

ENTEX

The Planetary Roller Extruder L-WE 30 For Laboratory and Pilot Plant



We are ENTEX
The developers of the Planetary Roller Extruder



Range of applications

The Planetary Roller Extruder in action.

An overview of various areas of application



For more than 35 years, ENTEX Rust & Mitschke GmbH is located right in the heart of the Ruhr area in Bochum. We have over 150 people working here to create new solutions for our customers in the field of extrusion technology.

ENTEX is the leading manufacturer of Planetary Roller Extruders and has over 160 intellectual property rights registrations to its name since its founding.

Today the ENTEX Planetary Roller Extruder covers the full scope of compounding and process technology for a wide range of industrial applications, including the plastics, rubber, chemicals, paint, recycling and food industries.

The company also has its own state-of-the-art testing facilities in Bochum and at its subsidiary in Shanghai for process and product developments.

Industries





STRUCTURE AND COMPONENTS

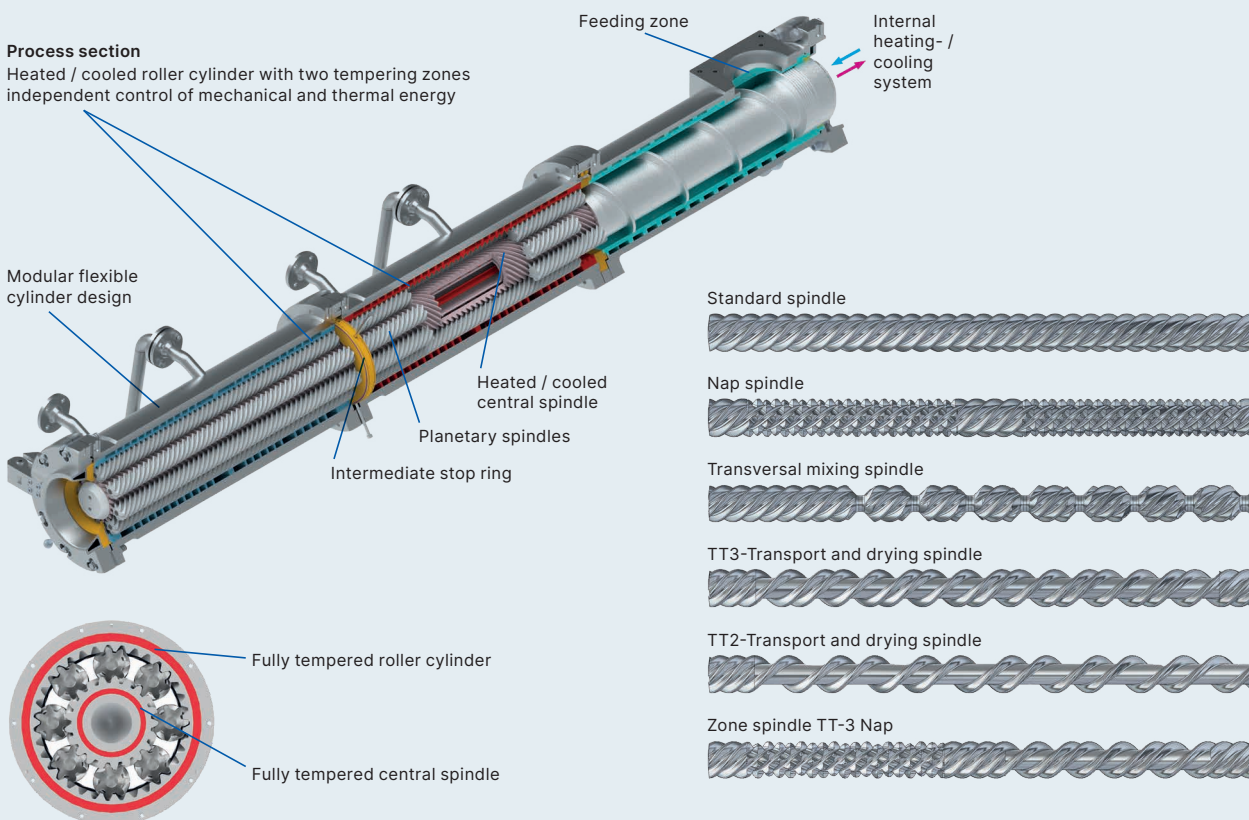
Our plus points. Your advantages.



