

DOPAG Two-Component Metering and Mixing System ECONO-MIX®



General

The ECONO-MIX is a compact DOPAG mixing and metering system for low to medium viscosity two-component media which can also be filled. It is used to process adhesives, polyurethane, epoxides and silicones. There are three variants available:

- ECONO-MIX
- ECONO-MIX compact
- ECONO-MIX E

DOPAG mixing and metering systems transport, meter and homogeneously mix media.

Ease of operation and service- friendliness are features of these systems.



▲ ECONO-MIX

Construction

Design

The chassis is made of galvanised sheet metal and is fitted with rollers as options. The lever system, material

pressure vessels, control unit and compressed air supply unit are mounted on the chassis.

Pressure Vessels

A wide selection of pressure vessels of various materials is available for almost all media.

Low viscosity media up to 50,000 mPa s can be processed direct from the original containers.

Metering Pumps

The metering pumps for the A and B components are double action piston pumps. The piston rods are hard chrome-plated and sealed with special V sleeves so that even abrasive media can be processed.

The pumps are driven via a pneumatic cylinder arranged above the lever system. The synchronous movement of the pumps is achieved by a unilaterally mounted swing beam.

The B component pump can be moved on the swing beam via a slot to allow full adjustment of the mixing ratio.

Depending on viscosity of the media to be processed, different pump sizes are available for mixing ratios between 1:1 and 6:1.

The mixing ratio is controlled by manually measuring out the individual components.



▲ Lever system with swing beam

Control Station and Maintenance Unit

The control station sets the working pressure of the system.

The pressures for the pneumatic cylinder, flushing agent pump and material pressure vessels can be set separately. The maintenance unit filters out dirt, oil

and corrosion particles from the compressed air to ensure faultless function of the system.

To protect the A and B components in the pressure vessels against ambient humidity, an absorption agent can be supplied.

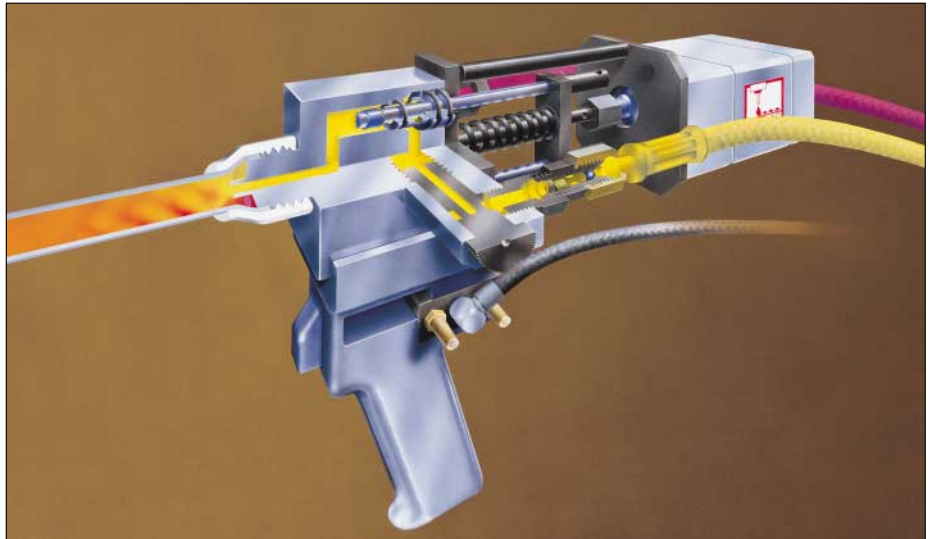
Mixing and Outlet System Static Mixer

Two separate material feeds protected by non-return valves supply the media to the outlet valves.

The separate material feeds mean there is no need for complex flushing with solvents which could constitute a risk to the environment.

The outlet valves are designed so that on closing they generate a return suction effect which prevents dripping at the mixing pipe outlet.

This suction power is fully adjustable.



