

100%
eXtrusion
spinning lines



SML



100% spinni for lea

analysis >> development >> pre-tested performance >>

The SML head office in the beautiful landscape of Austria's lake and mountain district Salzkammergut ▼



SML

ng lines ding companies

delivery on time >> service support >> customer satisfaction

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Innovation

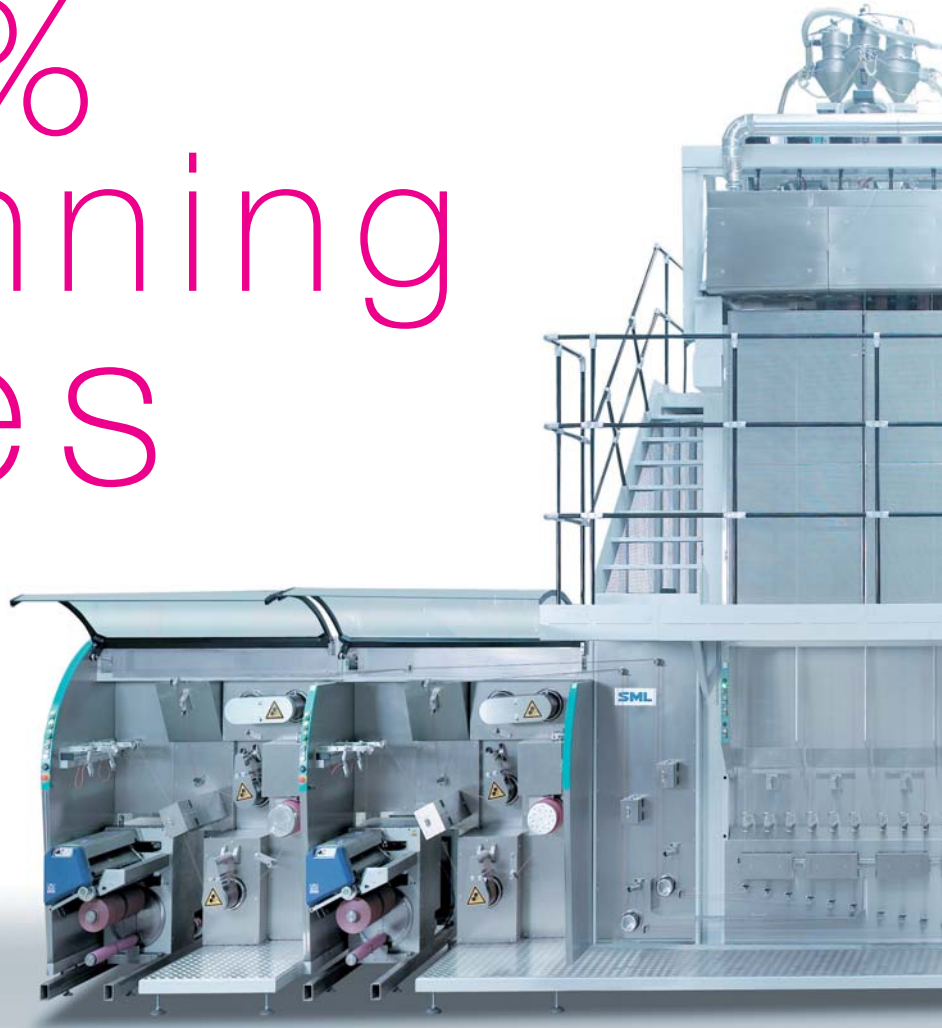
SML Maschinengesellschaft mbH with its head office in Lenzing, Austria, is specialized in building high-performance extrusion equipment based on 40 years of experience.

The dynamic and innovative power is reflected in the technological leadership of SML and documented by various patents. For the most complex extrusion lines installed worldwide SML has received numerous awards, among them the Austrian Federal Award for Innovation.

