

SONDERHOFF

MK 400 / MK 425 / MK 50 / MK 20

Mixing heads for dynamic or static mixing and precise dosing of polymeric reactive materials



Mixing heads for dynamic or static mixing and precise dosing of polymeric reactive materials

Process-reliable mixing of demanding material formulations

A mixing head for processing two or three components has three essential functions. Firstly, the precise dosing of two components into the mixing chamber at the specified mixing ratio through the built-in valve technology. Secondly, the components are homogeneously mixed within the mixing chamber by the servo-controlled agitator. Then the material is applied precisely onto the part through the dosing nozzle.

For material systems with simple mixing ratios and generous processing tolerances, static mixing is often enough. Here, the two material components only need to be pressed through a mixing tube in the correct quantity ratio. The material flow is then swirled by the inside structures of the mixing tube to such an extent that sufficient mixing occurs.

Dynamic mixing systems for high requirements

Many industrial applications, however, require highly complex material systems that overstrain the possibilities of static mixers. Here, dynamic mixing systems are needed to reliably process these demanding recipes for industrial production.

Liquid to highly viscous polymeric reactive materials can be processed with mixing heads for dynamic mixing. They have output quantities from 0.2 to 100 g/s depending on the type of mixing head. The mixing ratio is infinitely adjustable from 100 : 1 to 1 : 100. And all this is possible with an extremely high accuracy of $\pm 1\%$ of the quantity to be applied. These values can vary depending on the mixing ratios, material viscosities and the adaptation of pumps, hoses and mixing elements. Properties such as reactivity and abrasiveness of the material also play a major role here.

For this purpose, we offer you various mixing head designs, from the simple SONDERHOFF MK 20 with static mixing to our reference models from the SONDERHOFF MK 400 series. They are used for our low-pressure mixing and dosing systems for the application of sealing foams, adhesives and potting compounds based on polyurethane or silicone.



SONDERHOFF MK 400 / MK 425

**2- / 3-component mixing head with dynamic
mixing and high-pressure water rinsing**

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SONDERHOFF MK 50

**2-component mixing head
with dynamic mixing**

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SONDERHOFF MK 20

**2-component mixing head
with static mixing**

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SONDERHOFF MK 400 / MK 425

The industry standard – for (almost) every application



DESCRIPTION

- 2-/3-component mixing head with high-pressure water rinsing and dynamic mixing, for use with liquid to highly viscous polymeric reactive material for sealing foam, bonding and potting
- High-pressure water rinsing for environmentally responsible cleaning of the mixing system using high-pressure needle bar valves for injection of rinsing water
- Hydro-mechanically regulated precision recirculation valves for precise dosing
- Can also be equipped with feed lines for bonding or potting applications
- Weight-reduced construction in modular design, anodized with blue-grey finish
- Robust and maintenance-free design, made of a high-strength aluminum alloy and chrome steel
- Direct multi-level injection of components
- Electronically regulated mixer speed
- Special mixer design allows gentle material mixing
- Blast-air needle bar valve used for drying the mixing system
- Anti-drip and maintenance-free nozzle lock system SONDERHOFF STOP-DROP DVS 3
- Component rinsing (valid for the use of non-reactive components)

TECHNICAL DATA*	SONDERHOFF MK 400	SONDERHOFF MK 425
Dimensions (H x W x D) 2-component mixing head	240 x 260 x 175 mm	210 x 270 x 175 mm
Dimensions (H x W x D) 3-component mixing head	240 x 260 x 230 mm	210 x 270 x 230 mm
Operating pressure	up to approx. 15 bar	up to approx. 15 bar
Output capacity	from 3.0 to 100 g/s	from 0.2 to 3.0 g/s
Dosing accuracy	±1 %	±1 %
Mixing head weight for 2-components	approx. 4.6 kg	approx. 4.4 kg
Mixing head weight for 3-components	approx. 5.3 kg	approx. 5.0 kg
Mixing ratio	from 100 : 1 to 1 : 100, infinitely variable	
Selectable mixer speed	from 1 – 4,500 or 1 – 6,000 rpm, infinitely variable	

* In dependence of the mixing ratios, material viscosities and the adaptation of pumps, hoses and mixing elements.

OPTIONS

- Mixing head housing made of chrome-steel
- Customer-specific outlet nozzles
- Spray system
- Mixing head temperature control



SONDERHOFF MK 400
being used in fully automatic operating mode



SONDERHOFF MK 400
with high-pressure water rinsing

SONDERHOFF MK 50

The entry into dynamic mixing



DESCRIPTION

- › 2-component mixing head with dynamic mixing for use with liquid to highly viscous polymeric reactive materials for sealing, bonding and potting, for small to medium output quantities
- › Intended for use with the mixing and dosing machine SONDERHOFF DM 70 COMPACT in manual or semi-automatic production operation
- › Mixing chamber rinsing with chemical cleaning agents
- › Needle-type injector valves with stuffing box seal
- › Weight-reduced construction for simple manual operation, anodized with blue-grey finish
- › Robust design in high-strength aluminum alloy
- › Mixer speed manually adjustable
- › Injection valves for cleansing agents and blast air used for drying the mixing system
- › Compressed air-driven mixer motor

TECHNICAL DATA*	SONDERHOFF MK 50
Dimensions (H x W x D)	230 x 160 x 250 mm
Operating pressure	up to approx. 50 bar / component
Output capacity	from min. 1 to 100 g/s
Dosing accuracy	±1.5 %
Mixing head weight	approx. 5 kg
Mixing ratio	from 100 : 10 to 10 : 100, adjustable
Selectable mixer speed	from 200 to 2,700 rpm

* In dependence of the mixing ratios, material viscosities and the adaptation of pumps, hoses and mixing elements.

VARIANTS

- › Manuel rinsing
- › Automatic rinsing

OPTIONS

- › Mixing head housing made of chrome-steel
- › Customer-specific outlet nozzles
- › Spray system
- › Mixing head temperature control



Manual potting of an electronic component with SONDERHOFF MK 50 and the 2-component casting resin SONDERHOFF FERMADUR

SONDERHOFF MK 20

The basic version with static mixing



DESCRIPTION

- › 2-component mixing head with static mixing for use with liquid to paste polymeric reactive materials for sealing, bonding and potting. Intended for use with all mixing and dosing machines in either manual or automatic production operation
- › Needle-type injector valves with heavy-liquid element
- › Mixing with static mixing tube
- › Weight-reduced construction in modular configuration for simple manual operation, anodized with blue-grey finish
- › Robust and maintenance-free design in high-strength aluminum alloy and chrome steel

TECHNICAL DATA*	SONDERHOFF MK 20
Dimensions (H x W x D)	170 x 74 x 250 mm (without mixing tube)
Operating pressure	up to approx. 150 bar / component
Output capacity	from min. 1 to 50 g/s
Dosing accuracy	±1.5 %
Mixing head weight	approx. 2.5 kg
Mixing ratio	from 100 : 1 to 1 : 100, adjustable

* In dependence of the mixing ratios, material viscosities and the adaptation of pumps, hoses and mixing elements.

VARIANTS

- › SONDERHOFF MK 20 for small to medium output quantities
- › SONDERHOFF MK 21 for large output quantities

OPTIONS

- › Mixing head housing made of chrome-steel
- › Customer-specific mixing-tube adapters
- › Mixing-tube centering device with quick-change mechanism
- › Application-specific support-tubes adaptable



Manually operated with the SONDERHOFF MK 20



Automatic production application with the SONDERHOFF MK 20

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