



MEDICAL



AUTOMOTIVE



INDUSTRY



COMMERCIAL VEHICLE INDUSTRY

PRODUCT CATALOGUE
RUBBER AND PLASTICS PROCESSING

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WHO WE ARE

SYSTEM SUPPLIER FOR COMPLETE AND COMPLEX APPLICATIONS

As a long-time partner of different industry sectors we have a profound understanding of the high demands of modern rubber and plastics processing. Today, excellent cutting quality, high length precision and increased productivity at cut-to-length, stamping and drilling are a standard of a Metzner machine. Our innovative concepts for processing and assembly automation increase the performance even further and enable a customer specific design that is perfectly matched to individual requirements.

Our comprehensive range of machinery for the profiles, hoses and plastics extends from economy cut-to-length machines right up to fully-automatic converting lines. Thanks to the modular design of all our machinery, retro-fitting and rapid extension to a full production line is easily possible. With Metzner you are not only well equipped to

meet today's demands but also are prepared for whatever the future might bring. Proven experience and on-going engineering efforts at robotics, sensor systems and IT-integration enable Metzner to develop efficient solutions for complex applications. Including automatic printing or marking systems, systematic take-off, winding and sorting units, pick-and-place solutions, integrated quality monitoring and automatic database management and production statistics.

As a systems provider of complete solutions for your applications in rubber and plastics processing, Metzner has a highly capable engineering team with many years of experience and know-how providing convincing and ground-breaking solutions to match your demands and meet your targets for cost, quality and output.

METZNER PORTFOLIO

Thanks to Metzner's many years of experience, the company is a competent and reliable partner who knows all about the requirements of a wide range of materials such as profiles and hoses. We offer you a unique range of solutions customized to your conditions and quality requirements.

	Machine	Variocut (s.12)	KL-BV (s.12)	ST-OB (s.12)	MBS (s.16)	DYNAMAT (s.22)	CCM (s.26)			Automatic Single-Pass Cutting Machines (s.32)	Automatic Drilling Units (s.33)	Mandrell Cutting Machines (s.34)	Notching Stations (s.35)
							CCM2	CCM4	CCM6				
Material													
Hoses													
flexible without steel reinforcement		●	●	●	●	●	●	●	—	●	●	—	●
flexible with steel reinforcement		—	—	—	—	—	●	●	—	○	○	—	○
rigid		●	●	●	●	●	—	●	●	○	○	—	○
weave		—	—	—	○	—	—	—	—	○	○	—	○
Profiles													
flexible without steel reinforcement		●	●	●	●	●	●	●	—	○	○	—	○
flexible with steel reinforcement		—	—	—	○	—	●	●	●	○	○	—	○
rigid without steel reinforcement		—	—	—	●	●	—	—	●	○	○	—	○
rigid with steel reinforcement		—	—	—	—	—	—	—	●	○	○	—	○
Plain Section Gaskets		—	●	—	—	—	—	○	—	○	○	●	○
Special Materials		○	○	○	○	○	○	○	○	○	○	○	○

● = standard, ○ = optional, — = not available | Specifications are subject to change without notice.

METZNER MATERIAL WORLD

OPTIMAL PROCESS, MATCHED TO YOUR MATERIAL CHARACTERISTICS

PROFILES AND TUBES

Flexible without Steel Reinforcement

Flexible profiles, tubes and hoses are generally processed with modular cutting machines, universal cutting machines, eccentric-drive cutting machines or fly-knife cutting machines.



Flexible with Steel Reinforcement

For materials with steel reinforcement, circular blade cutting machines are employed. These work with great precision and repeatability, giving unbeatable product characteristics.



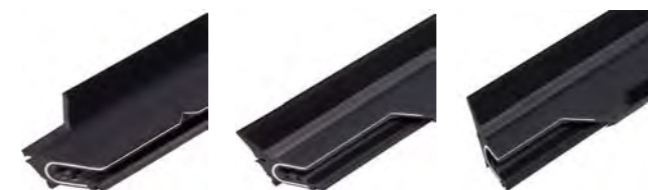
Rigid, without Steel Reinforcement

Rigid profiles that are processed in-line require a particular cutting process whereby the cutting tool moves in synchrony with the product to be cut.



Rigid, with Steel Reinforcement

For the in-line production of rigid cut profiles, hoses and tubes with steel reinforcement we offer rapid and precise traveling-head machines to guarantee outstanding cut quality.



PLAIN SECTION GASKETS

Plain Section Gaskets

Plain section gaskets have always required a special cutting process: cutting on mandrels, a circular knife cut or cutting with a thin blade: three alternatives for an optimal solution.



SPECIAL MATERIAL

Special Material, Woven Glass Fibre, etc.

Other non-plastics materials (e.g. metal foils or woven glass fibre) can be cut very well on our machines. Make use of our experience – we can create such solutions for you.



CUTTING TECHNOLOGIES

		VARIOCUT	ST-OB	KL-BV	MBS	DYNAMAT	CCM	AUTOMATIC SINGLE-PASS CUTTING MACHINES	AUTOMATIC DRILLIN UNITS	MANDREL CUTTING MACHINES	NOTCHING STATIONS
	Punch Cut	●	●	—	●	—	○	○	—	—	○
	Shear Cut	●	●	—	●	—	—	○	—	—	○
	Draw Cut	●	●	●	●	—	—	○	—	—	○
	Blade Cut	—	●	●	●	—	—	○	—	—	○
	Hot Cut	—	—	—	●	—	—	○	—	—	○
	Rotating Cut	—	—	—	—	—	—	○	—	●	○
	Tool Cut	—	—	○	●	—	—	○	—	—	○
	Circular Knife Cut	—	—	—	—	—	●	○	—	—	○
	Impact Knife Cut	—	—	—	—	●	—	○	—	—	○
	Eccentric Cut	—	—	—	●	—	—	○	—	—	○
	Parting-Off Cut	—	—	—	—	—	—	○	—	—	○
	Drilling	—	—	—	●	—	—	○	●	—	○

● = standard, ○ = optional, — = not available | Specifications are subject to change without notice.

THREE EQUIPMENT LINES

As a result of dialogue with end-users and driven by the wishes of our customers, we have used our extensive range of cutting machine designs as the basis for the creation of three different equipment lines: »Red – Green – Blue«.

Each version uses the same basis model with the same high-performance mechanical components. The individual equipment levels are customized to the requirements of different customer groups as follows:

Red: The base model with solid and robust basic functions, a reduced specification, a lower-cost control system and a lower – but for many applications quite adequate – working speed.

Green: Stands for a complete, fully-equipped version, a control system with more operator-friendly features, higher working speeds, higher torque capability and integrated connectors for peripheral units.

Blue: Stands for a versatile and powerful version, a feature rich control system, highest working speeds, maximum torque capability and a complete set of integrated connectors for peripheral units.

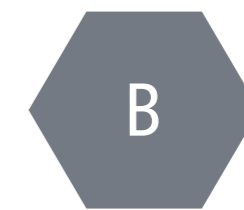
All machines with "Red-Green-Blue" equipment are marked with these symbols on the following pages



RED



GREEN



BLUE

UNIVERSAL CUTTING MACHINES

Metzner universal cutting machines are designed for automatic cut-to-length and cutting of a wide spectrum of materials. For flexible profiles, tubes, plastic pipe, lace, seals, film, labels, cables, braids and wires, our universal cutting machines deliver precise results with good cut quality and high working speeds. The KL-BV has a place on its own in the universal machine category: it is designed for precise cut-to-length of elastic and pressure-sensitive tubing.



UNIVERSAL CUTTING MACHINES

HANDY BENCH MODELS WITH OUTSTANDING PRICE/PERFORMANCE RATIO



BENEFITS

- Excellent cutting quality - we supply each machine with the optimum tools for your materials
- Simple and logical operation of many graphic displays
- Best repeat accuracy due to non-slip material transport
- Professional quality for many years of continuous industrial use



METZNER VARIOCUT



The high-performance »universal cutting machine« with excellent pulling and cutting force. The applied pressure between the transport belts is controlled pneumatically and opens and closes automatically when the machine cover is closed. Ideal for rigid materials and materials with stable shape. A choice of three cutting methods; quick-change tooling.

METZNER ST-OB



The »allrounder« with particularly gentle and sensitive adjustment of the applied pressure between the transport belts. Ideal for soft and elastic materials. We offer you the choice between stamp cutting, shear cutting and tube cutting, depending on your material.



TECHNICAL DATA

Performance Data	Metzner Variocut	Metzner ST-OB	Metzner KL-BV
Material dimension width max.	95 mm 3.74"	150 mm 8.91"	Ø 12 mm / Ø 18 mm Ø 0.47" / Ø 0.71"
Material dimension height max.	30 mm 1.18"	25mm ⁴⁾ oder 30 mm 0.98" or 1.18"	Ø 12 mm / Ø 18 mm Ø 0.47" / Ø 0.71"
Size increments	0,1 mm 0.004"	0,1 mm 0.004"	0,1 mm 0.004"
Typical repeatability exactness ¹⁾	± 0,2%	± 0,2%	± 0,2%

Technical Data			
Electrical connection	230 V, 50/60 Hz, 10 A	230 V, 50/60 Hz, 10 A	230 V, 50/60 Hz, 10 A
Compressed air connection	6 bar 87 PSI	6 bar 87 PSI	6 bar 87 PSI
Dimensions. (LxWxH)	765 x 515 x 460 mm 30 x 20 x 18"	700 x 400 x 650 mm 28 x 16 x 26"	400 x 370 x 650 mm 16 x 15 x 26"
Weight	65 kg 143 lbs	70 kg 154 lbs	65 kg 143 lbs

Red-Green-Blue Equipment	Red	Green	Blue	Red	Green	Green
Feeding speed m/min feet/sec	45 2.46	90 4.92	120 6.56	45 2.46	60 3.28	60 3.28
Cutting rate/min ²⁾	140	140	140	140	150	330
Controls ³⁾	PLC	PLC	PLC	PLC	PLC	PLC
Control display	2 lines	8 lines	16 lines	2 lines	5.7" Color (Touch)	5.7" Color (Touch)
Monitor	3~stepper.	3~stepper.	3~stepper.	3~stepper.	3~stepper.	3~stepper.

¹⁾ depending on material; minimum tolerance ± 0,5 mm/0,02" | ²⁾ at cutting length 5 mm / 0.2" | ³⁾ PLC = PLC controls with CoDeSys programming | ⁴⁾ 25 mm / 1" for ST-OB Red with 30° knife, 20 mm für ST-OB with 45° knife | Specifications are subject to change without notice.

METZNER KL-BV



The tubing specialist with unique precision and working speed for very thin, elastic and pressure-sensitive materials.



