

GTS



GERMANTWINSCREWS

Screws and Barrels for Plastic Processing



Extrusion Technology is GTS - Technology

GermanTwinscrewS GmbH

Since 1995 we do continuous optimization in screw technology, for co- and counter rotating twin screws, intermeshing and non-intermeshing as well as for large single screws for compounding, injection moulding and rubber application. We take care of process energy optimization and take responsibility for all environmental aspects. Highest quality standards and reliability towards our long-term and new customers are the main focus in our company philosophy. Our customers are located in more than 100 countries.

- GTS creates international standards for highest melt quality
- GTS creates international standards for output maximizing
- GTS creates international standards for widest process window and longest screw lifetime



Green German Technology

Green German Technology (GGT) is our motto. This enduring spirit of environmental awareness at GTS is a contribution to protect the quality of life for present and future generations.

Our thinking regarding the optimization and improvement of our product design as well as the training of our employees is characterized by sustainability and responsibility for our environment.

Parts of our profits are spent for local youth work as well as for donations regarding different social projects. Our social responsibility is one of our main priorities.

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Screws and barrels

GermanTwinscrewS GmbH delivers screws and barrels, compatible to almost all international extruders and compounders. GTS does optimization for our customers related to output maximization, quality enhancements and other customer requirements.

GTS has experience in worldwide applications and requirements regarding a wide range of known and unknown customized formulations. Continuous developments in designing and manufacturing lead to best output and longest lifetime in combination with optimized product quality.



Our Manufacturing Range

	Diameter/mm	length/m
Counter-rotating twin screws, intermeshing	max. 280	max. 9,5
Counter-rotating twin screws, non-intermeshing	max. 600	max. 9,5
Single screws (1 section)	max. 900	max. 9,5
Single screw elements	max. 380	max. 0,9
Barrel segments	max. 700	max. 2,0
Screw shafts (for screw elements)		max. 12

Highest Wear Protection

GTS has a wide range of different alloys for wear protection for screws and bimetallic barrels.

	Requirement	Screw	barrel
Singles	Standard	G110	G200
	Advanced	G121	G240
	Premium	G142	G246
Counter-Twins	Standard	G150	G250
	Advanced	G155	G260
	Premium	G164	G272
Co-Twins	For screw elements and barrel sections GTS offers a wide field of alloys, please tell us your requirement		



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Twin Screws

Besides the excellent know-how regarding the design of twin screws we are also well-experienced with all types of PVC formulations.

The unique GTS screw design allows highest output, energy savings, a wide process window and longest lifetime.

Besides the know-how for counter-rotating twin screws GTS also has a deep knowledge of co-rotating designs and is a well-known name in the petrochemical industry for plastics processing. In this field GTS deals with very large machines and highest output requirements. These processing units require a running time of many years without stopping the line.



GTS standard screws and barrels are manufactured from high-alloy steel, which is extra deep-nitrided. For heavy demands, GTS uses different high-grade steel. As every customer has a different formulation with different fillers, GTS recommends a customer-specific screw design and wear protection. This gives our customers a permanent competitive advantage.

The know-how about steel combined with our design expertise is the key for manufacturing very economic screws for most applications which have a very long operating time.



For applications subject to high wear GTS offers screws wear protection on the running surface of the screw flights, manufactured by PTA process or by Laser Technology. This can be combined with an excellent chrome-coating or high-speed TC-coating inside the screw channels. For customer-specific requests, a customized solution is always economical.

Decades of experience is customer advantage.



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Single screws

Fast developments in all technical thermoplastics such as PP, PE, PPR or PEX need continuous development and optimization in screw design. Screw design has to create lowest melt temperature in combination with best melt homogeneity. Wear resistance is a fundamental customer requirement.

GTS has outstanding know-how and experience to make the design and manufacturing for many different applications. Our main focus is on pipe, profile, sheet, compounding, injection, kneading, rubber and on the recycling business.



GTS offers high quality single screws with all types of mixing, Maddock and barrier zones for all polymers and applications. Cascade extrusion, multiple venting and a large number of applications and designs for recycling processes are our daily business.

Bimetallic barrels are made as pin-barrels for rubber or with spiral or axial grooved feeding sections. Our bimetallic barrels with a diameter up to 400mm are installed globally in many companies.

