

| Product designation | | LIVING 2.0 | LIVING 3.3 | LIVING 4.0 |
|---|-------------------|------------|------------|------------|
| Technical data | | | | |
| Rated output - electrical ⁽¹⁾ | kW _{el} | 2,0 | 3,3 | 4,0 |
| Rated output - thermal ⁽²⁾ | kW _{th} | 5,2 | 8,2 | 8,8 |
| Power modulation - electrical | kW _{el} | 1,1 - 2,0 | 2,0 - 3,3 | 2,0 - 4,0 |
| Power modulation - thermal | kW _{th} | 3,8 - 5,2 | 5,9 - 8,2 | 5,9 - 8,8 |
| Energy input | kWh _{HI} | 7,19 | 11,20 | 12,60 |
| Liquefied Petroleum gas input | kg/h | 0,56 | n.a. | 0,98 |
| Liquefied Petroleum gas input | l/h | 1,04 | n.a. | 1,81 |
| CHP coefficient | | 0,38 | 0,40 | 0,45 |
| f Primary energy factor ⁽³⁾ | | 0,445 | 0,378 | 0,302 |
| PES | % | 28,3 | 30,5 | 31,3 |
| ErP energy efficiency label ⁽⁴⁾ | | A+ | A++ | A++ |
| Sound pressure level L _{pA} ⁽⁵⁾ | dB(A) | 45 | 50 | 54 |
| Sound power level L _{WA} | dB(A) | 60 | 65 | 69 |
| Maintenance interval | op. hrs. | 15.000 | 13.000 | 13.000 |
| Oil interval | op. hrs. | 7.500 | 6.500 | 6.500 |
| Efficiency ratios | | | | |
| Electrical efficiency ratio η_{el} | % | 27,8 | 29,5 | 31,8 |
| Thermal efficiency ratio η_{th} | % | 72,3 | 73,0 | 69,8 |
| Total efficiency ratio η_{total} | % | 100,1 | 102,5 | 101,6 |
| Heat extraction | | | | |
| Flow temperature ± 5 °C | °C | 75 | 75 | 75 |
| Return flow temperature ± 5 °C | °C | 25-65 | 25-65 | 25-65 |
| min./max. ambient temperature | °C | 5/30 | 5/30 | 5/30 |
| Pressure rating - water side | PN | 3 | 3 | 3 |
| Electrical energy generation | | | | |
| Nominal voltage | V | 400 | 400 | 400 |
| Frequency | Hz | 50 | 50 | 50 |
| Nominal effective power PnG | kW _{el} | 2,0 | 3,3 | 4,0 |
| Apparent power S _{E max} | kVA | 2,1 | 3,5 | 4,2 |
| Nominal voltage UnG | V | 400 | 400 | 400 |
| Frequency | Hz | 50 | 50 | 50 |
| Cos ϕ uncompensated | | - | - | - |
| Reactive power compensation ⁽⁶⁾ | kVar | 1,36 | 2,11 | 2,11 |
| Number of steps | | 1 | 1 | 1 |
| Degree of choking or resonance frequency | | - | - | - |
| Cos ϕ acc. to VDE-AR-N 4105 quadrants II, III ⁽⁶⁾ | | 0,95 | 0,95 | 0,95 |
| Rated alternating current I _r | A | 3,04 | 5,02 | 6,08 |
| Rated alternating current I _r cos ϕ 1 | A | 2,9 | 4,8 | 5,8 |
| Rated apparent power S _{rE} | kVA | 2,1 | 3,5 | 4,2 |
| Short-circuit alternating current Alternator I _k " | A | 29,5 | 46,7 | 46,7 |
| Grid short circuit power with UnG Sk" | kVA | 20,3 | 32,2 | 32,2 |
| Start-up current I _k approx. | A | 26 | 39 | 39 |
| Motor | | | | |
| Motor manufacturer | | YANMAR | YANMAR | YANMAR |
| Number of cylinders | | 3 | 3 | 3 |
| Displacement | l | 0,7 | 0,7 | 0,7 |
| Air-fuel ratio λ | | 1,6 | 1,6 | 1,6 |
| Engine oil - RMB/ENGINE Oil | l | 15 | 15 | 15 |

