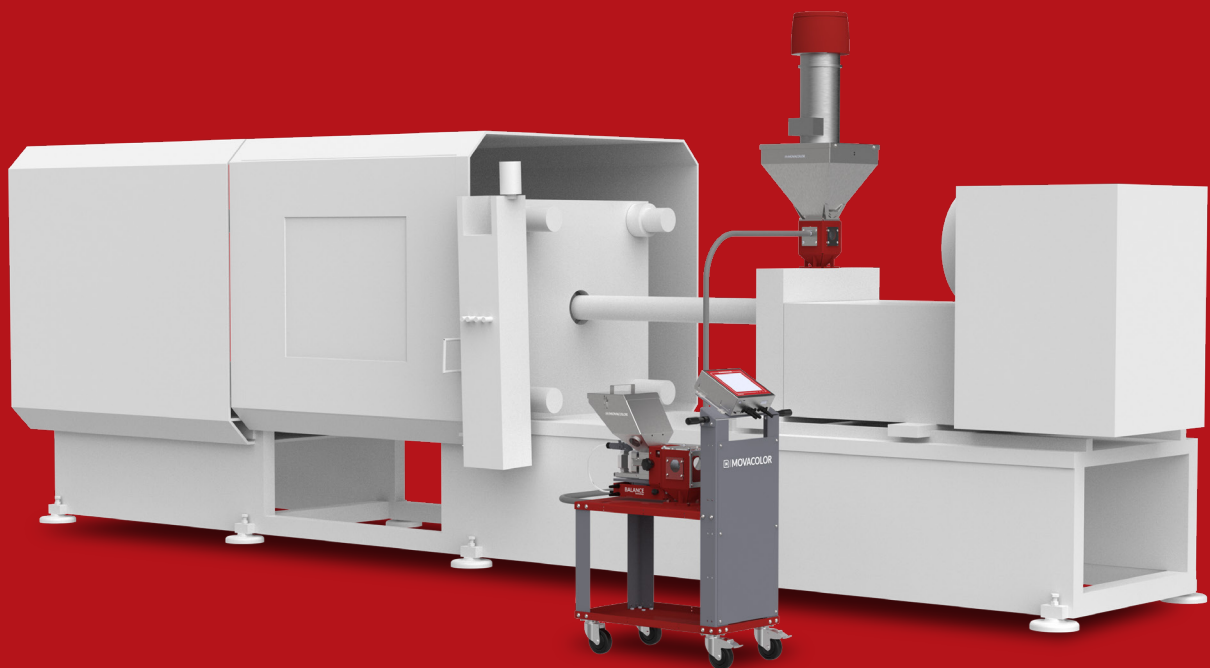
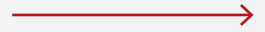


# MCS Off-line dosing

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Precise dosing from plant floor - Floor-level dosing innovation for safe and accurate dosing, even in high vibration environments.

Bring dosing to  
a higher level





## The Movacolor modular blending, dosing and measuring concept

Our mission is to support plastics producers in achieving their sustainability goals. We do this through our unique modular blending, dosing and measuring concept. This concept ensures plastics manufacturers can easily reduce waste, process recycled material and save costs.

Our solutions have an intuitive design and are made from robust stainless steel, making them endure throughout the years. Our solutions effortlessly integrate with Industry 4.0 technologies, allowing you to make your entire production line work together.

Our modular design allows flexibility in evolving needs by providing configuration possibilities, which helps us tailor our solutions to align with diverse plastics production processes.

