

# CUSTOMIZED PARTS

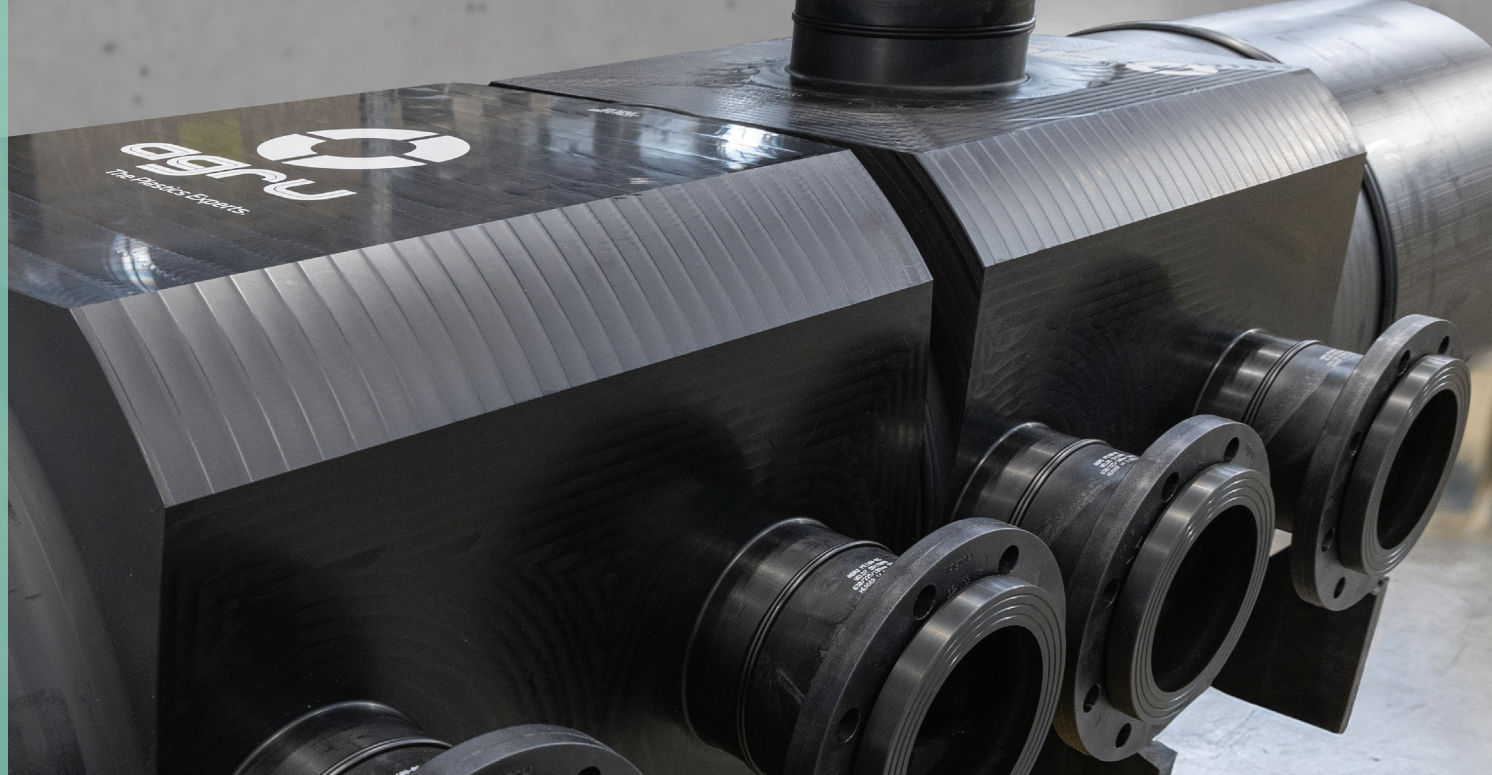
Tailor-made fittings for  
pipeline construction



# CUSTOMIZED PARTS

AGRU is a leading manufacturer of customized plastic piping systems.

- + Wide range of thermoplastics
- + Comprehensive product knowledge
- + Highest manufacturing quality
- + Global logistics network
- + From OD 20 to 3500 mm



## The Plastics Experts

Founded by Alois Gruber Sr. in 1948, AGRU has grown to one of the world's key full service provider of thermoplastic products such as piping systems, semi-finished products, concrete protective liners, and geomembranes.

Processing only high-quality plastics all from one single source is what sets AGRU apart. When it comes to material selection and installation expertise, we are your best partner.

