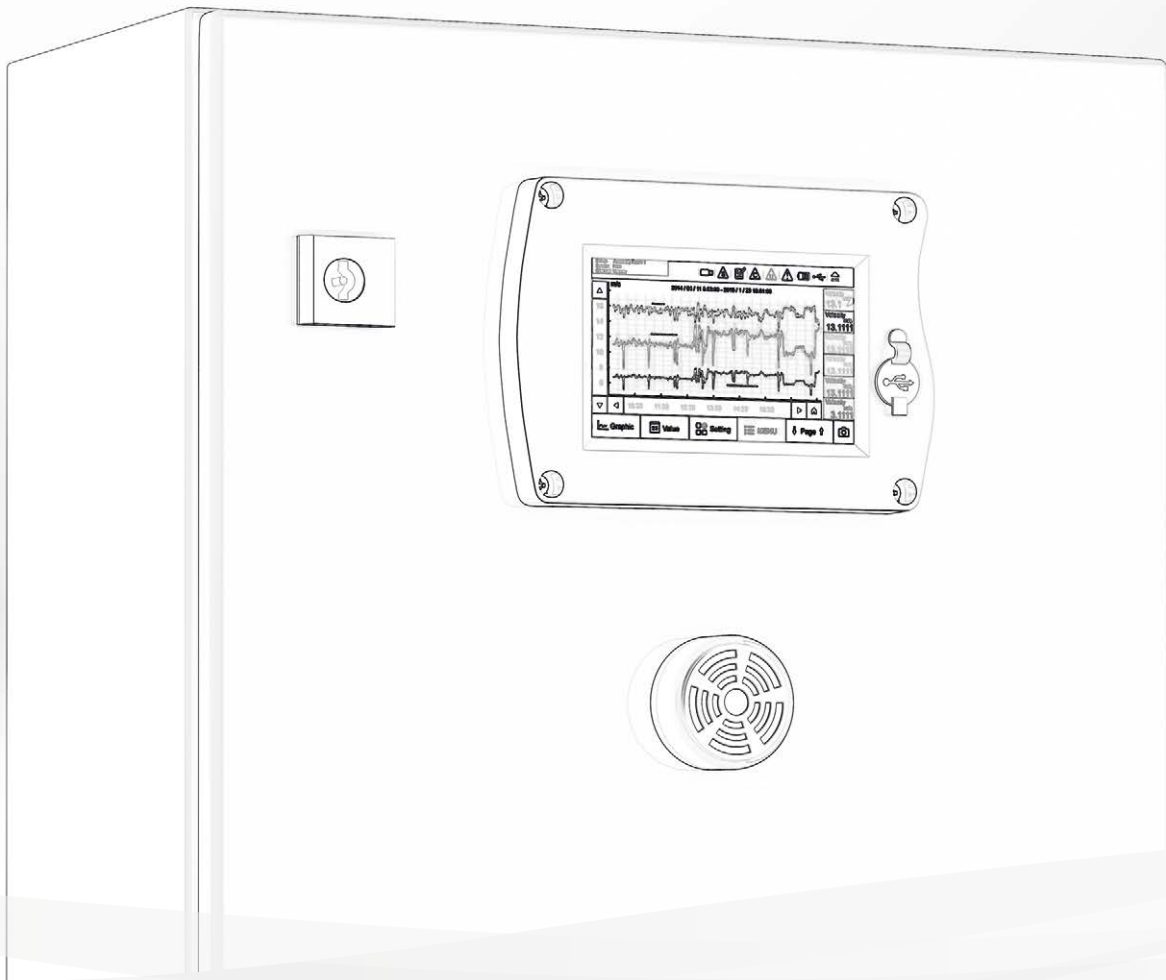


We control GASES

HTK[®]
HAMBURG



Rev. I_062019_BR_MDE 3300 DGF_engl • Subject to change without notice

The Future of Gas Analysis

Complete solutions for stationary and mobile gas analysis

MDE 3300 DGF

since 1978



The Future of Gas Analysis

Complete solutions for stationary and mobile gas analysis

Designed to monitor and quality control single gases or gas mixtures for continuous or spot-check analysis of process gases in the % V/V range down to low ppm values. You can now collect all relevant process data in a single analyser, directly in your process.

