

METRO

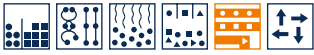
Stand-alone material loaders

The METRO stand-alone loader range from motan enables processors to automate a key area of the production process cost effectively, bringing significant benefits of improved efficiency and process management.

Plastic granulate is conveyed quickly and cleanly to the hopper of a processing machine, a drying bin or a day bin. Material is delivered exactly when needed keeping machines running and avoiding costly down time. Material wastage is eliminated and the work-space is kept clean and safe.

All METRO loaders are easy to install and simple to operate. They handle throughputs from 5 up to 750 kg/h.





smart solutions, is an additional range of equipment for optimising and automating the production around plastics processing machines.

smart solutions: to increase productivity with the least capital expenditure.

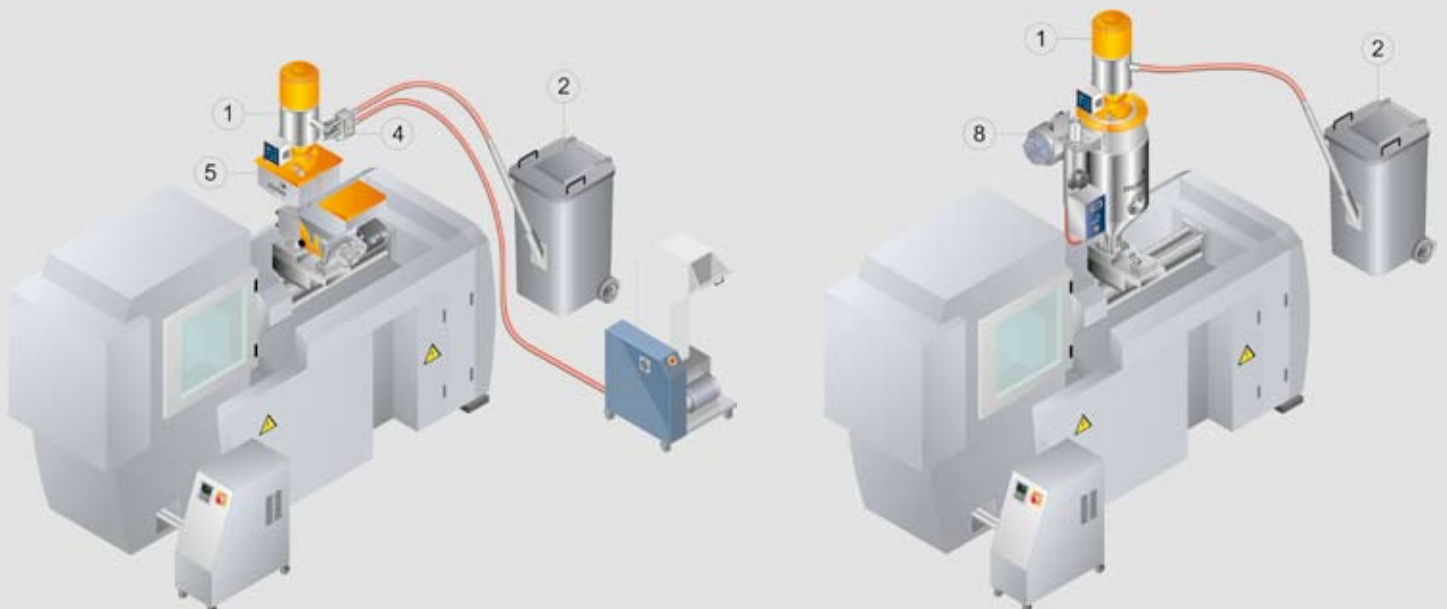
All units can be combined or expanded in order to satisfy increasing and changing requirements.