Optimisation for your production processes

ENTEX's unique and innovative modular system offers unprecedented economic and technical benefits.

- Complete extrusion lines based on a Planetary Roller Extruder (PRE) – all from a single source
- Unit sizes ranging from laboratory extruders to full-scale production systems
- Suitable for a wide range of industrial applications, including the plastics, rubber, chemicals, paint, recycling and food industries
- Extrusion systems that can be adapted thermally and mechanically for complex processes
- Custom tempering systems for industrial applications
- State-of-the-art testing facilities for process and product developments



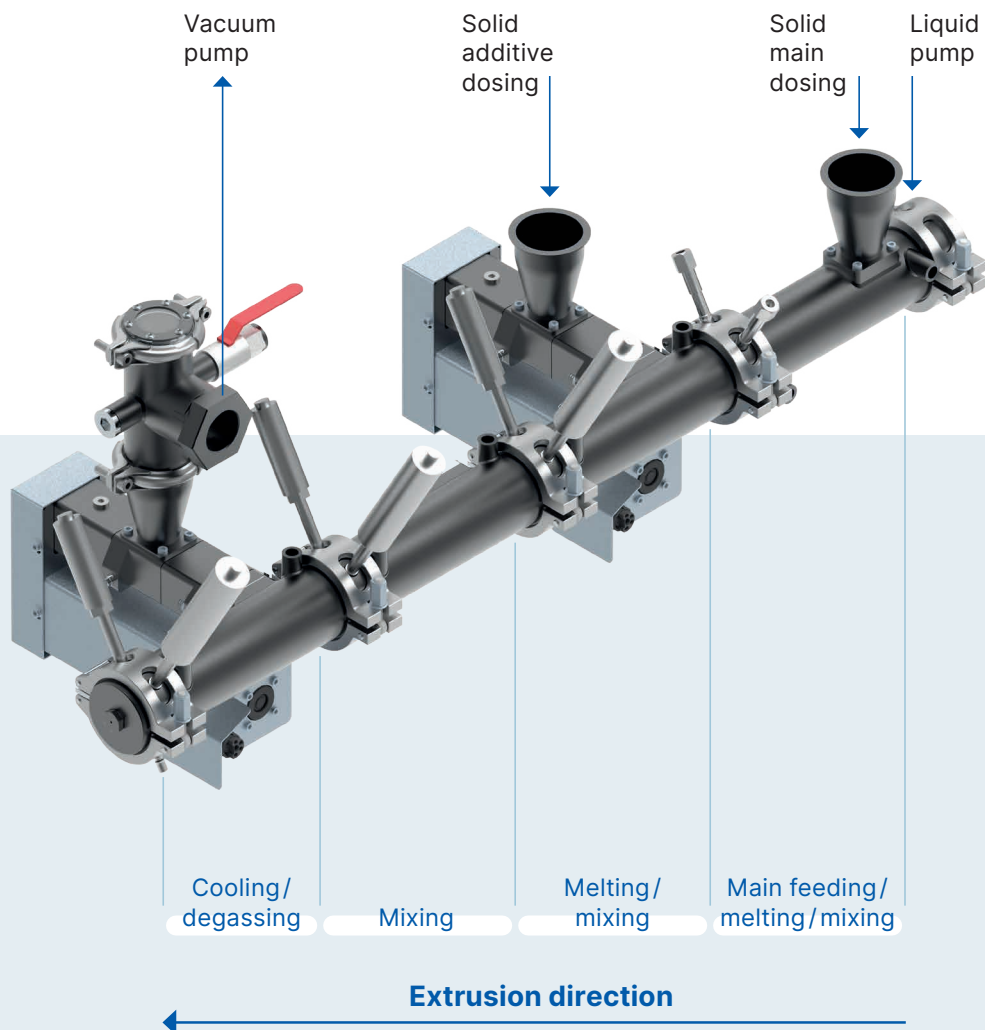


The modular principle **Modular and individually adaptable.**

Process technology through the combination of several process steps

Thanks to its modular concept, the Planetary Roller Extruder offers a wide range of possibilities for compounding – even when dealing with complex reactive, cooling, degassing and mixing processes.

