

# CeraFLOW<sup>®</sup> Duo / Mono

The most flexible foam dispensing system by CeraCon

CeraCon

More than you expect.

EN



Sealing systems

# Enjoy Foaming Now

Made by CeraCon

As easy as whipping cream – a similar fundamental principle is used for the **CeraFLOW®** foam dispensing technology, with which different single-component sealing materials (polyurethanes and silicones) can be foamed. Our **CeraPUR®** material range has been specially developed for use with the **CeraFLOW®** machine technology and can therefore be processed particularly effectively.

The single-component process without a chemical reaction makes it possible: The sealing material and compressed air are homogenised, while shearing forces enable the creation

of the uniform, very fine, predominantly closed-cell foam. By changing the proportion of the air, the softness of the foam can be continuously adjusted, the curing of which only takes place after dispensing. As a result, the material can remain in the machine for a very long time without undergoing any reaction.

**CeraFLOW®** machine systems are mainly suitable for use with the FIPFG method (Formed In-Place Foam Gasket), in which the foam is directly applied to the component to be sealed by means of a robot-controlled valve, for example.

The CeraCon foam sealing system consists of a single-component sealing material (e.g. CeraPUR®), which is pumped into the CeraFLOW®-machine, where it is mixed with compressed air and discharged, for example, via a robot-guided dispensing valve.



# CeraFLOW®

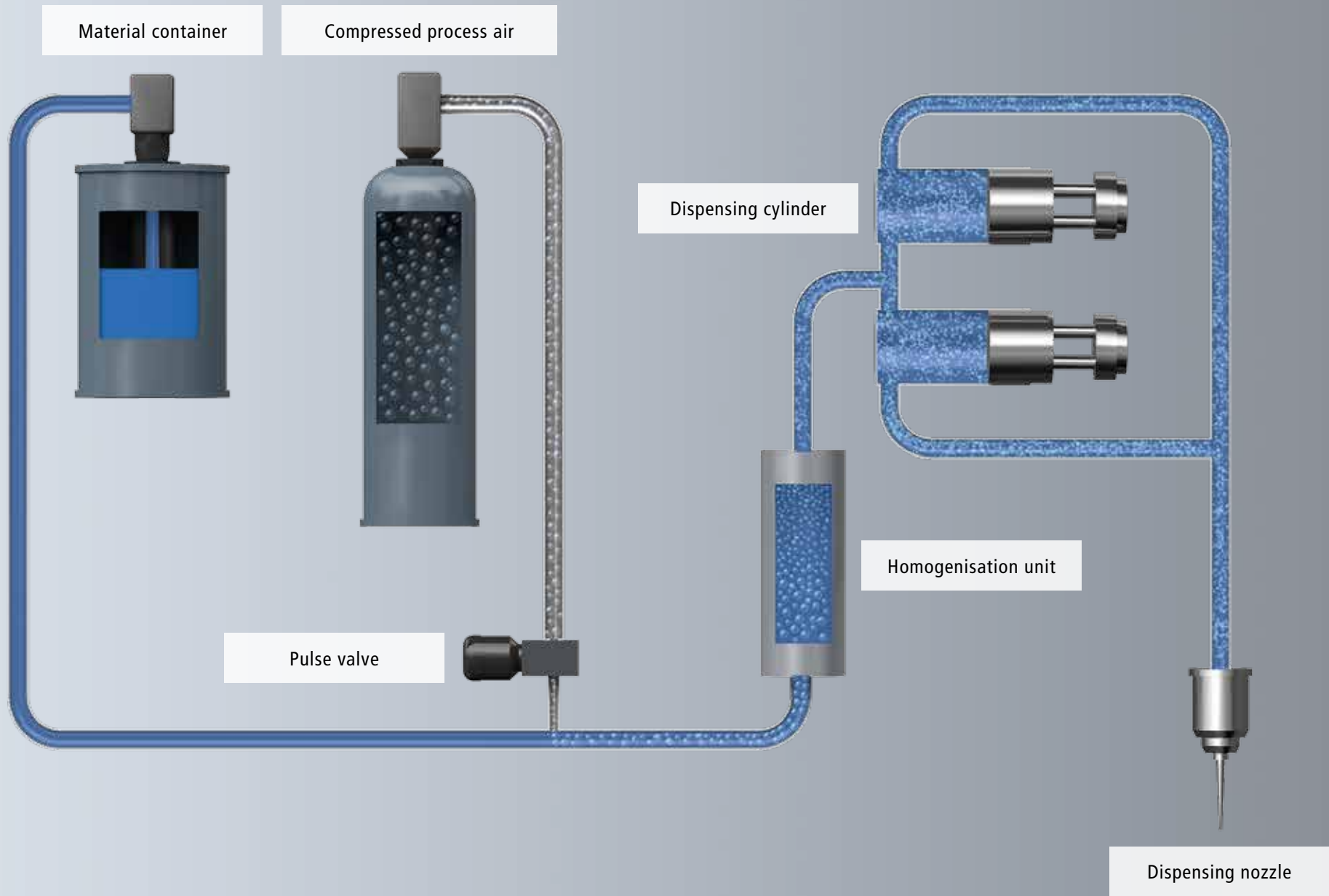
## Schematic principle

The non-aerated raw mixture is pumped out of the supply container into a piston pump in order to produce a constant volume flow rate.