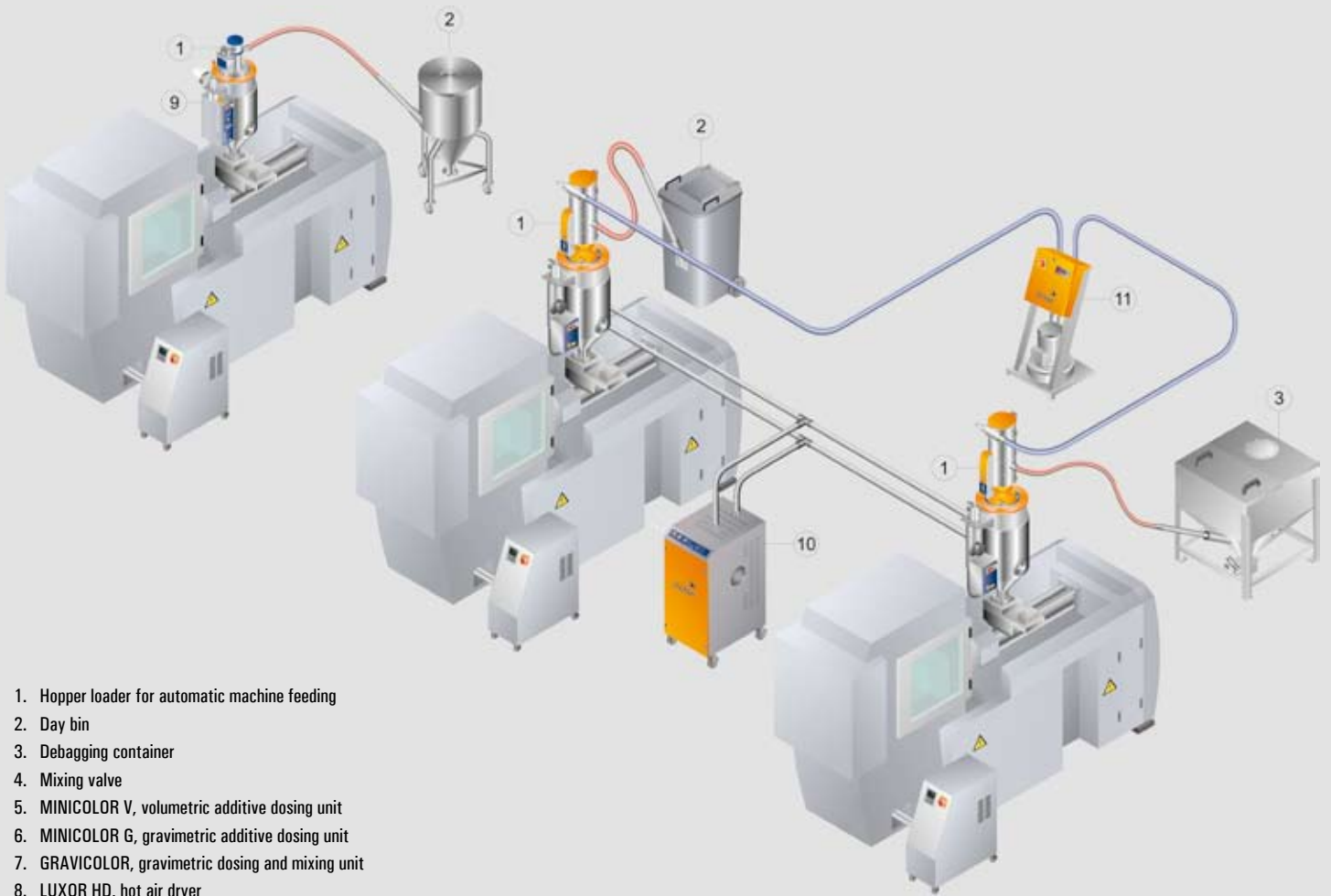
smart solutions help the plastics processor to equip their individual machines or production cells. In the case of injection moulding, extrusion or blow moulding machines, cost savings can be easily achieved with minimum outlay.

Individual applications and problems are rapidly solved and may be the first steps towards a later system solution. **smart solutions** correspond to motan's high quality standard in spite of lower prices and are available through motan's worldwide distribution and service network. All units may of course be integrated into system solutions.

