

# ENTEX

The thermodynamics

**Convincing tempering solutions**

296.7°

OUT

233.8°



Modular series

**The highest degree of temperature control**

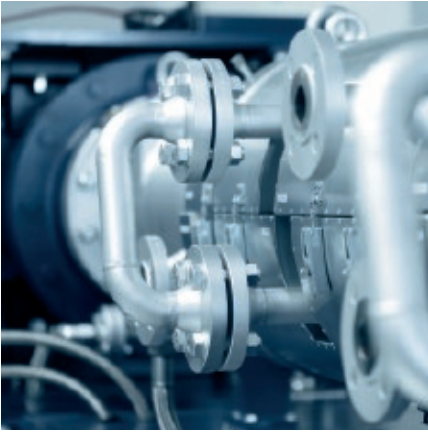


### Application areas

- Plastics industry
- Rubber industry
- Chemical industry
- Pharmaceuticals
- Composites
- Electronics
- Wood processing
- Paper industry
- Mechanical engineering (OEM)

### Typical uses

- Extruders
- Rollers
- Presses
- Tanks
- Tools
- Mixers



## EXTRUDER TEMPERING

# “Perfect extrusion technology combined with efficient thermodynamics”

In order to fully use the potential performance of the planetary roller extruder, special attention must be paid to the precise assignment of the temperature control systems to the respective temperature control zones.

Therefore ENTEX has developed its own temperature control units to ensure that its Planetary Roller Extruders enjoy top of the line tempering. In fact, these units are now also being used outside the field of extrusion technology.





## Tempering systems

# The right temperature at the right time.

### Efficient and precise tempering

Even beyond its key role in extrusion processes, efficient and precise tempering is a decisive factor in determining product quality and economic feasibility.

Energy is used effectively and energy costs are lower. That is not only good for the environment – it also saves money.

Our scope of products and services includes an individual project study that helps the customers to decide in advance which solution would be best for them.

### Equipment features

ENTEX temperature control units utilise high-quality materials, fittings and instruments to ensure the best-possible system availability.

It goes without saying that ENTEX complies with the applicable standards and guidelines,

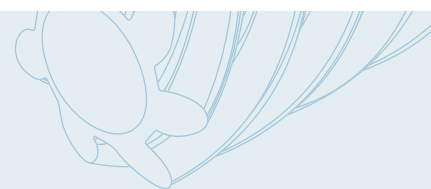
including DIN 4754 (for organic heat transfer media / thermal oil), DIN 4752 (for water), the EMC Directive 2014/30/EU, the Machinery Directive 2006/42/EG, the Pressure Equipment Directive DGRL 2014/68/EU and the AD2000 Regulations.





## TEMPERING SYSTEMS

# Technical data and equipment.



### Performance range

#### Dynamic 140–220

|                   |                        |
|-------------------|------------------------|
| Temperature range | 140–220 °C             |
| Throughput        | 3–75 m <sup>3</sup> /h |
| Heating capacity  | 6–350 kW               |
| Cooling capacity  | 10–750 kW              |

The modular Dynamic 140–220 series uses water (pressurised) as a heat transfer medium.

#### Dynamic 300–430

|                   |                        |
|-------------------|------------------------|
| Temperature range | 300–430 °C             |
| Throughput        | 3–75 m <sup>3</sup> /h |
| Heating capacity  | 6–350 kW               |
| Cooling capacity  | 10–750 kW              |

The modular Dynamic 300–430 series uses thermal oil (pressurised > 350 °C) as a heat transfer medium.

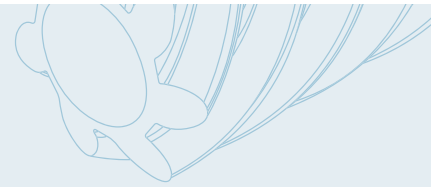
The devices are equipped with electric resistance heaters and mixing circuits that are supplied with primary energy on site.





