

# Premium Heating Technology



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Design  
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1999  
Best of Category



MHG Heating Ltd – Simply better.





# Premium quality made in Germany

MHG Heiztechnik GmbH the parent company of MHG Heating Ltd is one of the leading German providers of high-quality heating systems and components for oil, gas, wood pellets and solar technology. Originally part of the MAN Group, we are now an independent, owner-managed company that can look back on more than 80 years of tradition.

With Haspa Beteiligungsgesellschaft für den Mittelstand mbH, Hamburg, we have a financially strong and long-term oriented partner at our side. Its parent company, Hamburger Sparkasse AG, with total assets of 34 billion euros, is Germany's largest savings bank.

From our bases in Germany and Europe, we produce and distribute sophisticated quality products with special technical features in more than 35 countries, which is how we permanently contribute to the long-term conservation of resources and the environment.

The necessity of responsibly handling valuable energy resources presents us with challenges that we have consistently and successfully faced in our long company history. We have known for many decades how a maximum heat

yield can be achieved with a minimum of energy. With the development and launch of the Rocket Burner®, our engineers have proved themselves to be technological pioneers and the main driving force behind the entire burner industry. In the field of gas-condensing technology, we are also considered one of the most experienced providers in the market, having played a major role in achieving the breakthrough of this technology.

The latest MHG product range represents our engineering expertise developed over many years and offers our customers the added value that they expect from premium heating technology. Whether gas- or oil-condensing technology, wood-pellet boilers, heat pumps, forced-air oil and gas burners, HWS tanks or thermal solar systems: our flexible devices not only represent the highest degree of energy efficiency and future benefits, but also a maximum of individual heating comfort, operational safety, ease of maintenance and durability.

Our high quality standards and continuous investments in research and development ensure that our heating systems and components continue to set national and international standards.



*MHG's head offices are in Buchholz near Hamburg.*



*Our specialist engineers are intensively trained in the technical features of our top-quality heating products as part of our real-life-scenario training programme.*



*The high degree of maintainability of our devices eases the work of technicians.*





# Gas-condensing boiler

## Technical data

ProCon Streamline	Unit	16H	25H	16/24 S	25/32 S	25/32 Flash
Nominal heat output at 50/30 °C	[kW]	6,7–16,4	7,8–25,1	6,7–16,4	7,7–24,8	7,7–26,8
Efficiency at 40/30 °C	[%]	104,9–102,6	108,5–101,5	104,9–102,6	108,5–101,0	
Dimensions (H x W x D)	[mm]	750 x 450 x 270	810 x 450 x 270	750 x 450 x 270	810 x 450 x 270	1070 x 870 x 450
Max. pressure at flue gas outlet	[Pa]	90				
Allowable flue gas connection types		B <sub>23r</sub> , B <sub>33r</sub> , C <sub>133r</sub> , C <sub>333r</sub> , C <sub>433r</sub> , C <sub>533r</sub> , C <sub>633r</sub> , C <sub>833r</sub>				
Product IDs		CE-0063AR3527				
NO <sub>x</sub> Emissions		16H = 20 mg/kWhr 25H = 22 mg/kWhr 16/24S = 22 mg/kWhr 25/32 S = 34 mg/kWhr 25/32 Flash = 34 mg/kWhr				
Hot water continuous output at T = 30K	[l/min]	---	12	15	20	

All appliances supplied with a 24 month warranty

## ProCon Streamline: The best features at a glance

- Wall-mounted gas-condensing boiler for use in homes and commercial buildings
- Available as heating or combination units
- Top performance at a great price
- Economical fuel consumption through wide modulation range among other factors
- Tried-and-tested durable technology
- Simple and clear design
- Ideal for integration in MHG system technology
- Flash version with maximum hot water capacity of 20 l/min at 40 degrees Celsius and a high hot water efficiency factor
- System pressure managers and expansion vessels are available if required.

