

Electrical output	30 kW	Voltage	400 V
Heat output nominal/max. ¹⁾	59,0/59,0 kW	Frequency	50 Hz
electrical efficiency	30,9 %	Service weight of complete CHPU	
heat efficiency nominal/max. ¹⁾	60,8/60,8 %	- outdoor sound enclosure (OE)	- t
total efficiency nominal/max. ¹⁾	91,7/91,7 %	- sound enclosure (SE)	1,2 t
fuel input	97,1 kW	- container (C)	- t
secondary circuit temperature inlet/outlet	65/85 °C		

1) Heat output is formed of secondary circuit heat output. Max. heat output (max. efficiency) of CHPU using NG or LPG is valid if the economiser is used and return water temperature is 35°C. For biogas fuels the usage of an economiser is not permitted.

Emission		stoichiometric mixture	
NOx emission at 5% O2 in exhaust gas standard/option		500/-	mg/Nm ³
CO emission at 5% O2 in exhaust gas standard/option		250/-	mg/Nm ³
HCHO emission at 5% O2 in exhaust gas standard/option		60/20	mg/Nm ³
Noise parameters		standard	
SE	- CHPU at 1m	60	dB(A)
	- exhaust gas outlet at 1m from CHPU exhaust gas outlet ²⁾	57	dB(A)

2) Noise parameters can be further optimized according to the specific requests (option).

Notes

The Basic Technical Data are applicable for the standard conditions pursuant to the "Technical instructions" document. The minimum permanent electrical output must not drop below 50 % of the nominal output. Gas consumption is expressed under the normal conditions (0°C, 101.325 kPa) and gas LHV according to the section Fuel. Gas consumption tolerance, or fuel input tolerance, at 100% load is +5%. Tolerances of other parameters are mentioned in "Technical Instructions-Validity of Technical Data" document.

The manufacturer reserves the right to change this document and related documents.

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Extended technical data

Standard design	100%	75%	50%	
electrical output	30	22,5	15	kW
heat output ¹⁾	59	45,6	37,5	kW
gas consumption	15,0	11,6	8,9	m ³ /h
fuel input	97,1	74,7	57,6	kW
electrical efficiency	30,9	30,1	26,0	%
heat efficiency	60,8	61,0	65,1	%
total efficiency	91,7	91,1	91,1	%

1) Heat output is formed of a secondary circuit heat output with exhaust gas cooled to 180°C.

Electrical parameters

voltage	400 V	operational current at $\cos \varphi=0,9$	48 A
frequency	50 Hz	short circuit resistance of the switchboard	10 kA
nominal current	54 A	contribution of the actual source to the short-circuit current	< 0,5 kA
nominal power factor (GCB settings)	0,8	$\cos \varphi$ regulation range (underexcited/overexcited) ¹⁾	0,9÷1÷0,9

1) Operation of generator with power factor lower than 0,98 decreases generator efficiency, what can cause reduction of the CHPU active power.

Engine / Generator

Engine	TB 40 G5V NX 88	Generator	ATEW 34/4 1S
manufacturer	TEDOM	manufacturer	ZANARDI
oil consumption normal/max.	0,3/0,6 g/kWh		
quantity of oil in the engine	30 dm ³		
volume of oil tank for refilling	20 dm ³		

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Heat system

Secondary circuit		Primary circuit	
heat carrier: water		heat carrier: antifreeze	
heat output	59 kW	ethylene glycol concentration	35 %
inlet/outlet temperature	65/85 °C	max. allowed pressure in circuit	130 kPa
min./max. inlet temperature	40/70 °C	volume	13 dm ³
nominal flow	0,7 kg/s		
max. allowed pressure in circuit	600 kPa		
volume	25 dm ³		
pressure reserve at nominal flow	50 kPa		

Exhaust gas

quantity	131 kg/h	temperature at the CHPU outlet nominal/max.	180/210 °C
temperature at the engine outlet	530 °C	max. allowed back-pressure	1 kPa

Fuel

biogas		nominal methane content	65 %
low heat value	23,3 MJ/m ³	pressure	1-10 kPa
min. methane content	50 %	max. temperature	35 °C

Combustion and ventilation air

Combustion air	
ambient temperature min./max. (SE)	10/35 °C
combustion air temperature min./max.	10/35 °C
quantity	114 kg/h

Related documents

dimensional drawing SE	R1466
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