

marathon burner courier

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

Hot topics

Stronger with every challenge

Power Station Dairy Products

Retrofit

Optimization with LOW NOx
burner technology

DVGW Certification

For up to 20 vol.-% hydrogen in natural gas

**Combustion
Technology
as its Best.**

Pure Energy. Reliable. Efficient. Clean.

 **dreizler®**

Dates

Seminars

Our annual training courses and technical seminars look back on a long tradition. We would like to offer seminars again in 2022. Dates will be announced on our website.

GESTRA Regional Symposium

Dates for 2022 are being planned and will be announced.

Imprint

Walter Dreizler GmbH
Max-Planck-Straße 1-5
78549 Spaichingen
V.i.S.d.P. Daniel Dreizler
Tel.: +49(0)7424-7009-0
Fax: +49(0)7424-7009-90
E-Mail: info@dreizler.com

Retrofit

Optimization with LOW NOx burner technology

The family-owned company EGGER, which has been in existence since 1961, employs around 10,000 people worldwide. They manufacture a comprehensive product range of wood-based materials and sawn timber at a total of 20 locations. The main plant in St. Johann, in the heart of the Kitzbühel Alps, is a fully integrated site with the highest manufacturing diversity.

EGGER strives to optimize existing processes and exploit potential for improvement. In order to ensure the availability of the WTÖ boiler plant for the ContiRoll production area in the future, the complete firing system including gas train and control unit was renewed. Instead of a DUObloc burner, a **marathon® M10001.1 ARZ MONObloc** from dreizler was used.

The frequency technology enables profitable burner operation through savings in power consumption. In addition, excellent emission values $< 60 \text{ mg/Nm}^3$ were achieved with dreizler flue gas recirculation ARZ. Modern burner technology with optimum performance. The way to increase energy efficiency.



Intelligent automation solution for dynamic boiler control

Based on a fail-safe SIMATIC S7-1515F the boiler control including boiler protection was completely rebuilt by our partner ESF GmbH Fritz Friesenbichler and team. The flexible control technology ensures optimal operation of the plant.



Technical Data:

Burner

Gas burner

marathon® M 10001.1 ARZ

LOW NOx version

with internal flue gas recirculation ARZ

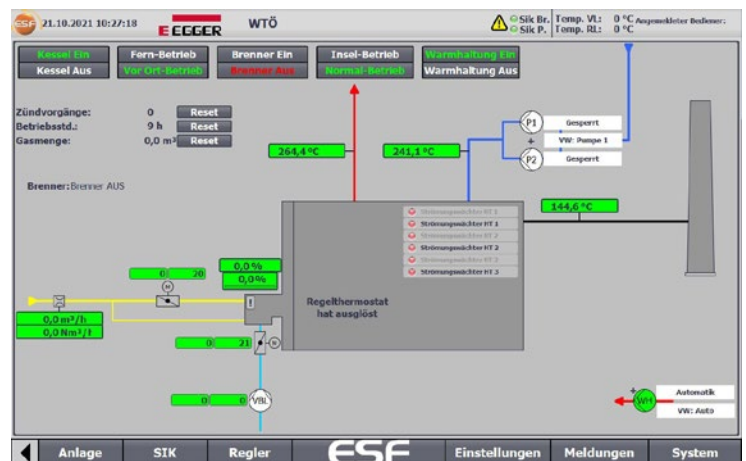
NOx $< 60 \text{ mg/Nm}^3$

Speed control **frequency**

Boiler

Heiler thermal oil circulating heater

Total installed combustion output
approx. 8.0 MW

We would like to thank the customer for their confidence in our burner technology and the ESF team for the successful cooperation as always.

Stronger with every Challenge

New construction of a power station



Perhaps the milk for your coffee also comes from one of the many dairy cooperatives in Germany. Arla Foods is one of the largest dairy cooperatives in the world. Long-life dairy products are produced in Pronsfeld. Around 1,700 farmers supply their cooperative with raw milk at the Eifel site.