## Technical data

ProCon	Unit	16H 16HS Plus	27H 27HS Plus	27S	Kompakt	
Nominal heat output at 50/30 °C	[kW]	4,3–15,8	7,0–26,2			
Efficiency at 40/30 °C	[%]	108,8	108,7			
Dimensions (H x W x D)	[mm]	750 x 500 x 371				1650 x 500 x 550
Max. pressure at flue gas outlet	[Pa]	400				
Allowable flue gas connection types		B <sub>23r</sub> , B <sub>33r</sub> , C <sub>133r</sub> , C <sub>333r</sub> , C <sub>433r</sub> , C <sub>633r</sub>				
Product IDs		CE-0085AT0424				
NO <sub>x</sub> Emissions		16H = 30 mg/kWhr 27H = 12 mg/kWhr 27S = 12 mg/kWhr Kompakt = < 12 mg/kWhr				
Hot water continuous output at T = 30K	[l/min]	---	15	15		

All appliances supplied with a 24 month warranty

## ProCon 16–27, Plus, Kompakt: The best features at a glance

- Flexible wall-mounted and floor-standing premium gas-condensing boiler for use in homes and commercial buildings
- Available as heating units, combination units, units with an internal HWS three-way valve or in the compact version with integrated 80-litre tank-in-tank storage
- Also available with modulating pump (ProCon Plus)
- Very economical fuel consumption through wide modulation range of 1:5 among other factors
- Minimal emissions thanks to low maintenance ECONOX pre-mix radiant burner high-performance heat exchanger made of high-grade stainless steel
- Ideal for integration in MHG system technology
- System pressure managers and expansion vessels are available if required.



# Gas-condensing boiler

## Technical data

ProCon	Unit	47 H	47 S	ProCon 75 H
Nominal heat output at 50/30 °C	[kW]	12,9–47,0		16,0–74,6
Efficiency at 40/30 °C	[%]	108,5		
Dimensions (H x W x D)	[mm]	750 x 500 x 371		750 x 750 x 370
Max. pressure at flue gas outlet	[Pa]	400		200
Allowable flue gas connection types		B <sub>23'</sub> , B <sub>33'</sub> , C <sub>133X'</sub> , C <sub>333X'</sub> , C <sub>433X'</sub> , C <sub>63X</sub>		B <sub>23'</sub> , B <sub>33'</sub> , C <sub>333X'</sub> , C <sub>433X'</sub> , C <sub>63X</sub>
Product IDs		CE-0085AT0424		
NO <sub>x</sub> Emissions		47H = 28 mg/kWhr 47S = 28 mg/kWhr 75H = 29 mg/kWhr		
Hot water continuous output at T = 30K	[l/min]	---	20	---

All appliances supplied with a 24 month warranty

## ProCon 47/75: The best features at a glance

- Wall-mounted premium gas-condensing boilers specially designed for use in large domestic and commercial properties
- 1 kW per 1 cm appliance width: maximum output in the smallest space
- Top operating efficiency through wide modulation range of 1:5 among other factors
- Very easy maintenance
- Ideally suited for cascade connection (up to 12 appliances); equipped with cascade manager and bus clip-in
- Cascade flue systems allow combination all boilers into one riser.
- ProCon 77: Available mid 2009. Direct replacement for the MicroMat EC 76 (Previously branded as the Strata 1)
- System pressure managers and expansion vessels are available if required.

## Technical data

ProCon HT	Unit	ProCon HT 150 H	ProCon HT 225 H
Nominal heat output at 50/30 °C	[kW]	16,0–155,0	16,0–225,0
Efficiency at 40/30 °C	[%]	109,5	
Dimensions (H x W x D)	[mm]	1.650 x 680 x 1.030	
Max. pressure at flue gas outlet	[Pa]	200	
Allowable flue gas connection types		B23, C33, C43, C53, C63, C83	
Product IDs		CE-0045 BR KD 1001	
NO <sub>x</sub> Emissions		150 = 29 mg/kWhr 225 = 29 mg/kWhr	
Hot water continuous output at T = 30K	[l/min]	---	

All appliances supplied with a 24 month warranty

## ProCon HT 150/225: The best features at a glance

- Floor-standing premium gas-condensing boiler with two or three boiler modules in one unit
- Maximum operating safety: heating operation can be maintained if one boiler becomes non-operational or is being serviced
- Very high energy efficiency with fuel-engineering efficiency of up to 109.5 per cent
- Additional energy savings thanks to extremely wide modulation range of 1:10 or 1:15. Simple time- and cost-saving installation thanks to integrated hydraulic headers options
- Up to 900 kW is possible when used in cascade
- System pressure managers and expansion vessels are available if required.





