OPM Mechatronic

NEW

New development in Cooperation with the SKZ Das Kunststoff-Zentrum

Dosing system

for liquid color and additives

DS-L1K

- **Piston dispenser**
- **Changeable piston system**
- **Fast color change**
- **Exact dosage**
- **Buffer function for container change**
- **Mobile on wheels**
- **Industry standard**
- **7 inch color touch display**
- **Independent from color suppliers**

The dosing system developed by the company OPM Mechatronic GmbH allows a clean and precise dosing process of liquid colors and additives in plastics processing.
Thanks to the replaceable piston set, the dosing station can be quickly converted to a new color. Through various container holders, the system can be operated with a wide variety of color containers and guarantees a secure production process in every combination.
With a comfortable recipe management, different dosing programs can be created and managed. Thanks to the integrated buffer function, the contents of the piston (80 ml) can be used as a buffer during a package change. The production then does not need to be stopped.
Robust castors keep the stable sheet steel housing even in harsh environments mobile.
The dosing system consists of industrial components, so that a longterm availability can be guaranteed even in 3-shift operation.

Technical specifications:

Operating voltage:	230V/AC/1A
Pump Type:	Piston dispenser
Pump speed:	0,5 - 500 ml / min.*
Max. shot volume:	80 ml / dosage
Min. shot volume:	0,1 ml / dosage
Dosing accuracy:	+/- 1%
Scale (option):	50 kg (+/- 1g)
Max. pressure:	up to 30 bar
Temperature range:	10-40 °C

* depending on the viscosity of the medium

info@opm-mechatronic.de
www.opm-mechatronic.de

V 1.0.7

OPM Mechatronic GmbH
Hansestr. 5
D – 48477 Hörstel-Riesenbeck

Tel.: +49 (0)5454 / 90 58 98-0
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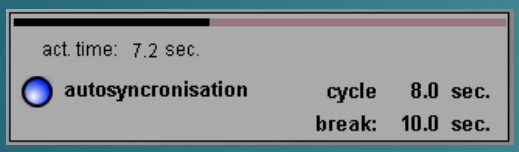
Integrated buffer (included in the basic unit)

In the piston set of the piston dosing unit there is approx. 80 ml usable volume in the dosing cylinder. This volume is used as an integrated buffer, so that when a container is changed, dosing can continue from the piston set without a container being connected. It is no longer necessary to stop the production machine to change a container.

Integrated buffer

Automatic synchronization (included in the basic unit)

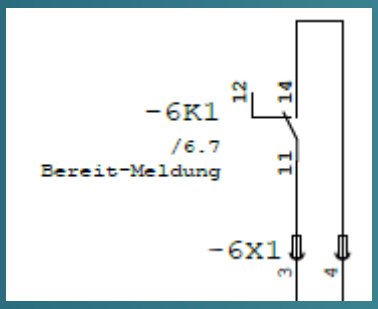
With automatic synchronization, the dosing signal is taken over from the injection molding machine. Depending on the length of the dosing signal, the speed at which the set amount of paint is fed into the machine is then defined. A black bar display indicates the time course of a complete injection moulding cycle.



Automatic synchronization

Ready signal (included in the basic unit)

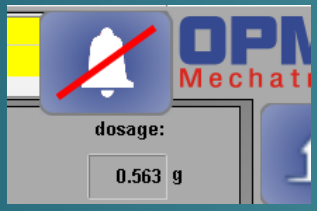
With the ready signal contained in the basic unit, the dosing station can be linked to the injection moulding machine in such a way that the injection moulding machine does not produce rejects if the dosing system is not ready for any reason. This could be, for example, an empty color container which has not been replaced. The ready signal can also be reconfigured as a fault signal and used accordingly.



ready signal

Acoustic signal (included in the basic unit)

The acoustic signal indicates a warning or empty signal. The acoustic signal can be switched off on the panel with a button and the cause can then be eliminated. In this way, the need for action is pointed out even in the case of unclear systems.



Acoustic signal

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Input of the production parameters

To be able to produce only 3 parameters are required. The shot weight, the dosage in% and the density of the color are needed. No calibration is necessary!

Enter the production parameters

Remaining production time

(Option scale required)

The remaining production time is determined by the known parameters and visualized on the start page of the operating panel. Hereby it can be determined at a glance how long it is still possible to produce. Furthermore, the remaining quantity which can still be produced with the applied color is displayed.

Rest production time

Language selection (included in the basic unit)

With the integrated language switch, the operating concept can easily be changed to many languages.

Language selection

User management (included in the basic unit)

The user management protects the system against unauthorized access. Different user levels are used to assign authorizations for various settings.