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|--|--------------------|-----------------|-----------------|-----------------|
| Generator | | | | |
| Generator manufacturer | | EMOD | EMOD | EMOD |
| Generator type | | asynchronous | asynchronous | asynchronous |
| Motor start-up | | provided | provided | provided |
| Speed | rpm | 1.020 | 1.540 | 1.540 |
| Supply and exhaust air | | | | |
| Combustion air requirement | m ³ /h | 14,70 | 24,48 | 25,75 |
| Module ventilation flow rate | m ³ /h | 100,00 | 100,00 | 100,00 |
| Total air requirement of module | m ³ /h | 114,70 | 124,48 | 125,75 |
| Permissible counter-pressure of exhaust air system max. ⁽⁷⁾ | Pa | 150 | 150 | 150 |
| min./max. intake air temperature | °C | 5/30 | 5/30 | 5/30 |
| Min. cross section without hydraulic resistance | cm ² | 150 | 150 | 150 |
| Flue gas | | | | |
| Flue gas temperature ⁽⁸⁾ / max. | °C | 50 / < 110 | 50 / < 110 | 50 / < 110 |
| Flue gas mass flow rate - damp | kg/h | 16 | 26 | 27 |
| Flue gas volume flow - dry | Nm ³ /h | 13 | 21 | 22 |
| Delivery pressure flue gas max. | Pa | 150 | 150 | 150 |
| Delivery pressure flue gas cascades max. | Pa | 150 | 150 | 150 |
| Delivery pressure max. for flue gas and exhaust air combination | Pa | 150 | 150 | 150 |
| Emissions Nox | mg/kWh | < 240 | < 240 | < 240 |
| Dimensions & weight | | | | |
| Dimensions of module L x W x H | mm | 1.093x613x1.100 | 1.093x613x1.100 | 1.093x613x1.100 |
| Weight approx. (including operating resources) | kg | 425 | 426 | 426 |
| ErP-Label | | | | |
| ErP energy efficiency label ⁽⁴⁾ | | A+ | A++ | A++ |
| ErP energy input ⁽⁴⁾ | kWh _{HS} | 7,99 | 12,43 | 13,99 |
| ErP efficiency ratio - electrical $\eta_{el,HS}$ ⁽⁴⁾ | % | 25,0 | 26,6 | 28,6 |
| ErP efficiency ratio - thermal $\eta_{th,HS}$ ⁽⁴⁾ | % | 65,1 | 65,8 | 62,9 |
| ErP efficiency ratio - total $\eta_{total,HS}$ ⁽⁴⁾ | % | 90,2 | 92,3 | 91,5 |
| Room controller category ⁽⁴⁾ | | 2 | 2 | 2 |
| $P_{designh}$ ⁽⁴⁾ | kW _{el} | 2,0 | 3,2 | 3,4 |
| Q_{HE} ⁽⁴⁾ | kWh | 3.377 | 5.014 | 4.986 |
| P_{SB} electrical power requirement - standby ⁽⁴⁾ | kW _{el} | 0,02 | 0,02 | 0,02 |
| Electrical power requirement - partial load ⁽⁴⁾ | kW _{el} | 0,05 | 0,16 | 0,16 |
| $P_{el,max}$ Electrical power requirement - full load ⁽⁴⁾ | kW _{el} | 0,05 | 0,16 | 0,16 |
| P_{stby_CHP} Thermal standing losses ⁽⁴⁾ | kW _{th} | 0,20 | 0,20 | 0,20 |
| Electrical power requirement - standby ⁽⁴⁾ | kW _{el} | 0,01 | 0,01 | 0,01 |
| $\eta_S = \eta_{son} - \Sigma(F1-F5)$ ⁽⁴⁾ | | 123,2 | 130,8 | 141,2 |
| Net output - electrical | kW _{el} | 1,95 | 3,14 | 3,84 |