# Heat pumps

## Technical data

Air/water heat pumps split units R407c* ThermiStar L .., L .. T, L .. E	Unit	05	07	09	10	13	14	15	18	19	28	32	34	36	41
Heating/refrigerating performance*	[kW]	5,4/ 4,0	7,3/ 5,5	9,1/ 6,9	10,6/ 8,1	13,2/ 9,9	14,6/ 10,9	15,5/ 11,8	17,9/ 13,0	19,8/ 14,8	28,0/ 21,1	32,0/ 23,7	34,5/ 26,0	36,5/ 26,8	41,5/ 30,8
Performance coefficient*	[COP]	3,9	4,1	4,2	4,0	3,9	4,2	3,6	3,9	4,1	3,8	4,0	3,7	3,9	
* Performance data and COP for A2/W35, expanded scale of 3K at source and 10K on heating side; larger performances on request															
Brine/water heat pumps R407c*, ThermiStar S .., S .. T, S .. T, S .. E	Unit	04	05	06	07	08	10	12	14	16	18	22	25	31	39
Heating/refrigerating performance*	[kW]	3,9/ 3,0	4,8/ 3,7	6,2/ 4,8	7,3/ 5,6	8,6/ 6,6	10,6/ 8,2	12,8/ 9,9	15,0/ 11,6	16,7/ 13,0	18,7/ 14,4	23,0/ 17,7	26,6/ 20,6	32,9/ 25,4	39,8/ 30,7
Performance coefficient*	[COP]	4,4													
* Performance data and COP for B0/W35, expanded scale of 3K at source and 10K on heating side; larger performances on request															
Water/water heat pumps R407c*, ThermiStar W	Unit	06	08	10	11	14	17	20	22	25	30	35	44	53	
Heating/refrigerating performance	[kW]	6,0/5,0	7,8/6,5	9,1/7,7	10,8/9,1	13,2/11,1	16,3/13,7	19,4/16,4	21,8/18,4	24,5/20,6	29,6/24,9	34,0/28,9	42,0/35,5	51,5/43,5	
Performance coefficient	[COP]	5,5	5,6	5,6	5,6	5,4	5,6	5,7	5,6	5,6	5,6	5,6	5,5	5,6	

\*R410a refrigerant available as an option.  
All appliances supplied with a 24 month warranty

## ThermiStar: The best features at a glance

- Highly flexible air/water, water/water and brine/water heat pumps
- Top COPs (performance coefficients): on average > 4
- High-temperature charging technology as optional extra for even better energy efficiency and excellent HWS production
- Various high-temperature units for HWS temperatures up to 65 degrees Celsius available
- Reversible module for extra active refrigeration and/or passive refrigeration module as optional extras
- Compact, space-saving design
- Very low on maintenance, operationally safe and durable
- Ideal for integration in MHG system technology
- Combinable with a second MHG heat generator to cope with peak loads in older buildings

## ThermiPro: Available mid 2009.

- This is the future of heat supply: air/water heat pump, solar buffer tank, gas-condensing boiler and system regulator all combined within a single, compact, high-tech device. Includes a solar connection as standard. 100% ready for installation.
- Give your customers the opportunity to liberate themselves from spiralling energy prices by harnessing inexpensive renewable energy sources. Thanks to MHG's unique state-of-the-art technology.



# Tanks and thermal solar systems

## Technical data

THERAMAT tank	Unit	Nominal capacity
THERAMAT EMT (HWS Calorifiers/storage tanks)	[l]	150–200
THERAMAT EM (HWS Calorifiers/storage tanks)	[l]	120–500
THERAMAT ES (HWS Calorifiers/storage tanks)	[l]	120–500
THERAMAT EMH (HWS Calorifiers/storage tanks)	[l]	150–500
THERAMAT EMS (Solar HWS Calorifiers/tanks)	[l]	300–500
THERAMAT SZ (HWS Calorifiers/heat pump tanks)	[l]	500–2000
THERAMAT SP (Buffer tanks)	[l]	200–1000
THERAMAT SK (Combination tanks)	[l]	650–1050

## THERAMAT:

### The best features at a glance

- Flexible quality programme, design and technology ideally matched to MHG heat generators and for use with MHG system technology
- Convenient HWS tanks in enamel or stainless steel for installing below or next to existing MHG heat generators
- Various adjacent solar, heat pump, buffer and combination tanks as heating centres for use of several energy types
- Top hygienic HWS supply based on the continuous-flow principle

