

marathon burner courier

A white silhouette of a runner in mid-stride, positioned behind the word 'burner' in the main title.

Hot topics

ULTRA LOW NOx gas burners

New MAGMAblue® burners with surface combustion

Modernization according to

44. BImSchV

Heating plant Homburg

Success model

Application according to EN 746-2

**Leading
projects to
success.**

Dates

Seminars

Our annual training courses and technical seminars have a long tradition. We would like to offer seminars again in 2021. We announce dates on our website.

GESTRA Regional Symposium

Dates for 2021 are being planned and will be announced.

ISH digital 22nd – 26th March 2021

The ISH will take place as a digital event and will provide some features with a virtual platform.

Imprint

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New MAGMAblue® surface burners

for process heating technology

With the MAGMAblue® line burners M 30 L30x200 and M 70 L30x450 with a thermal output of 30 or 70 kW, dreizler is expanding the MAGMAblue® burner series with premixed combustion. The ULTRA LOW NOx technology of surface combustion has been used successfully by dreizler for decades to generate process heat and steam.

With the new burner types, the goal of developing a cost-effective and robust design of the previous versions of the MAGMAblue® strip burner for thermal processing systems in accordance with EN746-2 was achieved.

With MAGMAblue® premix burner systems, fuel and air are completely premixed by injecting fuel on the suction side of the blower. In this way, even low-emission and low-noise surface combustion is achieved.

The core of the MAGMAblue® technology is the European-patented MAGMApad, the basic material of which consists of a multi-layered, sintered austenitic stainless steel fiber fleece. Due to the high permanent temperature resistance of 1150 °C, it is ideally suited for flame-wetted surface combustion. The special, patented surface treatment increases the heat dissipation of the surface, which leads to a cool flame base with very low emission values. Furthermore, the resulting irregular flame tips ensure good flame stability even with high surface capacity of over 12 MW/m².

The new burner types achieve a control ratio of 1:8 with low emission combustion, depending on the application. The integration of the ignition and flame monitoring in the burner-boiler flange enables easy integration into a wide variety of systems. The burners are currently designed for operation with natural gas H and natural gas L. A suitability for other fuels is still pending.

MAGMAblue®



MONObloc M 10001.5 up to 20 MW combustion output

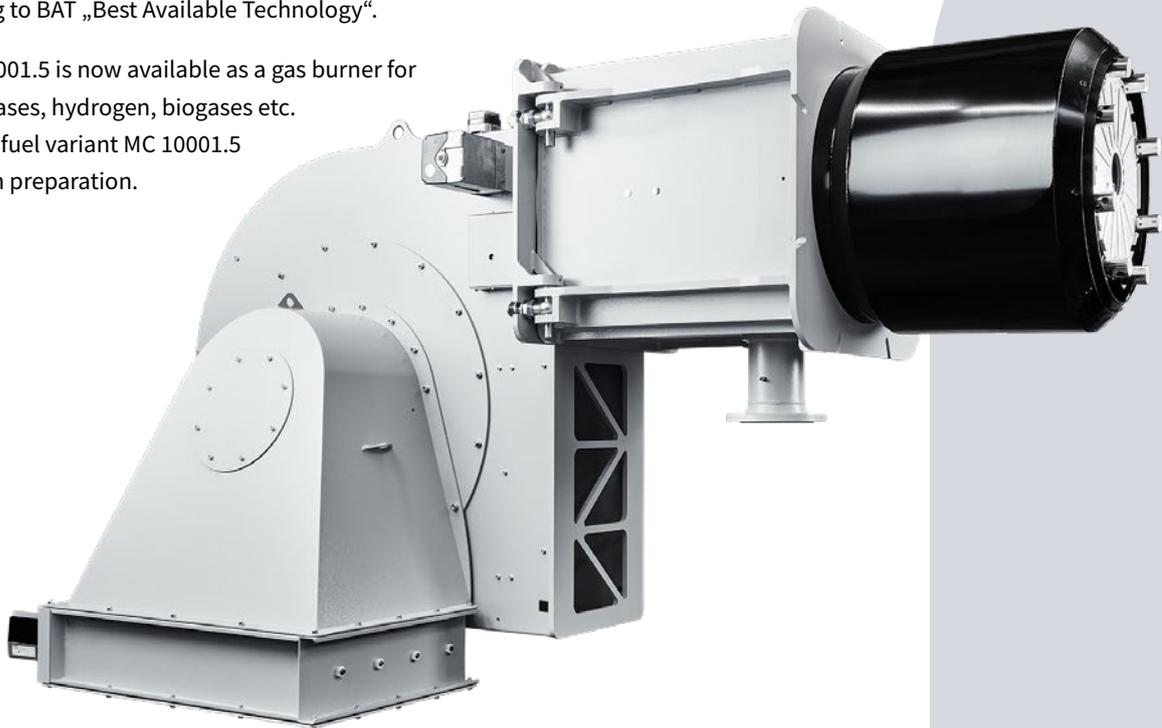
The new power pack in the marathon® burner family.

