

neoTower[®]



*The efficient
electrical heat machines with A++*



PREMIUM

S



*Ideal for apartment buildings
Medium-sized commercial enterprises
Small hotels*

RMB/ENERGIE GmbH
Premium cogeneration units

Premium S – Small domestic cogeneration unit in two performance classes

The Premium S performance class includes two **neoTower®** models with an electrical power of 5.0 kW or 7.2 kW. The systems are therefore designed for annual electrical power requirements of 20,000 to 50,000 kWh and from 60,000 to 100,000 kWh heat. A very large house with two apartments can already have such requirements. However, the main applications are apartment buildings, small commercial enterprises as well as small to medium guest houses and hotels. Which of the two systems from the Premium S range is suitable – or if it could even be a size larger – is clarified at the outset with an individual profitability calculation.

Compact format, quiet operation

With the innovative configuration of all system components, the **neoTower®** is particularly compact. With its installation area of 108.5 x 62 centimetres it hardly takes up

more space than the existing heating. The gas-operated Toyota industrial engine runs at a constant and very low speed. Together with clever noise decoupling measures, the operating noise levels are very low and can hardly be perceived by residents, customers or visitors.

Energy production always under control

The RMB/Report software regularly records the current performance data that can be displayed in easily comprehensible graphics and tables. This makes it easy to optimally adjust the system to the individual requirements. For data transfer to the protected RMB server, each **neoTower®** is equipped with an internet connection and a 24-month mobile internet flat rate as a standard feature that can be extended upon request. During the validity period of a full service contract, data transmission is free of charge.

The highlights of the **neoTower®**

- Power modulation either electrically or thermally optimised
- Operation and visualisation with colour 10.1" graphic touch screen with 10 separate function keys
- Live data tracking via internet
- Data saving on central RMB server, graphic evaluation and statistics
- Electric vehicle charging button
- Small installation dimensions L x W x H 108.5 x 62 x 110.2 cm (incl. mounted parts)
- Electronic temperature control of the engine cooling water and the interior of the module
- Very long maintenance intervals
- Ultra-quiet operation with multiple acoustic decoupling measures
- Integrated silencer
- Cogeneration unit exhaust gas heat exchanger as standard feature

We would be pleased to draw up your individual profitability calculation





The neoTower® – simply compact

neoTower®



Very simple – operation of the neoTower®

Always Premium – always A++

The energy label (ErP Label) is already a well-known feature on refrigerators, washing machines and other devices. ErP stands for "Energy related Products".

Since 26. September 2015 the energy label has also been available for cogeneration units. Our neoTower® product family comprising eight neoTower® modules in the power categories 5.0 – 30.0 kWel are all certified to the requirements of the current highest efficiency class A++.

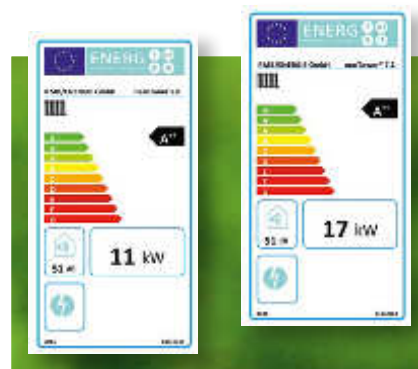
We therefore remain true to our philosophy of reducing global pollution and saving the world's resources with the most efficient cogeneration unit technology.

The new labelling obligation for heating devices with the energy efficiency label is specified in EU directives and regulations. Labelling is therefore uniform throughout Europe and is based on processes that were defined by the European Commission.

Certification applies to the noise emission levels, the energy consumption during operation as well as the NOx values. The new ErP label offers all consumers an objective basis for comparison of the energy efficiency of a cogeneration unit and a decision for new installation or modernisation of a heating system.

The neoTower® is operated with a touch-sensitive screen installed in the door of the control cabinet that also features 10 soft-touch function keys.

All important temperatures, operating conditions, running times, power and heat generation and trends of the cogeneration unit are displayed on this 10.1" colour screen. Settings on the timer programme, power settings or control of the peak load boiler can be easily entered on the touch screen.