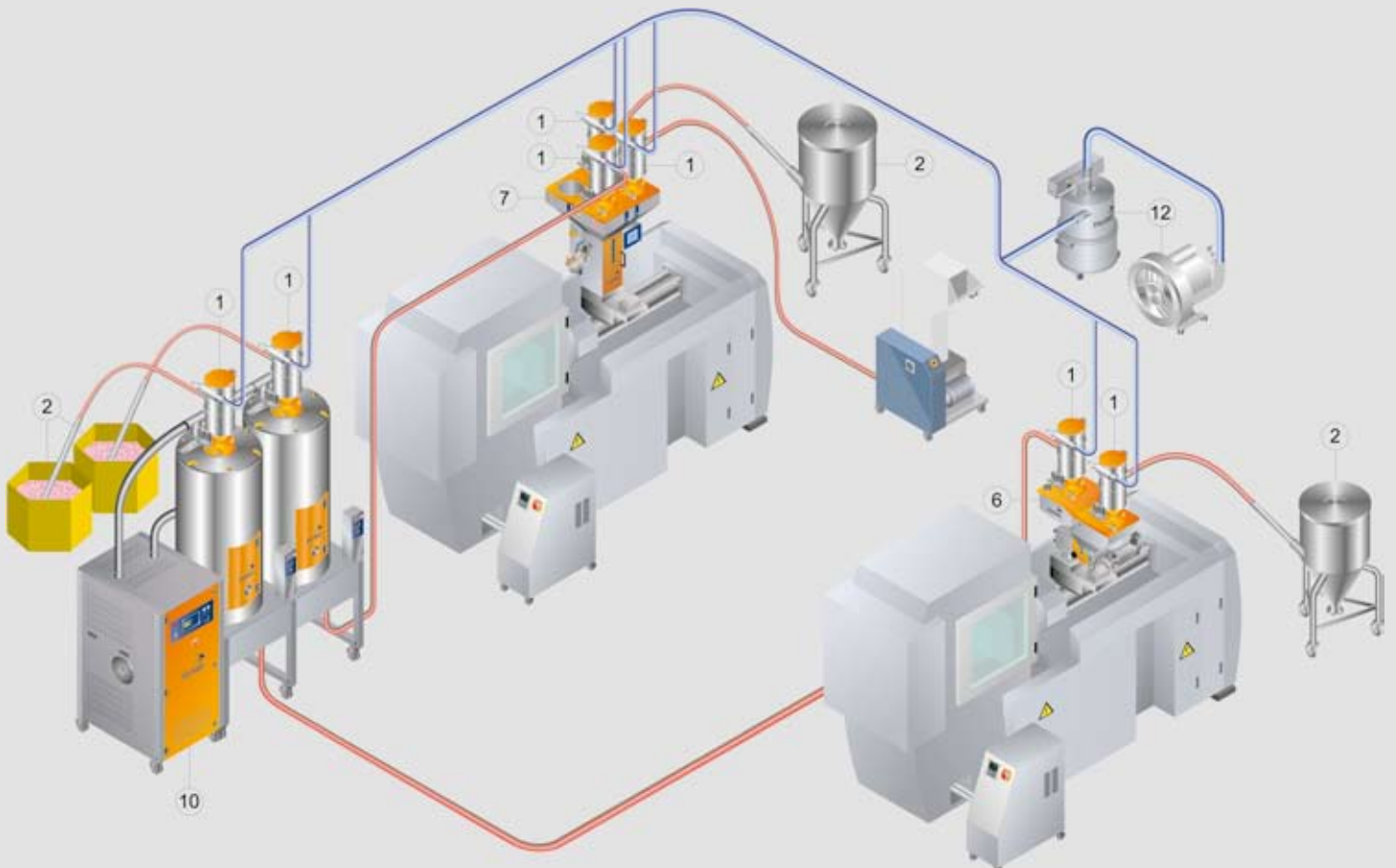
- Material bins for clean and clearly arranged material storage
- Dryers for energy saving material drying to a defined residual moisture, or removing surface moisture and preheating of material
- Conveying equipment for automatic material transport and supply to the machine
- Dosing and mixing units for self colouring or addition of additives and regrind

Examples for step-by-step automation of injection moulding machines.