Burners in MONObloc design mean less planning effort for the planner and system installer. All burner components (fuel supply, combustion air blower, mixture preparation and burner control) represent a compact unit and are easy to assemble.

Based on the modular system of the marathon® series, the proven mixing device of the DUObloc burner M 10003.5 is combined with a particularly optimized and efficient 75 kW combustion air fan in MONObloc design. This resulted in the new marathon® MONObloc M 10001.5 VM75.

In connection with the latest LOW NOx technology such as internal flue gas recirculation ARZ and external flue gas recirculation ARF, this burner makes your system fit for emissions according to BAT „Best Available Technology“.

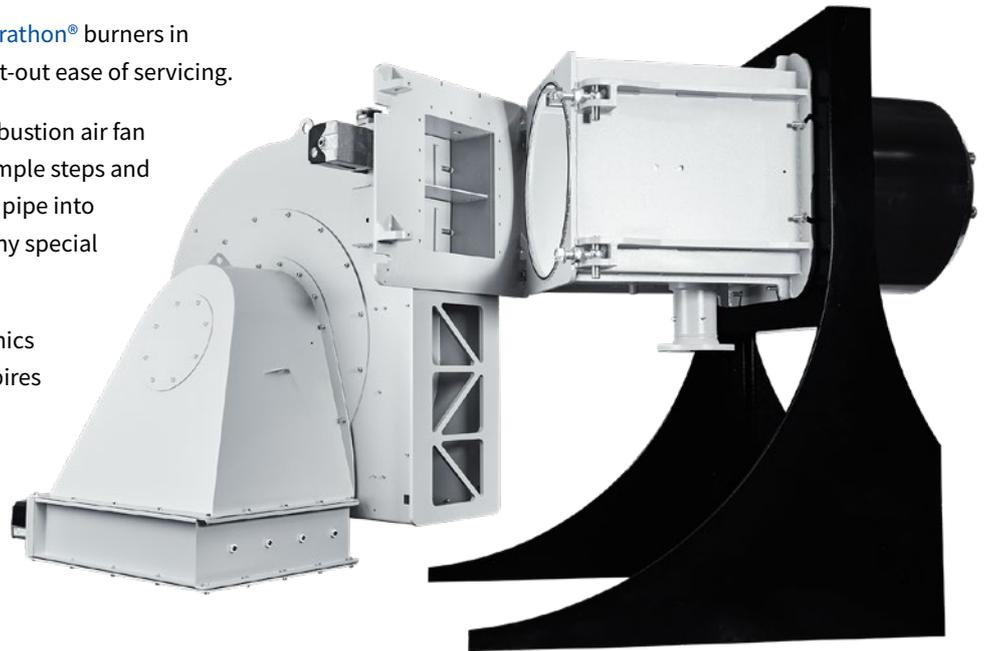
The M 10001.5 is now available as a gas burner for natural gases, hydrogen, biogases etc.
The dual-fuel variant MC 10001.5 VM75 is in preparation.



The special feature of all dreizler **marathon**® burners in MONObloc design is the well thought-out ease of servicing.

A trained person can swivel the combustion air fan 90° to the right or left in just a few simple steps and move the mixing device out on a rail pipe into the maintenance position without any special effort.