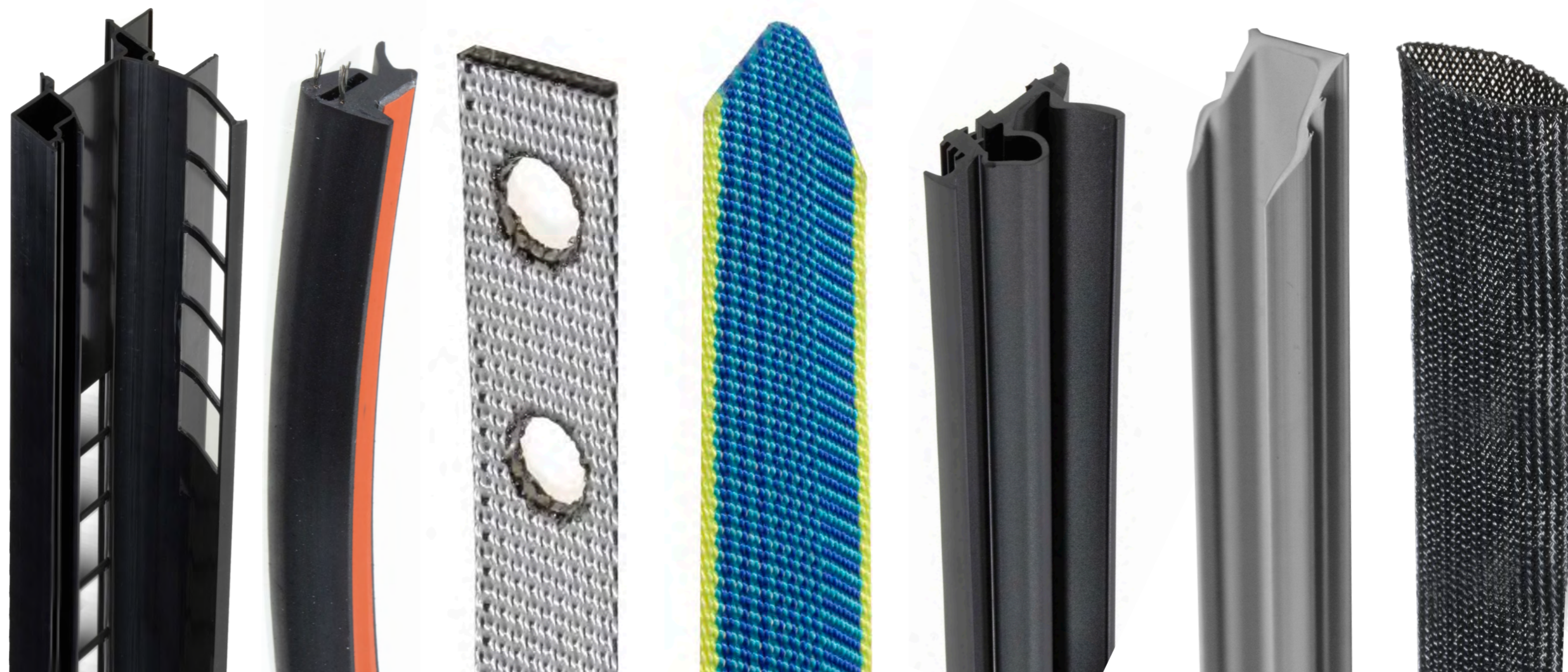
Make your Metzner cable processing machine into a complete production line. Metzner machines are optimally equipped for this.

Choose dereeling or feeding devices, winders or throw-off units, printers or marking systems - our machines are ready prepared for all these.

As pioneers of waste-free printing, we integrate one or two ink-jet printers after the cutting head.

MODULAR CUTTING MACHINES

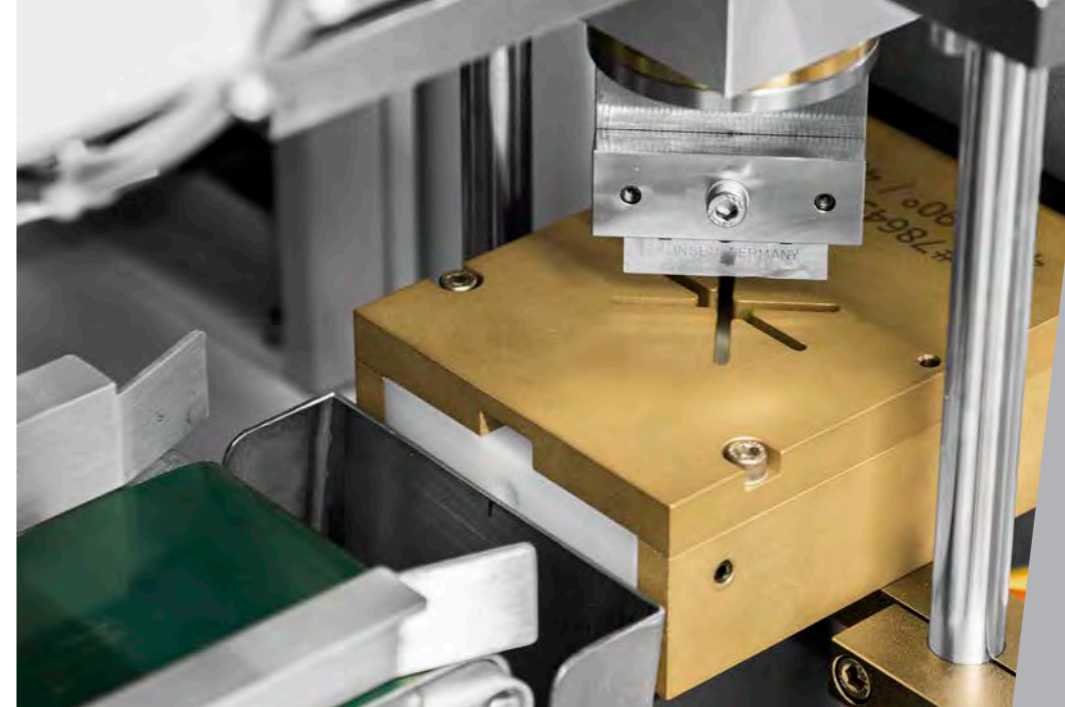
Many processing and cutting tasks are as different as the materials themselves. With the MBS system you can combine more than 130 standard components with each other - customized to your requirements. Thanks to this flexibility, there are virtually no limits to the design and implementation of requirements.



METZNER MBS-RANGE

NO CONTRADICTION FOR US: STANDARD AND CUSTOMIZED AT THE SAME TIME

An intelligent modular system gives us more than 10,000 possibilities to find the optimal solution for new requirements. A machine that adapts itself customized to the task always offers more benefits for you.



CHARACTERISTICS

- Selection from eight different cutting technologies
- Tool cut with which contours can be cut or punched out
- Coordination with customer- and material-specific requirements
- Combination of individual solutions

TECHNICAL DATA

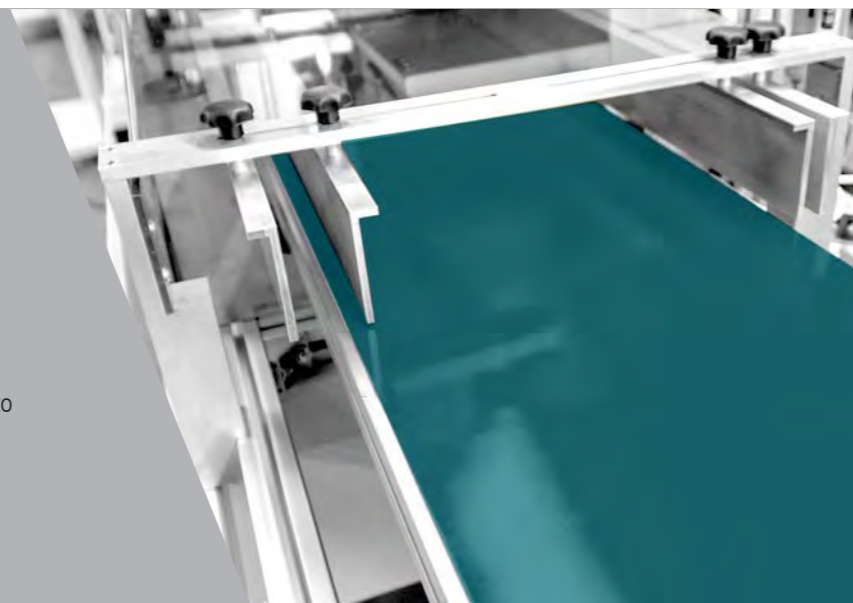
Performance Data	Metzner MBS 100	Metzner MBS 200	Metzner MBS 400
Material dimension width max.	90 mm 3.54"	190 mm 7.48"	390 mm 15.35"
Material dimension height max. ¹⁾	30 mm, 80 mm 1.18", 3.15"	30 mm, 80 mm 1.18", 3.15"	30 mm, 80 mm 1.18", 3.15"
Size increments ¹⁾	60 m/min, 150 m/min 3.28 ft/ sec, 8.2 ft/ sec	60 m/min, 150 m/min 3.28 ft/ sec, 8.2 ft/ sec	60 m/min, 120 m/min 3.28 ft/ sec, 6.56 ft/ sec
Cutting performance ²⁾	170 cuts/min	170 cuts/min	130 cuts/min
Length intervall	0,1 mm 0.004"	0,1 mm 0.004"	0,1 mm 0.004"
Typical repeatability exactness ³⁾	± 0,2%	± 0,2%	± 0,2%

Technical Data	Metzner MBS 100	Metzner MBS 200	Metzner MBS 400
Electrical connection	230 V, 50/60 Hz, 10 A	230 V, 50/60 Hz, 10 A	230 V, 50/60 Hz, 10 A
Compressed air connection	6 bar 87 PSI	6 bar 87 PSI	6 bar 87 PSI
Dimensions max. (LxWxH)	Depending on equipment	Depending on equipment	Depending on equipment
Weight	Depending on equipment	Depending on equipment	Depending on equipment

¹⁾ available as option | ²⁾ at cutting length 5 mm | 0.2" | ³⁾ depending on material; tolerance min ± 0,5 mm | 0.02" | Specifications are subject to change without notice.

Wide – Wider - Widest

Our building-block system comes in three sizes: for material widths up to 100 mm or up to 200 mm and even up to 400 mm. The belt feeds and conveyor belts are selected according to the material size.



The use of standard components makes it possible to create the MBS machines very quickly with very little further development. Modular cutting machines are thus not only matched to processing requirements but are also extremely economical and efficient. In addition, all MBS machines are equipped as standard to be fully integrated with peripheral systems such as take-off and feed mechanisms, throw-off devices and winders, printers and marking units.

EXCHANGEABLE TOOLS

For MBS machines, Metzner offers more than ten different types of cut. And it gets better. Metzner MBS machines can be equipped basically with one, two or three tools. This gives many more processing possibilities, integrated in one automatic work run. Below are several examples:



STAMP CUT WITH AUTOMATIC ANGLE SETTING

Program -controlled automatic setting of different cutting angles giving a very precisely cut soft rubber gasket profile. For accurate bevels or exact 90° cuts.