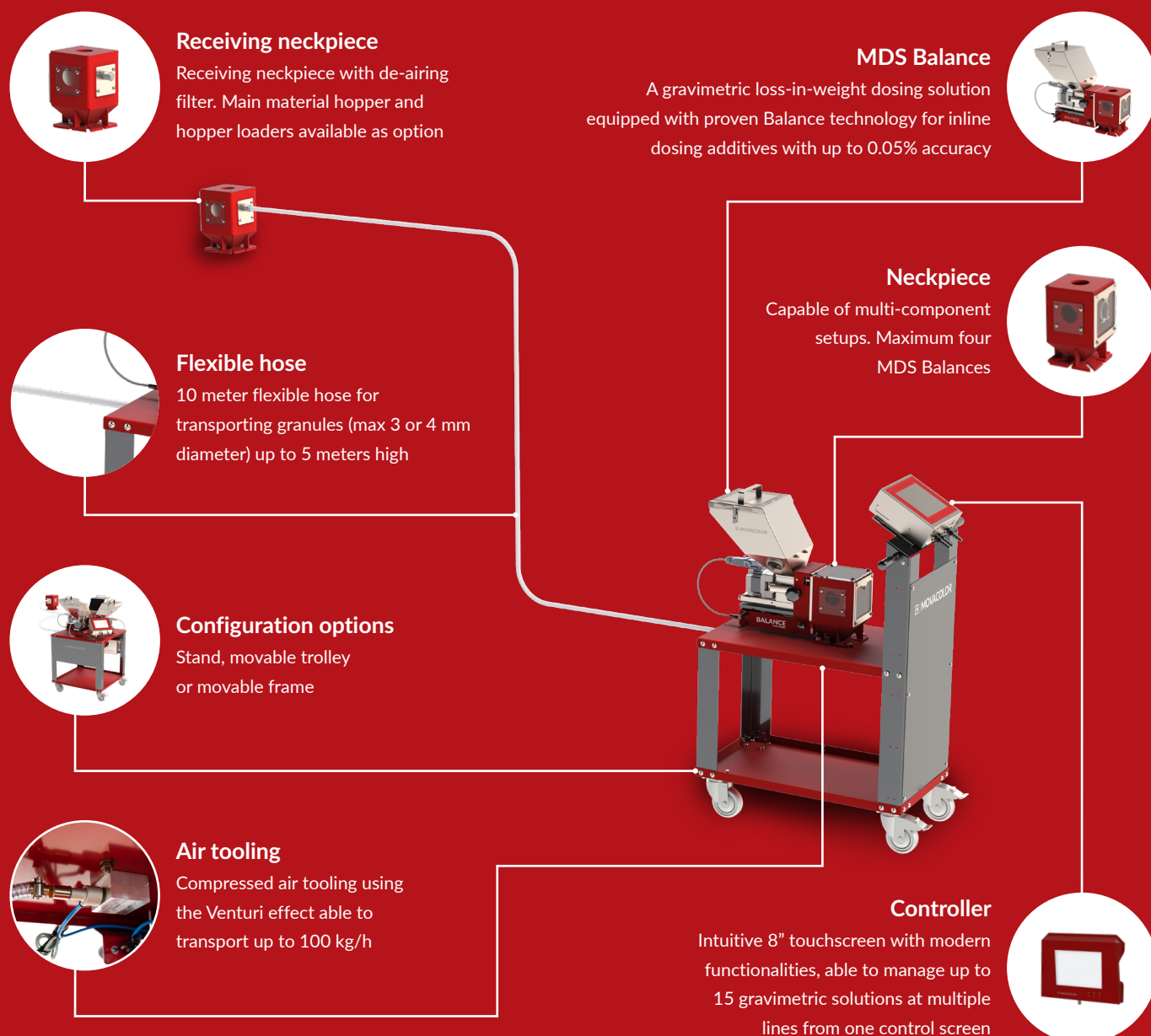
### Why Movacolor

- ✓ 35+ years of experience and knowledge in plastics blending, dosing and measuring
- ✓ 5 year warranty
- ✓ In-house engineering department
- ✓ Short delivery times
- ✓ Global product support
- ✓ Designed and assembled in the Netherlands

# What is the Off-line dosing system?

The MCS Off-line dosing system is an innovative floor-level dosing solution that achieves high dosing accuracy and blend homogeneity independent of machine vibrations. In addition, there is no need for hazardous climbing on ladders or stairs to access the dosing equipment.

Available in 3 different configurations; the stand, movable trolley or movable frame. Our MCS Off-line dosing system prioritizes precision, safety and efficiency while offering flexibility to fit the dosing unit to your plastics production process and layout.



*Scan the QR code to find out more!*





## Off-line dosing: how it started

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The MDS Balance gravimetric dosing unit is renowned for its accuracy in dosing, surpassing competitive solutions.

However, plastics manufacturers face challenges such as:

- High vibrations from production machines impacting the dosing process. Especially visible in vertical injection molding,
- PET preform production and older injection molding machines.
- Difficulties reaching the dosing machine due to the height of the production machine.
- Frequent need to access the dosing unit for material changes.
- Restrictions for operators on performing tasks above their head due to safety regulations.