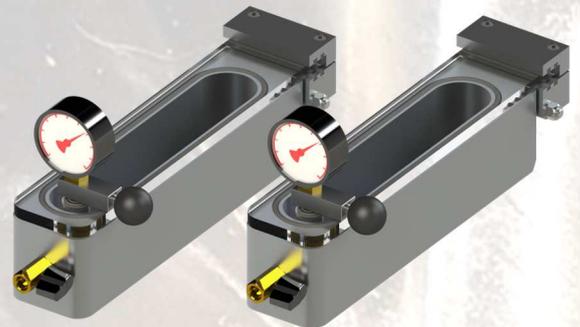
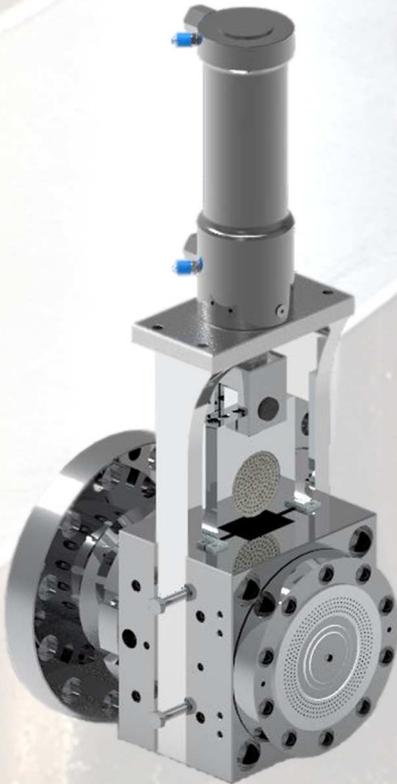
GTS is present in almost all applications in the global extrusion business.



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Accessories

GTS offers many accessories around extruders and compounders like high-speed screen changers, heater bands, vacuum adapters, 8to0 adapters, crammer feeders, pelletizing equipment in all sizes, etc. Several extrusion companies are fully equipped with the well-known GTS vacuum adapters on their barrels.



Long-term developments in tempering and insulating systems for extrusion barrels have led to energy savings and reduced CO2 emissions. Energy efficiency by screw design and thermal insulation not only means protection of the environment and our future, it also means economic advantages for our customers.

Up to 400mm, a wide range of well approved mono- and co-extrusion pipes are produced with GTS pipe-heads. Co-ex for foam core pipes or in middle layer highest pph of filler. All GTS equipment is the result of decades of experience in the extrusion business and designed to have a safe and wide-range production. GTS stands for production of successful extrusion products.



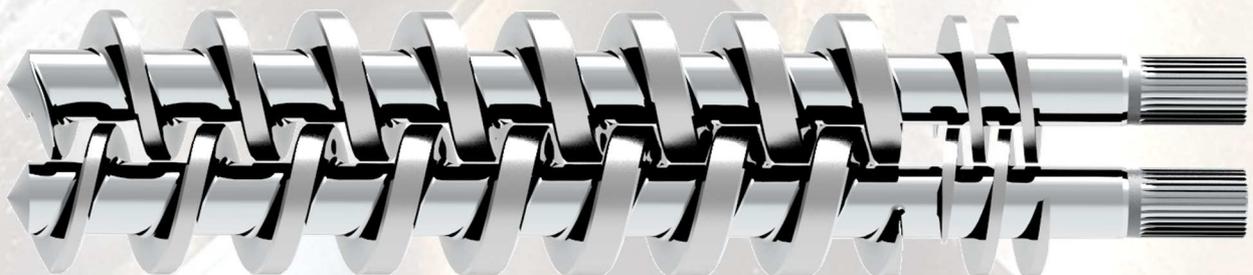
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Why GTS?

- Long-term reliability and wide processing window
- Globally well-approved products
- Highest Engineering and Manufacturing Quality
- Best-in-class Performance and Output
- Shortest start-up and longest running time
- Own GTS Lab for innovative R&D
- Product design with focus on simplicity
- Excellent price-performance ratio
- Quotes within 48 hours and 7/24 service worldwide
- Fast communication and shortest delivery times
- Flexible and customized solutions
- GTS is motor for innovation (15+ patents)
- Screw optimization for all polymers and applications
- Unique and well-approved GTS Design Software
- Simulation of extreme process conditions
- GTS database for most polymers
- Highest and innovative wear protection
- Start-up and installation support
- Training at the line for all processing steps
- Management training incl. global market situations
- Consulting in Plastic Processing
- GTS Model of PVC gelation
- Screw design based on Plastic Know-How
- Spare parts for all extruder brands
- High energy efficiency by innovative design

Design Highlights

- GTS Continuous Change (almost no free-cuts)
- Change Over between different flight numbers
- GTS Integrated Tip Design (ITD)
- Different types of Feedings
- GTS closed-loop, self-optimizing and maintenance-free temperature control
- GTS Barrel Tempering (Air vs. Liquid)
- Intensive cooling near barrel ID
- Multiple Ventings (up to 6 vent ports)
- Vent port for high-steam exhaustion
- Vent port with side stream screw and with optimized viewing angle
- GTS Back venting
- Multiple feeding barrel design
- Bimetallic wear protection with TC
- All types of ID and OD Splines
- Flight integration of Powder Sealing
- GTS types of Mixing and Sheering Elements
- Spiral and axial grooved feedings (singles)
- Screw design for all types of polymers, for widest bulk density and highest filler rate (PVC-350 pph)
- Twin Screw design based on GTS gelation model
- Crammer Feeder from 0.1 to 1.1 kg/dm³
- Screw design for all types of filler and reinforcement material



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