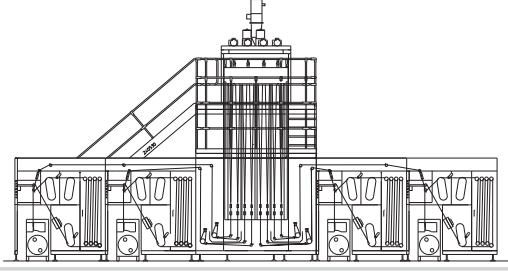
100% spinning lines

best performance

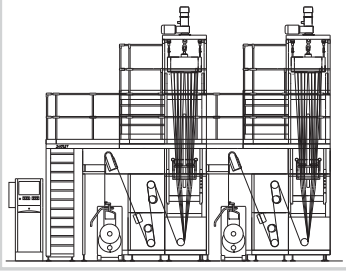
Continuous improvements and the steady implementation of new developments ensure that SML spinning lines are always at the latest state-of-the-art. The usage of new, sophisticated machine components and materials leads to advantages in terms of performance. Improvements have been made in case of increased output, higher bulk, better yarn conditioning and easier operation.



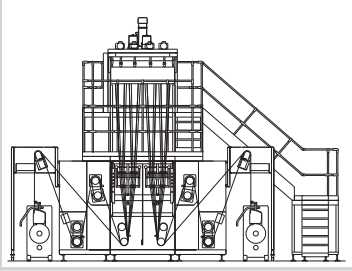
Austrofil HT/MT



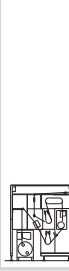
Austrofil MT/POY line-by-line



Austrofil POY/MT

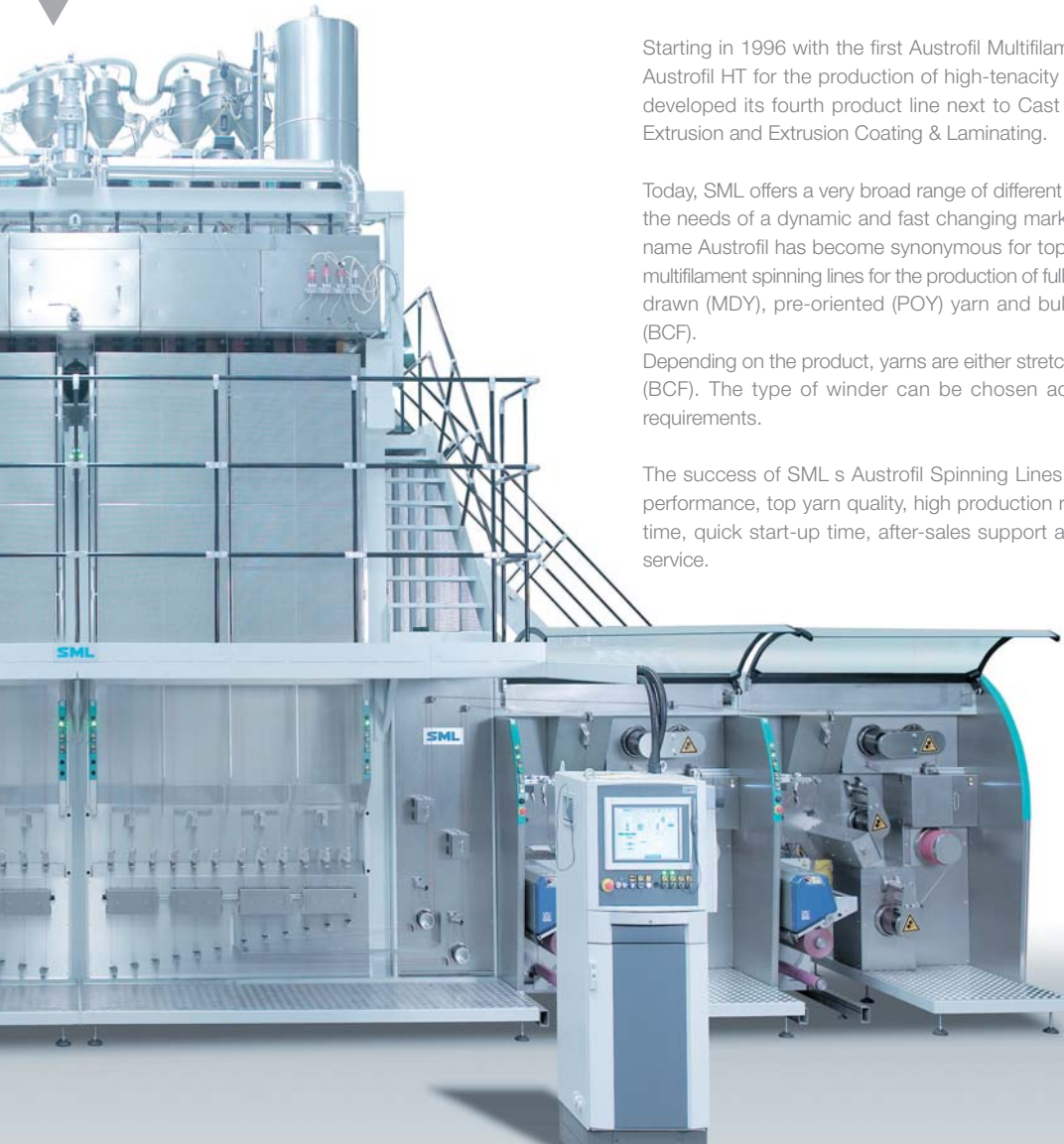


Austro



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Austrofil BCF version for tricoloured carpet yarns



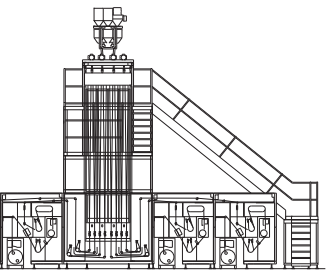
Starting in 1996 with the first Austrofil Multifilament Spinning Line, an Austrofil HT for the production of high-tenacity yarn, SML has further developed its fourth product line next to Cast Film Extrusion, Sheet Extrusion and Extrusion Coating & Laminating.

Today, SML offers a very broad range of different spinning lines to cover the needs of a dynamic and fast changing market. Over the years the name Austrofil has become synonymous for top-quality polypropylene multifilament spinning lines for the production of fully drawn (FDY), medium drawn (MDY), pre-oriented (POY) yarn and bulk-continuous filament (BCF).

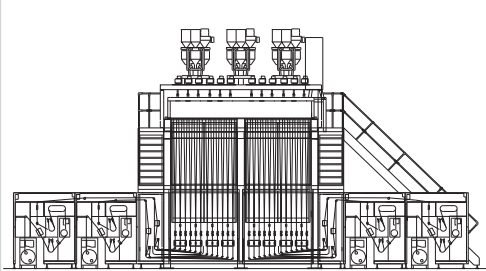
Depending on the product, yarns are either stretched (FDY) or texturized (BCF). The type of winder can be chosen according to customer requirements.