Our Planetary Roller Extruder can also use primary energy – making it both economical and sustainable.



More
information





FROM THE PRODUCT CONCEPT TO INDUSTRIAL PRODUCTION

Our smallest extruder.

Laboratory scale

The smallest ENTEX extrusion system is the laboratory extruder **L-WE 30**.

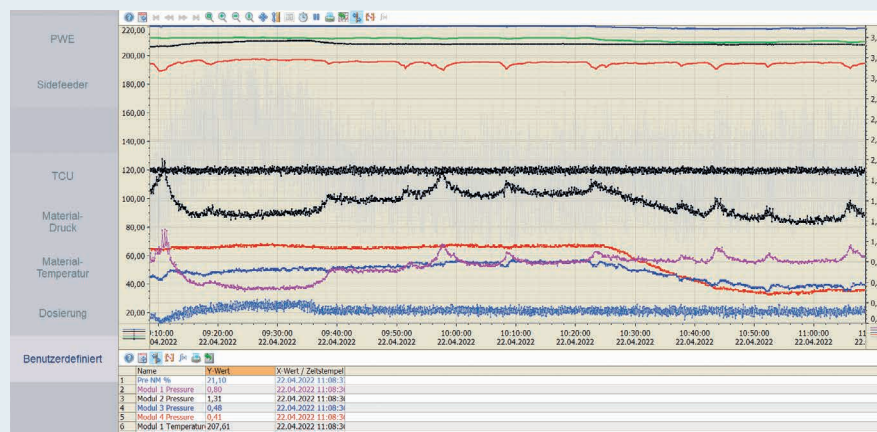


This unit size allows to perform series of tests for formulation and product development at laboratory scale. Thanks to its ease of use and the flexibility that results from its modular structure, the "30" series laboratory extruder can be quickly configured for individual applications.

With peripherals such as dosing units, side feeders, degassing systems, pelletisers, etc., it is possible to create complete extrusion lines. Integrated sensors measure energy inputs, pressure and temperature so that the process can be analysed and the product quality assessed.

Process Data Recording

The specific process data as well as the energy consumptions are recorded in real-time by the system software.



During the process, every step and every variation of each process parameter is recorded so that the data can be correlated to bigger machine sizes.