The plant in Pronsfeld is constantly modernized and expanded, with great emphasis on sustainable development and thereby also on energy efficiency.

For a new power station WULFF & UMAG supplied a water tube boiler plant for the generation of saturated steam with a capacity of max. 43 t/h at a live steam pressure of 29 bar(g). The plant consists of a bi-drum boiler with two flue gas passes and downstream economizer. The combustion chamber was dimensioned taking into account emission specifications as well as optimum utilization of the radiant heat.

By using intelligent dreizler® HIGHTECH technologies, the [marathon® M 10003.7 ARZ LOW NOx](#) gas burner operates with optimum fuel utilization and first-class efficiency. Arla Foods benefits from highly efficient, clean burner operation with outstanding emission values. Combustion technology as its best.

Technical Data:

[marathon®](#)

Burner

Gas burner

[marathon® M 10003.7 ARZ](#)

LOW NOx version

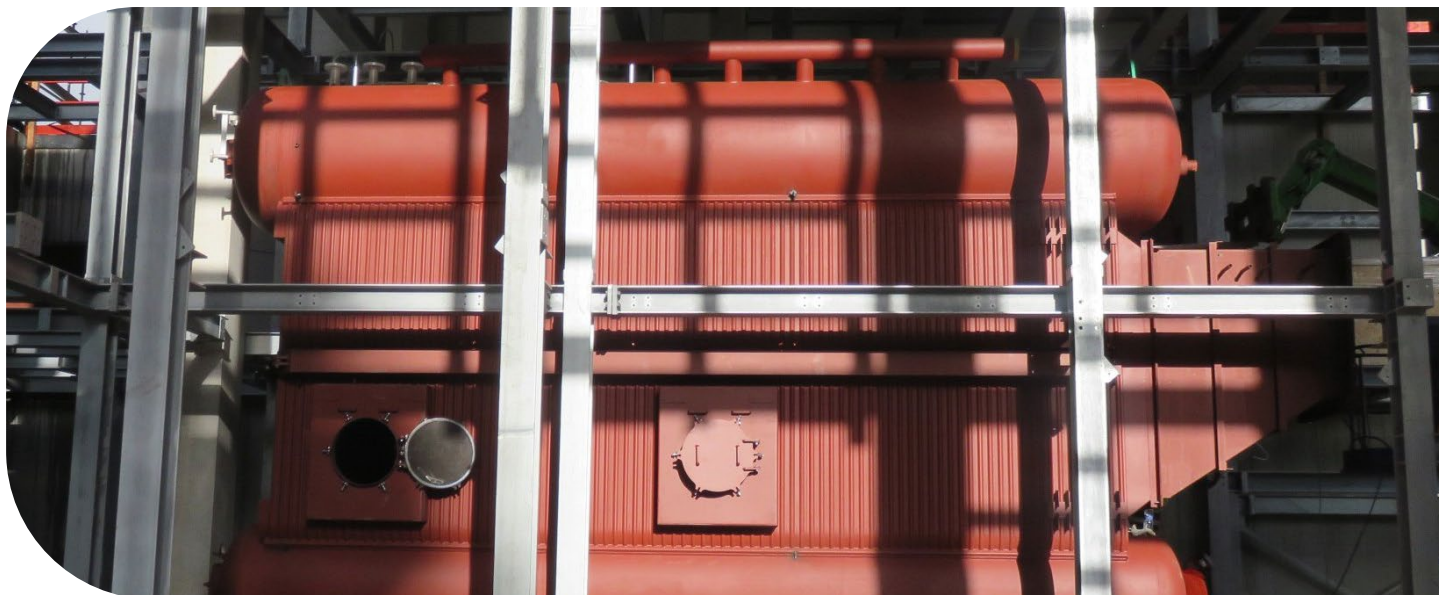
with internal flue recirculation ARZ

NOx < 60 mg/Nm³

Speed control [frequency](#)

Oxygen control [oxygen](#)

Control range 1:8



Safety Performance

Pure Energy.