Areas of application

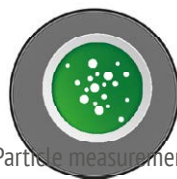
We are redefining the state of the art and combining the highest calibration expertise with new and innovative measuring technology!

Analysis of single gases or gas mixtures in the following fields:

- Metal processing
- Food technology
- Drinks industry
- Medical technology
- Helium leak test
- Diving technology
- Laser technology
- Flammable gases and gas mixtures
- High-purity gases



Gas analysis



Particle measurement



Pressure measurement



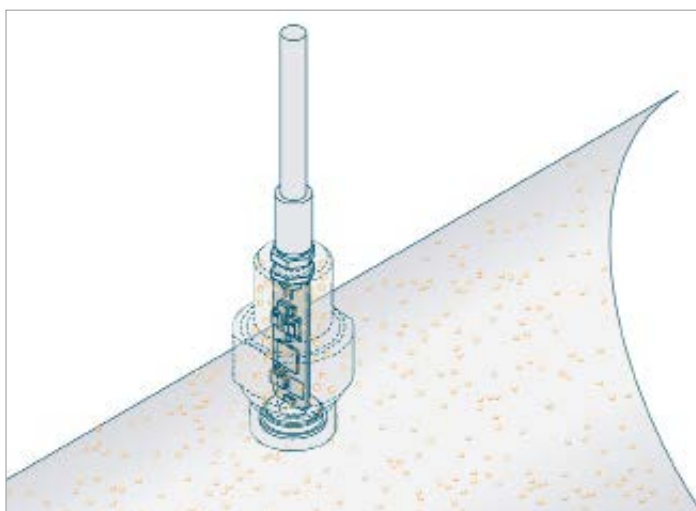
Oil vapour measurement



Dew point measurement

Innovation is our tradition

The MDE 3300 DGF offers a solution with new, high-precision and innovative measuring technology tailored to your processes and quality requirements. As a completely modular analysis system, it enables us to cover a



wide range of requirements for gas analysis, moisture measurement and pressure measurement in all industrial sectors using a single analyser. Using new, innovative sensor technology for gas analysis provides a faster (< 2 sec.), more precise and easier way of taking measurements, without time-consuming calibration and independent of pressure and temperature. If you require direct measurement in existing piping systems or mobile measurement, these pose no challenge for us. The sensor module is screwed directly into the existing piping or the gas tank. Measurements can be taken in the process gas quickly and precisely, so there is no interruption to production, no delay due to long analysis gas lines, and no additional gas consumption due to complex bypass solutions.

The MDE 3300 DGF analyser can be used for the following gases and gas mixtures:

- Hydrogen (H₂)
- Helium (He)
- Nitrogen (N₂)
- Oxygen (O₂)
- Carbon Dioxide (CO₂)
- Neon (Ne)
- Argon (Ar)
- Krypton (Kr)

Other gases upon request

MDE 3300 DGF



A convincing concept

Precise analysis of gas mixtures with innovative sensor technology based on density measurement. For gas, pressure and temperature-dependent measurement, our new DGF sensor is used primarily, in addition to traditional techniques such as infrared and electrochemical measurement methods.

The cutting-edge, sensor technology, which has earned the German Innovation Award, together with its compact design offer you added value for your Quality Assurance.