Compact mounted components

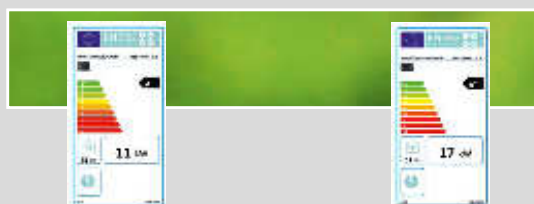


Constant and very low engine speed



Data monitoring also possible with a smartphone





neoTower[®]

*The efficient
electrical heat machines with A++*

MM

*Ideal for residential complexes,
larger companies
or large hotels*



RMB/ENERGIE GmbH
Premium cogeneration units

Premium M – *Flexibility in four performance classes*

The performance class Premium M stands for flexibility and adaptability: The four **neoTower®** models offer an electrical capacity of 11.0, 16.0, 20.0 and 21.0 kW. This makes them the right choice for annual energy requirements ranging from 80,000 to 130,000 kWh electrical power or 180,000 to 300,000 kWh heat. Their advantages can be seen for example in residential complexes, large hotels or large companies – in short, anywhere that inexpensive power generation means a considerable competitive advantage.

High output, low space requirements, low noise emissions

It is calculated for every project which **neoTower®** is the most economical to run. Every **neoTower®** has a power modulation feature so that it adapts to the actual power requirements. With the intelligent linking of several systems to one cascade,

production and requirements can be additionally harmonised. With the compact design it is still ensured that the cogeneration unit only takes up minimum space, also in a cascade. The intelligent acoustic decoupling means that operation is particularly quiet.

Energy production always under control

The RMB/Report software regularly records the current performance data that can be displayed in easily comprehensible graphics and tables. This makes it easy to optimally adjust the system to the individual requirements. For data transfer to the protected RMB server, each **neoTower®** is equipped with an internet connection and a 24-month mobile internet flat rate as a standard feature that can be extended upon request. During the validity period of a full service contract, data transmission is free of charge.

The highlights of the **neoTower®**

- Power modulation either electrically or thermally optimised
- Operation and visualisation with colour 10.1" graphic touch screen with 10 separate function keys
- Live data tracking via internet
- Data saving on central RMB server, graphic evaluation and statistics
- Electric vehicle charging button
- Small installation dimensions L x W x H 134.5 x 68.6 x 124 cm (incl. mounted parts)
- Electronic temperature control of the engine cooling water and the interior of the module
- Very long maintenance intervals
- Ultra-quiet operation with multiple acoustic decoupling measures
- Integrated silencer
- Cogeneration unit exhaust gas heat exchanger as standard feature

We would be pleased to draw up your individual profitability calculation





The **neoTower**® –
simply compact

neoTower®



Very simple –
operation of the **neoTower**®

Always Premium – always A++

The energy label (ErP Label) is already a well-known feature on refrigerators, washing machines and other devices. ErP stands for "Energy related Products".

Since 26. September 2015 the energy label has also been available for cogeneration units. Our **neoTower**® product family comprising eight **neoTower**® modules in the power categories 5.0 – 30.0 kWel are all certified to the requirements of the current highest efficiency class **A++**.

We therefore remain true to our philosophy of reducing global pollution and saving the world's resources with the most efficient cogeneration unit technology.

The new labelling obligation for heating devices with the energy efficiency label is specified in EU directives and regulations. Labelling is therefore uniform throughout Europe and is based on processes that were defined by the European Commission.

Certification applies to the noise emission levels, the energy consumption during operation as well as the NOx values. The new ErP label offers all consumers an objective basis for comparison of the energy efficiency of a cogeneration unit and a decision for new installation or modernisation of a heating system.

The **neoTower**® is operated with a touch-sensitive screen installed in the door of the control cabinet that also features 10 soft-touch function keys.