User management

Data backup (included in the basic unit)

Data backups can be created via USB stick. In this way, all settings and all recipe parameters are stored on a USB stick. A backup can also be made in this way.

Data backup with USB-stick

Recycling adding (included in the basic unit)

With the recycling addition, the dosing quantity of the liquid color can be reduced when adding already colored recyclate. This function can be simply switched on or off during the running process.

Recycling adding

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Scale (chargeable)

With the "Scale" option, the system is able to check the fill level of the container. Here, a warning limit is used to signal acoustically and visually that the container will reach an empty state in the foreseeable future. Another adjustable limit defines the empty signal. Here too, acoustic and visual information is given when this limit is reached. The system then goes into buffer mode. Here, approx. 80 ml are still available in the dosing piston for further production. During this time the container can be exchanged without stopping the production machine.

Ordering Information:
Scale: **W-50**

Scale W-50

Dosing flanges (chargeable)

In order to achieve optimum coloring with liquid color, it is necessary to set the injection point optimally. Our dosing flanges have been developed for this purpose. A quick color change is possible due to a PTFE inliner. Due to the modular design, the connection piece can be loosened with two screws for service purposes and the block including the inliner can be pulled out.

The dosing flange DF-S is the standard version. It is mounted directly on the injection moulding machine. There is space above it for further conveying equipment.

Ordering Information: Dosing flange: **DF-S**

Dosing flange DF-S

The dosing flange DF-R is a round, transparent version. This flange is integrated into the material feed shortly before the injection moulding machine and also serves as a viewing window.

Ordering Information: Dosing flange: **DF-R**

Dosing flange DF-R

The dosing flange DF-L is a model that can be mounted on a welded sleeve.

Bestellhinweise:
Dosing flange: **DF-L**

Dosing flange DF-L

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Piston set (chargeable)

The piston set can be easily removed from the station. A drip-free coupling connects the piston set with the suction side to a container. A drip-free coupling socket is located at the end of the high pressure hose. This allows the station to be changed over to a new color quickly and cleanly. It is recommended to purchase a separate piston set for each color. The liquid Color then remains in the piston set after production and can be used again immediately when the color is changed.

Ordering Information:

Piston set suction side nominal diameter 4: **1K-DN4**
Piston set suction side nominal diameter 9: **1K-DN9**

Piston set

Container bracket (chargeable)

The container bracket serves to hold the container. There are different versions to hold different containers in a space-saving way.

The CT-300 container bracket can be used to hold "Bag in Box" containers. There is sufficient space at the bottom for the drip-free coupling systems. This allows containers up to 20l (base area 305mm x 305mm) to be placed on the dosing station.

Ordering Information:
Container bracket for „Bag in Box“ systems: **CT-300**

Container bracket CT-300

The CT-CC container bracket allows the reusable "Color Cube" container from Rowasol to be used.

Ordering Information:
Container bracket for „Color Cube“: **CT-CC**

Container bracket CT-CC

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Adapter (chargeable)

The adapters developed by OPM serve to connect "Bag in Box" systems to the piston sets. Due to the drip-free coupling system, a quick and clean change of containers is achieved in production. The adapter AK-DN9 has a larger nominal diameter for larger throughputs (suitable for piston set 1K-DN9).

Adapter AK-DN4

Adapter AK-DN9

Ordering Information:

Adapter: **AK-DN4**
Adapter: **AK-DN9**

Barcode reader (chargeable)

An installed barcode reader enables uncomplicated access to a desired, previously stored recipe. Especially when using many recipes, the previously secured assignment of a barcode avoids time-consuming search routines or sources of error.

Bar code reader BR

Ordering Information:

Barcode reader: **BR**

Buffer tank (chargeable)

With the stainless steel buffer tank up to 10l of the dosing medium can be buffered. The filling level is controlled with sensors and visualized between 0-100%. With the option "external pump" it is possible to fill this buffer tank level-controlled from another container.

Buffer tank Buffer-10

Ordering Information:

Buffer tank: **Buffer-10**

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External pump (chargeable)

With the option "external pump" an installed buffer tank can be filled with a double diaphragm pump from an external container (e.g. bucket, drum, IBC container). The refilling of the buffer is controlled via freely adjustable limits.

Ordering Information:
External pump: **EP-19**

External pump EP-19

Signal light (chargeable)

The signal light can visualise system messages. Strikingly signalled are e.g. empty messages and cannot be overlooked.
The LED traffic light can be easily adjusted with a magnetic base and connect it directly to the dosing station via a plug system.