The construction stands for ergonomics and safety at the same time and inspires operators and service technicians on many thousands of burner systems.



webCOBRA®

For many years we have been successfully using the COBRA software tool we developed for your individual burner configuration.

Based on your own specifications, you will then receive an offer online. Within a few minutes, detailed and convincing. With exact output descriptions, technical design data and a binding emission commitment.

A reliable efficiency calculation provides you with an exact comparison of different combustion technologies in terms of life cycle costs and CO₂ emissions.



Would you like to register?
You can get your personal access data on our homepage.
www.dreizler.com/brennerkonfigurator



Leading projects to success

Reliable:

Steam generation in the chemical industry



Technical data:

Burner

2 x gas burners
 marathon® M 1001 F1 ARZ
 marathon® M 1501 F2 ARZ

Version LOW NOx
 with internal flue gas recirculation ARZ
 Speed control [frequency](#)

NOx < 90 mg/Nm³

Boiler

High pressure steam generator
 Viessmann Vitomax 200 HS

Total installed combustion output
 ca. 2,6 MW



New customers in Lithuania place their trust in the quality and performance of our [marathon®](#) burner technology. In close cooperation with the competent team from Viessmann Lithuania and their experienced longtime partners, primarily Termolink, five interesting projects were implemented in Lithuania. A total of seven [marathon®](#) gas burners in MONObloc design reliably supply the food, chemical and furniture industries at several locations with heat and steam for production.

The largest greenhouse complex in the Baltic States is optimally and cleanly supplied with energy by two [marathon®](#) M 10001.3 ARZ gas burners with a total combustion output of approx. 21, 6 MW. Equipped with internal flue gas recirculation ARZ and external flue gas recirculation ARF, NOx values of < 75 mg/Nm³ are achieved.

All LOW NOx burners have been equipped with speed control frequency for effective and profitable energy saving.

The collaboration between dreizler and Viessmann has been gradually intensifying for some time. This also includes seminars for employees and customers at the Viessmann branch in Vilnius, as well as factory visits and technical training courses in Spaichingen.

Efficient heat and steam generation in Lithuania

Clean:

Hot water generation for greenhouses



Technical data:



Burner

2 x gas burners
marathon® M 10001.3 ARZ

Version LOW NOx
with internal flue gas recirculation ARZ
and flue gas recirculation ARF
Speed control frequency

NOx < 75 mg/Nm³

Boiler

Low pressure hot water generator
2 x Viessmann Vitomax LW

Total installed combustion output
ca. 21,6 MW

Technical data:



Burner

2 x gas burners
marathon® M 1501 F2 ARZ
marathon® M 5001.4 ARZ
Fuel: LPG / natural gas

Version LOW NOx
with internal flue gas recirculation ARZ
Speed control frequency

NOx < 80mg/Nm³

Boiler

2 x high pressure steam generators
Viessmann Vitomax 200 HS
Total installed combustion output
ca. 6,4 MW

Efficient:

Steam supply in the food industry



The professional commissioning of the systems in Lithuania was carried out by well-trained service partners from Viessmann Baltikum.



We would like to thank our partners Viessmann Lithuania, Termolink and everyone involved for the excellent cooperation.

Modernization according to the 44. BImSchV

Heating plant in Homburg



The combined heat and power plant supplies the city of Homburg with its large industrial plants and the nearby university clinic with thermal energy. The power plant has been operated with natural gas in an environmentally friendly manner since 2001. In the course of modernization according to 44. BImSchV, it was also necessary to replace the burners.

According to the requirements, two powerful dual-fuel burners **marathon**[®] MC 10003.3 ARZsuper, each with 10,5 MW, efficiently and cleanly fire the existing double flame tube smoke tube boiler.

Boiler 2 has been renewed and replaced by a hot water boiler from Viessmann, which is heated by a modern dual-fuel burner **marathon**[®] MC 10003.3 ARZsuper with a combustion output of 16,0 MW.