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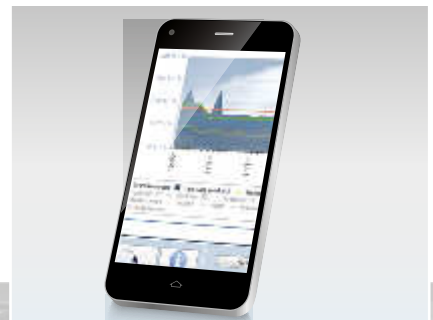
Linking to a cascade possible



Constant and very low engine speed



Data monitoring also possible with a smartphone



Technical data of the neoTower® PREMIUM M 11.0, 16.0, 20.0 and 21.0

Technical product features	neoTower® 11.0	neoTower® 16.0	neoTower® 20.0	neoTower® 21.0
Rated electrical power ⁽¹⁾ [kW _{el}]	11.0	16.0	20.0	21.0
Rated thermal power ⁽²⁾ [kW _{th}]	25,5	38,2	46,2	50,5
Electrical power modulation [kW _{el}]	7,5 – 11,0	9,5 – 16,0	10,7 – 20,0	10,7 – 21,0
Thermal power modulation [kW _{th}]	16,8 – 26,4	27,5 – 38,2	29,1 – 46,2	29,1 – 46,2
Electrical efficiency η_{el} [%]	31,0	31,1	32,1	32,1
Thermal efficiency η_{th} [%]	74,5	76,9	77,1	77,1
Total efficiency η_{tot} [%]	106	108	109	109
Use of energy [kWh _{Hi}]	35,5	51,4	62,3	65,4
Use of liquid gas [kg/h]	2,76	4,00	4,84	n/a
Use of liquid gas [l/h]	5,11	7,40	8,97	n/a
CHP coefficient	0,43	0,42	0,43	0,42
fpe *	0,423	0,280	0,293	0,295
PES [%]	32,8	34,1	35,1	35,1
ErP energy efficiency label ⁽⁴⁾	A++	A++	A++	A++
Permissible admission temperature max. [°C]	93	93	93	93
Permissible return temperature max. [°C]	70	70	70	70
Erection site	in compliance with the respective valid regulations for firing plants			
max. ambient temperature [°C]	30	30	30	30
Exhaust gas temperature ⁽⁵⁾ [°C]	87	89	95	95
Noise emissions ⁽³⁾ [db(A)]	50	51	52	52
Engine	TOYOTA	TOYOTA	TOYOTA	TOYOTA
No. of cylinders	4	4	4	4
Cubic capacity [l]	2,2	2,2	2,2	2,2
Engine oil	RMB/engine oil			
Engine oil [l]	59,0	59,0	59,0	59,0
Generator manufacturer	EMOD	EMOD	EMOD	EMOD
Generator type	asynchronous	asynchronous	asynchronous	asynchronous
Speed [rpm]	1.540	1.540	1.540	1.530
Dimensions module LxWxH [mm] incl. mounted parts	1.410 x 686 x 1.240	1.410 x 686 x 1.240	1.410 x 686 x 1.240	1.410 x 686 x 1.240
Weight [kg]	750	750	785	785

1) Performance data according to ISO 3046/I-2002, tolerance 5 %

2) Heating capacity specification, tolerance 8 %

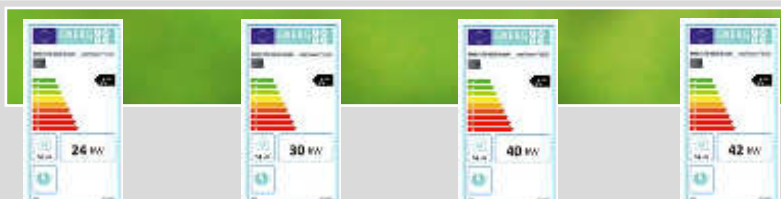
3) Test bench measurement at a distance of 1 m

4) In compliance with EU regulations 811/2013; 813/2013

5) Return temperature ≤ 40 °C

* fpe-electricity = 2,8

regarding DIN V 18599, DIN V 4701-10, EnEV 2014 effective from 01.01.2016



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neoTower[®]