Advantages **Flexibility. Tempering. Handling.**

Flexibility

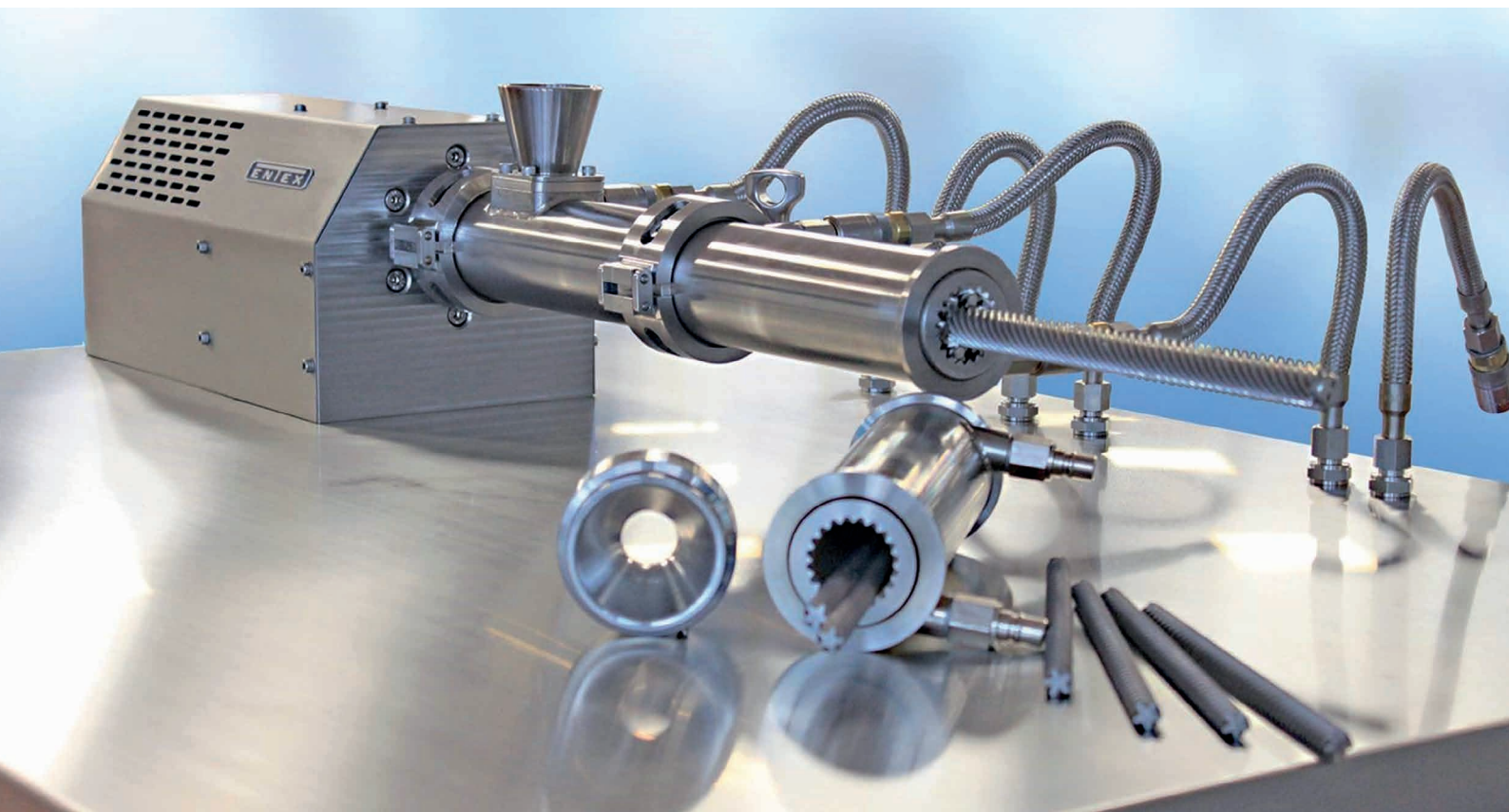
The enormous tempering spectrum and the wide range of equipment allow a great variety of configuration options and make this system extremely flexible for many different applications and processes.

Tempering

The different roller parts are tempered individually – by liquid in the food and pharmaceutical version from -40°C to $+160^{\circ}\text{C}$ and in the plastic, elastomer and chemical version from -40°C to $+300^{\circ}\text{C}$.

Handling

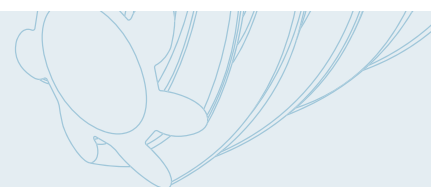
The easy handling of the individual process part components ensures a quick mechanical adjustment of processes with a few simple steps, low tooling requirements and without the need for any other aids.





ADVANTAGES

Technical Data.



Advantages

The **L-WE 30** offers many advantages for laboratory operation:

- Simple and quick assembly/disassembly of the process part
- Different feeding options for solid and liquid materials of different viscosities
- Different degassing possibilities
- Good self-cleaning
- Precise temperature control in individual tempering zones
- Process data recording and evaluation software
- Possibility of scale-up to other machine sizes by direct data utilisation
- High energy efficiency and economy

	Standard version	High temperature version
Processing part	up to 6 modules	up to 6 modules
Throughput capacity	approx. 0.5–10 kg/h*	approx. 0.5–10 kg/h*
Drive power	11 kW	11 kW
Extruder speed	750 rpm	750 rpm
Drive torque	200 Nm	200 Nm
Max. process pressure	150 bar	150 bar
Max. process temperature	160 °C	300 °C
Current	400 V / 63 A	400 V / 63 A
Circulation medium	Water	Heat transfer oil
internal TCUs/ Integrated secondary mixing circuits	Yes	No
Weight	approx. 450 kg	approx. 250 kg without mixing circuits
Dimensions (LxBxH)	1400 × 900 × 1300 mm	1400 × 900 × 1300 mm
Extrusion height	1,200 mm	1,200 mm
Control system	Siemens® SIMATIC S7-1500	Siemens® SIMATIC S7-1500