Ordering Information:
Signal light: **SL-3**

Signal light SL-3

Dosing signal duplication (chargeable)

With the "Dosing signal duplication" option, the incoming signal for starting the dosing is output to another standard connection. This connection is located on the back of the device. Another dosing unit can be connected here. This option is useful if the injection moulding machine does not have any other dosing connections.

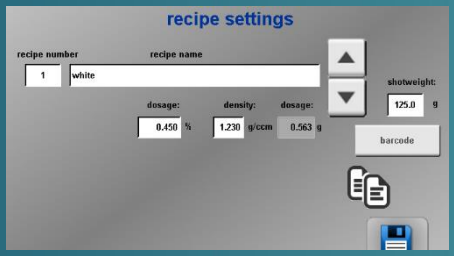
Ordering Information:
Dosing signal duplication: **DSE**

Dosing signal duplication DSE

Recipe management (chargeable)

With the option "Recipe management" different product parameters can be stored. Up to 100 recipes can be managed here. The production program can then be easily identified and called up using a recipe name. Recipe management helps to avoid errors in production, e.g. due to incorrect parameter input.

Ordering Information:
Recipe management



Recipe management

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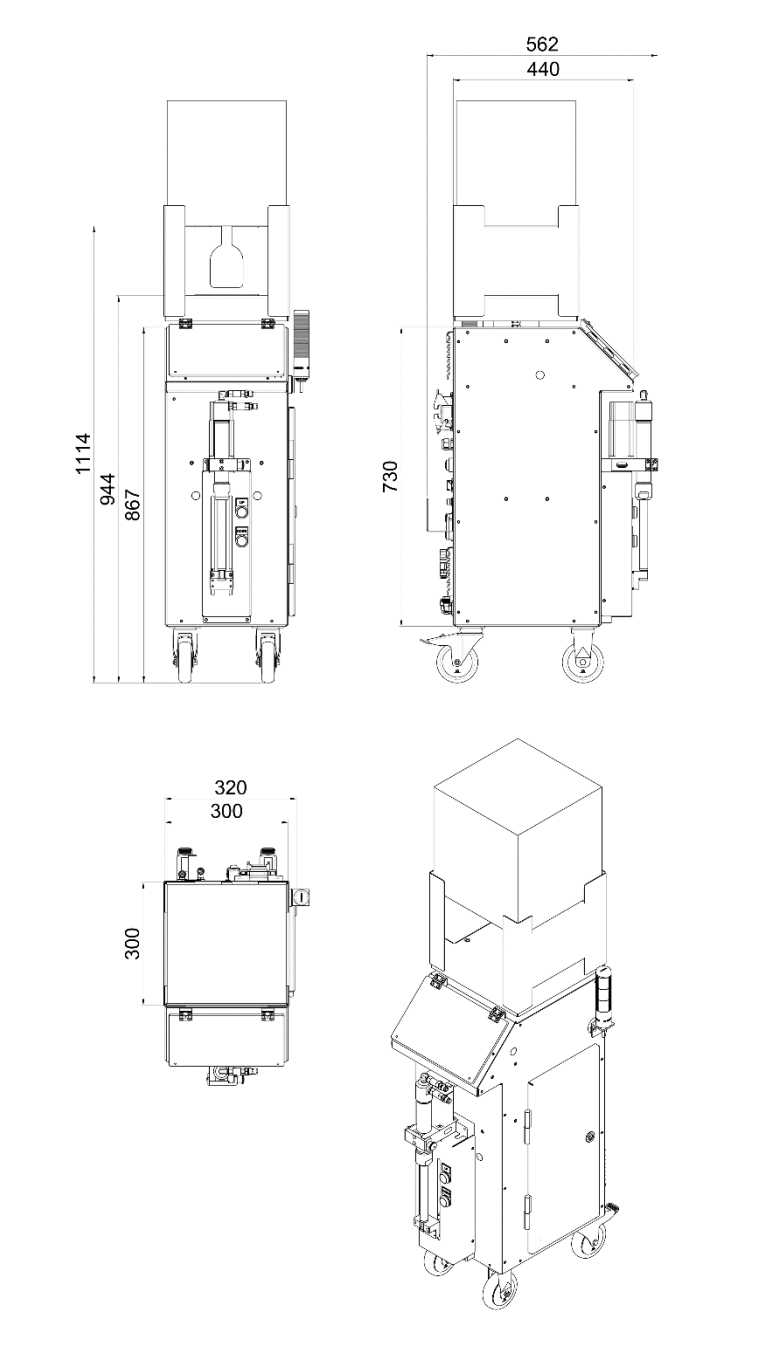

All dimensions in mm

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