## Quality

Customer satisfaction is AGRU's highest priority. Technical consultations, training sessions, welding workshops, and professional on-site supervision ensure high quality results for our clients

By maintaining full control over the manufacturing process with state-of-the-art machinery safe, reliable, quality semi-finished products can be achieved to find solutions to complex problems.

AGRU operates a quality management system according to ISO 9001:2015, an environmental management system under ISO 14001:2015, and an occupational health and safety management system under ISO 45001:2018. As a result, the products meet international standards and are regularly monitored and evaluated by independent testing agencies.



**ISO 9001**  
Quality management systems



**ISO 14001**  
Environmental management systems



**ISO 45001**  
Occupational health and safety



### Fittings without limits

Plastic experts develop customized parts

- for any geometry, dimension, and pressure load
- tailored precisely to the project's requirements
- ensuring technical compliance with applicable standards



### Materials without compromises

The best material for every need

- PE 100-RC, PE 100-el, PP-R, PP-Pure, PPs-el, PVDF, PVDF-UHP, and ECTFE for pipe fittings and double containment pipe fittings
- from standard material PE to high-performance material ECTFE
- semi-finished products manufactured in-house



### High efficiency

Engineering services from the best in the industry

- maximum flexibility through a state-of-the-art machine park
- robust solutions that withstand years of continuous operation



### Highest precision

Ready-to-use prefabrication of pipe isometries

- welding of various components under cleanroom conditions
- prefabricated pipe and double containment pipe isometries are delivered ready for connection







# Custom manufacturing tailored to specifications

## FROM VISION TO REALITY

Our plastics experts collaborate with you to develop everything from individual fittings to series production.

- + Comprehensive customer consultation
- + Design and engineering
- + Precise manufacturing of each part



# Planning and design

## Consultation

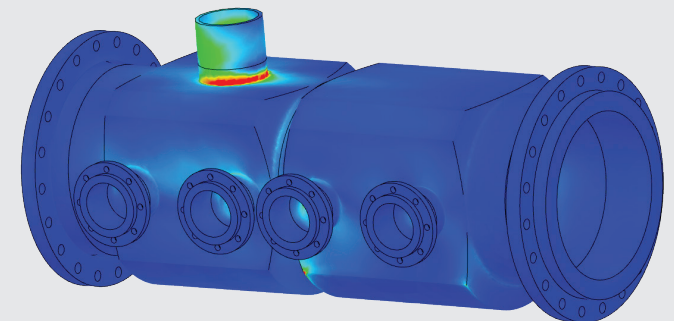
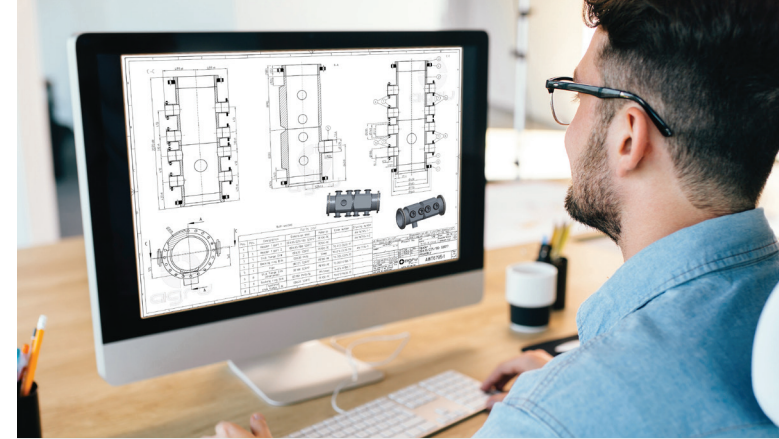
Using various materials, technologies, and products our team develops technical, high quality solutions to complex challenges.