The success of SML's Austrofil Spinning Lines is based on excellent performance, top yarn quality, high production reliability, short delivery time, quick start-up time, after-sales support and effective customer service.

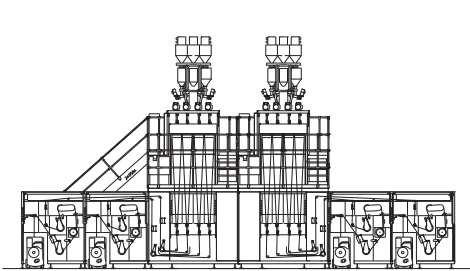
Austrofil BCF



Austrofil BCF tricolour



Austrofil monocolour TWIN



FDY — FULLY DRAWN YARN



winder with stretching unit ▲



spinfofinish application ▲



e^{100%}xtrusion spinning lines

Austrofil HT/MT for FDY and MDY yarns



quick colour change

A very short melt distribution guarantees the necessity of quick colour changes. Furthermore, very short downtimes for change of spinnerets are achieved by an easy assembling system as well as short distances to the operating area. Moreover, yarn specifications can be changed easily by the control unit which ensures high flexibility in the production of different yarn types.

100% tenacity

High yarn tenacity is achieved through a sophisticated stretching system where the yarn is treated in a very comfortable way.

Through the well designed yarn path in the special hot air chamber high tenacities even at higher speeds, and coarser yarns are achieved. It even allows successful yarn production with lower quality resins.

POY — PRE-ORIENTATED YARN

Austrofil POY/MT for POY and MDY yarns



100% flexi

Pre-Oriented Yarn (POY) out of polypropylene is used in high-quality apparel. Due to the excellent properties of polypropylene, like low specific weight, low moisture absorption and colour fastness, PP-POY is an excellent material for functional garments.