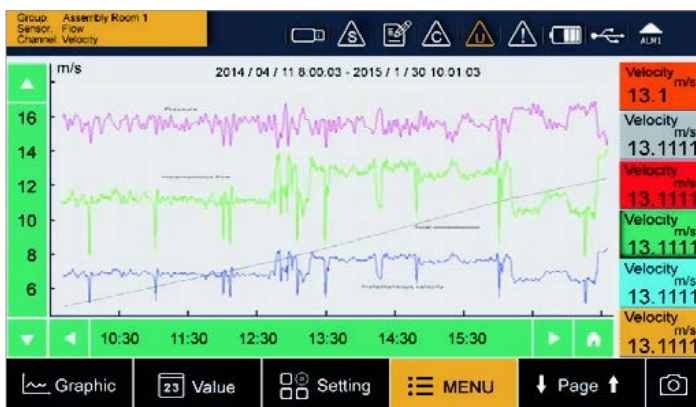


Ease of operation

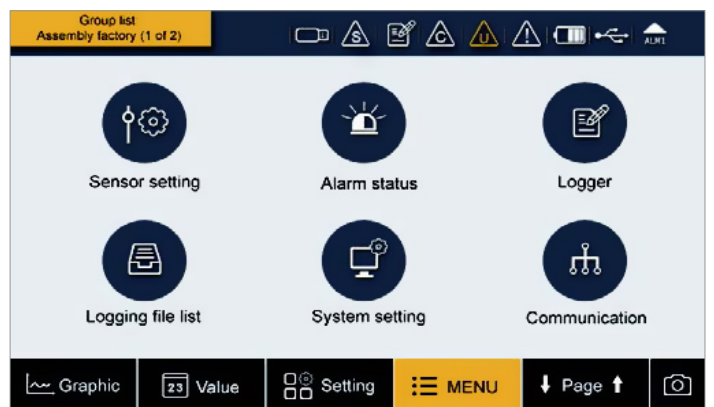
The MDE 3300 evaluation unit with its 5" colour touch display is intuitive and features a graphic display as well as freely configurable group alarms.

The integrated data logger can store up to 100 million measurements. A USB port and Ethernet interface are available, including evaluation software.

- Display, storage and measurement of all relevant parameters in a single application process
- High-resolution 5" colour touch display
- Up to 16 sensors in one analyser and evaluation unit
- Stationary or mobile analysis system available
- Integrated data logger for up to 100 million measurements
- Group alarm output with 2 relay outputs
- Integrated web server for remote monitoring (optional)



High-resolution 5" colour touch display

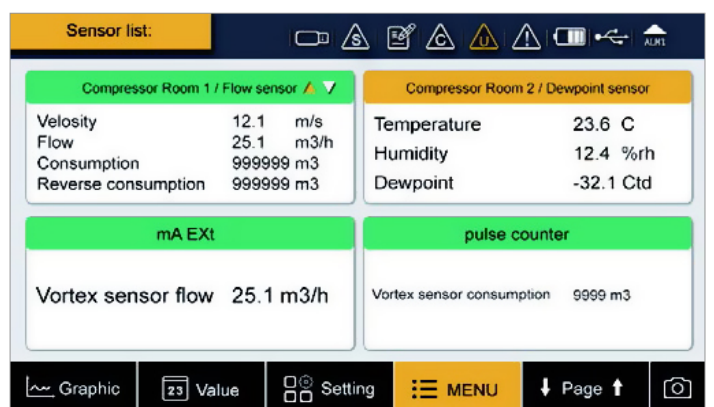


Intuitive, simple operation

The right solution for every analytical application

The compact dimensions of the MDE 3300 DGF mean that it can also be configured as a mobile analyser.

Combine the analyser with moisture and flow measurement to quickly and reliably check the quality of your component gases on site!

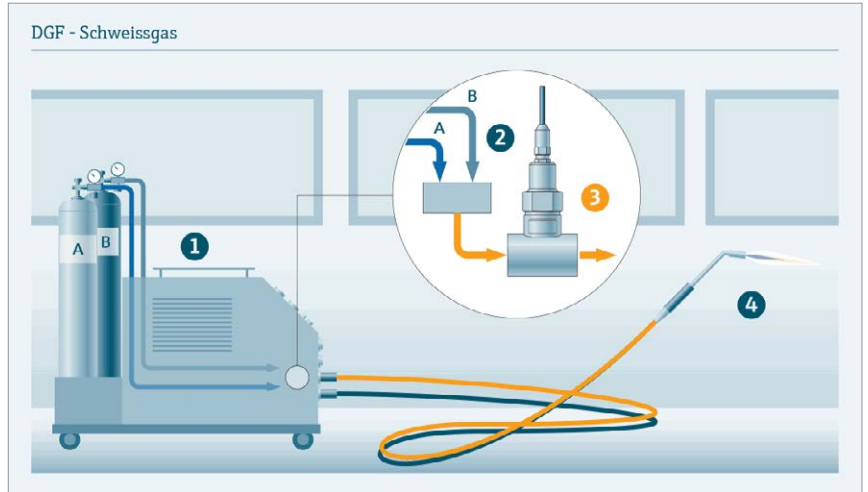


Application examples

Welding gas analysis

Monitoring welding gas mixtures:

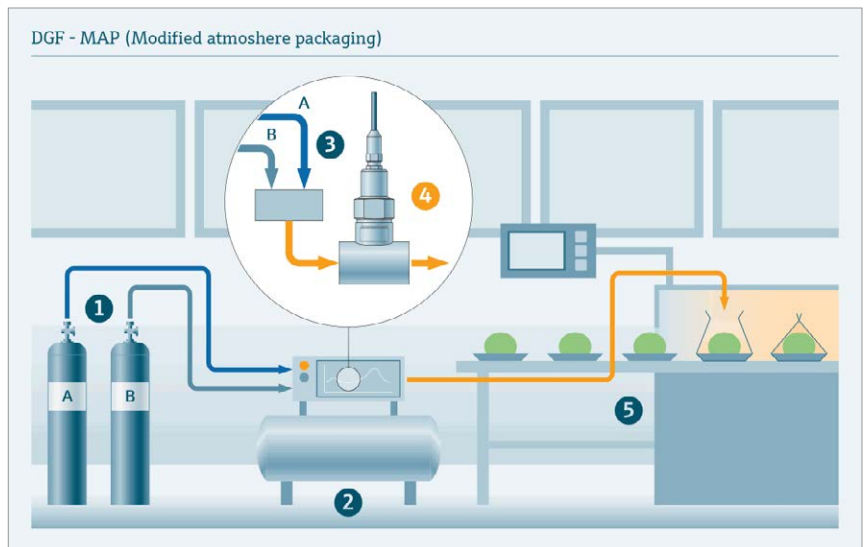
For a reliable and strong weld, the gases must be mixed in the correct ratio. Integrate the analysis directly into your welding process.



Analysis of gas mixtures

Monitoring gas mixtures e.g. in the food industry:

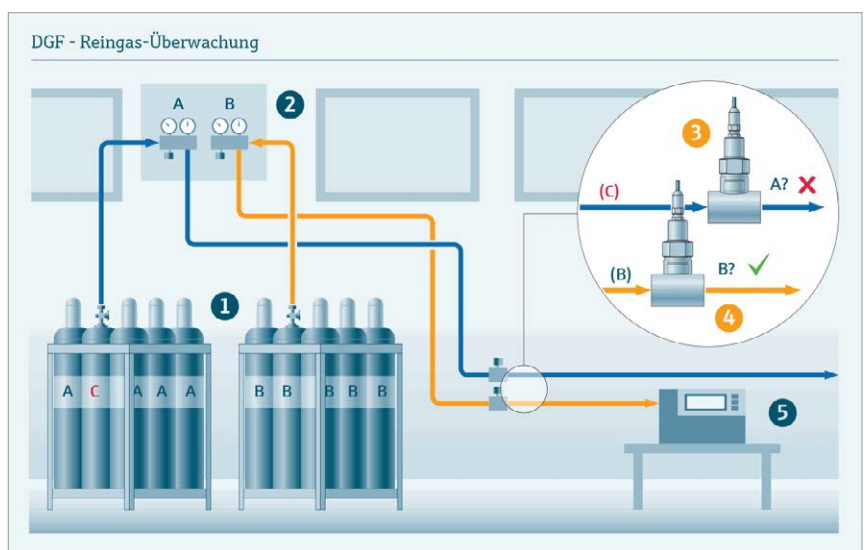
Continuous measurement of the correct gas mixture directly at the gas mixer or in the buffer tank.



High-purity gas analysis

Checking high-purity gases:

Connecting up the wrong gas cylinder is an easy mistake to make. Safeguard your process by monitoring to ensure the right gases are being used.





Our all-inclusive package!