* Depending on the recipe, the conveyed material and the process parameters

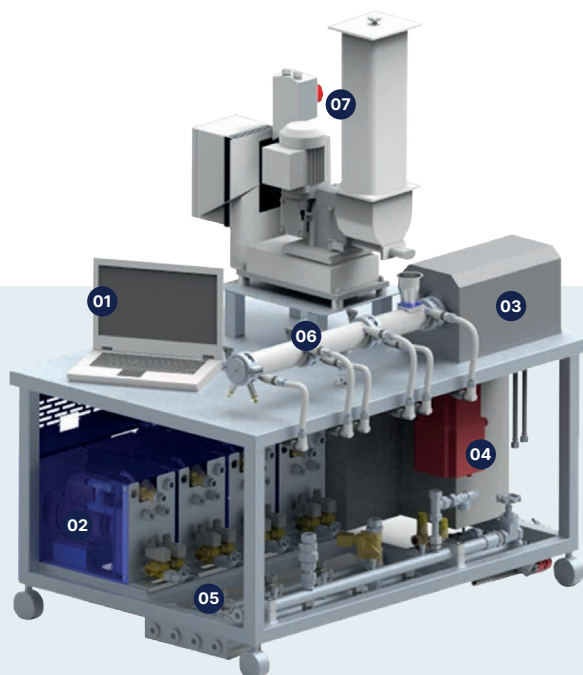
Advantages Accessories and Equipment.

Accessories and Equipment

Of course, in addition to the standard version, other configurations and additional equipment are also available, for example:

- Additional planetary feed cylinder with cylinder support (turned by 90°, the planetary feed cylinder can also be used as a roller cylinder with side feeder port)
- Single screw feed cylinder
- Side feeder for solids side feed or vacuum extraction
- Vacuum dome for side feeder (also fits on the opening of the planetary feed cylinder)
- Different planetary spindle types and lengths
- Dispersion ring inserts with different inner diameters
- Toothed intermediate rings
- Central spindles in different lengths with or without dispersing undercuts
- Various discharge dies or front rings with different inner diameters
- Melt pump
- Patented radial granulator
- Additional dosing units (gravimetric, volumetric)
- Different injection pumps
- etc.

All equipment attributes of the already known laboratory plant sizes can also be applied to the L-WE 30.

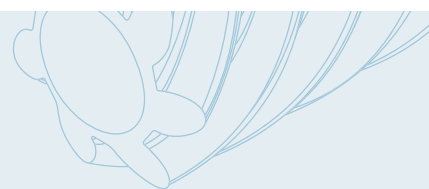


- 01 Control
- 02 Secondary mixing circuits
- 03 Gear motor
- 04 Control cabinet
- 05 Height-adjustable base frame
- 06 Process part
- 07 Dosing unit



PARTNERSHIPS

Compatible with the best.