## Engineering & design

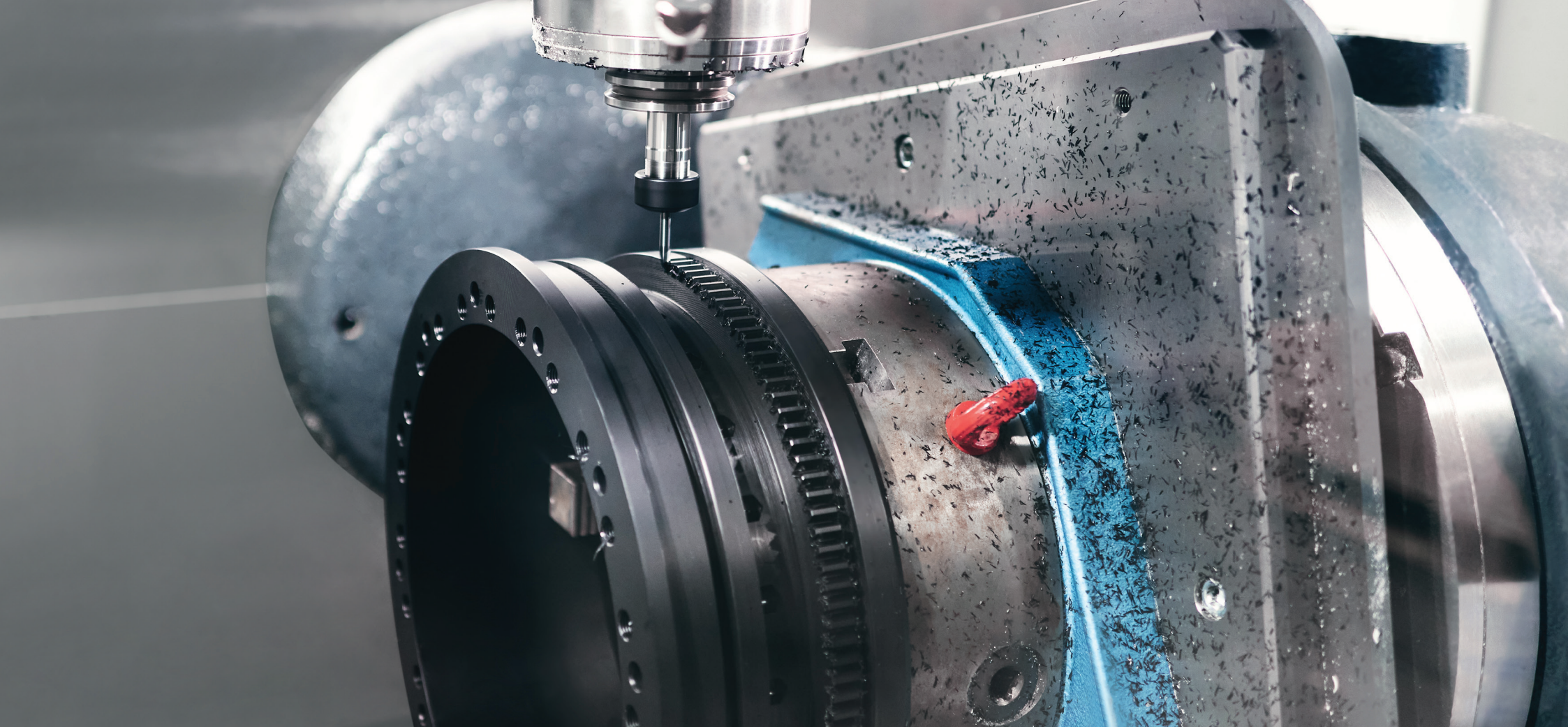
AGRU's experienced application engineers design and calculate fittings to ensure optimal technical and economic performance. By conducting hydrostatic and hydrodynamic component calculations and adhering to industry standards, our clients receive the best results.

## Calculation & analysis

AGRU's application technology team analyses specific project requirements to develop 3D solutions. Our software then simulates stress distributions on the 3D components using the finite element method.







# Manufacturing process

## PRECISE PRODUCTION FOR OPTIMAL INTEGRATION

Exact fit achieved through CNC-based mechanical processing.

- + Traceable quality assurance
- + Decades of experience
- + Superior quality and durability



# Prefabrication and delivery



## Mechanical processing

AGRU manufactures all elements in the predefined material with the highest quality and tightest tolerances. All drilling, turning, milling, and welding tasks are performed using state-of-the-art machinery.

## Welding

Whether extrusion welding, electrofusion welding, infrared welding, socket welding, butt welding, hot gas welding, or beadless welding: AGRU applies the various techniques perfectly to any project. Joining thermoplastics has been a core competency of our technicians for over 60 years.

## Efficient logistics

AGRU's efficient worldwide logistics services and user training ensure maximum customer satisfaction.