## Off-line dosing: the solution

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These insights have sparked our engineering team to develop a tailored solution that provides an easy dosing solution at hard-to-reach locations. Introducing the MCS Off-line dosing system: A floor-level dosing innovation for accurate and safe dosing, even in high vibration environments.

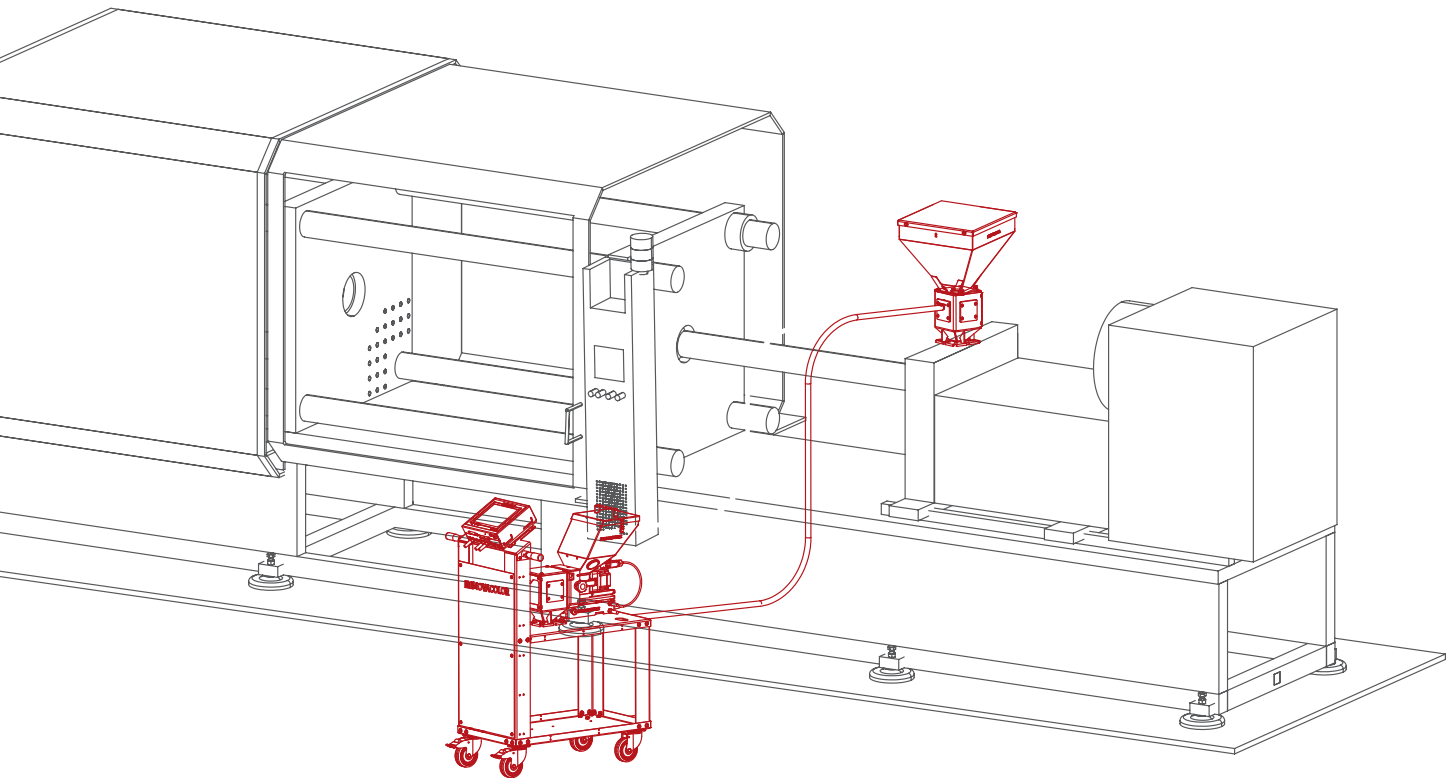
The system conveys granular materials through a hose to high-placed dosing locations such as vertical injection molding machines. Off-line dosing empowers plastics converters to minimize high-risk tasks performed on top of production machines while optimizing overall efficiency.