*The efficient
electrical heat machines with A++*

M+

*Ideal for residential complexes,
larger companies
or large hotels*



RMB/ENERGIE GmbH
Premium cogeneration units

Premium M+ – *Flexibility in two performance classes*

The performance class Premium M+ stands for flexibility and adaptability: The two **neoTower®** models offer an electrical capacity of 25.0 or 30.0 kW. This makes them the right choice for annual energy requirements ranging from 100,000 to 250,000 kWh electrical power or 200,000 to 400,000 kWh heat. Their advantages can be seen for example in residential complexes, large hotels or large companies – in short, anywhere that inexpensive power generation means a considerable competitive advantage.

High output, low space requirements, low noise emissions

It is calculated for every project which **neoTower®** is the most economical to run. Every **neoTower®** has a power modulation feature so that it adapts to the actual power requirements. With the intelligent linking of several systems to one cascade,

production and requirements can be additionally harmonised. With the compact design it is still ensured that the cogeneration unit only takes up minimum space, also in a cascade. The intelligent acoustic decoupling means that operation is particularly quiet.

Energy production always under control

The RMB/Report software regularly records the current performance data that can be displayed in easily comprehensible graphics and tables. This makes it easy to optimally adjust the system to the individual requirements. For data transfer to the protected RMB server, each **neoTower®** is equipped with an internet connection and a 24-month mobile internet flat rate as a standard feature that can be extended upon request. During the validity period of a full service contract, data transmission is free of charge.

The highlights of the **neoTower®**

- Power modulation either electrically or thermally optimised
- Operation and visualisation with colour 10.1" graphic touch screen with 10 separate function keys
- Live data tracking via internet
- Data saving on central RMB server, graphic evaluation and statistics
- Electric vehicle charging button
- Small installation dimensions L x W x H 150.5 x 76 x 124 cm (incl. mounted parts)
- Electronic temperature control of the engine cooling water and the interior of the module
- Very long maintenance intervals
- Ultra-quiet operation with multiple acoustic decoupling measures
- Integrated silencer
- Cogeneration unit exhaust gas heat exchanger as standard feature

We would be pleased to draw up your individual profitability calculation





The neoTower® – simply compact



Very simple – operation of the neoTower®

Always Premium – always A++

The energy label (ErP Label) is already a well-known feature on refrigerators, washing machines and other devices. ErP stands for "Energy related Products".

Since 26. September 2015 the energy label has also been available for cogeneration units. Our neoTower® product family comprising eight neoTower® modules in the power categories 5.0 – 30.0 kWel are all certified to the requirements of the current highest efficiency class A++.

We therefore remain true to our philosophy of reducing global pollution and saving the world's resources with the most efficient cogeneration unit technology.

The new labelling obligation for heating devices with the energy efficiency label is specified in EU directives and regulations. Labelling is therefore uniform throughout Europe and is based on processes that were defined by the European Commission.

Certification applies to the noise emission levels, the energy consumption during operation as well as the NOx values. The new ErP label offers all consumers an objective basis for comparison of the energy efficiency of a cogeneration unit and a decision for new installation or modernisation of a heating system.

The neoTower® is operated with a touch-sensitive screen installed in the door of the control cabinet that also features 10 soft-touch function keys.

All important temperatures, operating conditions, running times, power and heat generation and trends of the cogeneration unit are displayed on this 10.1" colour screen. Settings on the timer programme, power settings or control of the peak load boiler can be easily entered on the touch screen.