Polypropylene may be used 100 % pure or in blends with other materials, mostly cotton. Knitting

modular design

Quick reaction for different product requirements is allowed through the modular design of all Austrofil spinning lines. Some types of Austrofil spinning lines may be extended later for increased capacities, simply by adding stretching or texturising modules to the existing SML spinning line. Furthermore, the modular design allows flexibility in logistics and production which results in short delivery times.



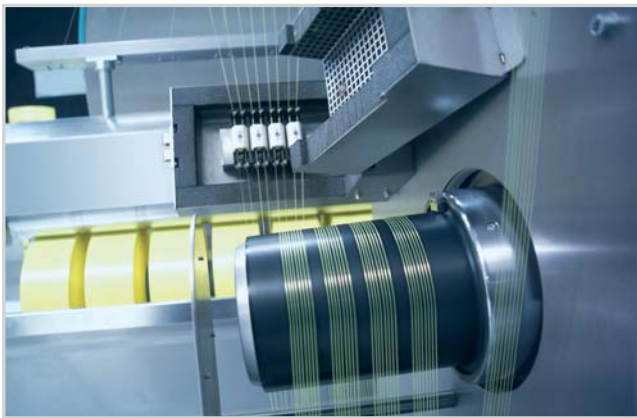
Austrofil POY line-by-line comprising 4 modules

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Austrofil MT/POY line-by-line for pre-oriented yarns

100% flexibility

to stylish fabrics with net or rib structures is possible. Compared to yarns out of staple fibres, the continuous filament yarns increase the efficiency in fabric production and avoid pilling in the end product. A further important aspect is that PP-POY is melt-dyed. Typical garment applications are for sportswear, underwear, socks, stockings, gloves and others.

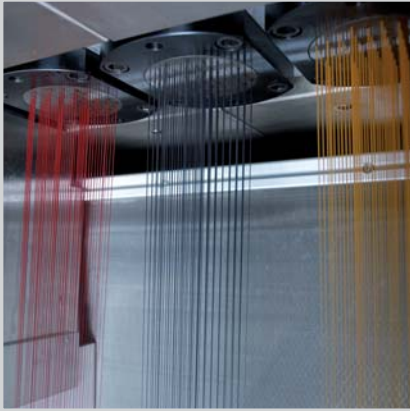


intermingling system ▲

SML works together with established yarn producers in Europe to further improve the PP-POY process and the subsequent texturing. Hence extensive production know how for the use in the automotive sector as well as for medical articles is available. For fine yarn counts in the 50 den range and for a low dpf special machine components have been developed.

Two principal machine designs are available for the POY process. One is a compact Austrofil MT/POY line with 2x8 ends. The other is a modular configuration, named Austrofil line-by-line system, where each module produces 1x8 ends. Up to five such modules can be combined to one unit 5x(1x8). The line-by-line system provides highest flexibility. According to the requirements for the product the type of line will be chosen together with our customers.

BCF — BULK-CONTINUOUS FILAMENT



spinneret with tricoloured yarn ▲



BCF module ▲



SML's patented texturing jet ▲

Only a yarn production line with an excellent ratio between investment and operating costs to output offers the customer the best economic viability. SML's commitment is to build reliable and easy-to-operate BCF spinning lines with good productivity in a compact design.

100% output daily

excellent crimp

Because of the unique design of SML's texturing jet a lamella chamber is no more required for SML's BCF spinning lines. Thus, carpet yarns with excellent crimp and low shrinkage can be produced. Although cooling of the texturized plug is very intensive (multi-turn) it takes about 15 seconds with SML's patented texturing jet. Wear resistant parts, robust design, same parts for the complete range of yarn titer are advantages to name only a few.

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spinning lines

Austrofil BCF version for monocoloured carpet yarns



SML

customer satisfaction

Various types of spinning lines, required by the market, have been developed and allow the customer to reach individual market demands. Any type of yarn for almost any application can be produced with this complete range of application can be produced with this complete range of SML spinning plants. All projects are attended to by SML from the beginning until the successful start-up and the after sales service.