## Precision and purity

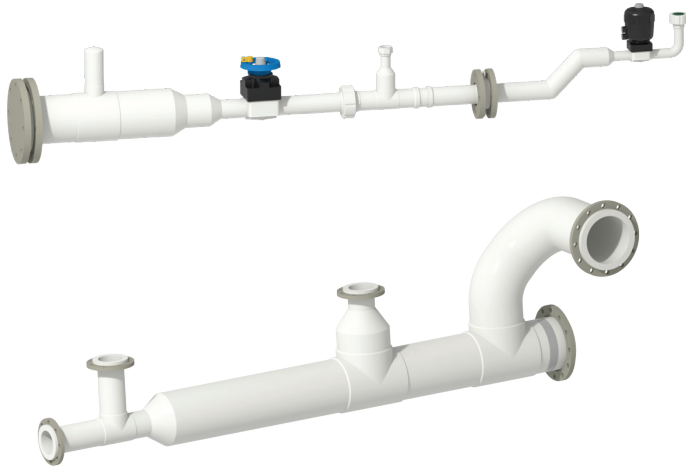
### PURAD CUSTOMIZED PARTS IN CLEANROOM ENVIRONMENTS

Absolute purity is paramount in the semiconductor industry.

- + Compliance with the strictest standards
- + Ready-to-use pipe isometries
- + Rapid, modular installation



# Cleanroom off-site manufacturing



## PURAD customized parts

AGRU manufactures complex geometries with the latest technology, highest precision, and maximum purity from PVDF-UHP, PP-Pure, and ECTFE.

- Individual design of each part
- Data transmission to production
- Maximum flexibility and precision

## Ready-to-use pipe isometries

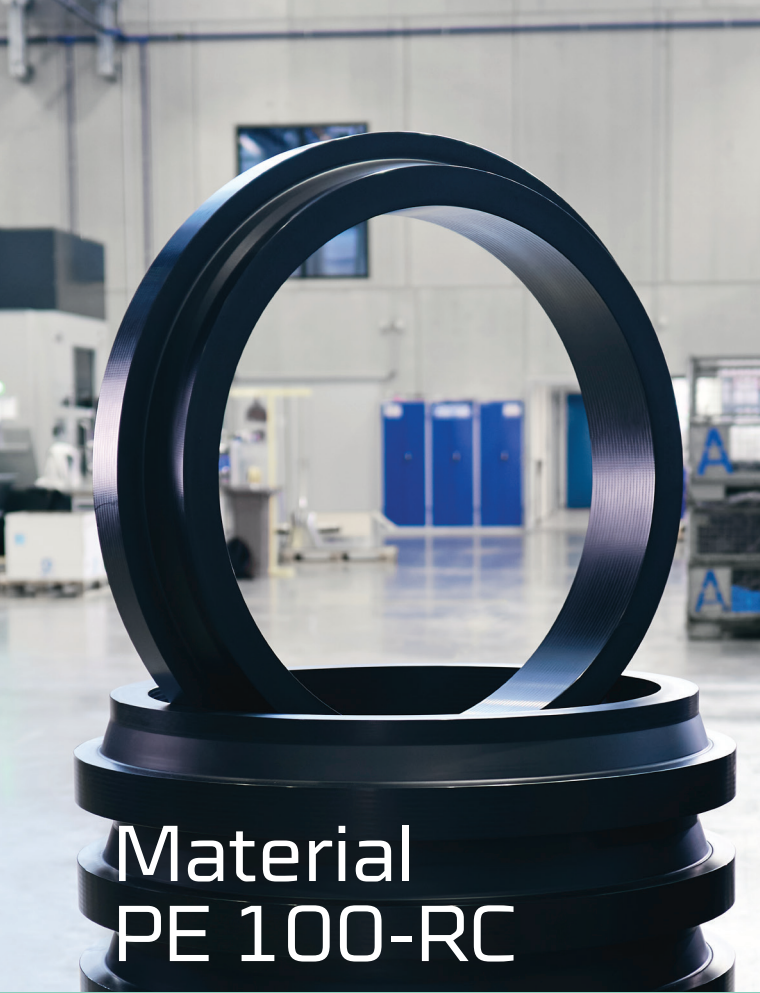
AGRU offers a comprehensive one-stop shop, from planning to on-schedule off-site manufacturing. Under strictly controlled cleanroom conditions in ISO Class 7, specially trained professionals produce ready-to-install pipe isometries. This facilitates installation and ensures the quality of PURAD high-purity media piping systems.

## Precision meets efficiency

AGRU offers precise, easy to assemble, and high quality prefabricated pipe isometries which significantly reduces the installation effort for system builders.















# Material PE 100-RC

Polyethylene PE 100-RC is the most economical solution for safe transport of gas, water, or wastewater.