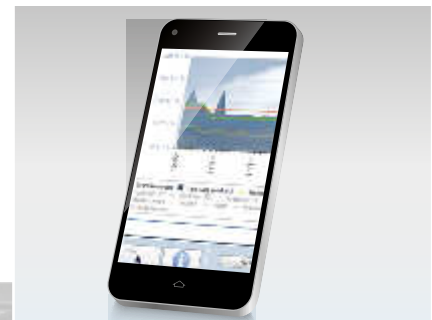
Linking to a cascade possible



Constant and very low engine speed



Data monitoring also possible with a smartphone



Technical data of the neoTower® PREMIUM M + 25.0 and 30.0

Technical product features	neoTower® 25.0	neoTower® 30.0
Rated electrical power ⁽¹⁾ [kW _{el}]	25,0	30,0
Rated thermal power ⁽²⁾ [kW _{th}]	54,9	63,1
Electrical power modulation [kW _{el}]	12,5 – 25,0	15,0 – 30,0
Thermal power modulation [kW _{th}]	34,8 – 54,9	40,9 – 63,1
Electrical efficiency η_{el} [%]	32,5	33,5
Thermal efficiency η_{th} [%]	71,4	70,5
Total efficiency η_{tot} [%]	104	104
Use of energy [kWh _{Hi}]	76,9	89,6
Use of liquid gas [kg/h]	n/a	
Use of liquid gas [l/h]	n/a	
CHP coefficient	0,46	0,48
fpe *	0,319	0,280
PES [%]	32,8	33,3
ErP energy efficiency label ⁽⁴⁾	A++	A++
Permissible admission temperature max. [°C]	90	90
Permissible return temperature max. [°C]	70	70
Erection site	in compliance with the respective valid regulations for firing plants	
max. ambient temperature [°C]	30	30
Exhaust gas temperature ⁽⁵⁾ [°C]	95	95
Noise emissions ⁽³⁾ [db(A)]	51	51
Engine	YANMAR	YANMAR
No. of cylinders	4	4
Cubic capacity [l]	3.3	3.3
Engine oil	RMB/engine oil	
Engine oil [l]	110	110
Generator manufacturer	EMOD	EMOD
Generator type	asynchronous	asynchronous
Speed [rpm]	1.530	1.530
Dimensions module LxWxH [mm] incl. mounted parts	1.640 x 760 x 1.410	1.640 x 760 x 1.410

1) Performance data according to ISO 3046/I-2002, tolerance 5 %

2) Heating capacity specification, tolerance 8 %

3) Test bench measurement at a distance of 1 m

4) In compliance with EU regulations 811/2013; 813/2013

5) Return temperature <= 40 °C

* fpe-electricity = 2,8

regarding DIN V 18599, DIN V 4701-10, EnEV 2014 effective from 01.01.2016





*The efficient
electrical heat machines*





The display of the neoTower® PREMIUM L



Track-proven MAN industrial engine



Service-friendly design

Very simple – operation of the neoTower®

For operation, the neoTower® features a high-performance PLC with a 10.1" colour touch screen (high resolution) that is integrated into the control cabinet.

All important temperatures, operating conditions, running times and trends of the cogeneration unit are displayed on this 10.1" colour screen. Settings on the timer programme, power settings or control of the peak load boiler can be easily entered on the touch screen.



The neoTower® – simply compact

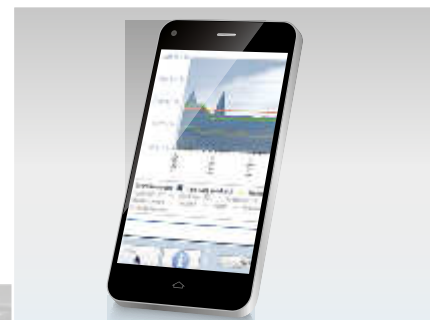
Constant and very low engine speed



Latest data always available online



Data monitoring also possible with a smartphone



Premium L –

50.0 kW electrical power with a compact format

The Premium L performance class provides an electrical power of 50 kW with a very compact format: The probably smallest 50 kW cogeneration unit in Europe only requires 1.7 square metres of space. It is designed for industrial applications or for heating large, energy intensive installations such as swimming pools. In this field the compact form can quickly show its benefits when high energy requirements have to be balanced with a comparatively small available space.

Quiet operation, low maintenance requirements

The heart of the **neoTower®** 50.0 is a gas-powered MAN industrial engine. It runs at a constant speed of 1,500 rpm. The low speed has a number of advantages: On the one hand it enhances the stability of the system and combined with the vibration

insulation and silencers ensures the low operating noise emissions of only 63 dB(A). On the other it has very long maintenance intervals: Servicing is only required every 5,000 hours of operation – an excellent value for a cogeneration unit of this size.