- 1) Performance data in accordance with ISO 3046/1-2002, tolerance 5% (when operating with LPG tolerance +5% / -20%)
- 2) Thermal performance data tolerance 8%
- 3) f_{pe} -current = 2.8 displacement mix per DIN V 1859, DIN V 4701-10, GEG (attachment 4 to § 22 section 1) valid from 11.2020
- 4) In accordance with EU Regulation 811/2013; 813/2013
- 5) Test bench measurement at 1 m interval in front of the CHP
- 6) Only when using the optional compensation (integrated in neoTower® 2.0, 3.3 and 4.0 / not required for neoTower® 50.0)
- 7) Exhaust air (without flue gas) does not have to be extracted "via the roof"
- 8) At a return temperature of 35 °C and optimum operating conditions, tolerance 5%

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|--|--|
| Control cabinet | Fully equipped for seamless CHP unit operation with all necessary measurement and control equipment in bivalent operation. Dimensions control cabinet 600x600x200 mm; Approx. weight: 30-33 kg Connection cable CHP control cabinet standard 3m |
| Electrical connections | Supply line to control cabinet: 5x2,5mm ² Cu up to max. 50m (fuse 16 A slow blow) max. terminal area 4mm ² |
| | Temperature sensor cable: min. 2-08 JY(ST)Y up to 15 m length (2x1,5 mm ² up to 40 m length) |
| | Control cables pump: 3x1,5 mm ² ; RJ45 Patch cable in CHP connector |
| Reactive current compensation | Fixed compensation without reactors (detuned) |
| | Operating voltage: 230 / 400 Volt, 50 Hz |
| | Integrated capacitor contactor |
| | Discharging of approx 40 seconds must be considered |
| | Limiting temperature -10°C up to +35°C (average 24 h) +40°C (short-term max.) |
| | Integrated in the control cabinet |
| Gas pressure [mbar / hPa] | Gas resting pressure before gas regulator: 20 - 50 (for NG and LPG) |
| | Flow pressure ≥ 18 (for NG and LNG) |
| Regulations and standards | Complies with the pertinent EU Directives for CE certification |
| Connections | Gas: 1/2" internal thread |
| | Heating supply line: 1" ball valve / PN 3.0 |
| | Heating return line: 1" ball valve / PN 3.0 |
| | Flue gas: DN80 |
| | Integrated exhaust system |
| | Note: It is important to ensure that all terminals are connected via a flexible connection, in order to ensure vibration isolation. |
| | Residual pressure head secondary pump 0,7m |
| Method of operation | Mains parallel without emergency power, heat operated |
| | Use of electricity: Own requirement and infeed into the grid of the energy supply company, optional electricity-optimised modulation |
| | Heat usage automatically regulated in monovalent or bivalent operation with buffer tank; optionally heat-optimised modulation |
| Indicators and switches/buttons | Operation of the internal control and monitoring programs via central control unit (touchscreen for quick access to important functions) |
| | Back-lit graphical colour display with visualised system diagram and indicators for: temperature memory, motor, return line, hot water, interior, oil, flue gas, indicator for current power, water pressure, operation hours, generated energy, maintenance instructions and error notifications |
| | Switches/buttons: master switch, Emergency stop, Electric vehicle (Efz) charging data button, maintenance button |
| RMB/Report | Global live data tracking visualised in installation diagram, individual password protection, data logging with daily, weekly, monthly and annual report in graphical format, remote maintenance, remote monitoring, evaluation and reporting |
| Water quality | Motor circuit: 40% glycol, 60% water per VDI Regulation 2035. Operational pressure warm: 2.0 bar. Operational pressure cold: 1.8 bar. Primary pressure expansion vessel cold: 0.3 bar. Heating circuit ("secondary circuit"): free from mechanical impurities and as a minimum in accordance with quality requirements of the Group 2, VDI Regulation 2035 Conductivity < 100µS/cm Water hardness < 1° dH 8.2 > pH-Wert < 9 Deviations cause severe damages! |

Deviating values depending on environmental and operating conditions.

Technical modification, design deviation and errors excepted.