## Technical data

SOLARMAT	Unit	SOLARMAT FL/K 420 DH	SOLARMAT FL/K 420 EM	SOLARMAT CPC 14	SOLARMAT CPC 21
External dimensions	[m]	1,87 x 1,15 x 0,095	1,87 x 1,15 x 0,075	1,65 x 1,63 x 0,14	1,65 x 2,39 x 0,14
Gross area	[m <sup>2</sup> ]	2,15		2,69	3,95
Effective absorber area	[m <sup>2</sup> ]	2,0		2,2	3,3
Absorption	[%]	94		92	
Absorber design		Harp	Meander	Compound Parabolic Concentrator	
Optical coefficient	[%]	80,10	77,60	65	
Max. no-flow temperature	[°C]	203	191	265	

## SOLARMAT:

### The best features at a glance

- Thermal solar systems for first installation or upgrade for homes and commercial buildings
- Perfect integration in MHG system technology
- Proven complete flat-collector system from the SOLARMAT FL range for price- and quality-conscious home owners
- Premium SOLARMAT CPC-type pipe collector system for highest demands
- High solar yield
- Simple and time-saving installation
- Very long life





# Oil units

## Technical data

EcoStar 200	Unit	EcoStar 215	EcoStar 218	EcoStar 222	EcoStar 227
Dimensions (H x W x D)	[mm]	1.889 x 640 x 859			
Nominal thermal output	[kW]	15	18	22	27
Standard efficiency	[%]	bis 94,5			
Exhaust temperature*	[°C]	160	160	160	175
Product IDs		CE-0032BPKD1830			
Category		For EL heating oil acc. to DIN 51603/1			

\* The quoted exhaust temperatures are based on a flow temperature of 75 °C

## EcoStar 200:

### The best features at a glance

- High-performance oil unit in proven low-temperature design for installation in homes and commercial buildings
- Exclusive use of premium components (cast-iron boiler, Rocket Burner®, comfort control)
- Very low oil consumption thanks to perfect, soot-free burning process
- Standard efficiency of up to 94.5 per cent
- Innovative comfort control with menu-based remote control

## Technical data

EcoStar GK 4–8	Unit	GK 4	GK 5	GK 6	GK 7	GK 8
Dimensions (H x W x D)	[mm]	1.760 x 400 x 817	1.800 x 400 x 917	1.800 x 400 x 1.017	1.800 x 400 x 1.117	1.800 x 400 x 1.217
Nominal thermal output	[kW]	34–43	42–49	50–62	58–75	65–90
Standard efficiency	[%]	bis 94,5				
Exhaust temperature*	[°C]	160–200	160–185	160–190	150–195	160–211
Product IDs		CE-0032AUKD0770				
Category		For EL heating oil acc. to DIN 51603/1				

\* The quoted exhaust temperatures are based on a new boiler at a flow temperature of 60 °C

## EcoStar GK 4–8:

### The best features at a glance

- Proven oil unit for installation in commercial buildings
- Integrated Rocket Burner®, cast-iron boiler
- Very low oil consumption thanks to perfect, soot-free burning process
- Standard efficiency of up to 94.5 per cent
- If required, can be supplied with attached HWS Calorifiers (versions GK 4–GK 6)
- Very high boiler and annual efficiency thanks to use of exhaust heat





# Oil-condensing units

## Technical data

EcoStar 500	Unit	EcoStar 515	EcoStar 518	EcoStar 522	EcoStar 527
Dimensions (H x W x D)	[mm]	1.889 x 640 x 1.204			
Nominal thermal output	[kW]	15,5	18,9	22,3	28,4
Nominal efficiency 50/30	[%]	102,6	102,8	102,2	101,7
Exhaust temperature 50/30	[°C]	41,4	43,9	44,2	43,5
Product IDs		CE-0032BPKD2180			
Category		For EL heating oil acc. to DIN 51603/1			