Continuous data acquisition

All performance data of the **neoTower®** 50.0 are constantly recorded by the RMB/Report software and saved on a protected RMB server. They can then be subsequently analysed and presented in a clearly comprehensible manner for optimum operation of the system. For data transfer the **neoTower®** 50.0 is equipped with an internet connection and a 24-month mobile internet flat rate as a standard feature that can be extended upon request. During the validity period of a full service contract, data transmission is free of charge.

The highlights of the **neoTower®**

- Power modulation either electrically or thermally optimised
- Operation and visualisation with colour high-performance PLC with 10.1" colour touch screen (high-resolution)
- Live data tracking via internet
- Data saving on central RMB server, graphic evaluation and statistics
- Electric vehicle charging button
- Small installation dimensions L x W x H 218 x 79.8 x 167 cm
- Electronic temperature control of the engine cooling water and the interior of the module
- Long maintenance intervals
- Ultra-quiet operation with multiple acoustic decoupling measures
- Integrated silencer
- Optional cogeneration exhaust gas heat exchanger

We would be pleased to draw up your individual profitability calculation



Technical data of the neoTower® PREMIUM L 50.0

Technical product features	neoTower® 50.0 Standard	neoTower® 50.0 High temperature	neoTower® 50.0 Energy value
Rated electrical power ⁽¹⁾ [kW _{el}]	50,0	50,0	50,0
Rated thermal power ⁽²⁾ [kW _{th}]	85,0	80,0	100,0
Electrical power modulation [kW _{el}]	25,0 – 50,0	25,0 – 50,0	25,0 – 50,0
Thermal power modulation [kW _{th}]	49,0 – 85,0	49,0 – 80,0	49,0 – 100,0
Electrical efficiency η_{el} [%]	35,0	35,0	35,0
Thermal efficiency η_{th} [%]	59,4	55,9	69,9
Total efficiency η_{tot} [%]	94,0	91,0	105,0
Use of energy [kWh _{Hi}]	143,0	143,0	143,0
Use of liquid gas [kg/h]		n/a	
Use of liquid gas [l/h]		n/a	
CHP coefficient	0,59	0,63	0,50
fpe *	0,203	0,216	0,172
PES [%]	29,9	27,9	35,2
ErP energy efficiency label ⁽⁴⁾		n/a	
Permissible admission temperature max. [°C]	90	93	90
Permissible return temperature max. [°C]	70	83	70
Erection site	in compliance with the respective valid regulations for firing plants		
max. ambient temperature [°C]	30	30	30
Exhaust gas temperature ⁽⁵⁾ [°C]	95	100	85
Noise emissions ⁽³⁾ [db(A)]	63	63	63
Engine	MAN	MAN	MAN
No. of cylinders	4	4	4
Cubic capacity [l]	4,6	4,6	4,6
Engine oil	RMB/engine oil		
Engine oil [l]	180,0	180,0	180,0
Generator manufacturer	MARELLI	MARELLI	MARELLI
Generator type	synchronous	synchronous	synchronous
Speed [rpm]	1.500	1.500	1.500
Dimensions module LxWxH [mm] incl. mounted parts	2.180 x 798 x 1.670	2.180 x 798 x 1.670	2.180 x 798 x 1.670
Weight ⁽⁶⁾ [kg]	1.650 – 1.860	1.650 – 1.860	1.650 – 1.860

1) Performance data according to ISO 3046/I-2002, tolerance 5 %

2) Heating capacity specification, tolerance 8 %

3) Test bench measurement at a distance of 1 m

4) In compliance with EU regulations 811/2013; 813/2013

5) Return temperature <= 40 °C

6) Partially filled, dismantled noise insulation element = 1,650 kg

* fpe-electricity = 2,8

regarding DIN V 18599, DIN V 4701-10, EnEV 2014 effective from 01.01.2016