

# Flexi 430

NG | 50Hz

OPEN MODULE | SOUND ENCLOSURE | CONTAINER

## Basic technical data

Electrical output	430 kW	Voltage	400 V
Heat output nominal/max. <sup>1)</sup>	545/600 kW	Frequency	50 Hz
electrical efficiency	39,6 %	<b>Service weight</b>	
heat efficiency nominal/max. <sup>1)</sup>	50,2/55,3 %	- open module (OM)	8 t
total efficiency nominal/max. <sup>1)</sup>	89,8/94,9 %	- sound enclosure (SE)	10 t
fuel input	1085 kW	- container (C)	14 t
secondary circuit temperature inlet/outlet	70/90 °C		

1) Heat output is a sum of secondary and aftercooler circuit heat outputs. 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		lean mixture +	lean mixture +	
		oxidation catalyst	oxidation catalyst + SCR	
NOx emission at 5% O2 in exhaust gas standard/option		500/-	95/-	mg/Nm <sup>3</sup>
CO emission at 5% O2 in exhaust gas standard/option		650/250	650/250	mg/Nm <sup>3</sup>
HCHO emission at 5% O2 in exhaust gas standard/option		80/20	80/20	mg/Nm <sup>3</sup>
Noise parameters		standard	silent <sup>1)</sup>	
OM	- CHPU at 1m	94		dB(A)
	- exhaust gas outlet at 1m from silencer flange <sup>2)</sup>	65		dB(A)
SE	- CHPU at 1m	78	65	dB(A)
	- ventilation inlet/outlet at 1m	94	65	dB(A)
C	- exhaust gas outlet at 1m from silencer flange <sup>2)</sup>	65	65	dB(A)
	- CHPU at 10m	59		dB(A)

1) Option.

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 invoicing conditions (15°C, 101.325 kPa) and gas LHV 34 MJ/m<sup>3</sup>. 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.

# Flexi 430

NG | 50Hz

OPEN MODULE | SOUND ENCLOSURE | CONTAINER

## Extended technical data

Standard design	100%	75%	50%		Optional designs	ECO <sup>2)</sup>	ECO-C <sup>3)</sup>	
electrical output	430	322	215	kW	electrical output	430	430	kW
heat output <sup>1)</sup>	545	429	324	kW	max. heat output	570	600	kW
gas consumption	115	89	63	m <sup>3</sup> /h	fuel input	1085	1085	kW
fuel input	1085	836	599	kW	electrical efficiency	39,6	39,6	%
electrical efficiency	39,6	38,6	35,9	%	heat efficiency	52,5	55,3	%
heat efficiency	50,2	51,3	54,1	%	total efficiency	92,1	94,9	%
total efficiency	89,8	89,9	90,0	%				

1) Heat output is a sum of secondary and aftercooler circuit heat outputs with exhaust gas cooled to 120°C.

2) Design with economiser (ECO) with return water temperature 70°C.

3) Design with economiser (ECO-C) with return water temperature 35°C.

## Electrical parameters

voltage	400 V	operational current at cos φ=0,9	690 A
frequency	50 Hz	short circuit resistance of the switchboard	35 kA
nominal current	776 A	contribution of the actual source to the short-circuit current	< 8 kA
nominal power factor (GCB settings)	0,8	cos φ regulation range (underexcited/overexcited) <sup>1)</sup>	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	E3262 LE232	Generator	LSA 49.3 S4
producer	MAN	producer	LEROY SOMER
oil consumption normal/max.	0,18/0,4 g/kWh		
quantity of oil in the engine	90 dm <sup>3</sup>		
volume of oil tank for refilling	220 dm <sup>3</sup>		

# Flexi 430

NG | 50Hz

OPEN MODULE | SOUND ENCLOSURE | CONTAINER

## Heat system

### Secondary circuit

heat carrier: water	
heat output	513 kW
inlet/outlet temperature	70/90 °C
min./max. inlet temperature	50/70 °C
nominal flow	6,1 kg/s
max. allowed pressure in circuit	1600 kPa
volume	56 dm <sup>3</sup>
pressure drop at nominal flow	15 kPa

### Primary circuit

heat carrier: antifreeze	
ethylene glycol concentration	40 %
heat output	513 kW
max. allowed pressure in circuit	350 kPa
volume	315 dm <sup>3</sup>

### Aftercooler circuit

heat carrier: antifreeze	
ethylene glycol concentration	40 %
heat output	31,0 kW
max. inlet temperature	42 °C
nominal flow	1,6 kg/s
pressure reserve at nominal flow (OM/SE/C)	30/30/0 kPa
min. inlet pressure	100 kPa
max. allowed pressure in circuit	250 kPa
volume (OM/SE/C)	10/10/10 dm <sup>3</sup>

## Exhaust gas

amount	2351 kg/h	temperature at the CHPU outlet nominal/max.	120/150 °C
temperature at the engine outlet	448 °C	max. allowed back-pressure	1 kPa

## Fuel

natural gas		pressure (OM, SE)	3-10 kPa
low heat value	34 MJ/m <sup>3</sup>	pressure (C)	5-10 kPa
min. methane number	80	max. temperature	35 °C

## Combustion and ventilation air

### Combustion air

ambient temperature min./max. (OM, SE)	10/35 °C
ambient temperature min./max. (C)	-20/35 °C
amount	2267 kg/h

# Flexi 430

NG | 50Hz

OPEN MODULE | SOUND ENCLOSURE | CONTAINER

Ventilation	OM	SE	C	
unused heat removed by the ventilation	37	37	37	kW
max. amount of ventilation air at the outlet flange		9500		m <sup>3</sup> /h
max. air temperature at the outlet flange		50		°C
max. back-pressure at the ventilation air inlet flange		50		Pa
max. back-pressure at the ventilation air outlet flange		50		Pa

## Related documents

dimensional drawing OM	R2256
dimensional drawing SE	R2530
dimensional drawing C	R2270