## EcoStar 500:

### The best features at a glance

- High-tech oil-condensing system for installation in homes and commercial buildings
- Innovative, patented high-performance glass pipe heat exchanger for maximum energy efficiency, operational safety and long service life: glass does not rust!
- Up to 30 per cent savings on heating costs thank to perfect, soot-free burning process and heat recovery with optimum use of combustion heat
- Top standard efficiency of up to 104 per cent
- Exclusive use of premium components (Rocket Burner®, cast-iron boiler, glass pipe heat exchanger, comfort control)
- Very easy to assemble (delivered largely preassembled, boiler and heat exchanger ready for use/hydraulically integrated)
- Simple to set up thanks to low boiler weight
- Time-saving maintenance
- Innovative comfort control with a host of integrated system options and menu-based remote control ensuring great usability
- Ideal for integration in MHG system technology
- EcoStar 700 range available in 2009 with outputs up to 450 kW



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# Oil burners

## Technical data

	Unit	Boiler output
<b>Rocket Burner® (oil burner), single-stage (On-Off)</b>		
RE 1.19 H–RE 1.70 H	[kW]	15–70
<b>Rocket Burner® (oil burner), double-stage (Hi-Lo)</b>		
RZ 2.6–RZ 3.3	[kW]	55–315

## Rocket Burner®: The best features at a glance

- Single- (On-Off) and double-stage (Hi-Lo)-high-tech oil burner with blue flame technology
- Converts oil into gas: extremely low heating-oil consumption and very low emissions thanks to perfect soot-free burning process
- Now in its third generation with sales in excess of one million
- High performance with all old and new oil and oil-condensing boilers
- Very powerful forced air overcomes all resistance in the combustion chamber
- Simple assembly and handling thanks to clear design and factory preset exhaust recirculation
- NO<sub>x</sub> levels less than 108 mg/kWhr
- CO levels less than 25 mg/kWhr

## Technical data

	Unit	Boiler output
<b>Oil burner, single-stage (On-Off)</b>		
DE 1.1 VH	[kW]	15,5–30
DE 1 H	[kW]	15–98
<b>Oil burner, double-stage (Hi-Lo)</b>		
DZ 2.1–4.2	[kW]	110–1.450

## The DE and DZ series: The best features at a glance

- Single- (On-Off) and double-stage (Hi-Lo) oil burner with blue flame
- Highly mature, tried-and-tested products
- Excellent combustion values for virtually soot-free operation
- Single-stage (On-Off) burner used in the Rocket Burner® casing ensures optimal start-up, particularly stable burning and high levels of operational safety.
- Double-stage (Hi-Lo) burner in a modern design ideally suited for overpressure boilers





# Gas forced-air and combination burners

## Technical data

	Unit	Boiler output
<b>Gas forced-air burner, single-stage (On-Off)</b>		
GE 1.40H-GE 1.65 H	[kW]	13-65
GE 1.105	[kW]	60-105
<b>Gas forced-air burner, double-stage (Hi-Lo)</b>		
GZ 1.105	[kW]	69-105
GZ 2.1-4.2	[kW]	100-1.450

## The GE and GZ series: The best features at a glance

- Single- (On-Off) and double-stage (Hi-Lo) gas forced-air burner for use with natural gas or LPG
- Highly mature, tried-and-tested products
- Energy-saving and environmentally friendly
- Single-stage (On-Off) burner used in the Rocket Burner® casing ensures optimal start-up, particularly stable burning and high levels of operational safety.
- Double-stage (Hi-Lo) burner in a modern design ideally suited for overpressure applications

## Technical data

	Unit	Boiler output
<b>Gas forced-air burner</b>		
GM 121-GM 10001.4	[kW]	25-15.000
<b>Combination burner</b>		
GMC 301-GMC 10001.4	[kW]	120-15.000

## The GM and GMC series: The best features at a glance

- Modulating high-tech gas forced-air burner for use with natural gas, LPG, manufactured and bio gas (GM series)
- High-tech combination burner so oil and gas can be burned in alternate operation (GMC series)
- Maximum energy efficiency thanks to modulating gas operation in the 1:5 control range
- Double-stage (Hi-Lo) oil operation (series), burner also available in modulating design
- Virtually zero-emission low NO<sub>x</sub> operation thanks to integrated exhaust recirculation
- Burners available in a variety of optional combinations (pneumatic, electronic, mechanical)





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MHG Heiztechnik  
1927-2007

MHG Heiztechnik GmbH  
Germany  
kontakt@mhg.de  
www.mhg.de

MHG Heating Ltd  
UK  
Telephone: 0845 6448802  
Fax : 0845 6448803  
Email: info@mhgheating.co.uk  
Web: www.mhgheating.co.uk

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