



METZNER CCM CIRCULAR KNIFE CUTTING MACHINES

HIGH PERFORMANCE MACHINES FOR RELIABLE PROCESSING OF STEEL-REINFORCED SEALING PROFILES AND TUBES



FIRST CLASS CUTTING QUALITY FOR REINFORCED MATERIALS

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.

The rotating circular knife is perfectly suited to cutting rubber, plastic and metal and gives extremely good cutting quality by the combination with other parameters such as optimum material guide, knife rotation speed, knife rotation direction, knife feed and knife lubrication, ensuring both, »in-line« and »off-line«.

INDIVIDUAL POSSIBLE USES

CUSTOMIZED SOLUTION FOR YOUR REQUIREMENTS

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FLEXIBLE MATERIALS

- Round profiles
- U-shaped profiles
- Spline profiles
- Stick profiles
- Sponge rubber profiles
- Tubes and pipes



REINFORCED MATERIALS

- Rubber profiles with steel carriers
- Profiles for the automotive industry (door mounted seal, body mounted seal, glass run channels, hood seals, windshield seal, waist belts, trunk seal)



RIGID, REINFORCED MATERIALS

- Rigid plastic profiles
- Rigid profiles with steel carrier
- Steel coated tubes
- Rigid strengthened round materials (e.g. plastic pipes)



Central to all »CCM machines« is that they are fitted with a linear servo-drive for the circular knife arm movement. This feature allows various feed speeds for working on different materials, e.g. inserting material gently for the best possible cutting result or a slow feed for removing the blade to reduce the formation of sprags and burrs.

The PLC control can be programmed freely, allowing for all the processing parameters to be set to meet the demands of various profile contours and mixtures of materials. These parameters can be saved and then used again at the press of a button.

METZNER CCM RANGE

RELIABLE PROCESSING OF STEEL-REINFORCED PROFILES AND HOSES



METZNER CCM 2

The Metzner CCM 2 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



METZNER MBS RANGE

TRAVELING 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

SEVEN FURTHER POSSIBILITIES TO INCREASE YOUR PRODUCTION



Gap detection

All circular knife cutting machines 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.



Profile clamping

The »Metzner CCM 4« comes with a cooling lubrication system or a micro spray system as standard. Lubricating the circular blade ensures that the cut quality, when cutting steel-reinforced profiles, is significantly increased. The water or cooling lubricant is usually used in a closed cycle. In the process shavings and particle matters are filtered out.



Additional cutting tool

With optional automatic gap detection, the »CCM 4« and »CCM 6« detect the gaps in steel carrier underneath the rubber. The cutting position is regulated automatically in the gaps. This means that the machines cut without burrs and provides considerable protection for the circular blade.



Cutting based on marking

All circular knife cutting machines 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.



Automatic scrap cut

The »Metzner CCM 4« comes with a cooling lubrication system or a micro spray system as standard. Lubricating the circular blade ensures that the cut quality, when cutting steel-reinforced profiles, is significantly increased. The water or cooling lubricant is usually used in a closed cycle. In the process shavings and particle matters are filtered out.



IT-Network

With optional automatic gap detection, the »CCM 4« and »CCM 6« detect the gaps in steel carrier underneath the rubber. The cutting position is regulated automatically in the gaps. This means that the machines cut without burrs and provides considerable protection for the circular blade.



E-Service module

The optional profile clamp ensures that the plastic profile is fixed in the best position during cutting. This decreases the chance of the profile being distorted. The profile clamp also allows complex profile contours to be cut at a very high quality.

TECHNICAL DATA

CONVINCING IN PERFORMANCE AND TECHNOLOGY

| 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 |

¹⁾ additional optional dimensions possible | ²⁾ depending on material; tolerance min. ± 0.5mm | 0.2" | ³⁾ only necessary with die cut | Specifications are subject to change without notice.

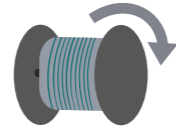
| Red-Green-Blue Equipment | Metzner CCM 2 | Metzner CCM 4 | Metzner CCM 6 |
|---|-------------------------|-------------------------|------------------------|
| Feeding speed | 120 m/min 6.56 ft/sec | 120 m/min 6.56 ft/sec | 60 m/min 3.28 ft/sec |
| Cutting rate »circular knife cut« max. (cuts/min) | 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 | ● | ● | ● |

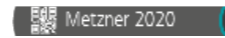
⁴⁾ at cutting length 100 mm | 3.94" | ⁵⁾ at cutting length 300 mm | 11.81" | ⁶⁾ PLC = Metzner PLC-controls with 5.7" Color Touch-Screen and CoDeSys programming, S7 = Siemens S7 PLC-controls with 5.7" Color Touch-Screen | ● = standard, ○ = optional, — = not available | Specifications are subject to change without notice.

EFFECTIVE PROCESSING LINES

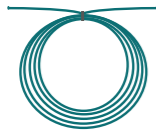
As well as high quality machines for processing rubber and plastic, Metzner also offers quick, careful and cost effective peripheral equipment that increases the automatic processing line. We classify our peripheral equipment into the following categories:



Unwinding and feeding



Printing and marking



Take-off and winding



Remote controls



Software solutions and PC integration





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