The boiler plant serves as a backup boiler for a gas turbine CHP.
The plant is equipped for BOB 72h.



Technical Data:

Water tube boiler WULFF & UMAG

Steam capacity	max. 43 t/h
Maximum permissible operating pressure	34 bar (g)
Fuel	natural gas H
Firing capacity	30,5 MW
Efficiency	> 96%
Commissioning	3 rd quarter 2021

The team of dreizler service GmbH would like to expressly thank the colleagues from WULFF & UMAG for the very good and professional cooperation during the commissioning.

 dreizler® service

WULFF & UMAG
Energy Solutions

Many thanks to WULFF & UMAG Energy Solutions for the excellent implementation of this project and to Arla Foods for the trust in our burner technology over many years.



Technical Data:

Burner

2 x gas burner

[marathon®](#) M 10003.5 ARZ

LOW NOx version

with internal flue gas recirculation ARZ

and external flue gas recirculation ARF

NOx < 60 mg/Nm³

Speed control [frequency](#)

Oxygen control [oxygen](#)

Mixed firing natural gas/biogas

Boiler

Bosch steam boiler

Steam capacity 50 t/h saturated steam

Total installed combustion output

approx. 34,5 MW

[marathon®](#)

– Because it works

Mixed firing

From hammer mill to paper mill. Paper has been produced in Düren for more than 230 years. The medium-sized family business SCHOELLERSHAMMER processes the waste paper of 4 million inhabitants from the region into packaging papers. Using the most modern technologies, approximately 3,000 km of paper are produced per day.

In two combined heat and power plants, which are operated with biogas from the wastewater treatment plant, regenerative electricity is generated for the company's own needs and for around 650 single-family homes.

Tried, tested and proven many times over. [marathon®](#) burners are ideally suited for mixed firing or simultaneous combustion of two fuels thanks to their design features. The Lamtec FMS4 combustion manager enables a variable mixing ratio of the two fuels natural gas/biogas in exact coordination. Without interrupting the operation of the burner.

The O₂ control oxygen ensures a self-optimizing and constant combustion and convinces with a maximum firing efficiency. Efficient and safe plant utilization, a great advantage for the operator.

The automation of the production processes and energy distribution is carried out completely via a powerful PCS7 control system.

dreizler® stands for quality. Already since 2016, 2 x gas burners [marathon®](#) M 10003.5 ARZ for mixed firing natural gas/biogas with a capacity of 17.3 MW each are in operation at SCHOELLERSHAMMER.



High availability



Technical Data:

marathon®

Burner

2 x gas burner

marathon® M 10003.5 ARZ

Version LOW NOx

with internal flue gas recirculation ARZ

NOx < 100 mg/Nm³

Speed control frequency

fuel: natural gas

Boiler

Steam boiler Omnical

Steam capacity 50 t/h

Total installed combustion output
approx. 34,5 MW

Reliability.

A key quality feature of marathon® gas burners. A boiler plant operated with natural gas is available redundantly. Two marathon® M 10003.5 ARZ gas burners on a steam boiler from Omnical ensure the required high availability of the plant. Total installed firing capacity approx. 34.5 MW. For SCHOELLERSHAMMER, this means enormous operational reliability. You can rely on marathon® burners.

KOLB
STEAMTEC

We would like to thank SCHOELLERSHAMMER, Kolb Anlagenbau GmbH and all parties involved for the trust placed in us and the successful implementation of the projects.

RWTH University in Aachen

On the way to an energy-efficient campus

The university heats with boilers from Bosch and burners from dreizler®. Within 14 months, the complete boiler plant was upgraded by Kolb Anlagenbau GmbH. Total output approx. 38 MW. Efficient, clean and reliable. For a sustainable future.