▲ Static mixer (twin outlet valve with static mixer pipe) solvent-free

Static Mixer Unit

The advantage of a mixing and metering system with a static mixer unit is better control of widely differing material viscosities of the A and B components and extreme mixing ratios.

Under these conditions, the material pressure is built up evenly in a mixing block and simultaneous supply of materials guaranteed.

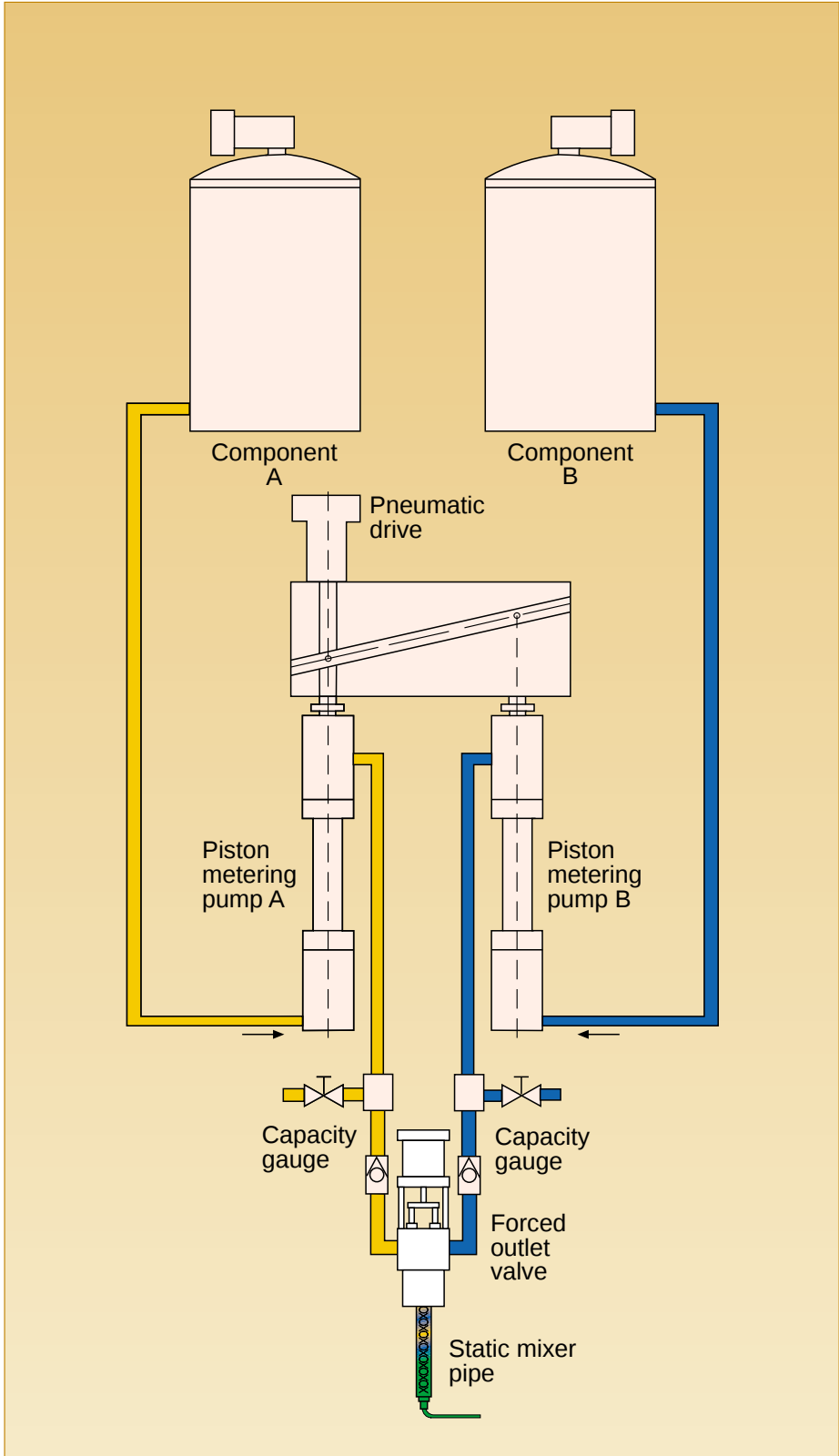


▲ Static mixer unit (mixing block with static mixer pipe)

Function

The two media are supplied to the metering pump from the pressure vessels and metered precisely.