100% quality checked

The quality control system attends to the projects from the idea, the development, the design, the manufacturing until the start-up at the customer. All lines are assembled and tested in SML to ensure an easy and troublefree start-up of yarn production at customer's site. The close contact to the customer by our experts leads to a better understanding of the customer's needs and further to quality improvements.



machine type	application
Austrofil HT & MT	
titer range: 150 - 4000 den	- ropes, belts, nets
output capacity: 160 kg/h	- upholstery textiles
	- filter fabrics
	- technical applications
	- sewing yarns
	- door and window seals
	- reinforcement fibres
Austrofil POY line-by-line	
titer range: 70 - 150 den	- functional clothing
output capacity: 20 kg/h (per line)	- sportswear
	- socks, garments
	- embroidery
	- automotive
Austrofil MT/POY	
titer range: 70 - 300 den (POY)	- functional clothing
100 - 1000 den (MDY)	- sportswear
output capacity: 110 kg/h	- socks, garments
	- embroidery
	- automotive
	- upholstery textiles
Austrofil BCF monocolour	
titer range: 1000 - 3000 den	- carpets
output capacity: 240 kg/h	- upholstery
	- door and window seals
Austrofil BCF tricolour	
titer range: 1000 - 3600 den	- multi-coloured carpets
output capacity: 270 kg/h	- multi-coloured upholstery
Austrofil BCF monocolour TWIN	
titer range: 1000 - 3000 den	- carpets, rugs
output capacity: 280 kg/h	- upholstery



SMILE CONTROL SYSTEM

user-friendly

Each of the SMILE characteristics are valuable features to provide everything our customers need to run their machines successfully and to guarantee utmost user friendliness in operating the SML extrusion line. Therefore, high-quality hardware in combination with the in-house developed software is used. All relevant technical procedures are visualized and explained step by step which makes it possible to understand the functions of the machine easily.

SMILE®



▲ touch screen of SMILE control unit

S M I L E
100%
integrated
control

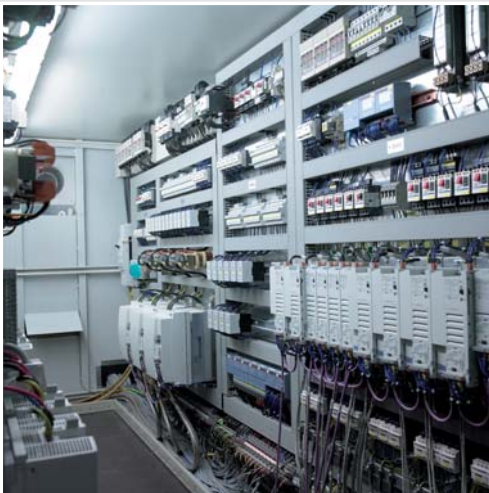
100% extrusion spinning lines

Side view of an Austrofil HT line

We are aware that it is extremely important that our lines can be controlled by machine operators throughout the world. When SML technicians are contacted for support, such support can be provided perfectly via integrated remote maintenance. Via SML's remote maintenance and diagnostics system, however, it is even possible to change and download the PLC program.

advantages

- central operation touch-screen monitor, displaying all relevant data
- history, trends, error and help messages - integrated online data
- central control of all production parameters
- automatic line speed-up and speed-down function
- Industrial Ethernet Powerlink connection to decentral I/O points



	set [°C]	actual [°C]	Y actual [%]	state	tol.	Y set	mode	MT
FZ1		12.0			off			223.3 [°C]
Z1	215.0	215.1	15	ok	sen		auto.	set [°C] actual [°C] Y actual [%] mode
Z2	218.0	218.0	5	ok	sen		auto.	95.0 31.4 0 off
Z3	221.0	220.9	7	ok	sen		auto.	interval [min] convey time [sec]
Z4	224.0	224.0	6	ok	sen		auto.	45 19
Z5	227.0	227.0	7	ok	sen		auto.	
A1	230.0	231.0	40	ok	sen		auto.	SBI: 55.9 [°C]
S8	230.0	230.0	72	ok	sen		auto.	heating-contactor-extruder zones
A2	235.0	235.8	8	ok	sen		auto.	heating-contactor-extruder adapter
								heating-contactor spinning head

▲ air-conditioned E-container

▲ user-friendly visualization of SMILE control unit

e^{100%}Xtrusion

spinning lines

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