Mobile and stationary measurement

Particle concentration measurement

- Measuring process conforming to ISO 8573 Standard
- Latest technology in laser detection
- Smallest particle size 50% according to JIS, larger size 100% according to JIS

Dew point measurement

- Unique multi-sensor technology gives a wide range of measurement
- Long-term stable, reliable measurement methods
- High precision with an accuracy of $\pm 2^{\circ}\text{C}$

Oil vapour measurement

- Latest photoionisation detector (PID) with self-calibration
- Broad measurement spectrum of oil vapour concentrations
- High precision with 5% of display $\pm 0.003 \text{ mg/m}^3$ accuracy

Pressure measurement

- State-of-the-art sensor technology
- Additional quality data about the compressed air system

Gas analysis

- Quick and reliable gas measurement
- Combined analysers with a single evaluation unit
- Gas mixture analysis

Installation & commissioning

If you wish, we can handle the entire project management for your projects. Our own installation team or specialists trained by us install our systems or equipment on site. Final inspection then takes place in close cooperation with the customer.



HTK Hamburg GmbH

Oehleckerring 32

22419 Hamburg

Phone.: +49 (0)40 - 600 38 38 - 0

Fax: +49 (0)40 - 600 38 38 - 99

info@htk-hamburg.com

Specifications	
Type	MDE 3300 DGF
Single gases	H ₂ , He, N ₂ , O ₂ , CO ₂ , Ne, Ar, Kr
Gas mixtures	CO ₂ in air H ₂ in Ar He in Ar O ₂ in Ar N ₂ in Ar H ₂ in N ₂ CO ₂ in N ₂ CO ₂ in O ₂ O ₂ in N ₂
Type	MDE 3300 EL
Single gases	CH ₂ O, C ₂ H ₄ , CO, CL ₂ , H ₂ O ₂ , H ₂ S, NH ₃ , NO, NO ₂ , O ₃ , SO ₂
Type	MDE 3300 NDIR
Single gases	CO ₂ , CH ₄ , C ₃ H ₈ , N ₂ O,
The individual versions can be combined for different analytical applications. A wide range of measuring methods are used: density measurement (DGF), electrochemical methods (EL) and infrared (NDIR).	
Moisture or trace gas measurement in the ppm range as well as pressure and flow measurements upon request.	
Other single gases or gas mixtures upon request.	
Display	5" colour touch display
Sensor inputs	1 x Modbus input (16 sensors) 2 x analog 4-20 mA (optionally expandable to 8 analog sensors)
Inlet pressure	16 bar max.
Recommended working pressure	4-8 bar
Media temperature	0...+50°C
Ambient temperature	0...+50°C
Accuracy	better than +/- 0.5% URL
Reproducibility	better than +/- 0.25%
Alarms	2 relay contacts for group alarm output Integrated signal transmitter and buzzer
Flow rate	down to 100 ml/min., adjustable via integrated flow regulator Optional: Integrated inlet pressure control
Supply	230 V AC or 24 V DC
Dimensions	Upon request
Weight	Upon request
Degree of protection	IP65
Vibrations	Vibrations (<20kHz) have no effect on the measuring accuracy due to the high working frequency of the DGF measuring method
Memory	100 million measurements
Interface	USB, RS-485, Ethernet
Authorisation	CE Conformity RoHS EMV 2014/30/EU (EN61326-1) ISO 9001:2015

HTK[®]