1. Hopper loader for automatic machine feeding
2. Day bin
3. Debagging container
4. Mixing valve
5. MINICOLOR V, volumetric additive dosing unit
6. MINICOLOR G, gravimetric additive dosing unit
7. GRAVICOLOR, gravimetric dosing and mixing unit
8. LUXOR HD, hot air dryer
9. LUXOR CA, compressed air dryer
10. LUXOR, dry air dryer
11. Blower station
12. Central blower station with filter





METRO VL



METRO MES 10



METRO HES 50



METRO HES 250



METRO HPS 06



METRO HBS 250/2



METROMIX

It is assumed that nowadays production down-times due to empty machine hoppers do not occur. Hopper loaders automate the material feed to the machines. The cost advantage is obvious: clean production sites, no material loss due to spilled material, no risk of injury associated with manual filling of machine hoppers, better deployment of personnel and, in conjunction with day bins, no material mistakes. Finally, no production down-times.

METRO VL

Venturi compressed air loader for small quantities.

METRO MES 10

Hopper loader with integrated vacuum motor, the most cost saving solution for short conveying distances and a material throughput of up to 10 kg/h.

METRO HES 50

Hopper loader with vacuum motor, suitable for short conveying distances, powerful and low noise for a material throughput of up to 50 kg/h.

METRO HES 250

Hopper loader with brushless vacuum motor, maintenance free and powerful for a material throughput of up to 250 kg/h. Suitable for short conveying distances.

METRO HPS 06

Hopper loader to be used in central conveying systems. Depending on the applied central conveying blower, longer conveying distances are possible.

METRO HBS 750/2

Hopper loader with a three-phase blower for higher material throughputs and short conveying distances.

METROMIX

Proportioning valve to add regrind may be supplied or retrofitted as necessary.

METRO VL

Venturi loader

The METRO VL loader is designed principally for manufacturers who produce small plastic parts and components.

This highly versatile compressed air loader can fulfil several different functions. It can be fitted directly to the throat of a small injection moulding machine to deliver 30 kg/h of virgin material. It can supply masterbatch feeders with masterbatch, a GRAVICOLOR blender with additives or a LUXOR CA compressed air dryer with virgin material.

Many features make the METRO VL very user friendly:

- It is light in weight
- Easy and quick to install
- Simple to operate and to clean
- Silent and wearfree operation
- Requires very little maintenance

The stainless steel construction ensures no contamination of material. An alarm indicates insufficient material.



METRO VL



LUXOR CA with METRO VL



METRO MES 10



METRO HES 10



METRO HES 50



METRO HES 50



METRO HES 250



METROMIX

METRO HES/MES

Single-phase loaders

These models are ready to use, self-contained, all purpose loaders designed for material throughputs from 10 to 250 kg/h.

They are fitted with an integrated vacuum motor, large filter and easy to operate controller. The conveying times are adjustable. An alarm indicates insufficient material.

The units can be mounted directly onto the feed throat of the processing machine (MES) or a machine hopper or material hopper (HES).

Noise insulation is fitted to the METRO HES/MES 50 and 250 making them quiet in operation.

The METRO HES/MES 250 models are equipped with reliable brushless motors and soft-start for wear-free operation.

All METRO HES/MES 50 and 250 models have a hinged lid for easy cleaning. METRO HES units are equipped with a large stainless steel discharge flap to ensure trouble-free operation. Filter cleaning after every conveying cycle by compressed air.

METROMIX

Proportioning valve

A stainless steel proportioning valve for mixing virgin and regrind material. The percentage and number of material charges per feed cycle can easily be adjusted. It can be retrofitted without difficulty. The METROMIX is easily cleaned via a large transparent access panel.

METRO HBS

Three-phase loaders

The METRO HBS models offer a wide choice of loader-blower sets and are designed for higher throughputs, from 250 up to 750 kg/h.