With the aid of a pulse valve, individual gas bubbles of process air are injected into this material stream under high pressure. The air-material mixture is now finely dispersed in a homogenisation unit and introduced into (a) further dispensing cylinder(s). From there, the foam is then precisely metered out via a valve.

### CeraFLOW® Duo – Continuous dispensing without interruptions

Continuous operation is ensured through the use of two dispensing cylinders. While one piston meters out the material, the material is processed for the second piston. Even if the system operates only with one dispensing cylinder, it nevertheless has an availability level of at least 70 % – which makes it ideal for use in large-scale production.



# Basic components

## CeraFLOW® Duo

- Pneumatic high-pressure compressor with electronic control valves, throttle and safety valve to provide the process air for foaming
- One servomotor-driven piston pump for material preparation with two pneumatic ball valves
- Precision pulse valve with metal-to-metal seal seat and mechanical fine adjustment of the needle stroke to inject the process air under high pressure
- Homogenisation unit for the production of a uniform gas-liquid dispersion
- Two servomotor-driven precision piston pumps for material application with pressure sensors
- Electronically controlled temperature control with water circulation for dispensing components, material line and valve
- Mobile unit carrier for the easy removal of all material-bearing components for servicing work
- 7 m flexible high-pressure line made of diffusion-tight high-performance fluoropolymer with protective hose
- Dispensing valve with precision needle valve with metal-metal seal, electr. stroke adjustment and pressure sensor
- Machine control via Siemens PLC S7-300 with TP1200 Comfort Panel with 12" display, LENZE servo controller, FESTO pneumatic components

## CeraFLOW® Mono

As for CeraFLOW® Duo, unless stated otherwise

- One servomotor-driven precision piston pump

# CeraFLOW® Duo / Mono

## Technical Data



### CeraFLOW® Duo

Foaming ratio:	from unfoamed to 5-fold volume (continuously variable)
Dispensing range:	0.15 – 10.0 g / sec.
Dimensions (W x D x H):	approx. 1,850 x 900 x 1,925 mm
Weight:	approx. 750 kg
Electrical Mains connection:	3x 400V, 50 / 60 Hz
Electrical power:	approx. 4 KW
Compressed air connection:	5 – 8 bar
Compressed air consumption:	approx. 40 l / min.

As for CeraFLOW® Duo, unless stated otherwise

### CeraFLOW® Mono

Weight:	approx. 700 kg
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# The CeraFLOW<sup>®</sup> model series

<sup>1)</sup> can be upgraded to continuous dispensing

<sup>2)</sup> for a bead dimension of 4 x 2 mm (W x H)

<sup>3)</sup> available as an option

	 CeraFLOW <sup>®</sup> Eco	 CeraFLOW <sup>®</sup> Mono	 CeraFLOW <sup>®</sup> Duo
Dispensing range [g / sec.]	0.15 – 10.0	0.15 – 10.0	0.15 – 10.0
Continuously applicable bead length <sup>2)</sup>	33.4 m	33.4 m	∞
Max. dispensing capacity with continuous operation [g / sec.]	–	– <sup>1)</sup>	2.0
Quick-change exchange units <sup>3)</sup>	–	✓	✓
Adjustability of the dispensing valve	manually <sup>3)</sup>	servomotor-driven	servomotor-driven
Visualisation	8" display	12" display	12" display
Automatic control of the foam density	–	✓	✓

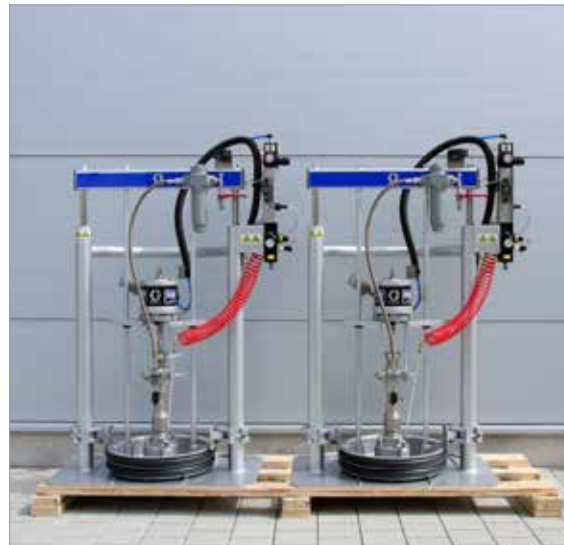
# Options

## Barrel pumps

The single-component sealing materials are made available in 20 kg or 200 kg drum containers. The polyurethane compound is introduced into the machine by means of a follower plate pump that corresponds to the size of the container. For uninterrupted production, two pumps can also be combined by switching over the supply.



