



## TEZ machinery

The list of machinery available in the Technology and Development Center (TEZ) is continuously updated.

# GROZ-BECKERT®

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## Technical Center Knitting

### Circular knitting single jersey

Manufacturer:	Mayer & Cie.	Monarch	Pai Lung	Vanguard Pai Lung	Terrot	Mayer & Cie.
Type:	S4 - 3.2	VXC - 3S	PL - KS 3.2 B	Delta SJ4A / DI3	SH 130	Relanit 3.2 HS
Gauge:	E 28 + E 44	E 28 + 32	E 28 + E 44	E 22 + E 32	E 18	E24 + E28
Diameter:	34"	34"	34"	18"	16"	30"
Feeders:	108	102	108	72	48	96

### Circular knitting double jersey

Manufacturer:	Mayer & Cie.	Mayer & Cie.	Terrot
Type:	OVJA 1.6 ET 3 WT Jacquard electronic transfer	IV 2.0	I 3 P 572 8-cam / rib
Gauge:	E 16	E 18	E 28
Diameter:	34"	16"	34"
Feeders:	54 (36+18)	30	84

### Flat knitting

Manufacturer:	Stoll	Stoll
Type:	CMS 330 TC	CMS 822 HP multi gauge
Gauge:	E 18	E 6.2
Nominal width:	50"	84"
Feeders:	3	2 x 2

### Warp knitting

Manufacturer:	Karl Mayer
Type:	HKS 3-1
Gauge:	E 32
Nominal width:	180"
Guide bars:	3

### Single cylinder sock knitting machine

Manufacturer:	Lonati
Type:	Goal GK616F „S by S“
Gauge:	E 14
Diameter:	3 ¾"

## Technical Center Weaving

### Weaving machines

Manufacturer:	Dornier	Toyota	Dornier
Type:	PTSY 4	JAT 710	P TS 4/S C
Machine type:	Special mono-rapier machine	Air jet weaving machine	Rapier weaving machine
Max. speed:	180 picks/min	900 picks/min	500 picks/min
Width:	150 cm	190 cm	230 cm
Shedding motion:	Dobby	Tappet gear	Dobby

The manufacture of standard and leno fabrics with PosiLeno® is possible on all machines.

### Drawing-in machine

Machine:	WarpMaster
Reed:	up to max. 500 dents per 10 cm
No. of frames:	up to max. 20
Heald types:	J and C-shaped healds

Frames, healds, warp stop motions and drop wires as required

### Tying machine

Machine:	KnotMaster
Knotting speed:	max. 600 knots/min
Functions:	Single and double knots, four knot types, doubles detection, yarn break detection, KnotControl

### Various additional machines

<b>ReedCleaner</b>	Machines for cleaning the reed within the weaving machine
<b>PinMaster</b>	Machine for fitting the contact rail of a warp stop motion with drop wires

**Technical Center Felting**

**Staple fiber needling line (general information)**

Basis weight:	50–1,500 g/m <sup>2</sup>	Titer:	0,9–17 dtex
Fiber types:	PP, PES, PA, CV, natural fibers, high tenacity fibers	Fiber length:	38–90 mm

**Fiber opening and blending**

Manufacturer:	<b>Dilo Temafa</b>
Type:	Bale opener and blender

**Nonwoven card**

Manufacturer:	<b>Dilo Spinnbau</b>
Type:	Multi-card, double doffer card with condensing unit
Working width:	1,500 mm
Additional set:	Basis weight regulation system

**Cross lapper**

Manufacturer:	<b>Dilo Maschines</b>
Type:	Dilolayer, DLBS
Max. lay-down width:	2,000 mm
Input speed:	80 m/min

**Web drafter**

Manufacturer:	<b>Dilo Spinnbau</b>
Type:	VST 19
Max. working width:	2,000 mm

**Pre-needling**

Manufacturer:	<b>Dilo Maschines</b>
Type:	DI-LOOM OD-II 20
Max. working width:	2,000 mm
Number of needles:	2x 4,500 needles/m

**Finish needling**

Manufacturer:	<b>Dilo Maschines</b>	
Type:	DI-LOOM OUG-II SB 15	
Working width:	1,500 mm	
Possible needle board pitches:	2,000 needles/m	One/Two needle boards above
	3,000, 5,000, 8,000 needles/m	Various needling options

**Technical Center Joining**

**Sewing machines**

Lockstitch machine	1 and 2 needles stitch types: 301, 304, 308
Chainstitch machines	1 to 4 needles stitch types: 401, 406, 407, 602, 605
Overlock machines	1 and 2 needles stitch types: 504, 512, 504, 401
Blindstitch machines	1 needle stitch type: 103

**Multi-head embroidery machine**

4 heads	Number of needles/head: 12 Embroidery speed: max. 1,000 rpm Stitch types: 301
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**Needle penetration force measuring system**

For sewing needles	Lockstitch machine modified Measuring range: 0–3,000 cN
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**Multidirectional stitching**

Computer-controlled sewing machine	Stitch type: 301 Work space: 300 x 200 mm
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**Alternative joining processes**

Ultrasonic welding machine	Pfaff 8312
Taping machine	Macpi 337
Bonding press	Macpi 346

**Other processes**

**Composites**

Methods for processing carbon fibers for composites
Manufacture of laminate plates using vacuum infusion

**Other equipment**

**Fabric inspection machine**

Manufacturer:	<b>La Meccanica</b>
Type:	LM 79 D/P
Max. fabric width:	3,000 mm
Max. diameter of fabric roll:	500 mm

**Textile testing and analyses**

Physical and chemical textile analyses of fibers and yarns/threads
Physical textile analyses of textile surfaces
Tests and analyses in the field of fiber composites
Image documentation (light and SEM)
Qualitative and quantitative chemical analyses (EDX, FTIR, DSC)

**Process analysis for needle punching**

Lab needle loom for pre-trials
Needle penetration force measurement (measuring unit in cN and Nm)