Our partners



Market entry | process optimisation | toll compounding



VISIT OUR TESTING FACILITY

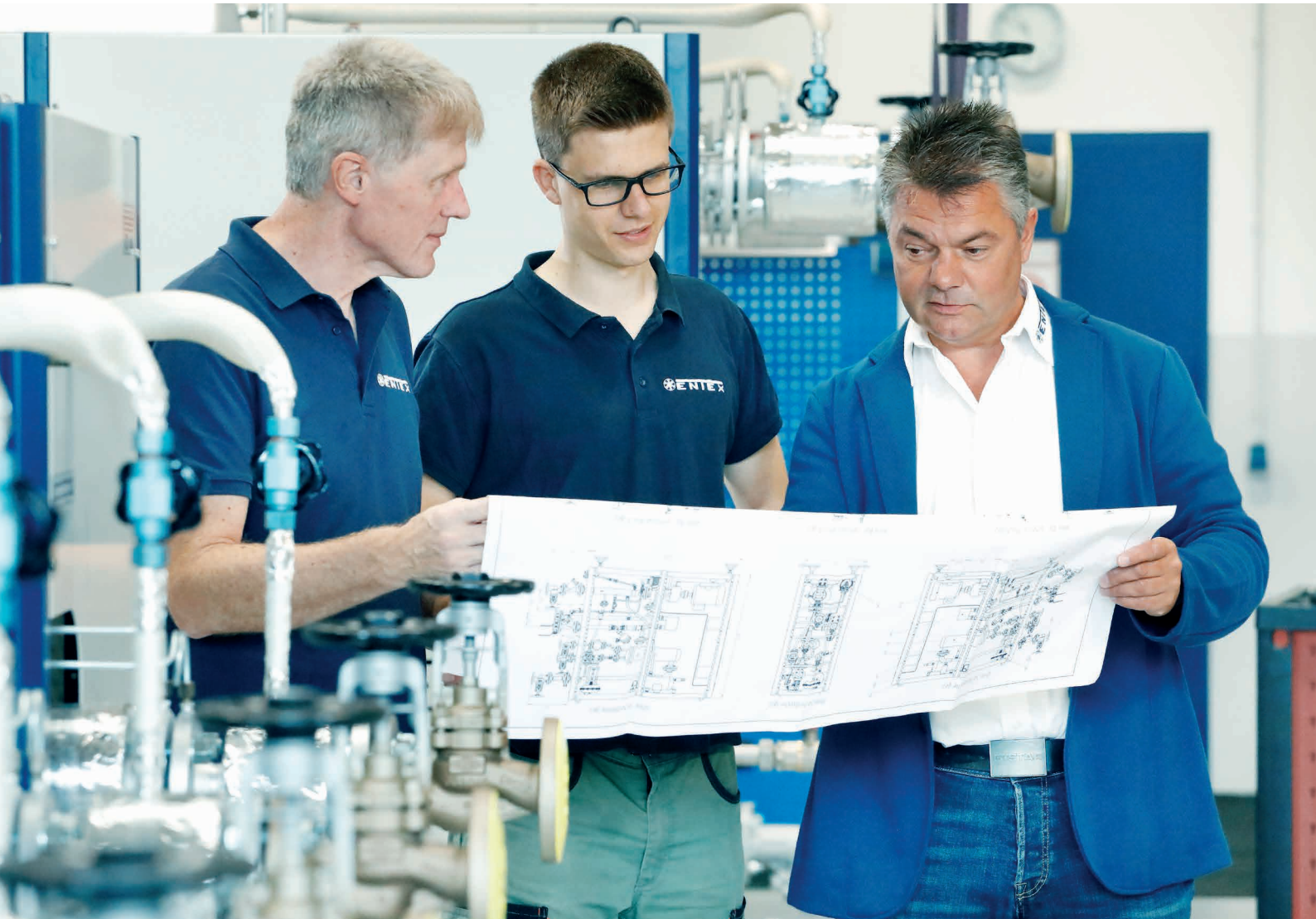
Our state-of-the-art facilities are at your service.