TUBE CUT

For high-quality cutting of tubes, the cutting angle, the knife profile and the blade thickness are all important. These characteristics and the exact measure of cutting force combine to make the tube-cut an excellent solution as well.



CONTOUR CUT

Some tasks require a concave or convex cut. This tool provides both and in addition circular stamping out of the material centre. Basically the combination of three tools in one. If you have unusual requirements, we have the solution.

ECCENTRIC DRIVE CUTTING MACHINES

More performance. More speed. That calls for the eccentric cam. When pneumatic tools reach their limits, the eccentric cam cutter opens new cutting performance possibilities.



ECCENTRIC CAM TOOLS WITH ELECTRIC DRIVE

With this high-performance tool, up to 400 cuts per minute can be achieved in stop-start operation. With this type of operation, the transport of the material is completely stopped before every cut to enable a precise right-angle cut to be made. Only Metzner can offer this type of performance.

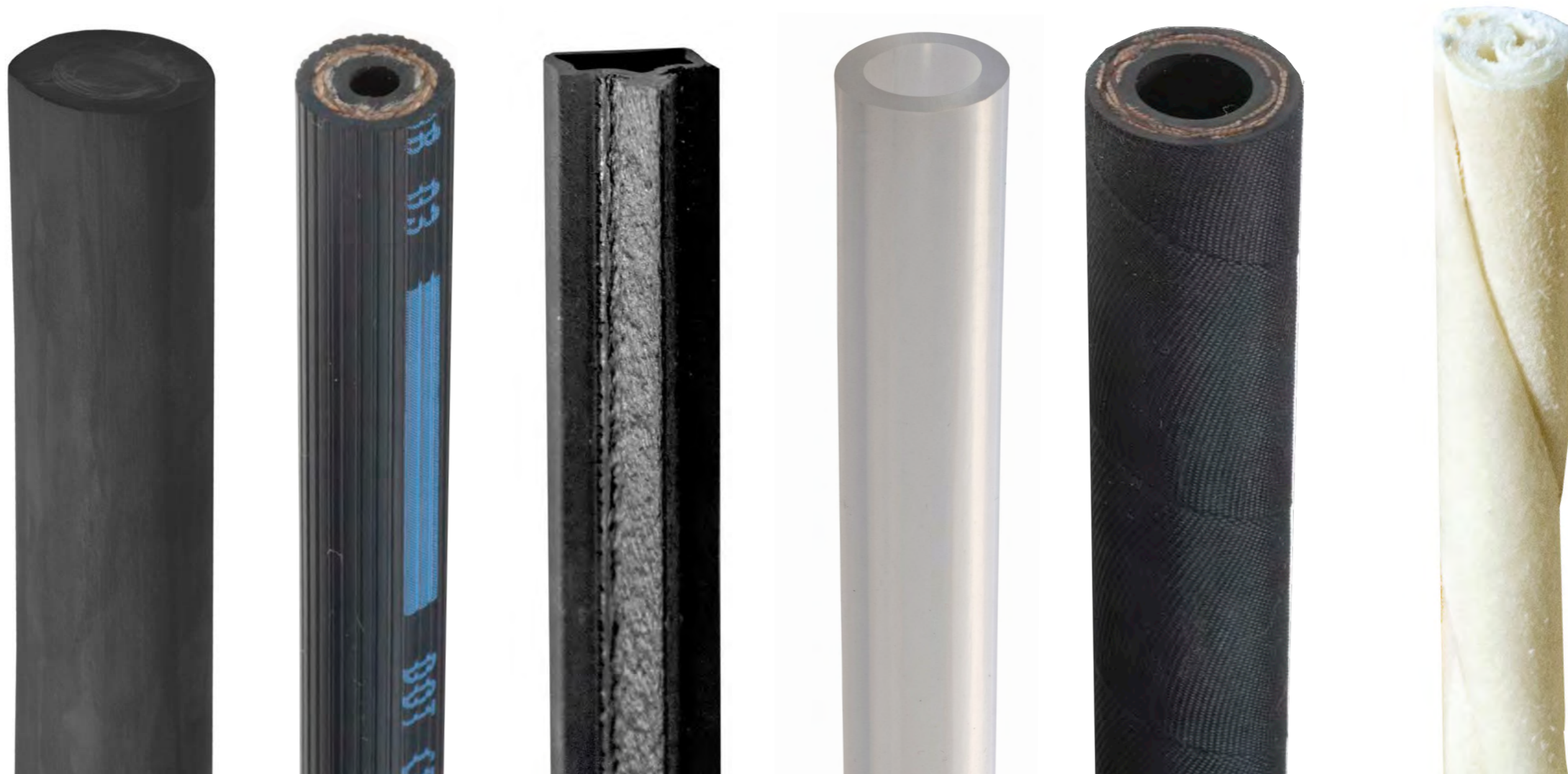
The basic idea: With the Metzner ST 25, instead of a pneumatically driven cutting tool, we use an electrically-driven eccentric mechanism bearing the cutting tool. In this way, we can achieve ground-breaking guillotine cutting performance of up to 800 cuts/minute.

A beneficial side effect: the electric drive enables the ST 25 to work very quietly, making this model the choice for customers in low-noise environments.



FLY-KNIFE CUTTING MACHINES

Highest cutting rates of up to 4,000 cuts per minute with one knife and, if required, even higher speeds with multiple knives. A choice of »Stop & Go« or continuous cutting, different machine sizes for materials up to 120 mm diameter, knife lubrication and peripherals interfacing as standard. The Dynamat machines process elastic materials with precision and high repeatability – from silicone tubing for medical applications, textile-reinforced hoses to profiles. It makes no difference whether the material comes from a single extruder or is unwound from a reel.



METZNER DYNAMAT-RANGE

HIGH-SPEED CUTTING: YOU DETERMINE THE REQUIREMENTS, WE OFFER THE SERVICE

DYNAMAT 20



- Compact bench model for material up to 20 mm diameter
- Equipped for micro-mist knife lubrication
- Belt conveyor 30mm wide, electrically adjustable



DYNAMAT 40



- Fly-knife cutting machine for material up to 40 mm diameter
- Equipped for micro-mist knife lubrication
- Integrated take-off belt as standard
- Belt conveyor 100 mm wide, centrally adjustable via handwheel

DYNAMAT 80



- The solution for large diameters up to 80 mm
- Equipped for micro knife humidification
- Extended safety equipment
- Integrated discharge conveyor
- Belt conveyor 100 mm or 200 mm wide, centrally adjustable with handwheel



DYNAMAT 120



The Dynamat 120 offers the same features as the Dynamat 80 with the exception that it processes diameters up to 120 mm.

TECHNICAL DATA

Performance Data	Metzner Dynamat 20	Metzner Dynamat 40	Metzner Dynamat 80	Metzner Dynamat 120
Material dimensions width max.	20 mm 0.79"	40 mm 1.57"	80 mm 3.15"	120 mm 4.72"
Material dimensions height max.	20 mm 0.79"	40 mm 1.57"	80 mm 3.15"	120 mm 4.72"
Length interval	0,1 mm 0.004"	0,1 mm 0.004"	0,1 mm 0.004"	0,1 mm 0.004"
Typical repeatability exactness ¹⁾	± 0,2%	± 0,2%	± 0,2%	± 0,2%

Technical Data	Metzner Dynamat 20	Metzner Dynamat 40	Metzner Dynamat 80	Metzner Dynamat 120
Electrical connection	3~400 V, 50/60 Hz, 10 A	3~400 V, 50/60 Hz, 10 A	3~400 V, 50/60 Hz, 10 A	3~400 V, 50/60 Hz, 10 A
Dimensions (LxWxH)	600 x 510 x 700 mm 24 x 20 x 28"	2100 x 838 x 1650 mm 83 x 33 x 65"	2500 x 600 x 1400 mm 98 x 24 x 55"	3100 x 1000 x 1800 mm 122 x 39 x 71"
Weight	60 kg 132 lbs	200 kg 441 lbs	315 kg 694 lbs	400 kg 882 lbs

Red-Green-Blue Equipment	Red	Green	Blue	Red	Green	Blue	Red	Green	Blue	Red	Green	Blue
Feeding speed m/min feet/sec	30 1.6	45 2.4	60 3.3	30 1.6	60 3.3	120 6.6	45 2.4	60 3.3	120 6.6	45 2.4	60 3.3	120 6.6
Cutting rate »continuous cuts/min ²⁾	4000	4000	4000	3200	3200	3200	3200	3200	3200	3200	3200	3200
Cutting rate »Stop & Go« cuts/min ²⁾	—	400	800	—	400	800	—	400	800	—	400	800
Integral interface for peripheral equipment	—	●	●	—	●	●	—	●	●	—	●	●
Control via PC und software	—	●	●	—	●	●	—	●	●	—	●	●
Integration into factory IT-network	—	●	●	—	●	●	—	●	●	—	●	●
Control ³⁾	PLC	PLC	PLC	PLC	PLC	PLC	PLC	PLC	PLC	PLC	PLC	PLC
Motor	Red: servo motor / Green: servo motor / Blue: servo motor											
Belt feed	Red: three-phase drive / Green: stepper motor / Blue: servo motor with integrated length measuring system											

¹⁾ depending on material; tolerance min ± 0,5 mm | 0.02" | ²⁾ at cutting length 5 mm | 0.2" | ³⁾ PLC= Metzner PLC-controls with color touch-screen (5,7") and CoDeSys programming | ● = standard, ○ = optional, — = not available | Specifications are subject to change without notice.

The cutting knife works in a fully enclosed working space. This not only gives working protection but also allows both wet or dry cutting. With certain rubber compounds, it is essential that the knife is moistened and cooled to achieve a quality cut. Metzner Dynamat machines are equipped with this facility as standard.



CIRCULAR KNIFE CUTTING MACHINES

The CCM machines are designed specifically to meet the material requirements of metal-reinforced sealing profiles and tubes as well as sponge rubber seals. The circular knife provides the correct conditions for penetration and cutting of rubber and metal and gives extremely good cutting quality by the combination with other parameters such as optimized material in-feed, knife rotation speed and direction, knife penetration rate and lubrication.



METZNER CCM-RANGE

RELIABLE PROCESSING OF STEEL-REINFORCED PROFILES AND HOSES



METZNER CCM 2

The Metzner CCM 2 circular knife cutting machine processes steel-reinforced profiles and tubes as well as sponge rubber materials.

- Equipped with a dry cut and dust extraction (optional micro-knife lubrication for blade cooling available)
- Integral take-off belt (length 1300 mm) is standard
- Machine can be used on-line or off-line

METZNER CCM 4/ CCM4 GASKET

Special feature of the CCM 4: It has both, wet and dry cut to enable different cutting preferences.