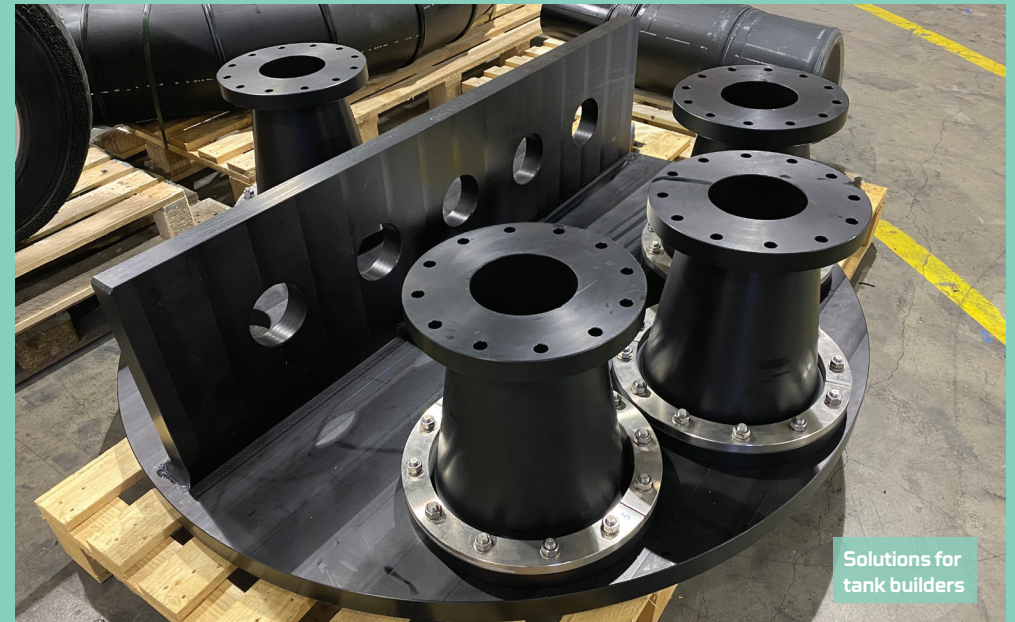
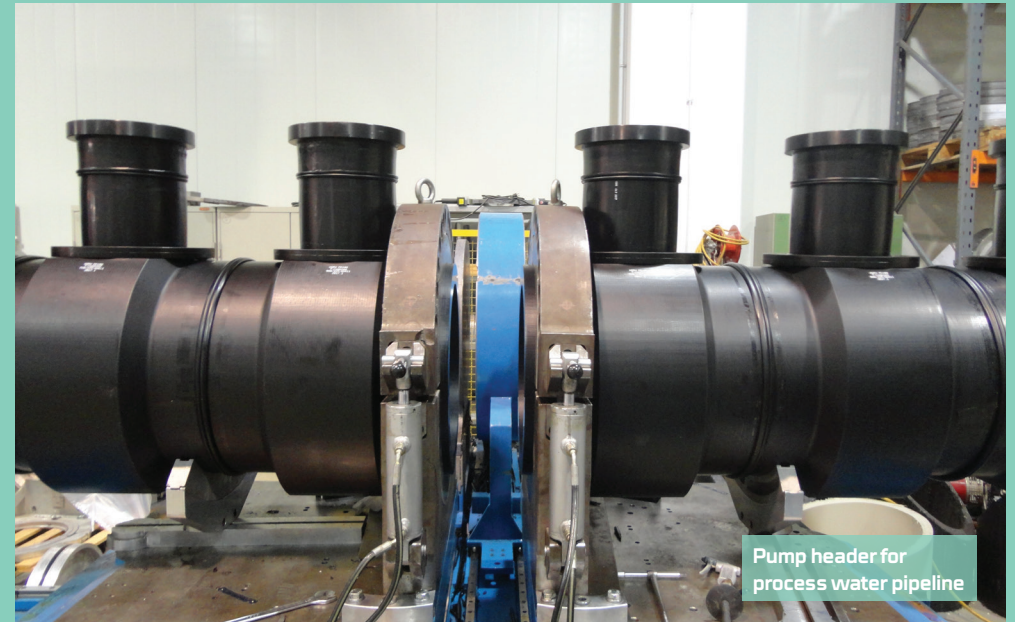
- + High flexibility and low density
- + Chemical and UV resistance
- + Stress crack resistant