The units are supplied with a separate three-phase floor standing blower station which is low noise and maintenance free. The control panel is located at a convenient height, eliminating the need to climb onto the processing machine. An alarm indicates insufficient material.

Highly efficient automatic implosive filter cleaning is standard on all METRO HBS loaders.

METRO HBS units are also available with two material inlets. A separate mixing valve is not needed, as the METRO HBS loader has an integral proportioning function for virgin and regrind material. The ratio between the materials is precisely adjustable, so that the loader delivers a completely homogeneous mixture.

Up to two loaders plus a blower station can be controlled through a single control panel. In effect, processors can set up a small conveying system, with METRO HBS loaders serving either two machines or one machine and a drying bin.



METRO HBS with blower



METRO HBS 250/2





METRO HPS/HPG

Loaders for small systems

Modularity

- The motan METRO range with 0.5 to 30 litres capacity.
- Modular design allows easy adaptation.
- Machine loaders replace the machine hoppers on the processing machines.
- The option of either a glass or steel hopper body is available for most loaders.

Implosion valve

All METRO HPS/HPG material loaders are fitted with a vacuum valve. The valve opens the vacuum line when material is being conveyed and closes with an airtight seal after the conveying phase. The reduced pressure in the loader then causes the implosion valve to open suddenly for a short time. The shock of this implosion cleans the material separation screen after each conveying cycle.



METRO HPS 06



METRO MPG 1.5

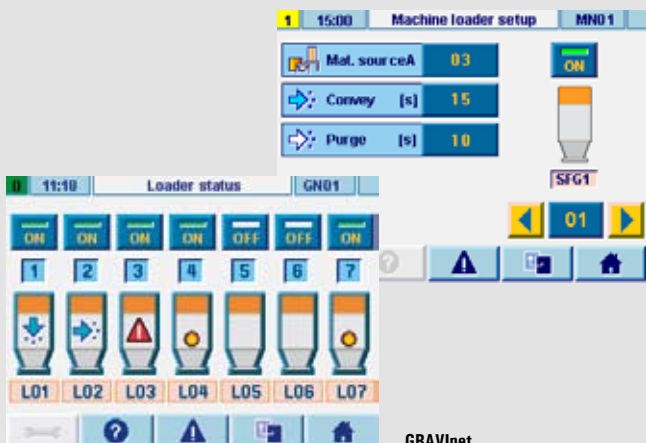


GRAVInet

GRAVInet convey control module

In addition to controlling the GRAVICOLOR, the GRAVInet control can serve up to seven hopper loaders in two vacuum lines with conveying blowers and central filters included.

Using the Ethernet-based motan CONTROLnet, the hopper loaders, activated through GRAVICOLOR, can be integrated into a central conveying system.



GRAVInet

Material hoppers

Hoppers in stainless steel or glass with hinged lid and hopper loader flange for mounting on a MINICOLOR dosing unit or directly on the feed throat of the machine.

Material hoppers	Gross filling quantity approx. (l)	Net filling quantity* approx. (l)	Suitable loader sizes approx. (l)
2 litres, round, stainless steel	2.5	0.3	0.5/1.5/6/10
8 litres, round, glass	8	6	0.5/1.5/6/10
8 litres, round, stainless steel	8	6	0.5/1.5/6/10
10 litres, square	10.5	5	0.5/1.5/6/10
15 litres, square	15.5	10	0.5/1.5/6/10
15 litres, round, stainless steel	15.5	7	15/30
20 litres, round, glass	21.5	14	15/30
20 litres, round, stainless steel	21.5	14	15/30
30 litres, round, glass	28.5	21	15/30
30 litres, round, stainless steel	28.5	21	15/30
60 litres, square	64	48.5	15/30

* Filling quantity with hopper loader fitted.

Material storage bins

Profitability starts with well thought-out material storage and the use of small and mobile bins.

Mobile day bins

Connecting piece with locking cap for a suction probe of 38 – 60 mm diameter included.

For contamination free storage of free-flowing granules/additives or regrind materials.

The day bins are made of high quality plastic (PE-HD).