- Equipped with water spray cooling/lubrication or micro-mist knife lubrication and interfacing for dust extraction
- Optional punch for materials without steel-reinforcement
- Prepared for extraction

CCM 4 Gasket

- Cutting flat gaskets with circular knives
- For hoses with max. 30 or 50 mm diameter
- Hose length from 1 mm to 1000 m
- Cutting capacity of 500 cuts/min



TRAVELLING-HEAD CUTTING MACHINES



CCM 6

Travelling-head and similarly stationary circular cutting machines for in-line processing of rigid, semi-rigid and flexible profiles and tubes with metal carrier.

- Automatic synchronisation with the line speed
- Outstanding dynamics for the very long and extremely short processing times
- Versatile expansion options to match changing application requirements
- Integral take-off belt with flexible length for taking away cut parts
- Machine can be used in-line

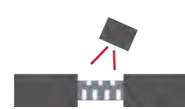
Thanks to a servo-linear drive as standard for the working tool carrier, the travelling-head machines achieve a very long processing time of several seconds for outstanding end-cut quality. At the same time, a very short cycle time is achieved for the processing of short part lengths at high line speeds. In addition, there is a servo-linear drive for the circular knife penetration with varying penetration speeds for different parts of the material section, for example a careful knife entry speed or a knife exit at lower speed to reduce the formation of sprags.

We also offer a great choice of knife rotation speed range alternatives, from 2,000 - 6,000 rpm or 4,000 -12,000 rpm. In this way, there are no limits to the use of different types of circular knife types, including clamp/cut in traveling head operation. For complete in-line processing of rigid plastic profiles, our traveling-head machines offer a powerful platform that can be adapted to many tasks by the employment of rapid-change tooling or drilling and milling modules.



ADDITIONAL EQUIPMENT OPTIONS

As one of the leading manufacturers of cutting machines, we offer you – alongside path-finding basic functions – seven further possibilities to use a CCM machine to increase your production:



1. GAP DETECTION

The optional gap detection positions the cut exactly in the gap in the metal carrier and thus gives a snag-free cut. This improves the cut and increases the life of the circular knife between sharpenings.



2. PROFILE CLAMPING

Profile clamping provides an optimal fix of the product during the cut and by using abrasive discs the cut surfaces are further improved to provide optimum conditions for joining the sealing profiles, without the need for any subsequent post-cutting work such as de-spragging.



3. ADDITIONAL CUTTING TOOL

The circular knife cutting machines CCM 4 and CCM 6 are equipped for the use of an additional cutting tool. This makes the Metzner circular cutting machine a real all-rounder that can also be used for materials without steel reinforcement.



4. CUTTING BASED ON MARKING

Metzner offers the required solution for cutting exactly at a marked position. A sensor recognises the marked position and directs the cut precisely to a point at a chosen distance from a particular feature of the profile.



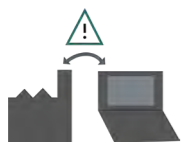
5. AUTOMATIC SCRAP CUT

For automatic quality control, this option offers an independent scrap cut facility for faulty material areas and avoids the processing of parts which fail to meet the required specification.



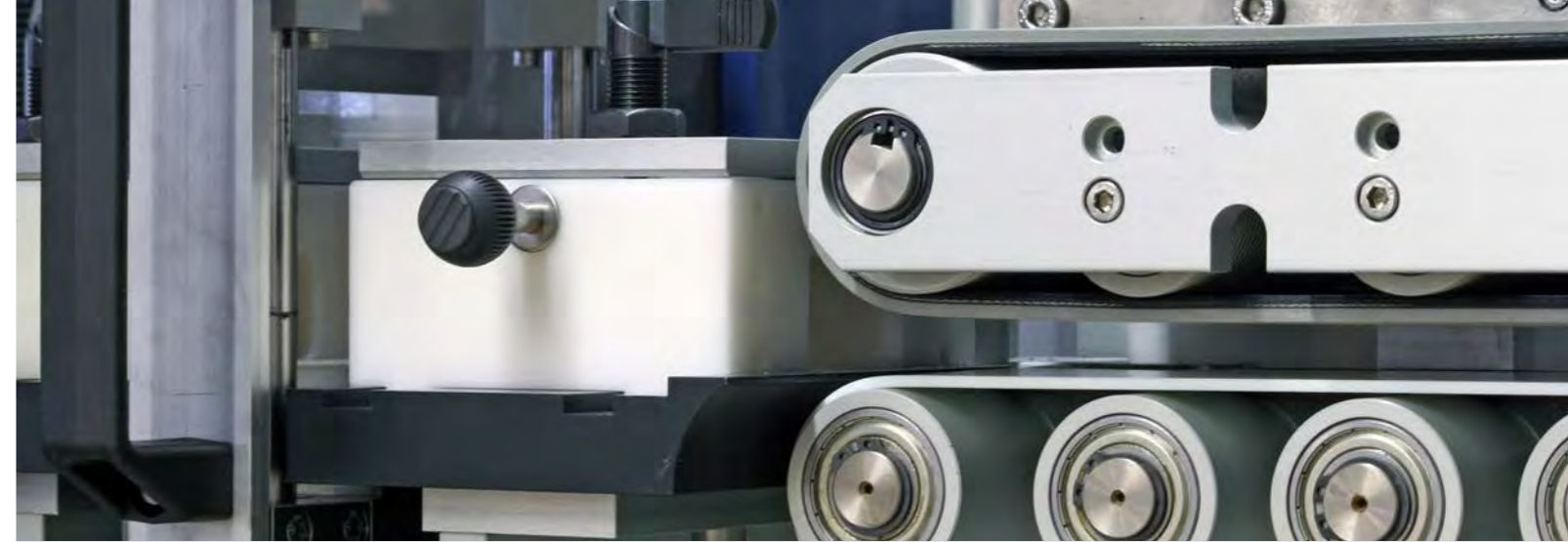
6. IT-NETWORK

With an additional communication element, the CCM machines send production status information to an external production management station and can, if required, be operated fully remotely with Profibus connectors in Industry 4.0.



7. E-SERVICE MODULE

With the E-Service Module, the Metzner CCM machines receive an unique IP address or access to a mobile radio network. In this way, the facilities of Metzner service can effectively and economically support you in fault-finding, spare part advice and repair recommendations.



TECHNICAL DATA

Performance Data	Metzner CCM 2	Metzner CCM 4	Metzner CCM 6
Materialdimension width max. (WxH)	100 x 30 mm 3.94 x 1.18" ¹⁾	100 x 30 mm 3.94 x 1.18"	100 x 30 mm 3.94 x 1.18"
Materialdimension height max. (WxH)	○	100 x 30 mm 3.94 x 1.18"	100 x 30 mm 3.94 x 1.18"
Circular knife rotation speed	2000-3000 or 4000 - 10000	1000-6000 or 4000 - 10000	1000-6000 or 4000 - 10000
Circular knife penetration speed max.	30 m/min 1.64 ft/sec	30 m/min 1.64 ft/sec	30 m/min 1.64 ft/sec
Size increments	0,1 mm 0.004"	0,1 mm 0.004"	0,1 mm 0.004"
Typical repeatability exactness ²⁾	± 0,1% - ± 0,3%	± 0,1% - ± 0,3%	± 0,1% - ± 0,3%

Technical Data	Metzner CCM 2	Metzner CCM 4	Metzner CCM 6
Electrical connection	3~400 V, 50/60 Hz, 16 A	3~400 V, 50/60 Hz, 16 A	3~400 V, 50/60 Hz, 16 A
Compressed air connection	6 bar 87 PSI ³⁾	6 bar 87 PSI ³⁾	6 bar 87 PSI ³⁾
Dimensions (LxWxH)	2060 x 750 x 1680 mm 81 x 30 x 66"	2000 x 1300 x 2300 mm 79 x 51 x 91"	4370 x 1500 x 2200 mm 172 x 59 x 87"
Weight	400 kg 882 lbs	900 kg 1984 lbs	1500 kg 3307 lbs

Red-Green-Blue Equipment	Metzner CCM 2	Metzner CCM 4	Metzner CCM 6
Feeding speed	120 m/min 6,56 ft/sec	120 m/min 6,56 ft/sec	60 m/min 3,28 ft/sec
Cutting rate »circular knife cut« max. (cuts/min)	100 ⁴⁾	100 ⁴⁾	65 ⁵⁾
Cutting rate »die cut« max. (cuts/min)	170 ⁴⁾	170 ⁴⁾	65 ⁵⁾
Controls ⁶⁾	S7	PLC	SPS
Cooling water circulation	—	●	—
Minimum quantity lubrication	○	○	○
Integral interface for peripheral equipment	○	○	○
Integration into factory IT network	○	○	○

Further equipment possibilities	Metzner CCM 2	Metzner CCM 4	Metzner CCM 6
Gap detection	●	●	●
Profile clamping	●	●	●
Additional cutting tool	○	●	●
Length measuring system	●	●	●
Cutting based on marking	●	●	●
Automatic scrap cut	●	●	●
E-Service-Module	●	●	●

¹⁾ additional optional dimensions possible | ²⁾ depending on material; tolerance min. ± 0.5mm | 0.2" | ³⁾ only necessary with die cut | ⁴⁾ at cutting length 100 mm | 3.94" | ⁵⁾ at cutting length 300 mm | 11.81" | ⁶⁾ PLC = Metzner PLC-controls with 5.7" Color Touch-Screen and CoDeSys programming, S7 = Siemens S7 PLC-controls with 5.7" Color Touch-Screen | ● = standard, ○ = optional, — = not available | Specifications are subject to change without notice.

AUTOMATION WITH METZNER

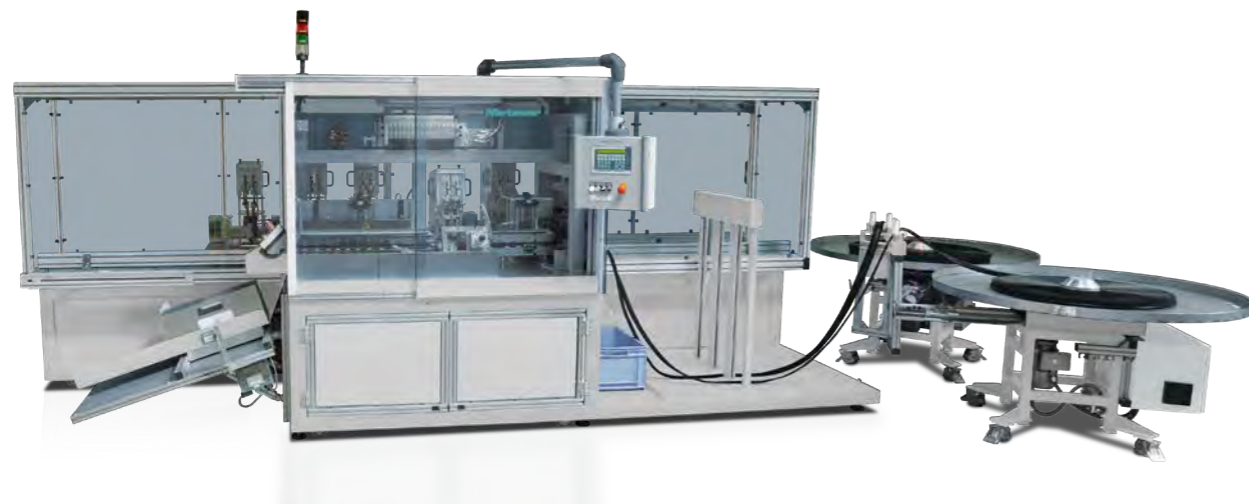
Often, in industrial processing applications, it is necessary to integrate several processes in a single working pass. That is the world of our complex machinery lines. Cutting, drilling, milling, sawing or stamping combined in one line and achieving different angles or contours and - where necessary - also automatic changeover between different tools.