## Pressure class-compliant customized parts

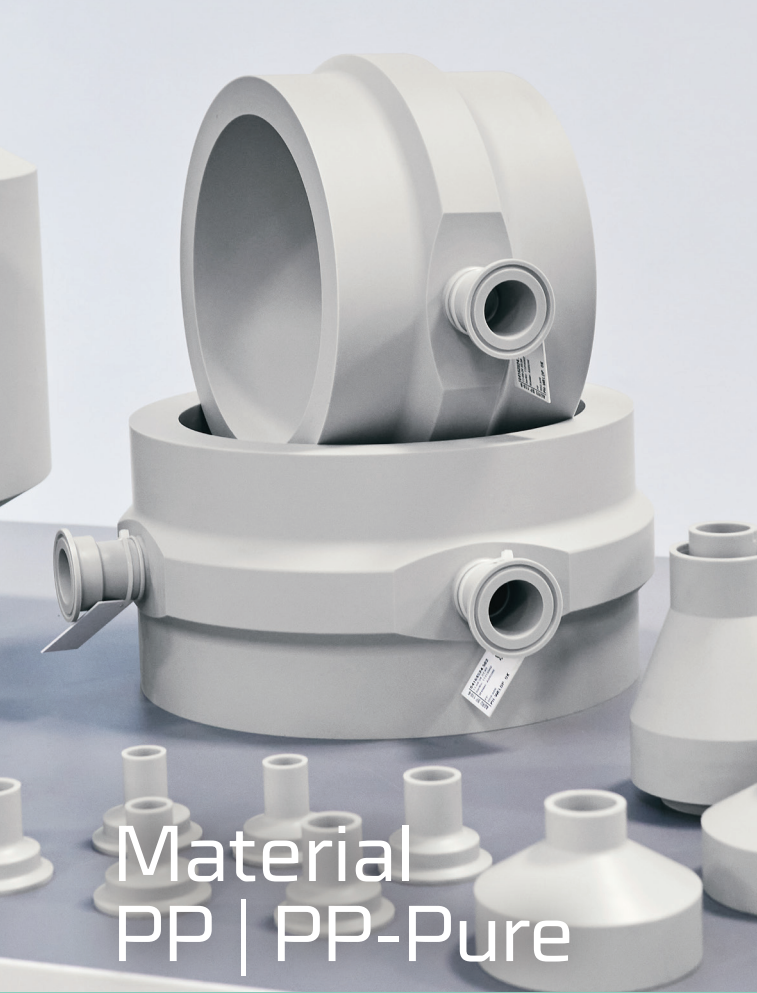
SUPPLY PROGRAMME	PE 100-RC	Dimensions	SDR 33	SDR 26	SDR 21	SDR 17	SDR 11
	E-fittings	OD 20 - 2250 mm	●	●	●	●	●
	Tees	OD 20 - 2250 mm	●	●	●	●	●
	Flange connections Stub flanges	OD 20 - 3500 mm	●	●	●	●	●
	Reducers	OD 20 - 2500 mm	●	●	●	●	●
	End caps	OD 20 - 1200 mm	●	●	●	●	●
	Segmented fittings	OD 20 - 3500 mm	●	●	●	●	●
	Transitions Restrained fittings Screw connections	OD 20 - 800 mm	●	●	●	●	●
	Pull heads	OD 20 - 1200 mm	●	●	●	●	●

Further special fittings and isometries are available on request in additional SDR ratings.









## Material PP | PP-Pure

Polypropylene (PP-R, PP-Pure) is ideal for industrial applications at temperatures up to 95 °C.

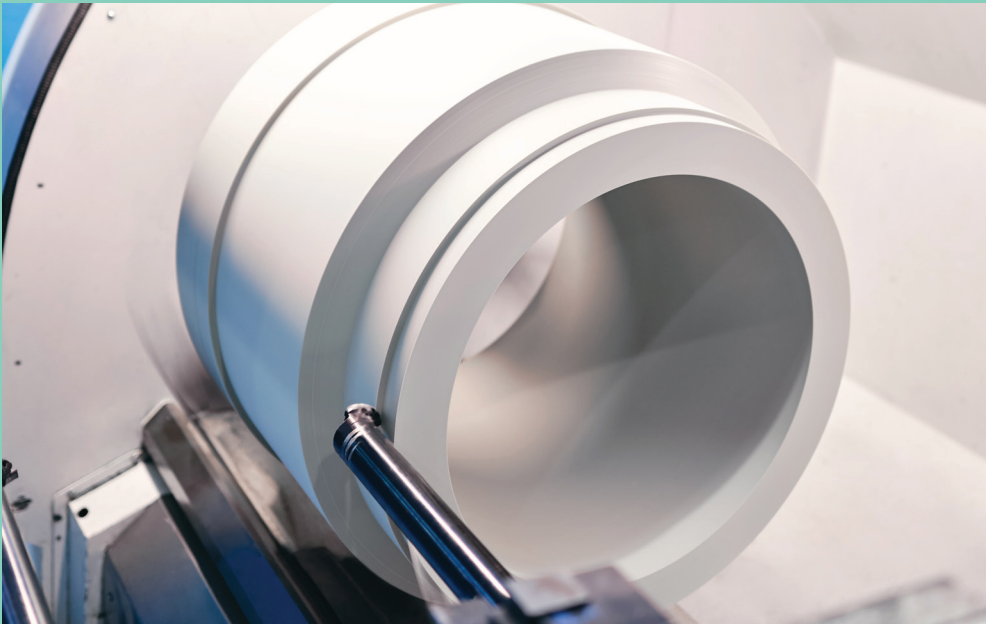
- + More solvent-resistant than PE 100-RC
- + Similar electrical properties
- + PP-Pure for ultra-pure water transport