- No more hazardous climbing on ladders or stairs to access your dosing equipment.
- Ensure high blend homogeneity through precise inline dosing into the center of the main material, which remains on top of the machine and continues to be conveyed from the central loading system.

Improve operational precision and safety with the MCS Off-line dosing system. Negate vibrations, simplify maintenance and increase blend homogeneity by relocating the dosing unit to a stand, movable trolley or movable frame.



# MCS Off-line dosing benefits



## Vibration resistant dosing

Rule out severe production machine vibrations that can affect the dosing accuracy.



## Save capital equipment costs

Simplify your material handling setup and reduce capital expenditure by eliminating the need for costly mezzanines.



## Increase safety

Avoid hazardous situations, no more climbing on ladders or stairs. Safely access the dosing equipment on the production floor.



## Increase blend homogeneity

Avoid material segregation by inline dosing masterbatch from the plant floor. Convey the additives or colorants by compressed air directly into the main material stream that is added through a hopper on top of the production machine.



## Convenient maintenance

The trolley and frame version enable the system to be easily repositioned out of the way for maintenance on the primary machine.



## Multi-component setup

The frame version is suitable for multi-component setup and can have a maximum of four MDS Balances.



## Maximize efficiency

Save time by carrying out material changes and cleaning on the production floor.



## Modular system

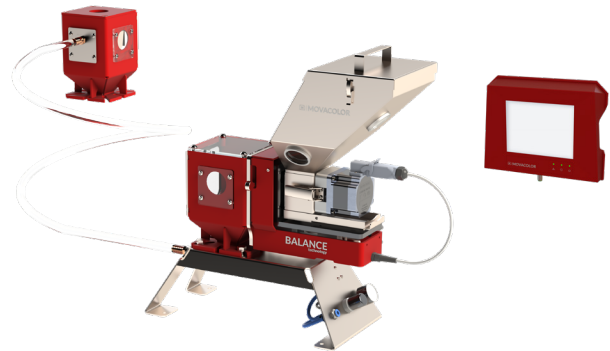
The modular system allows customers to easily upgrade their MDS Balance to a MCS Off-line dosing system.

# Three configurations for optimal convenience

## Stand

Increase floor-space by mounting the system onto a horizontal surface of your preference, such as a primary machine bed.

One MDS Balance only.



## Movable trolley

Avoid severe vibrations from large injection molding machines. Flexible positioning of the off-line system on the plant floor for convenient and safe maintenance and material changes.

Recommended for one MDS Balance.



## Movable frame

Avoid severe vibrations from large injection molding machines. Flexible positioning of the off-line system on the plant floor for convenient and safe maintenance and material changes.

Recommended for up to four MDS Balances and additional accessories (such as dosing stops, support frames, loaders etc.)



# The better alternative to off-line blending

Off-line blending is widely used for central blending applications, working with vertical injection molding machines and offers flexibility in positioning.

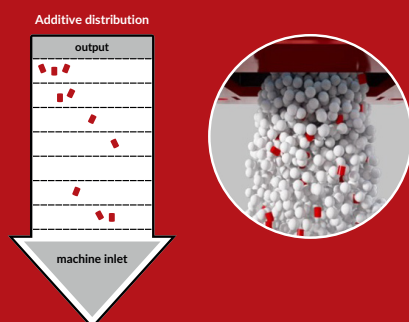
With off-line blending, the entire batch is transported to the top of the production machine, which can lead to material segregation during transport.

Off-line dosing focuses on transporting additives directly to a receiving neckpiece located on top of the production machine. Here, a main material hopper is

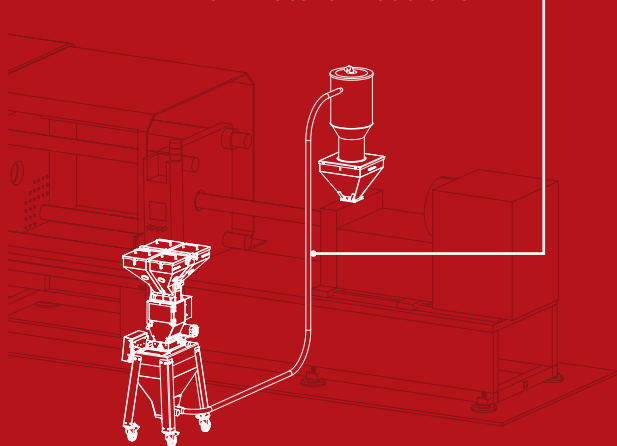
placed above the receiving neckpiece, while additives are inline dosed with compressed air into the main material stream. This method ensures that the blend of materials is directly dosed into the production machine, minimizing the time for demixing and resulting in a consistent and homogeneous blend.