## TEMPERING SYSTEMS – TYPE DYNAMIC

# Technical data and equipment.



| TECHNICAL EQUIPMENT                         | WATER   |                        | THERMALOIL      |
|---|---|------------------------|-----------------|
|   | Dynamic 140–160   | Dynamic 180–220        | Dynamic 300–430 |
| <b>Controller</b>                           | Continuous PID controller with 7" touchdisplay (available from 06/23) |                        |                 |
|   | Data logger   |                        |                 |
|   | Error memory  |                        |                 |
|   | Operating display and trouble indication                              |                        |                 |
|   | Temperature profile graphical indication                              |                        |                 |
|   | USB connection  |                        |                 |
|   | Working hour meter  |                        |                 |
|   | Profinet interface  |                        |                 |
|   | Profibus interface  |                        |                 |
|   | Modbus interface  |                        |                 |
|   | Energy and power measurement  |                        |                 |
|   | Memory control parameters   |                        |                 |
|   | Ramp function heating/cooling   |                        |                 |
|   | <b>Safety</b>   | Cold start-up bridging | –               |
| Dry running protection and level monitoring |   |                        |                 |
| Flowmeasurement and monitoring              |   |                        |                 |
| Safety temperature shutdown                 |   |                        |                 |
| Electrical safety temperature limiter       |   |                        |                 |
| Setpoint limitation                         |   |                        |                 |
| Cold oil template                           |   | –                      | –               |
| Safety valve circulation medium             |   |                        | –               |
| Safety valve cooling water                  |   |                        |                 |
| <b>Design</b>                               | Shut off valves at all connections                                    |                        |                 |
|   | Strainer into circulation medium                                      |                        |                 |
|   | Strainer into cooling water   |                        |                 |
|   | Outlet temperature display  |                        |                 |
|   | Inlet Temperature display   |                        |                 |
|   | Continuous regulation of heating with solid states                    |                        |                 |
|   | Draining with shut-off valve  |                        |                 |
|   | Continous cooling with position feedback                              |                        |                 |
|   | Cooling in bypass via 3-way-motor-valve                               |                        |                 |
|   | Manometer pump pressure   |                        |                 |
|   | Temperature controlled pressure overlay                               | –                      |                 |
|   | Automatical refeeding and pressure increase                           |                        | –               |
|   | Automatical venting and pressure relief                               |                        | –               |
|   | Adjustable bypass between circulation medium out- and inlet           |                        |                 |
|   | Direct heating via Mixing-valve                                       |                        |                 |
|   | Indirect heating (f.E. staem) via heat exchanger                      |                        |                 |
| Special voltage                             |   |                        |                 |
| Ex-protection                               |   |                        |                 |

Standard optional



FROM IDEA TO PRODUCT

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

### We work with you to develop intelligent solutions

**Do you have an idea for a new product?  
Would you like to optimise or enlarge your  
production process?**

Our team of experts will support you in planning and carrying out feasibility studies, thermodynamic design and process consulting.

Our efficient manufacturing enables excellent collaboration between engineers, technicians and assembly specialists.

This reflects our customer orientation and flexibility, even with innovative solutions.

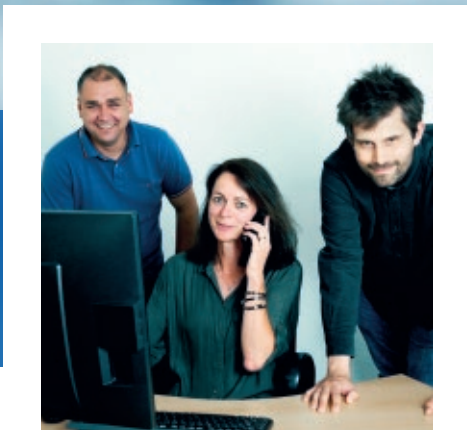


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We would be pleased to advise you

**VISIT US**



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