Discover the new heat supply on Youtube:

<https://youtu.be/hP0eKTvrPBQ>



Well equipped for the future

Since its opening in 1973, KVA Linth energie + recycling has developed from a simple waste incineration plant into a modern thermal power plant. Today, 115,000 tons of waste are recycled per year. By processing the resulting slag, many tons of metal can be recovered. The plant's own district heating network serves the canton of Glarus-Nord and surrounding communities. Electricity production results in about 10 MW/h, most of which is fed into the local grid.

Energy is supplied via two hot water condensers with a capacity of 15 MW/h each. For backup, an oil-fired peak load boiler was planned and implemented in combination with **marathon**® MC 10003.5-L ARZsuper oil burner. The frequency speed control enables savings in power consumption of up to more than 75% and thus efficient and quiet burner operation. Another valuable contribution is made by the flame technology for NOx reduction dreizler ARF.



In the KVA Linth, the energy supply is reliably secured. Even at peak times. A second boiler is already being planned.

Many thanks to PSB Feuerungstechnik AG for the realization of the burner system incl. oil supply and to the partners astebo, Hälg & Co. AG, NeoVac, GIMA Abgastechnik AG and Debag/Hediger Automations AG for the good cooperation.



Technical Data:

Oil burner

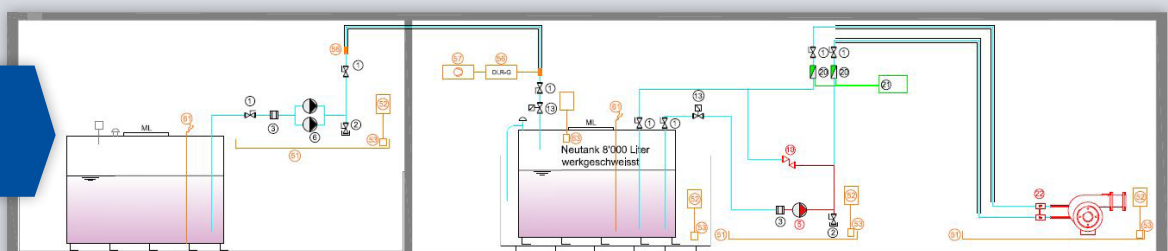
marathon® MC 10003.5-L ARZsuper

Version LOW NOx
with internal flue gas recirculation ARZsuper
NOx < 150 mg/Nm³
and external flue gas recirculation ARF
Speed control **frequency**
Control ratio 1:4

Boiler

Hot water boiler: astebo THW-I
Total installed combustion output approx. 15 MW

Principle
diagram fuel
supply



DVGW

Certification program for up to 20 vol.-% hydrogen in natural gas

The „Deutscher Verein des Gas- und Wasserfaches e.V.- Technisch-wissenschaftlicher Verein e. V.“ is the industry association for the German gas and water industry, headquartered in Bonn. As the recognized rule-setter for the gas and water industry and the largest industry certifier, it plays a key role in the supply of fuel gas and water in Germany. In addition, the association acts as the main initiator of industry-related innovations, research projects and as a service provider in the field of vocational training.

In this context, this year 2021 the certification program “Supplementary tests for forced draught burners for gaseous fuels for a hydrogen content of up to 20 vol.-%”.

DVGW CERT ZP 3502 was developed and published with the burner industry in Germany. First time in Europe.

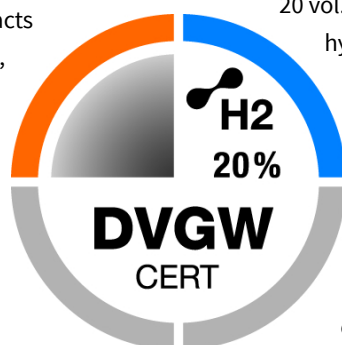
The published certification and test specification (ZP 3502-00-E-DE) describes necessary supplementary tests to qualify forced draught burners for an addition of up to 20 vol.-% hydrogen to natural gas (G20) as fuel gas. This ZP applies to forced draught burners

for gases of the 2nd gas family, gas groups E and H, until there is a uniform European regulation. This ZP refers to new appliances.