AUTOMATIC SINGLE-PASS CUTTING MACHINES

ACHIEVING CONTOUR CUT AND COMPLETE PROCESSING IN ONE PASS

Sealing profiles for the automobile industry, but also for applications in furniture, thermal insulation for buildings or in household goods often require complex cutting processes, as these illustrations show. Process such as drilling and milling can also be integrated in these one-pass machines.



At the start of production, an built-in barcode scanner reads the data from the production paperwork, activates the saved parameters and shows the required tooling and material on the operator panel display. The barcode also contains the required quantities and lengths to be produced. Thanks to well thought-out quick-change systems, the necessary tooling and material changeover is performed rapidly – generally within 30 seconds – to minimise downtime. The integral tool coding system then independently checks to ensure that the correct tooling is in place.



AUTOMATIC DRILLING UNITS

FOR PRECISE DRILLING

Sealing systems often require ventilation drillings or location holes. For this purpose, Metzner drilling units are employed. We deliver the following solutions to match your requirements:



- In-line eccentric-drive drilling station for regular drillings at constant pitch
- In-line traveling-head drilling station for constant or variable pitch drillings
- In-line »Drilling Beam« to drill all holes for a complete profile at different pitches at once
- Off-line for drilling in combination with end cutting

Metzner drilling units are distinguished by drill spindles with very high speeds up to 60,000 rpm. This gives precision drillings with short cycle times. The drill geometry ensures that the waste generally falls to the outside. Pneumatically driven drilling spindles have the advantage of lower investment cost but have higher running costs.

Electrically driven drilling spindles cost less to run but are a more expensive investment. In addition, Metzner supplies laser drilling systems for in-line operation. Lasers are more expensive but offer the advantage of processing variable hole pitches during automatic running and can be employed in changeover to different profiles.



MANDRELL CUTTING MACHINES

PRECISION MACHINES FOR CUTTING PLAIN SECTION GASKETS

Metzner mandrel cutting machines of the SR range are precision machines for cutting gasket rings from moulded or extruded tubes.

To produce the plain section gaskets, rubber tubes – already cut to length – are stretched onto mandrels. Loading and unloading of the tubes onto the mandrels is done quickly by a special unit and without any particular skill being required. Then the mandrels are automatically clamped between rotating centres and the production is started. A knife carriage travels along the tubes, cutting the rings to the required length, either with stiletto-type tools or circular knives. This process fully brings together high output and the highest cut quality.



NOTCHING STATIONS

SOLUTIONS FOR FLEXIBLE PRODUCTION QUANTITIES

For these applications, Metzner combines its own tool-making capability with its experience in machine building to create economical and functional work stations for precision end-cutting with matrix tools and saw units for rigid and flexible profiles. Depending on the task in hand, single, multiple or interchangeable tools are used. With a special tooling arrangement, Metzner also offers the flexibility to change from manual operations to automatic cycle machinery. In this way, our customers are able to flexibly accommodate changing quantity demands and choose the most economical method of production.



HYDRAULIC OFF-LINE NOTCHING STATION



FEATURES

- Off-line notching and finishing of metal reinforced rubber profiles
- Powerful hydraulic tools for precise cutting of very rigid materials
- Motorized (electrical) cutting tools that move in place after safe and comfortable loading
- Motorized tools with adjustable cutting angle to process several profile types

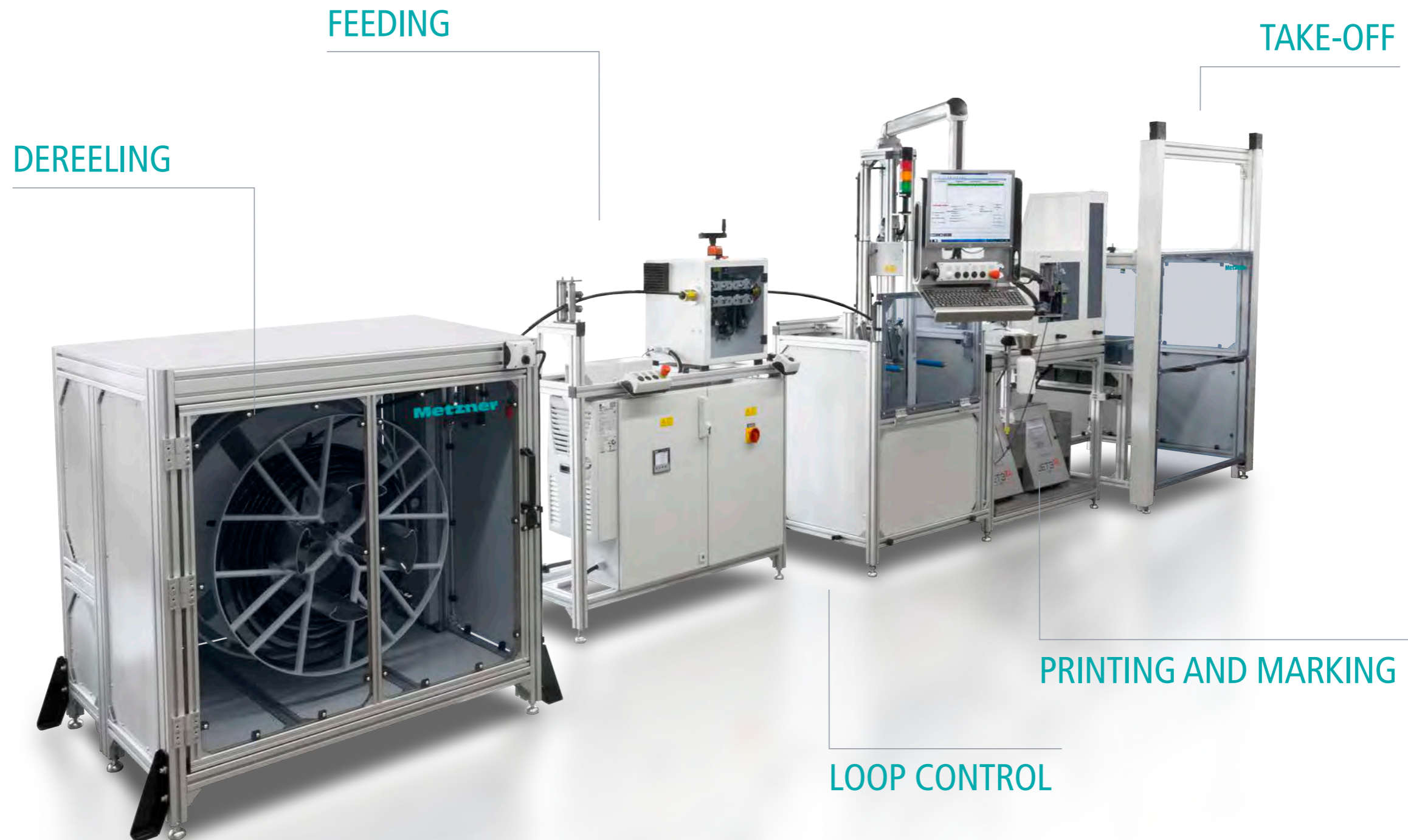
TECHNICAL DATA

Performance Data	Metzner SR 85	Metzner SR 200
Tube outer diameter max.	85 mm 3.35" (7 tubes), 170 mm 6.69" (4 tubes)	200 mm 7.87" (2 tubes)
Tube inner diameter max.	20 mm 0,79"	20 mm 0,79"
Tube length max.	540 mm 21.26"	635 mm 25"
Distance between centers max.	650 mm ± 5 mm 25.6" ± 0.2"	730 mm ± 5 mm 28.74" ± 0.2"
Numbers of tubes	4 to 7 tubes	2 tubes
Cutting rate max. ¹⁾	4 x 100 cuts/min, 7 x 100 cuts/ min	1 x 140 cuts/min
Feeding	0,3- 100 mm 0.012 - 3.94"	0,3- 100 mm 0.012 - 3.94"
Size increments	0,01 mm 0.0004"	0,01 mm 0.0004"
Typical repeatability exactness ²⁾	± 0,2%	± 0,2%
Reverse motion speed	6 m/min 0,33 ft/sec	6 m/min 0,33 ft/sec
Tube rotation	600 - 3500 U/min	600 - 3500 U/min
Technical Data	Metzner SR 85	Metzner SR 200
Electrical connection	3~400 V, 50/60 Hz, 25 A	3~400 V, 50/60 Hz, 25 A
Dimensions (LxWxH)	2800 x 1320 x 1900 mm 110 x 52 x 75"	2600 x 800 x 1700 mm 103 x 31.5 x 67"
Weight	2300 kg 5071 lbs	1300 kg 2866 lbs

¹⁾ at cutting length 5 mm | 0.2" | ²⁾ depending on material; tolerance min. ± 0,5 mm | 0.02" | Specifications are subject to change without notice.

PERIPHERAL EQUIPMENT

As well as high-quality processing machinery, Metzner also offers quick, product-friendly and economical peripheral equipment to extend your cutting machine into an automatic processing line. Thanks to the wide spectrum of integrable systems, you can automate your cutting machine to suit your particular requirements. From a simple dereeler, right up to fully-automated production, we can offer an optimal solution to increase your productivity.



DEREELING AND FEEDING

PROBLEM-FREE DEREELING AND FEEDING OF DIFFERENT MATERIALS

Irrespective of how your material is presented, on a roll or a coil, as a ring, bundle or spirally wound, we provide an effective means of receiving and dereeling it. Directly after the dereeling unit, which generally does not have its own drive, there is a material feeding device to draw the material from the dereeling unit.

Depending on the necessary pulling force and the width of the material, the following feeding devices are employed:

METZNER DEREELING TABLE

Dereeling platform with integral drive for wound and elastic materials. Available with coil diameter: 1000 mm / 1200 mm / 1600 mm.