### Pressure class-compliant customized parts

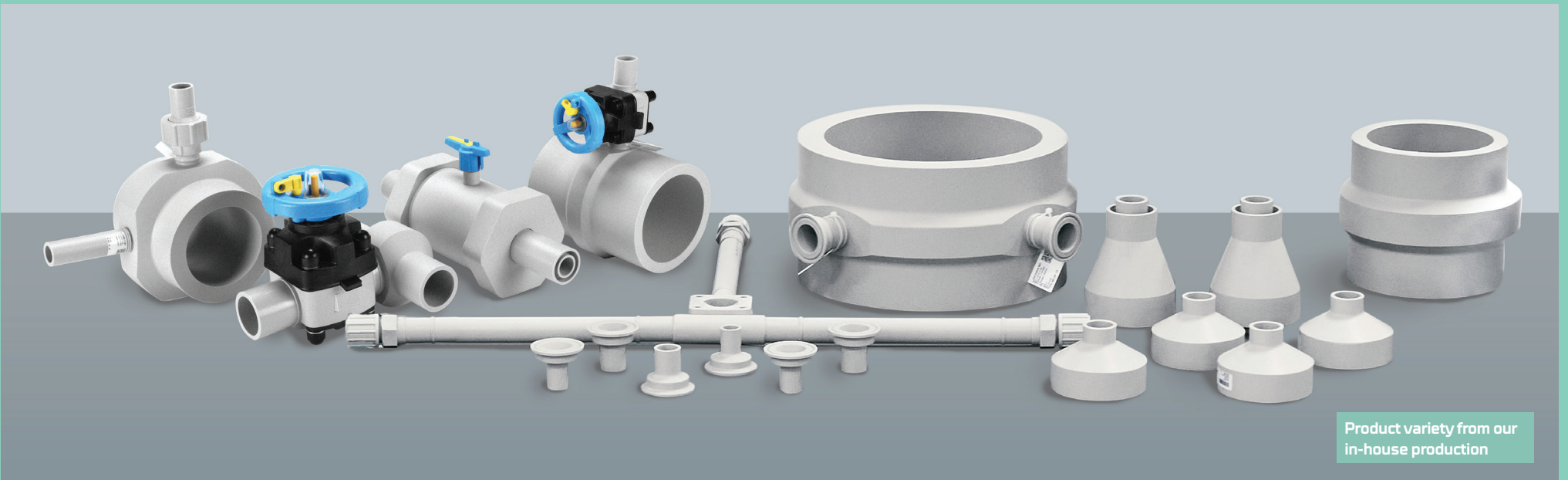
SUPPLY PROGRAMME	PP	Dimensions	SDR 33	SDR 26	SDR 17	SDR 11
	E-fittings	OD 20 - 500 mm				
		PP-Pure OD 20 - 315 mm	●	●	●	●
	Tees	OD 20 - 560 mm				
		PP-Pure OD 20 - 315 mm	●	●	●	●
	Flange connections Stub flanges	OD 20 - 560 mm				
		PP-Pure OD 20 - 315 mm	●	●	●	●
	Reducers	OD 20 - 560 mm				
		PP-Pure OD 20 - 315 mm	●	●	●	●
	End caps	OD 20 - 630 mm				
		PP-Pure OD 20 - 315 mm	●	●	●	●
	Segmented fittings	OD 20 - 1400 mm				
		PP-Pure OD 20 - 400 mm	●	●	●	●
	Transitions Restrained fittings Screw connections	OD 20 - 560 mm				
		PP-Pure OD 20 - 315 mm	●	●	●	●

Further special fittings and isometries are available on request in additional SDR ratings.