What is new here is that the hydrogen content in natural gas is not fixed at 20%, but can fluctuate and move freely between zero and 20 vol.-%. This takes into account the new expectation that hydrogen from renewable energies can be fed into the grid from electrolyzers, so-called “green hydrogen”. This will partially decarbonize natural gas and reduce carbon dioxide CO₂ emissions from gas appliances.

dreizler® already had its marathon® series with hollowflame® tested by Gaswärmeinstitut Essen e.V. in several measurement campaigns. Certification for up to 20 vol.-% hydrogen operation in natural gas is in preparation.

The industry is also working with the DVGW on a new certification program “**Supplementary tests for forced draught burners for gaseous fuels for a hydrogen content of up to 100 vol.-%**” DVGW CERT ZP 3502, which is to be published in 2022.



Munich

7.FORUM.FIRING TECHNOLOGY

This year's 7th TÜV SÜD Combustion Technology Forum took place on November 25th and 26th as an online meeting with a large number of participants due to the pandemic. Experts from TÜV SÜD, the Bavarian Environmental Authority, operators of combustion plants and also dreizler® as burner manufacturer informed about everything that is important for the operator of a combustion plant. We were allowed to address future challenges due to volatile gas properties, the use of hydrogen in the natural gas network and the resulting effects on equipment of modern burner technology.

A big thank you to the team from TÜV SÜD for the perfect organization and execution and the opportunity to participate. Nevertheless, we, like many others probably, hope that the 8th Forum Feuerungstechnik can be held again in two years as an attendance or hybrid event.



Premix Burner System

DUNGS® relies on MAGMAblue® technology from dreizler®

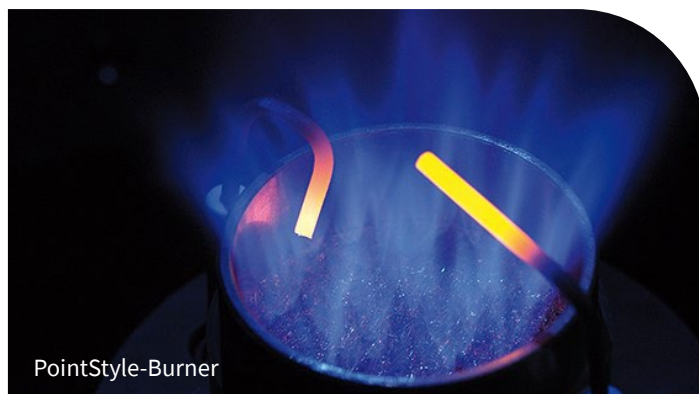
“The Premix burner system impresses with clean combustion with extremely low NOx and CO emissions, so that even sensitive products can be heated directly.”

In its latest newsletter, DUNGS refers to the burner package HeatEngine® for application in process heating technology. Can be combined with PointStyle or LineStyle burners in the power range from 5 to 140 kW, a control range of up to 1:10 is possible.



Download Flyer DUNGS HeatEngine®:
https://www.dungs.com/fileadmin/media/Downloads/DBs_BMAs/263083.pdf

DUNGS®
Combustion Controls



NEW

Lamtec and dreizler: Combustion Management System D-CMS

After almost two years of introduction phase and many successfully commissioned plants up to 32 MW individual firing capacity, we have decided together with our partner Lamtec to serially integrate the D-CMS, i.e. the Lamtec CMS in dreizler® specific design, into our product range as of 1st April 2022.

The D-CMS then replaces the previous ETAMATIC OEM S and the FMS and results in a variety of new possibilities due to modular design, a wide range of actuators, digital input and output options as well as an integrated PLC for variable applications. The technicians of dreizler Service GmbH are trained and the feedback from customers is very positive.



Spare parts availability for the previous firing managers at the thousands of plants in the field with them is of course ensured for the long term.