Barrel pump for receiving 20 kg material drum containers



Double barrel station for receiving 2x 200 kg material drum containers

## Quick-change exchange units

For the further optimisation of the low maintenance requirement, pluggable quick-change exchange units enable the immediate resumption of production.



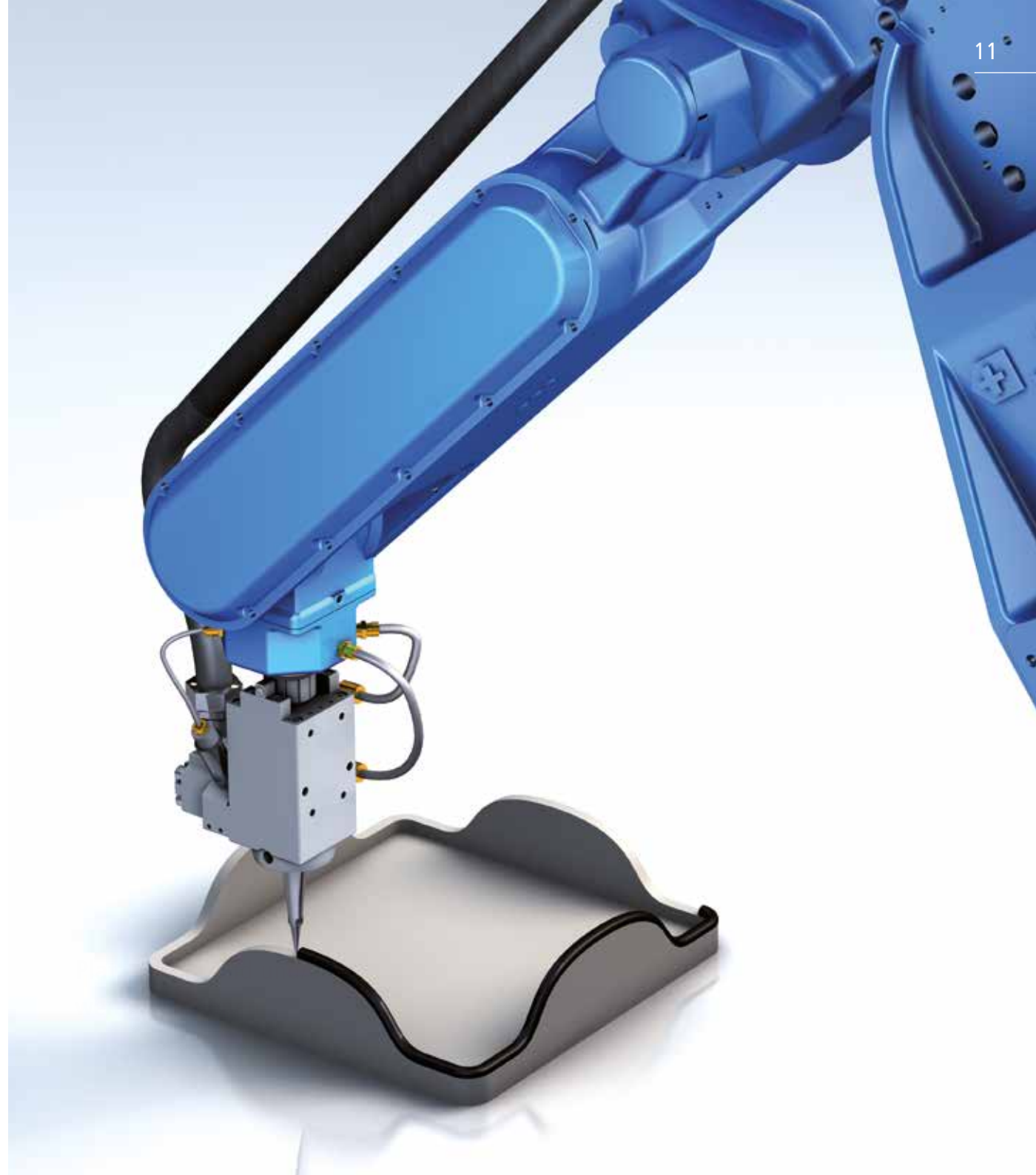
Material preparation and dispensing system on a rollable equipment rack

## Upgrade kit for dispensing cylinders

The Cera**FLOW**® Mono model is equipped with only one dispensing cylinder as standard and can be subsequently upgraded. This enables continuous foam dispensing. In addition to the second dispensing cylinder, the upgrade kit consists of a further servo-motor drive that includes an electronic controller.



Cera**FLOW**® Mono turns into a Duo – made possible by the optional upgrade kit.





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modifications and errors.