PF 235.30

The Metzner PF 235.30 material feeder ensures draught-free material feeding to your processing machine. The built-in sensor control regulates the unwinding speed of a material drum, independent of the converting or cutting machine, with up to 180 m/min.

METZNER CATERPILLAR HAUL-OFFS

With precision speed control and automatic fine adjustment of closing pressure.



METZNER DRS-RANGE

PASSIVE DEREELING UNITS IN DIFFERENT VERSIONS

The passive material dereelers are qualified for feeding of tubes with low tension sensitivity and applications with low acceleration.

DRS 1.600

Motorized high-performance dereeler for automatic and tension-free material feeding for drum diameters up to 800 mm and 300 kg material weight.



DRS 5

The passive unwinding model with mechanical brake for material rings with a diameter of 800 mm or 1000 mm and a weight of max. 50 kg.

DRS ECONOMY

The passive unwinding model with mechanical brake for two materials on top of each other.



DRS 2.850

The practical solution for unwinding wound materials up to 850 mm outer diameter and a spool width of max. 250 mm.

DRS 3.1000

The passive handling and unwinding device for cable drums up to 890 mm width and 1000 kg weight.



LOOP CONTROL

TROUBLE-FREE MATERIAL FEED TO THE MACHINE

Whether for in-line or off-line operation, loop controls give reliable, contact-free regulation of the cutting machine speed or the take-off roller unit. In combination with the take-off unit, a loop control provides even and tension-free material feed to the cutting machine. For elastic materials, this is an important prerequisite for high length precision of the cut output.

3-POINT LOOP CONTROL

Depending on which sensors along the regulating length detect the material, the cutting machine (or the take-off unit) works with either reduced or maximum speed. In the unlikely event that tension occurs during the material transport, the loop control can be depended upon to switch off the machine to avoid tearing of the material or processing with tension.



10-POINT LOOP CONTROL

This Loop Control PLUS guarantees particularly fine speed regulation with ten different measuring locations along the length of the regulating zone. At each measuring point, the speed is either increased or reduced by approx. 10%. With its robust steel frame and heavy baseplate, this version is suitable for demanding working environments.

10-POINT LOOP CONTROL WITH EXTENDED MATERIAL ACCUMULATOR

This version provides harmonious and reliable working with highly dynamic processes and varying associated machinery acceleration rates, thanks to an accumulator volume of approx 2000 mm.



PRINTING AND MARKING

ECONOMICAL SOLUTIONS FOR MATERIAL IDENTITY MARKING AND PRINTING

For product identification and to determine assembly positioning, profiles, tubes and other products often have to be printed with text or marked. Due to these varying requirements, Metzner offers four different printing systems.

INK-JET PRINTING

- Very good text contrast thanks to choice of ink colour
- Optimal software matching to Metzner processing machines
- Printing »on the fly« without any lost time
- Self-diagnosis system with faults displayed as text
- Freely programmable graphics, barcodes and text
- Modern touch-screen operation or PC keyboard



THERMAL-TRANSFER-PRINTING

- Excellent quality thanks to high resolution: 300 dpi
- Optimal software matching to Metzner processing machines
- Patented printing technology
- Variable text positioning: 0°, 90°, 180° and 270°
- Freely programmable graphics, barcodes and text
- Time needed for print: approx. 1.5 seconds



LASER-MARKING

- Excellent print quality - excellent legibility
- Printing »on the fly« without any lost time
- Freely programmable graphics, barcodes and text
- Print management directly from the Metzner machine
- Works without consumables



MARKING

- Simple fixing and operation
- Optimal software matching to Metzner processing machines
- Free choice of bands
- Adjustment for up to four adhesive tape turns



TAKE-OFF AND COILING

HANDLING IN SEQUENCE AND WITHOUT DAMAGE

After the rubber and plastics processing, precise take-off, sorting or coiling of the products is a logical step in the quality assurance of the total process. For this reason, our take-off and winding units have the task of carefully laying the finished parts tidily in collecting trays.

We differentiate between take-off units with cross conveyors – also known as lateral discharge units – and those without cross conveyors. To increase length precision, Metzner take-off units can be fitted with an end-sensing function, whereby the cut is made precisely at a point that is monitored by a sensor. The take-off of the parts is performed, depending on the material, either by a pusher, a brush device or fully contact-free with compressed air. Metzner take-offs are available in lengths of 1 m to 5 m.

METZNER CROSS CONVEYORS

CROSS CONVEYOR ECONOMY

Autonomous cross conveyor with shelf to the front without installation effort.



HIGH-SPEED CROSS CONVEYOR

Profiles are lifted not pushed onto the cross conveyor belt.



CROSS CONVEYOR PROFESSIONAL

High-speed take-off by double ejector with front and rear take-off and integrated end sensing function.

METZNER TAKE-OFF UNITS

ECONOMY TAKE-OFF UNIT

- Take-off to front with push-off
- End-sensing available as option



PROFESSIONAL TAKE-OFF UNIT

- Take-off forwards and backwards with guide channel
- Integral end-sensing
- Pneumatic lift function for control and immediate fault correction

METZNER TUBE COILER

- Tube ring winder for tubes up to 350 mm diameter
- With built-in tension monitoring and tension control to avoid material stretch
- Mandrels can be lowered for easy unloading



EFFECTIVE SOFTWARE SOLUTIONS

For effective rubber and plastics processing, Metzner offers powerful software solutions that have been proved in practice. All our software packages provide comprehensive functionality such as, for example, the supervision and processing of complex parts lists for materials with different lengths and diameters as well as individual printing and marking.

Software solutions in local mode control the working process of the machine and all its peripheral equipment. All the process parameters are collected via an intuitive, logical and easy-to-operate unit and saved in a database. Tried and tested assistance functions and help menus support the entering of the data. Data collection takes place independently of the processing machine, which can continue its work unaffected.

Many companies control their production via company-internal IT networks. In such cases, Metzner offers full integration into the existing IT network. All production orders are transferred on-line or in their own data structure to the machine control system for processing. In return the machines send back information for production control. The operator thus receives a real-time overview of the current machine condition, the production status and all the completed and remaining processes.

TOUCHSCREEN

Operation and input via touchscreen



PRODUCTION

Most important functions such as start/stop, current operating status and other production information



PRODUCT MENU

Creating product-specific parameters and data



SYSTEM MENU

Management of machine-specific settings



MANUAL OPERATION

Manual operation/ control/ procedure of the individual actors/ axes/ functions



INDIVIDUAL SOLUTIONS

Complex processing lines for rail vehicles or challenging solutions for cutting of automobile sensor cables – at Metzner we satisfy our customers by our competence in finding solutions for their specific requirements.

For applications that require functionality over and above those of the standard machines, we plan, develop and manufacture customer-specific solutions. In this way, and based on our long years of experience as a machine-builder for rubber and plastics processing, completely individual solutions are created and matched to each application, so that they perform under highly demanding conditions.

Metzner offers total responsibility for the entire development process, from initial analysis and advice through to the successful delivery. On the following pages, we present several customer-specific solutions and processing lines as examples. Discover some interesting ways to approach your own applications!