Day bin, mobile

Volume (l)	120	240	360
B (mm)	480	580	600
L (mm)	550	730	870
H (mm)	930	1075	1100



Material hopper, square



Material hopper, round, stainless steel



Material hopper, round, glass

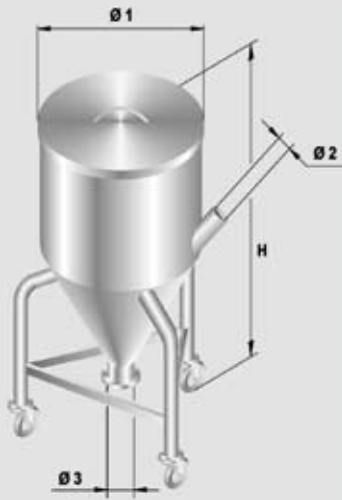


Day bin, mobile





Day bin, aluminium



**Day bins made of aluminium,
120/240/360 litres**

Connecting piece for a suction pipe of 38 - 60 mm diameter included.

Compact design and mobile with three castors. Optional mounting of a suction box is possible.

Day bins

Volume (l)	120	240	360
Dimensions (mm)			
H	900	1150	1165
Ø d1	616	616	800
Ø d2	65	65	65
Ø d3	100	100	100

Debagging container,
standard type 1



**Debagging container made of aluminium,
400 litres**

Bulk material container for storing free-flowing plastics granules.

Standard type 1

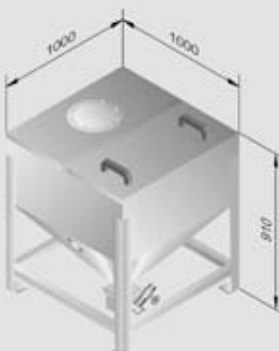
Hinged lid, grid insert, welded suction pipe at the side and hinged slide at the outlet included.

Standard type 2

Hinged lid, grid insert, screw socket for minimum indicator, outlet flange for connection of a suction box or hinged slide included.

Optionally available for type 2: a suction box and the connection for a motan loader.

Debagging container,
standard type 2



Intermediate storage container,
standard type 3



**Intermediate storage container
Standard type 3**

Intermediate storage container

Volume (l)	1500	2000	3000	4000	5000
Dimensions (mm)					
L	1200	1200	1500	1500	1500
B	1200	1200	1500	1500	1500
H	1650	2000	2070	2520	2920



Technical data

Loader type METRO VL*	METRO VL
Material throughput approx. (kg/h)**	max. 30
Mode of conveying	compressed air
Power supply (V/Hz)	230/50
Compressed air oil and water-free (bar)	3 - 7
Air consumption (m ³ i.N./kg)	max. 0.78
Weight approx. (kg)	2
Colour	stainless steel

Technical data

Loader type METRO ...	HES 10	MES 10	HES 50	MES 50	HES 250	MES 250
Volume (l)	1.4	6	6	6	6	6
Material throughput approx. (kg/h)**	10	50	50	50	250	250
Filter cleaning	compressed air	compressed air	compressed air	compressed air	compressed air	compressed air
Filter type	cloth	cloth	cloth	cloth	cloth	cloth
METROMIX connection	no	yes	yes	yes	yes	yes
Blower capacity/connected load (W)	700	1100	1100	1100	1100	brushless
Power supply (V/Hz)	1/N/PE 230/50	1/N/PE 230/50	1/N/PE 230/50	1/N/PE 230/50	1/N/PE 230/50	1/N/PE 230/50
Compressed air oil and water-free (bar)	5 - 7	5 - 7	5 - 7	5 - 7	5 - 7	5 - 7
Dimensions (mm)						
H	456	450	570	560	620	610
Ø d1 (hole circle)	195	75	195	100	195	100
Weight approx. (kg)	6	5.3	11.2	10.3	11.7	10.8
Colour RAL	2011	2011	2011	2011	2011	2011