The A and B components are passed to the outlet system separately and mixed evenly in the static mixer pipe.



▲ Function diagram of ECONO-MIX with static mixer

ECONO-MIX

The ECONO-MIX mixing and metering system is available in two forms:

- Flushing solvent-free
- With solvent flushing

The design of the systems allows a wide range of customer-specific variants. Two different outlet systems are available.



▲ ECONO-MIX

ECONO-MIX Compact

The ECONO-MIX Compact is a standard flushing solvent-free system. It was developed especially for economic production of small series, and can be only be adapted in the hose length and the type of material pressure container.



▲ ECONO-MIX Compact

ECONO-MIX E

The ECONO-MIX E completes the flushing solvent-free series for material viscosities up to 15,000 mPa s. The length of the hose pack is variable and can be adapted to meet requirements.



▲ ECONO-MIX E

Accessories

Pot Time and Flushing System

The pot time is the period between homogenous mixing of the media and the last possible processing time.

Control of the pot time and hence operating reliability therefore depends on forced flushing of the static mixer before expiry of the pot time.

In the ECONO-MIX system, the pot time can be monitored electronically or mechanically as required. Flushing is manual or automatic.

Level Control

To monitor the fill level in the material pressure vessels, a level control system is available.

The level in the pressure containers is measured in three different ways:

- Minimum level
- Min/max level
- Min level with preliminary alarm

An acoustic and visual warning signal is given when a level in the pressure vessel is reached.

Automatic filling of the pressure vessels is also available as an option.

Mixing Systems

Static-Dynamic Mixer

For components which are difficult to mix, it makes sense to use a static-dynamic mixer.

Here the mixing screw in the pipe is turned by a motor.

The static-dynamic mixer can be driven pneumatically or electrically.



▲ Static-Dynamic Mixer

Dynamic Mixer

The dynamic mixer is used to process materials with very short pot times, widely differing viscosities and extreme mixing ratios.

Its rotating, universally adjustable mixing blades in the mixing chamber ensure even mixing of the components in the shortest time.

For foam production, the air quantities supplied are mixed evenly with the components.

The mixing blades are driven either pneumatically, hydraulically or electrically. The mixing head can also be heated or cooled.



▲ Dynamic Mixer

Technical Data

	ECONO-MIX - flushing solvent-free - with solvent flushing	ECONO-MIX Compact	ECONO-MIX E Flushing solvent-free
Viscosity range [mPa s]	To 80,000	To 50,000	To 15,000
Mixing ratio	1:1 to 6:1	1:1 to 6:1	1:1 to 4:1
Working pressure [bar]	max. 100	max. 100	max. 100
Flow rate [cm ³ /min]	max. 2,000	max. 1,700	max. 1,000
Compressed air connection [bar]	6	6	6
Air consumption [l/min]	static 300	static 300	static 300
Pneumatic cylinder [mm]	ø 100 stroke 120	ø 100 stroke 120	ø 100 stroke 120
Material container [Ltr]	2 x 4 to 60	2 x 4 to 45	2 x 18 welded
Chassis [mm]	Approx 600 X 600 (depending on design) on rollers	Approx 600 X 600 (depending on design) on rollers	Approx 570 X 800 (depending on design)
Height [mm]	Approx 1,200 (depending on design)	Approx 1,200 (depending on design)	Approx 1,100 (depending on design)
Weight [kg]	Approx 90 (depending on design)	Approx 130 (depending on design)	Approx 120 (depending on design)

Metering Technology

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