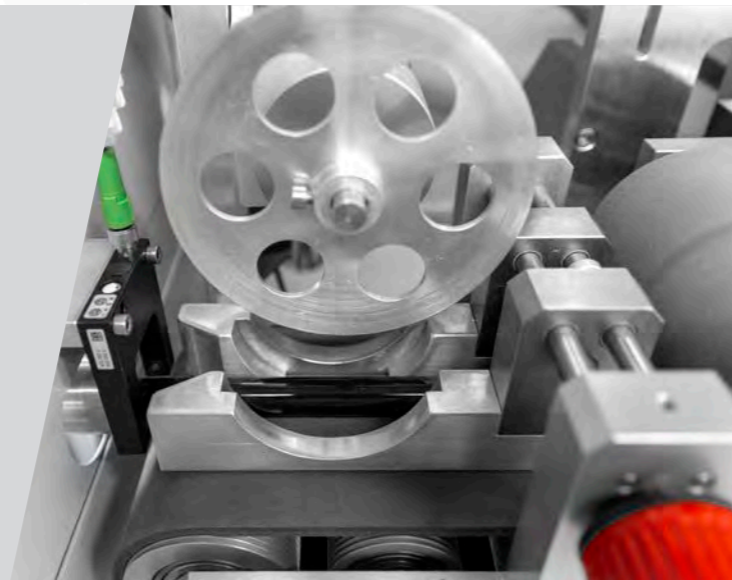
AUTOMOTIVE - POWERTRAIN HOSES

AUTONOMOUS BATCH PRODUCTION WITHOUT OPERATOR



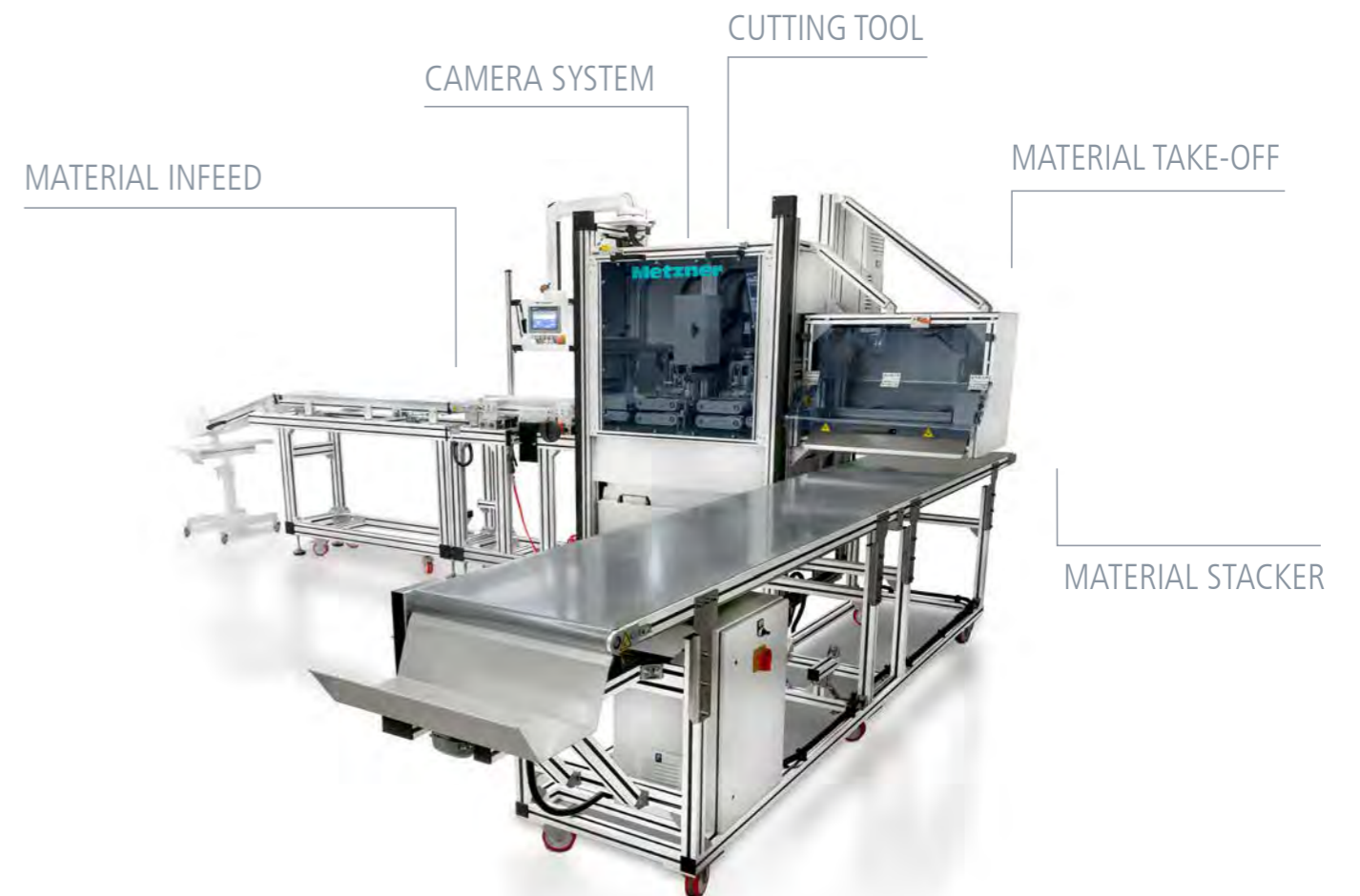
PARTICULAR BENEFITS

- Twin dereeling unit for material changeover without downtime
- Best length accuracy by slip-free material transport with integrated monitoring
- Data storage of all piece recipes for immediate production readiness
- Lettering with two inkjet (or laser) printers for text, figures and graphics
- Automatic removal and storage of finished tubes



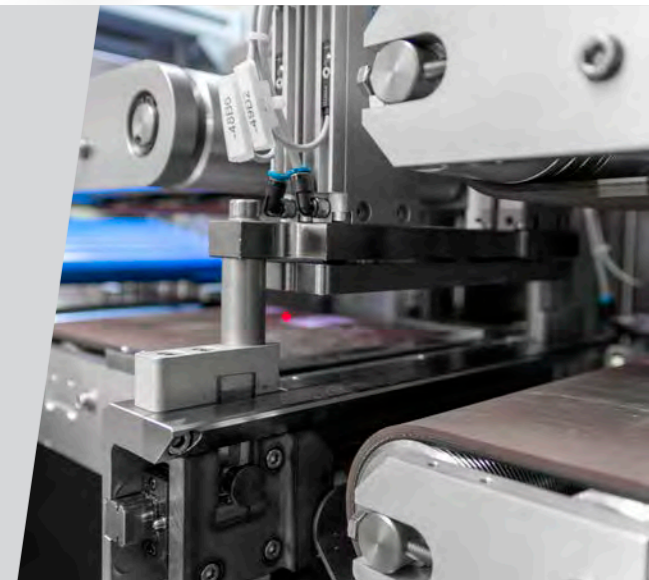
AUTOMOTIVE - AIR SUSPENSION SYSTEMS

CAMERA-CONTROLLED PRODUCTION OF FABRIC REINFORCED BELLOWS



PARTICULAR BENEFITS

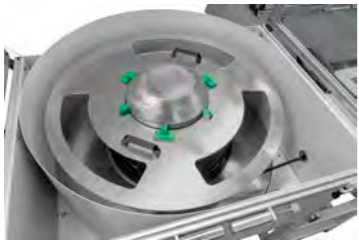
- Automatic material infeed of pieces
- Independent detection of material start and end with automatic cut off and scrap discharge
- Detection and storage of traceability labels
- Material measurement after infeed and automatic adjustment of the cut angle to provide guaranteed accurate 90° cut
- Unique cut process specially for the requirements of repeated unvulcanised, fabric-reinforced tubes up to 200 mm width



COMMERCIAL VEHICLE - PA-BRAKE HOSES

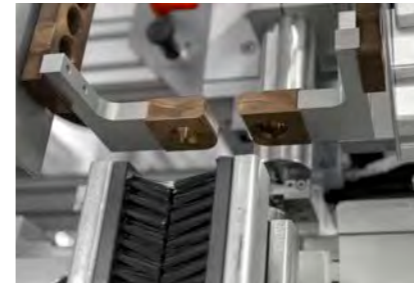
JUST-IN-TIME MANUFACTURE FOR SERIES PRODUCTION OF SINGLE-PART ORDERS

DEREELING



PRINTING WITH TWO OR THREE INKJET PRINTERS

PRINTING AND MARKING



BUNDLING



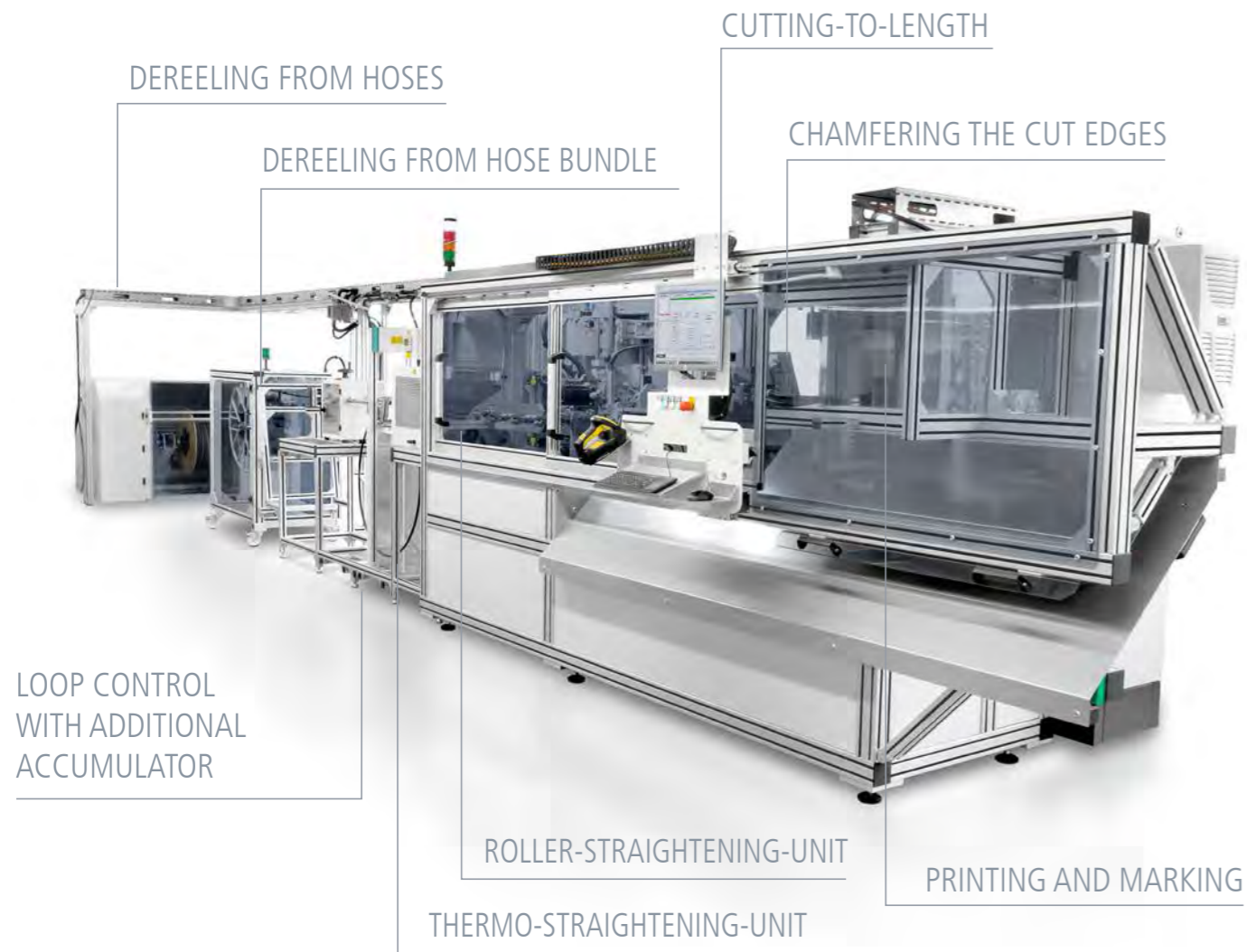
AUTOMATIC MATERIAL CHANGEOVER
FOR EIGHT DIFFERENT TUBES

PARTICULAR BENEFITS

- Production speed up to 1.5 m/sec
- Application of insertion marking on both tube ends with +/- 1 mm accuracy
- Printing with two or three inkjet printers
- Alternative laser printing
- Positioned quality printing on the material of up to 1.3 m/sec
- Complete integration in MES system with automatic order transfer and notification
- Automatic bundling for each delivery address on the assembly line
- Just-in-Time production without buffering
- Different delivery amount capacities with max 4,000 – 5,000 tubes/ shift