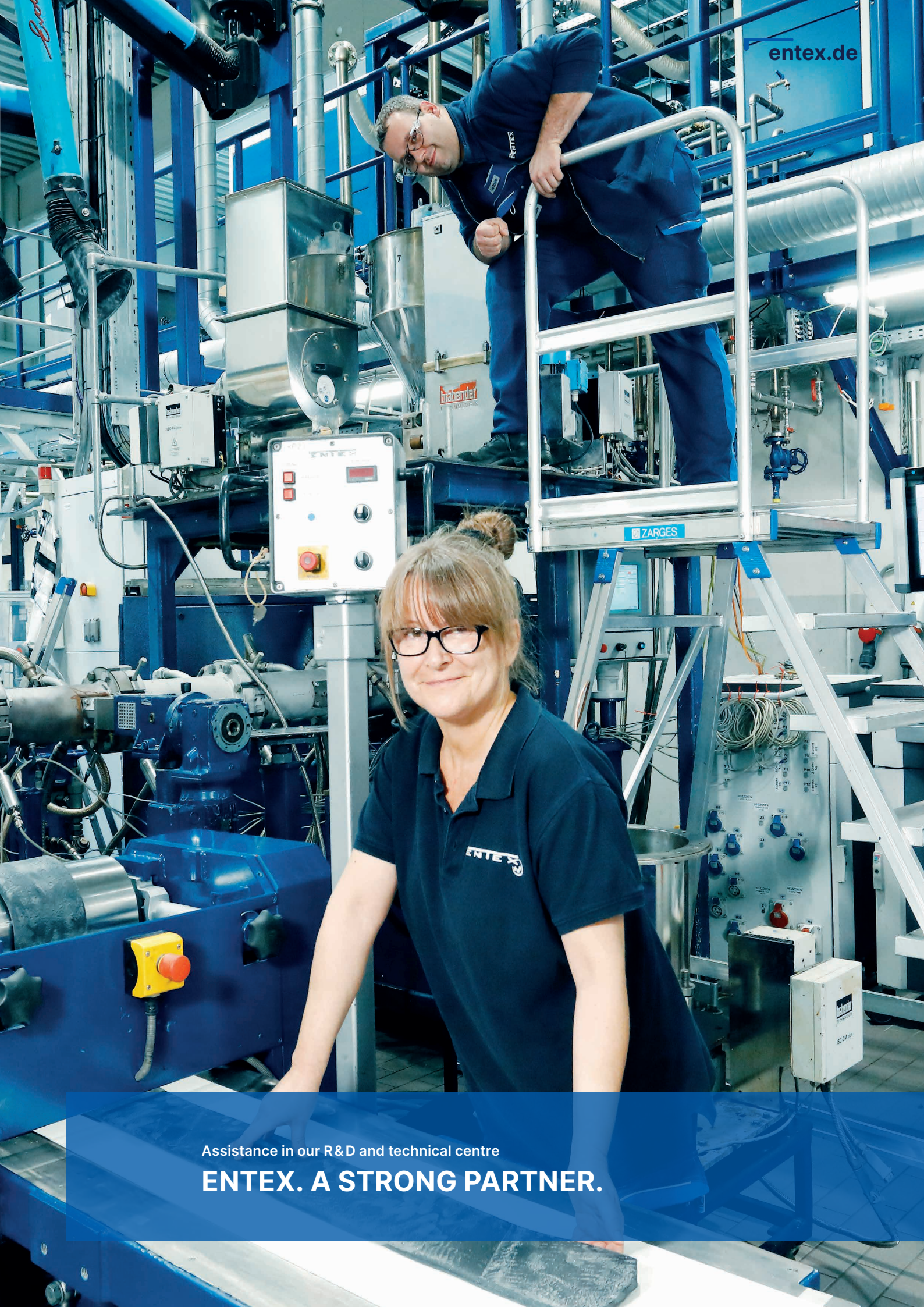
We work with you to develop innovative solutions

Do you have an idea for a new product?
Would you like to optimise your production process?
Tired of batch processes and ready for continuous production?

Our team of experts can help you throughout the process – be it planning and conducting feasibility studies, producing sample materials, planning tests or optimising processes.

Test your product on site.





Assistance in our R&D and technical centre

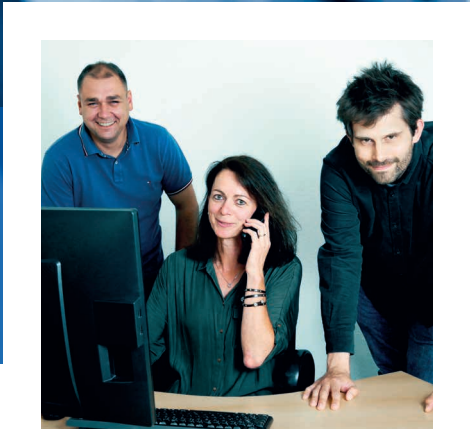
ENTEX. A STRONG PARTNER.

Follow us!



We would be pleased to advise you

VISIT US



ENTEX Rust & Mitschke GmbH
Heinrichstraße 67a
44805 Bochum | Germany

info@entex.de | www.entex.de
Phone +49 (0) 234 891 22 0
Fax +49 (0) 234 891 22 99