All burners in the DUObloc version are equipped with the energy-saving frequency control and oxygen control for optimal combustion and a high degree of system efficiency. The ARZsuper flue gas recirculation reduces NOx emissions to excellent values.

Technical data:



Burner

Dual fuel burner

1 x **marathon**[®] MC 10003.4 ARZsuper

2 x **marathon**[®] MC 10003.3 ARZsuper

Version LOW NOx

with internal flue gas recirculation ARZsuper

Speed control **frequency**

Oxygen control **oxygen**

NOx natural gas < 80 mg/Nm³ / 100 mg/Nm³

NOx heating oil < 170 mg/Nm³

Boiler

Standard Condor double flame tube boiler

Viessmann hot water boiler

Total installed combustion output

ca. 37 MW



We would like to thank the Steag project team headed by Mr. Toni Stadtfeld (in the middle of the picture) and the person in charge of Viessmann Industrial Service GmbH, Mr. Thomas Kensche (on the left in the picture) and the construction management with Mr. Sven Müller for the trust they have placed in us and the pleasant cooperation even during the renovation phase. All project-specific requirements could be implemented jointly within the schedule.

Latest state of the art

Greifswald thermal power station



In the power stations of the city of Greifswald, great value is placed on modern systems with environmentally conscious, optimal fuel utilization. The largest heat and power generation facility in Greifswald, the HelmsHäger Berg thermal power station, has, among others, five hot water generators with a thermal output of 19,4 MW each.

Within the last 12 months, two of these existing boilers were equipped with four new dual-fuel burners **marathon**[®] MC 10003.3 ARZsuper, each with a combustion output of 10,7 MW. Excellent combustion technology in the LOW NOx version with ARZsuper flue gas recirculation, ARF flue gas recirculation and combined O₂/CO control. The precisely coordinated burner technology enabled the respective systems to be commissioned quickly within a few days by the dreizler service GmbH team.

All reconstruction and commissioning work was completed as planned in time for the start of the heating season.

We would like to thank the team around the head of production, Mr. Frank Möllendorf and Mr. Torsten Thiele, the head of the Conwico team, for the trust they have placed in us.

Technical data:

marathon[®]

Burner

4 x dual fuel burners
marathon[®] MC 10003.3 ARZsuper

Version LOW NOx
with internal flue gas recirculation ARZsuper
and external flue gas recirculation ARF
Oxygen control **oxygen**

NOx natural gas < 80 mg/Nm³
NOx heating oil EL < 150 mg/Nm³

Boiler

2 x double flame tube boilers
Standard Condor

Total installed combustion output
ca. 42,8 MW

Successful model NOx < 40 mg/Nm³

Application according to
EN 746-2

Technical data:

CALORAbloc®

Burner

Gas burner

CALORAbloc® CBG 5003.4 ARZ

Version LOW NOx

with internal flue gas recirculation ARZ

NOx natural gas < 40 mg/Nm³ at 3% O₂

Control ratio 1:8

Air preheating < 60°C

Boiler

High efficiency steam boiler

Cannon Bono Energia SG600W, 5 t/h

Total installed combustion output

ca. 3,2 MW



Burners of the CALORAbloc® series consist of a burner bloc with air and fuel connections. Separate combustion air fans are freely selectable. Thanks to the modular, freely configurable construction, the burners can be optimally adapted to industrial processes. High control ratios of up to 1:10 are possible.

We would like to thank everyone involved for the successful implementation of this special project.

With the CALORAbloc® burner system dreizler supplies suitable and efficient solutions for your industrial application.

At the plant location in Italy, a CALORAbloc® CBG 5003.4 ARZ gas burner with 3,2 MW combustion output in combination with a Cannon Bono Energia High efficiency steam boiler ensures extremely clean steam generation.

The burner is equipped with the proven flue gas recirculation ARZ. In addition, a significant increase in efficiency is achieved by preheating the air at < 60°C. The operator benefits from the particularly high flexibility of the burner. The control ratio of 1:8 ensures optimum operation even with strong load fluctuations.

All technical requirements of the customer were met perfectly. Thanks to the perfect coordination of boiler/burner and the use of tried and tested, state-of-the-art combustion technology, very low NOx values were achieved. Even without external flue gas recirculation. Cutting-edge technology from dreizler for clean combustion. Unbeatable.