Essentially, off-line dosing offers a more precise way to achieve blend homogeneity, leading to a higher product quality and consistency.

## Off-line blending

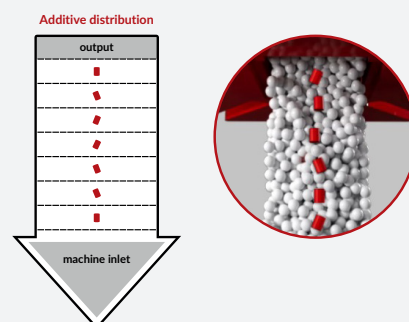


Main material + additive

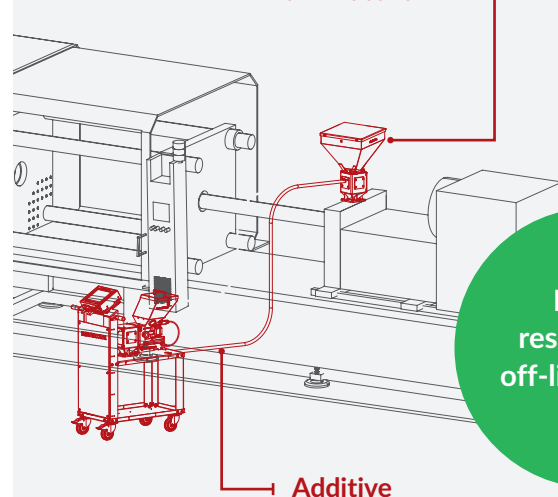


Complete batch is transported to the top of the production machine.

## Off-line dosing



Main material



Better results with off-line dosing

Only additive(s) are transported and inline dosed with the main material which remains on top of the production machine.

# Specifications

	MCS Off-line dosing	MCS Off-line dosing High-output
Versions	Stand, trolley, frame	Stand, trolley, frame
Neckpiece	Coated steel or stainless steel	Coated steel or stainless steel
De-airing filter	Wire mesh, opening 104x104 µm	PE/PE Filter cloth
Suitable material	Granular 3 mm	Granular 4 mm
Throughput*	Max 32 kg/h	Max 100 kg/h
Max material temperature	65° Celsius	65° Celsius
Off-delay	Adjustable	Adjustable
Air supply		
Air supply pressure	Max 7 bar	Max 7 bar
Air consumption during dosing	Max 168 NI/min	Max 849 NI/min
Transportation		
Transport height	Max 5 meter	Max 5 meter
Hose length	10 meter	10 meter
Hose diameter	16 mm	25 mm

\*Measured with material with a bulk density of 0,8 kg/l

## Effortless software setup

Ease of use is an important part within the Movacolor modular product portfolio. Simply select the remote dosing option as

an accessory on your PTC to experience a quick and easy startup. In this section it is also possible to setup your off-delay instructions.





## Off-delay

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When a dosing cycle starts, the material is transported from the stand, trolley or frame to the receiving neckpiece on top of the production machine. An ejector block uses compressed air to transport the material,

material is only transported when the unit is dosing. To ensure all the material is transported, an off-delay can be set. The ejector block will be active for this set time after the dosing cycle is finished.

## The high-output version MCS Off-line dosing

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The MCS Off-line dosing HO is developed for plastics converters requiring transport capacities up to 100 kg/h\*.