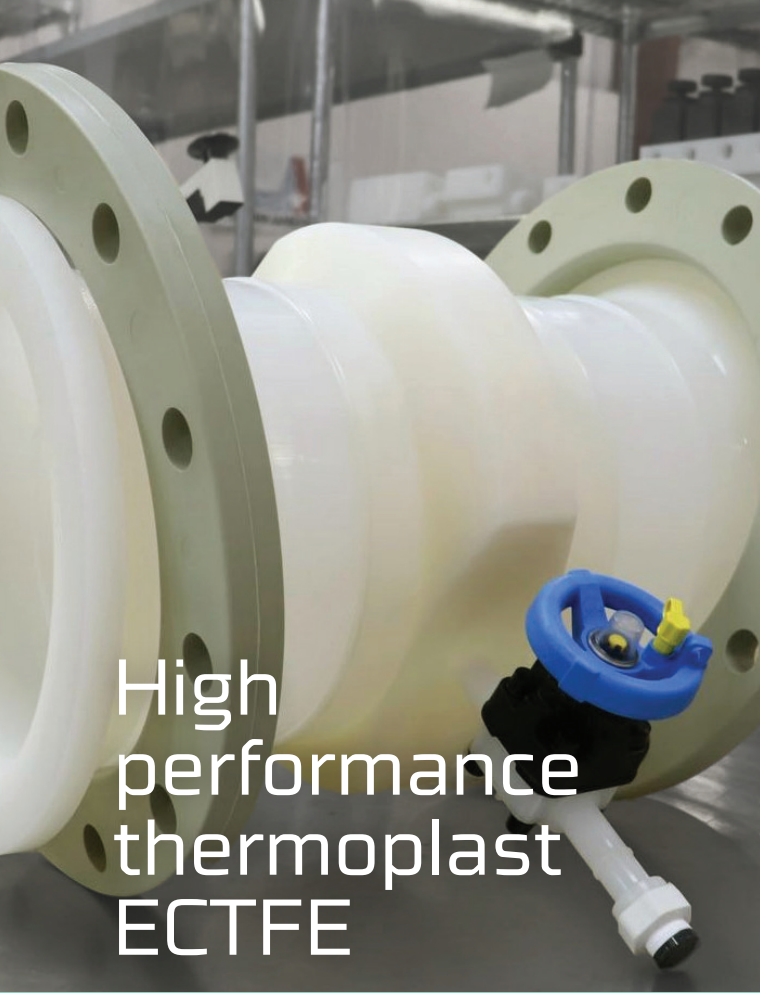


Custom-made fittings for  
wastewater treatment



Product variety from our  
in-house production











# High performance thermoplast ECTFE

ECTFE possesses a unique combination of properties resulting from its chemical structure - a copolymer with alternating ethylene and chlorotrifluoroethylene.

- + Chemically resistant from pH 0-14
- + Temperature resistant up to 120 °C
- + High impact strength

## Pressure class-compliant customized parts







SUPPLY PROGRAMME	ECTFE	Dimensions	SDR 33	SDR 21
	Tees	OD 20 - 90 mm	●	●
	Flange connections Stub flanges	OD 20 - 75 mm	●	●
	Reducers	OD 20 - 90 mm	●	●
	End caps	OD 20 - 90 mm	●	●
	Segmented fittings	OD 20 - 160 mm	●	●
	Transitions Restrained fittings Screw connections	OD 20 - 75 mm	●	●

Further special fittings and isometries are available on request in additional SDR ratings.





## Pressure class-compliant customized parts

SUPPLY PROGRAMME	PVDF	Dimensions	SDR 33	SDR 21
	Tees	OD 20 - 315 mm	●	●
	Flange connections Stub flanges	OD 20 - 315 mm	●	●
	Reducers	OD 20 - 315 mm	●	●
	End caps	OD 20 - 315 mm	●	●
	Segmented fittings	OD 20 - 400 mm	●	●
	Transitions Restrained fittings Screw connections	OD 20 - 315 mm	●	●
Further special fittings and isometries are available on request in additional SDR ratings.				

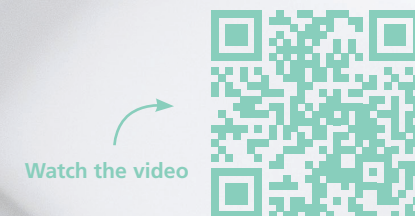


High  
performance  
thermoplast  
PVDF | PVDF-UHP

AGRU PVDF plastic combines excellent mechanical, thermal, and electrical properties with outstanding chemical resistance up to 120 °C.

- + High purity and surface quality
- + For high-end applications
- + HP quality available





02/2025

# CUSTOMIZED PARTS. Fittings without limits.