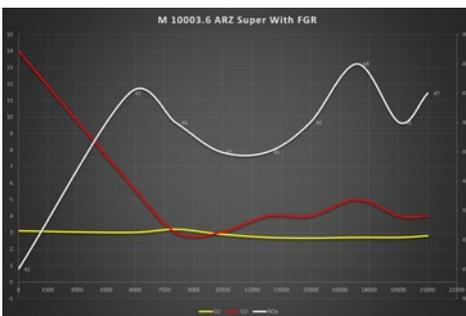
The commissioning was carried out professionally by Cannon Bono Energia to the complete satisfaction of the customer.

LOW-NOx combustion < 50 mg/Nm³

Retrofit

On the way to a sustainable city. The French city of Bobigny (near Paris) pursues a proactive policy in the field of energy transition. Modernizations were necessary to bring the combustion technology in the existing district heating plant up to date. Boilers and burners have been replaced by advanced technologies. The newly installed Bosch hot water boiler together with a dreizler **marathon**[®] M 10003.6 ARZ + ARF gas burner form an ideally designed unit that guarantees a reliable district heating supply. Reliable, efficient and clean.

A particular focus in the implementation of this project was on compliance with the strict limit values for emissions. The measured NOx values are always < 50 mg/Nm³. At every load point. This is achieved by using the internal flue gas recirculation ARZ in connection with the external flue gas recirculation ARF from dreizler.



| | | |
|-------------|----------|----------|
| O2 | 2.73 | % |
| CO2 | 10.27 | % |
| CO 3%O2 | 5 | mg/m3 |
| NO 3%O2 | 30 | mg/m3 |
| NOx 3%O2 | 48 | mg/m3 |
| SO2 3%O2 | 0 | mg/m3 |
| T. Gaz | 110.5 | °C |
| T. Air | 15.7 | °C |
| Tirage | 2.71 | hPa |
| Analyse gaz | 10:57:46 | 27.10.20 |
| | CO | 331 ppm |

Limit value to be observed < 50 mg/Nm³ at 3% O₂.

The NOx emissions were measured over the entire load range. Each measured value was below the limit.

The plant operator has been benefiting from advanced **marathon**[®] combustion technology for a number of years and is once again placing his trust in burners from dreizler. Many thanks to our partner LCI Group, the customer in France and the dreizler France team for the successful cooperation.

Technical data:

marathon[®]

Burner

Gas burner

marathon[®] M 10003.6 ARZ

Version LOW NOx

with internal flue gas recirculation ARZsuper
and external flue gas recirculation ARF

Speed control **frequency**

Oxygen control **oxygen**

NOx natural < 50 mg/Nm³

Boiler

Hot water boiler

Bosch Unimat UT-L

Total installed combustion output
ca. 21 MW

Future energy

Hydrogen

Impact of hydrogen and mixtures of hydrogen and natural gas on forced draught burners for gaseous fuels

As a renewable energy source, hydrogen will play a central role in the future. Hydrogen burns CO₂-free and can flexibly store renewable energies. To analyse the effects of hydrogen and mixtures of hydrogen and natural gas on forced draught burners for gaseous fuels according to EN 676, experimental studies have been performed using a modern **marathon**[®] LOW NOx gas burner from dreizler.

The focal points include the impact on NOx emissions and its reduction strategies, thermal load, the applicability of different flame detecting technologies and the impact on the air/fuel linkage. The results demonstrate the feasibility of the **marathon**[®] burner for the fuel-flexible use of hydrogen and natural gas.



A detailed report was published in the trade journal Prozesswärme 04/2020 with a great response. The technical article is available on our website.

www.dreizler.com/Wasserstoff

Relaunch

www.dreizler.com

Our completely redesigned website is online and has a modern design. User-friendly and technically up to date. Take a look around and discover our product portfolio, interesting system examples or the latest news. We hope you like it.



Would you give us your opinion?
Then feel free to contact us. We are happy about every feedback.
Your dreizler team.