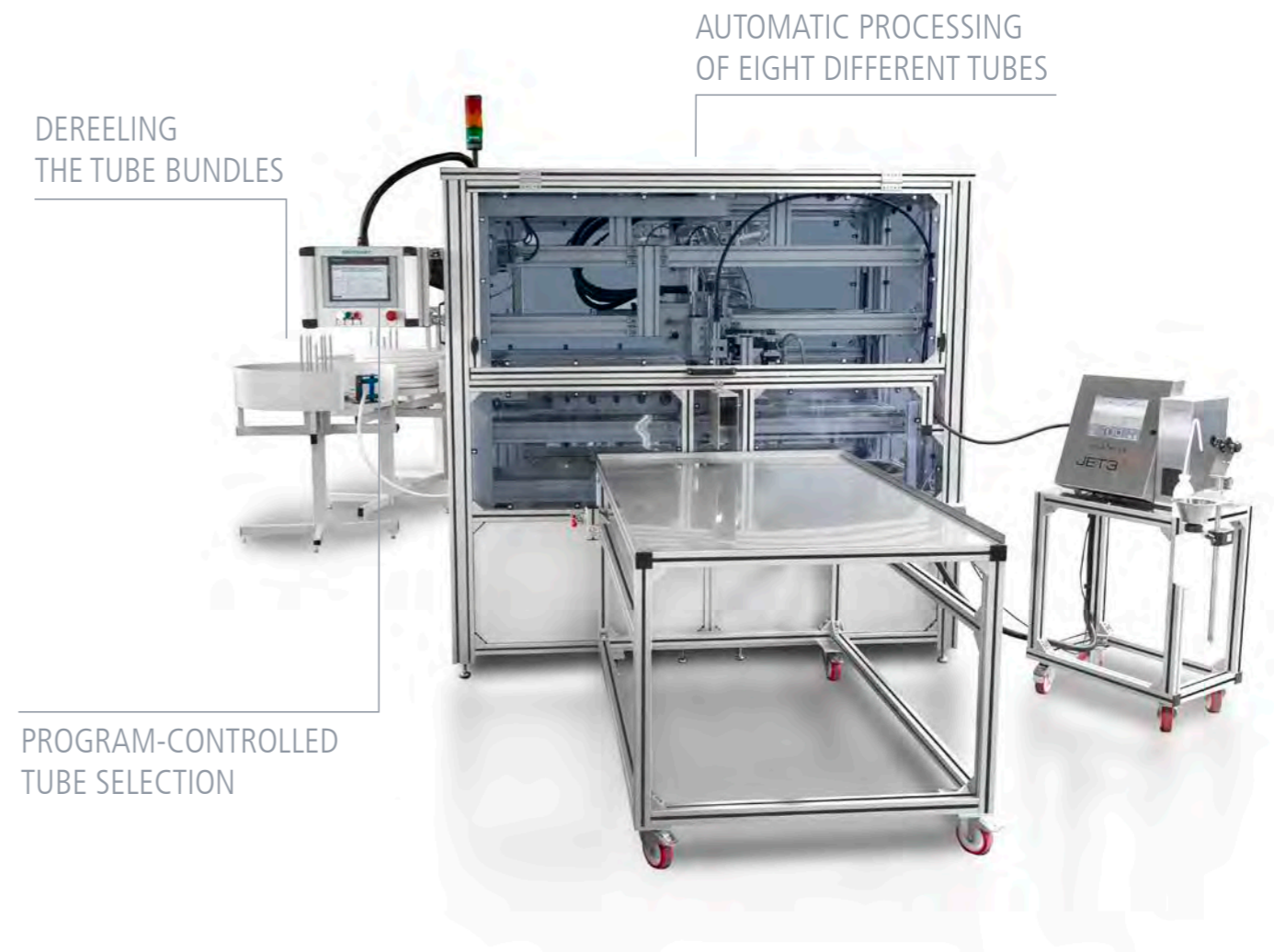
AUTOMOTIVE - PA-HOSES

WITH AND WITHOUT SANTOPRENE THERMAL INSULATION



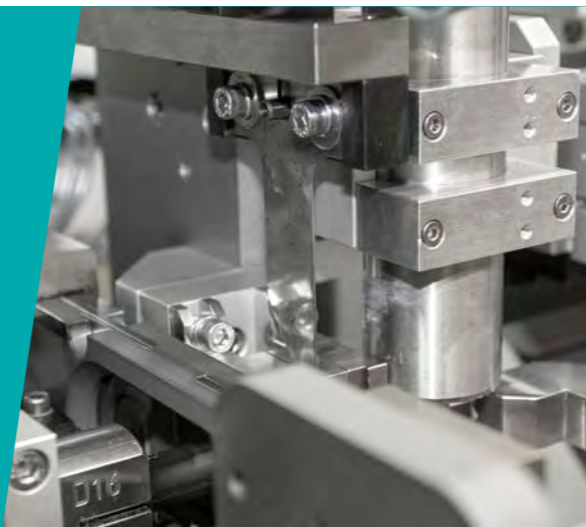
INDUSTRY - WATER HOSES

AUTOMATIC HOSE PROCESSING FOR PRODUCTION ORDERS OF WHIRLPOOLS



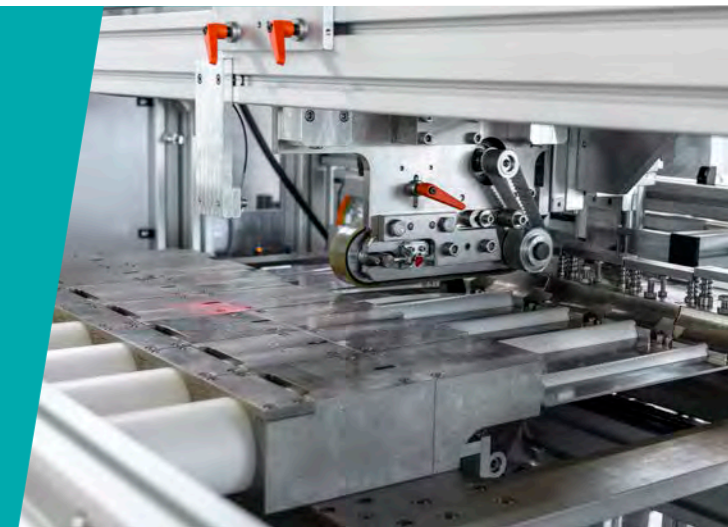
PARTICULAR BENEFITS

- Parallel processing from hose reel and hose bundle
- Cut-to-length with accuracy of +/- 0.1 -0.2% of the cut length
- Provision of insertion point markings with +/- 1 mm on both ends of the tube
- Printing with text, numbers and graphics along the tube length
- Multi-stage working in a single process, i.e removal of the Santoprene layer and cut-to-length.
- Removal of the santoprene layer at selected points along the tube
- Cut-to-length and chamfering the cut edges in a single operation
- Automatic processing from batch sizes or piece lists



PARTICULAR BENEFITS

- Integration in IT-Network for automatic order preparation
- Program controlled and automatic changeover of eight different tubes
- Outstanding length accuracy with slip-free material transport
- Automatic printing and marking of the tubes
- Optimal support of single-item orders



AUTOMOTIVE - SILICONE HOSES

CUTTING - COILING - TRACEABILITY FOR SAFETY-RELEVANT COMPONENTS

MATERIAL PROCESSING OF
LOOSELY-LAID MATERIAL

CONTROL OF TUBE DIAMETER
AND SURFACE

CUTTING OUT AND
SORTING OF FAULTY MATERIAL

AUTOMATIC WINDING
WITH FREE ENDS IN DEFINED POSITION

PARTICULAR BENEFITS

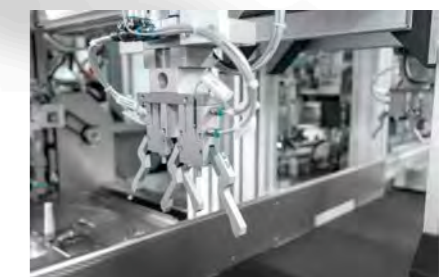
- Automatic detection and storage of raw material batches
- Automatic process stop when raw material is used
- Best length precision with highly elastic silicone material
- Winding with constant length and parallel free tubes for automated downstream production processes
- Simultaneous feed from 2 parallel winders
- Manufacture and application of traceability labels for every tube
- Communication and data exchange with traceability server
- Automatic removal and transfer of the wound tubes



LOOP CONTROL

CONTACT-FREE LENGTH MEASUREMENT

DOUBLE WINDING SYSTEM



MEDICAL - ENDOTRACHEAL

AUTOMATIC ROTARY STEPPING UNIT WITH SEVEN PROCESS STAGES – STEP TIME FIVE SECONDS

CUTTING TOOLS

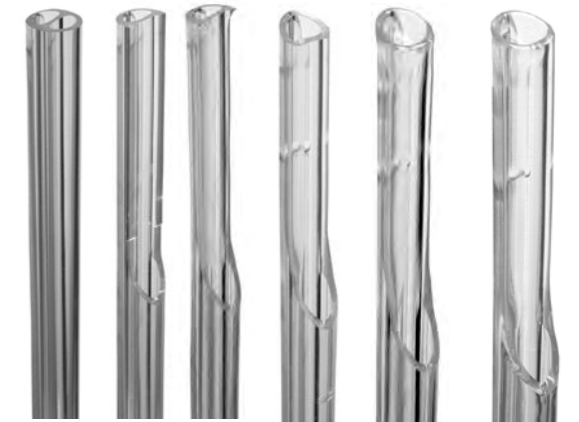


CAMERA CONTROLLED TUBE POSITIONING



SEPERATION FROM
STORAGE CONVEYOR

NOTCH-CUTTINGS



PARTICULAR BENEFITS

- Bunker conveyor with integrated tube separation
- Camera controlled accurate tube positioning for automatic stepping processing
- Differing precision cuts of different tube positions
- Several notches in small irrigation canal tubes
- Controlled thermal tube forming
- Each process station with integrated quality multi-factor monitoring
- Automatic fault-free bad/good parts sorting
- Line specification GMP and FDA compliant
- Process documentation according to GMP
- Technical documentation GMP compliant
- OEE > 85%



MEDICAL - PIPETTE MANUFACTURE

PROCESS-SAFE CUTTING OF MATERIAL WITH GLASS-LIKE PROPERTIES

ORBITAL CUTTING TOOLS



POSITIONING CUTTING FOR
DIFFERENT CUT LENGTHS



REMOVAL AND SORTING

SEPERATION OF PRE-CUT PIPETTES

BELT FEED FOR
LENGTH CONTROL



PARTICULAR BENEFITS

- Successful cutting of glass-like materials
- In-line process for rigid materials
- Flexible processes for different pipette diameters and lengths
- Simultaneous production of pipettes with differing lengths



METZNER CUSTOMER SERVICE

A STRONG PARTNERSHIP OVER THE TOTAL WORKING LIFE

With our after sales service you benefit from our long-term support to enable you to keep your Metzner machine operating profitably throughout its whole working life. Apart from the basic characteristics and performance data of the machine, there are a number of additional factors that play an important part in achieving this. So we have put together a team with a spectrum of service capabilities to give you active support.

Advice and machine modification to meet new requirements

Not infrequently, the materials to be processed and the tasks to be performed by a Metzner machine in your production change over time. It is often possible for us optimally to modify the machine to meet such new requirements by mechanical adjustments, a software update, or addition of an accessory or further equipment. Our After Sales Service Team can make recommendations to optimise your material processing and to

modify your existing machinery accordingly.

Spare parts service

For current Metzner machines, we hold stocks of the most frequently required replacement and wear parts for immediate delivery in our store. For customer-specific parts and more slow-moving, we start an immediate order for manufacture the parts in initial equipment quality as soon as your order is received.

E-Service

Many Metzner machines have the facility to be fitted with an E-Service module for remote machine interrogation. The machine either receives an individual IP address or a connection to the mobile telephone network. In this way, Metzner Service can provide rapid and cost-effective fault diagnosis, spare parts advice or make repair recommendations.

METZNER SALES PARTNERS WORLDWIDE

Internationally, Metzner is represented in more than 30 countries by qualified partners for sales and service. Metzner is working actively on further developing its global presence. Specialised partners for the business segments cable processing or rubber and plastic processing offer professional sales consulting and service know-how.

FIND YOUR LOCAL PARTNER AT:

www.metzner.com » Service & Support » Sales Partner Worldwide

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