Natural gas supply in change

New measurement technology in conjunction with marathon® burners

Volatile gas conditions will shape the future of natural gas supply in Europe. At the same time, the demands for efficiency, low emissions and maximum reliability are rightly becoming ever higher.

How can these high demands be ensured in the future despite the ever-increasing variability of the fuel?

In cooperation with Bright-Sensors from Switzerland, we are therefore pleased to report here on promising experiences with BlueEye sensor technology on our test benches.

The natural gas is analyzed within seconds and with excellent accuracy. The service technician can see at any time how, for example, the Wobbe index, calorific value, hydrogen content etc. are changing and can then select the optimum burner setting. The Blue Sensor is available as a permanently installed version to be left on site or as a mobile measuring device.

In the future, it is intended that the measurement of the sensor will be immediately linked to the electronic fuel air compound as an additional correction variable.

- The patented BlueEye™ MEMS sensor technology was developed by Bright Sensors SA for the continuous measurement of combustible gases.



- Available in stationary and mobile versions, the analyzers report combustion characteristics to the second (Hs, Hi, WIs, Wli, p (rel), Z, (s-)AFR, MN, CO2 and H2 mol%) of the measured gas compositions.
- Gas composition
- Hydrogen
- Wobbe Index
- Calorific Value
- Heating Value



marathon®

Burners 120 up to 44.000 kW



Technical Seminar

Take off to dizzying heights

With more than 40 participants, our technical seminar on 22/23/09/21 at the TK Elevator test tower in Rottweil was completely booked out.

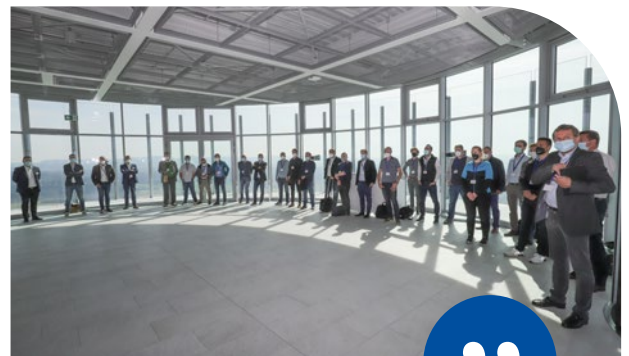
After a breathtaking ride in the high-speed elevator, Daniel and Ulrich Dreizler welcomed the guests on the observation deck of the tower. The series of lectures was opened in the highest conference room in Germany. Boiler and burner technology as a pillar of the energy turnaround, causes, requirements and solutions for NOx emissions, and the effects of hydrogen in natural gas. The interested audience received an up-to-date insight into topics that move the industry.

Our guest lecturer Prof. Dr. Gerd Ganteför concluded the program with his interesting contribution "Energy, Economy and Climate - How will we live in 100 years?"



During the breaks, there was an opportunity for a personal exchange of ideas over a light snack. The day came to a culinary conclusion with a joint dinner at the Hohenkarpfen Restaurant.

On the following day, the participants were able to visit our production facilities and the test benches at the Spaichingen plant in small groups. We are pleased about the successful event and the positive feedback from our participants.



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Participant comments

„Very good selection of topics, especially with regard to climate protection and energy transition.“

„The location was unique and there was a common thread running through the presentations.“

„It was very nice to experience, maintain and establish personal contacts again“

High up with strong partners

A strong team

dreizler honors long-standing employees

We are pleased with our jubilarians, who together have reached a remarkable total of 145 working years. Common goals, motivation, commitment and respectful interaction with each other are the hallmarks of our team. We would like to thank them for their many years of loyalty and valuable contribution to the success of our company.



The following employees were honored for their many years of service to the company:

30 Jahre:	Waldemar Rausch Jens Schömburg Waltraut Spitzl
25 Jahre:	Andreas Decker
20 Jahre:	Daniela Bühler
10 Jahre:	Jana Dreizler