HAMBURG

Oehleckerring 32 • 22419 Hamburg

Phone: +49 (0)40 - 600 38 38 - 0

Fax: +49 (0)40 - 600 38 38 - 99

info@htk-hamburg.com

HTK Office Berlin

Phone: +49 (0)30 - 47 08 99 - 65

berlin@htk-hamburg.com

HTK Office Frankfurt

Phone: +49 (0)69 - 80 10 40 - 23

frankfurt@htk-hamburg.com

HTK Office USA

Phone: +1 - 803 - 270 - 8010

HTK Office Dusseldorf

Phone: +49 (0)211 - 69 16 84 - 86

duesseldorf@htk-hamburg.com

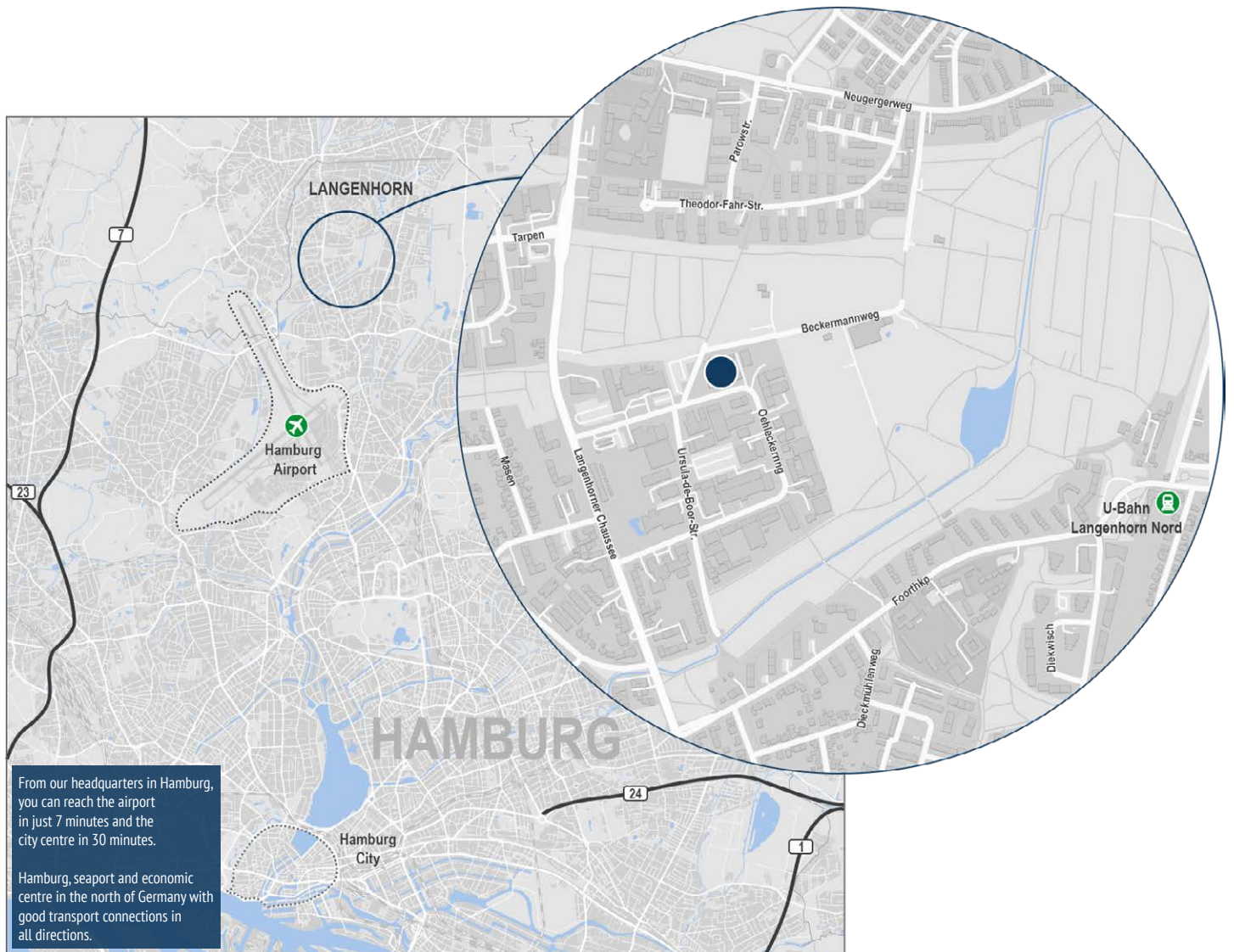
HTK Office Munich

Phone: +49 (0)89 - 94 30 12 - 73

muenchen@htk-hamburg.com

HTK Office Brasil

Phone: +55 - 21 - 99 55 75 - 166



© Copyright 2019 - All contents of this document, in particular Texts, photographs and graphics are protected by copyright. All rights, including reproduction, publication, processing and translation are reserved, HTK Hamburg GmbH. Please contact HTK Hamburg GmbH if you would like to use the contents of this document.

we control GASES - since 1978