Technical data

Loader type METRO ...	HBS 250	2HBS 250	HBS 350	2HBS 350	HBS 750	2HBS 750
Number of hopper loaders	1	2	1	2	1	2
Volume (l)	6	15	6	15	6	15
Material throughput approx. (kg/h)**	250	350	350	350	750	750
Filter cleaning	implosion	implosion	implosion	implosion	implosion	implosion
Filter type	cloth	cloth	cloth	cloth	cloth	cloth
Number of material inlets***	1 or 2	1 or 2	1 or 2	1 or 2	1 or 2	1 or 2
Power supply (V)	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
Compressed air oil and water-free (bar)	5 - 7	5 - 7	5 - 7	5 - 7	5 - 7	5 - 7
Dimensions (mm)						
H1	716	716	894	894	894	894
Ø d1 (hole circle)	195	195	260	260	260	260
Ø d2	38	38	60	60	60	60
Ø d3	45	45	60	60	60	60
Weight approx. (kg)	11.5	11.5	18.5	19	18.5	19
Blower station:						
Ø d3 vacuum connection (mm)	45	45	60	60	60	60
Connected load (kW)	0.9	1.3	2.2	2.2	2.2	2.2
Power supply (V/Hz)	3/PE 400/50	3/PE 400/50	3/PE 400/50	3/PE 400/50	3/PE 400/50	3/PE 400/50
Weight approx. (kg)	27.5	33.5	35	35	35	35
Colour RAL	2011	2011	2011	2011	2011	2011

Technical data

Loader type METRO ...	HPS 0.5	HPS 1.5 HPG 1.5	HPS 06 HPG 06	HPS 10 HPG 10	HPS 15 HPG 15	HPS 30 HPG 30
Volume (l)	0.5	1.5	6	10	15	30
Filter cleaning	implosion	implosion	implosion	implosion	implosion	implosion
Filter type	screen	screen	screen	screen	screen	screen
Power supply, control (V)	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
Compressed air oil and water-free (bar)	5 - 7	5 - 7	5 - 7	5 - 7	5 - 7	5 - 7
Dimensions (mm)						
H	309	402	605	669	723	823
Ø d1 (hole circle)	195	195	195	195	260	260
Ø d2	38/45	38/45	38/45/60	38/45/60	45/60	45/60
Ø d3	45	45	45	45	60	60
Weight approx. (kg)	4.5	5	9.8	10.5	18	19
Colour RAL	2011	2011	2011	2011	2011	2011

Technical data

Mixing valve type METROMIX	
Connecting dimension (mm) Ø	38
Mixing ratio (virgin:regrind)	90:10 to 10:90
Power supply (V)	24 V DC
Compressed air oil and water-free (bar)	5 - 7
Weight approx. (kg)	2.5

* The following items are included with delivery: 3 m material hose and a suction pipe. In addition, METRO HBS hopper loaders are delivered with 3 m vacuum hose.

** The conveying capacity refers to a conveying distance of 5 m at a height of 3 m. The information refers to materials with a bulk density of 0.6 kg/dm³.

*** When connecting two hopper loaders, a maximum of one hopper loader can be equipped with two material inlets.

Subject to technical changes.

METRO



METRO VL



METRO VL



METRO HES



METRO MES



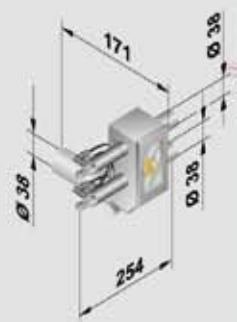
METRO HBS



Blower station



METRO HPS



METROMIX



Your benefits

Improved production efficiency through

- proven motan quality for trouble-free, reliable operation
- a first step to efficient, automated production
- processing machine which does not run empty
 - automatic alarm prompts for material supply
- avoiding health and safety risks – no material spillage, resulting in clean, safe floors and workspace
- possibility of proportioning of regrind
- easy access for cleaning
- automatic filter cleaning

Cost savings through

- material savings at least 1 to 2%
 - no spillage
- manpower savings through automated material conveying – no manual delivery and loading
- stainless steel construction – long service life
- low maintenance

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