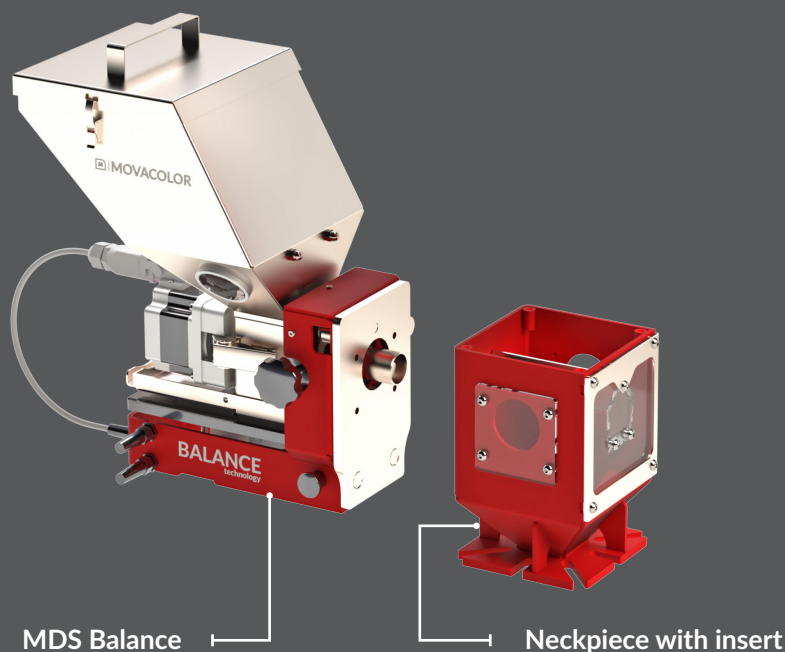
Maintaining the same innovative design and benefits of our standard MCS Off-line dosing, this high-output version ensures seamless integration into your production process

while delivering superior performance. Designed to meet the demands of high-volume operations, it guarantees precise dosing accuracy and blend uniformity without compromising on accuracy, safety or efficiency.

Available in stand, trolley and frame version.

\*Measured with material with a bulk density of 0,8 kg/l

# Optimize your additive dosing



## Balance Technology

Single-point loadcell, ensuring precise measuring across its entire system, accommodating off-center loads.

Weighs total system, tracking each pellet dispensed and swiftly responds to changes in setpoint or material bulk density.

Innovative algorithm guarantees exceptional accuracy, even in high vibration environments and at extremely low shotweights.

## Inline dosing

Improve shot-to-shot accuracy and blend homogeneity by feeding inline, directly into the machine's throat, in the center of the main material. This ensures full traceability and shot verification of your most critical additives. The neckpiece serves as a static mixer.



## Dosing cylinders

Unique range of dosing cylinders for pulse-free, unparalleled dosing accuracy of a wide variety of materials and throughput capacities.



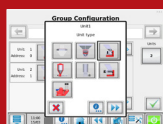
# Modular and future ready - Intuitive control software technology for all Movacolor gravimetric solutions

## PTC



Ergonomic designed 8"full-color portable touchscreen controller with modern functionalities for all plastics production processes.

Single-cable possibility making it portable up to 15 meters.



Capable of managing up to 15 gravimetric solutions at multiple lines from one control screen.



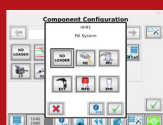
Different user-levels and Basic Operator Mode for simplified recipe selection and single-touch recipe starting.



Easy entering and memory to store up to 1.000 recipes.



Configuration wizard for quick start-up and intuitive GUI with self explanatory visuals.



Integrated hopper loading control synchronized with the dosing system.



Flexible universal communication protocols: OPC UA, ProfiBus, Modbus, ProfiNet.



Continuous data logging, process monitoring and recipe- and material file management through Smart software.



VNC remote support option for immediate trouble-shooting.

## Also included in the PTC

- ✓ Large range of mounting options
- ✓ VNC remote operation option
- ✓ Backup, restore settings and export log files through USB memory stick
- ✓ Multilingual
- ✓ Special algorithms: closed-loop regrind handling and nodding head synchronization
- ✓ Event log and alarm history



### 5 year warranty

Movacolor products are designed and manufactured to the highest standards and deliver high-quality performance. In the unlikely event of a product failure, Movacolor will, subject to conditions\*, ensure your product is serviced and repaired free of charge.



### Global Support

Need help with (the installation of) your Movacolor product?

Our global support team will be happy to assist you.

**Tailored blending,  
dosing or measuring  
systems, suited to  
your plastics  
production process.**

Visit [movacolor.com](https://movacolor.com) to find out more about our modular dosing concept and how you can configure your own dosing solution!

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