

Single units - Conveying

METRO

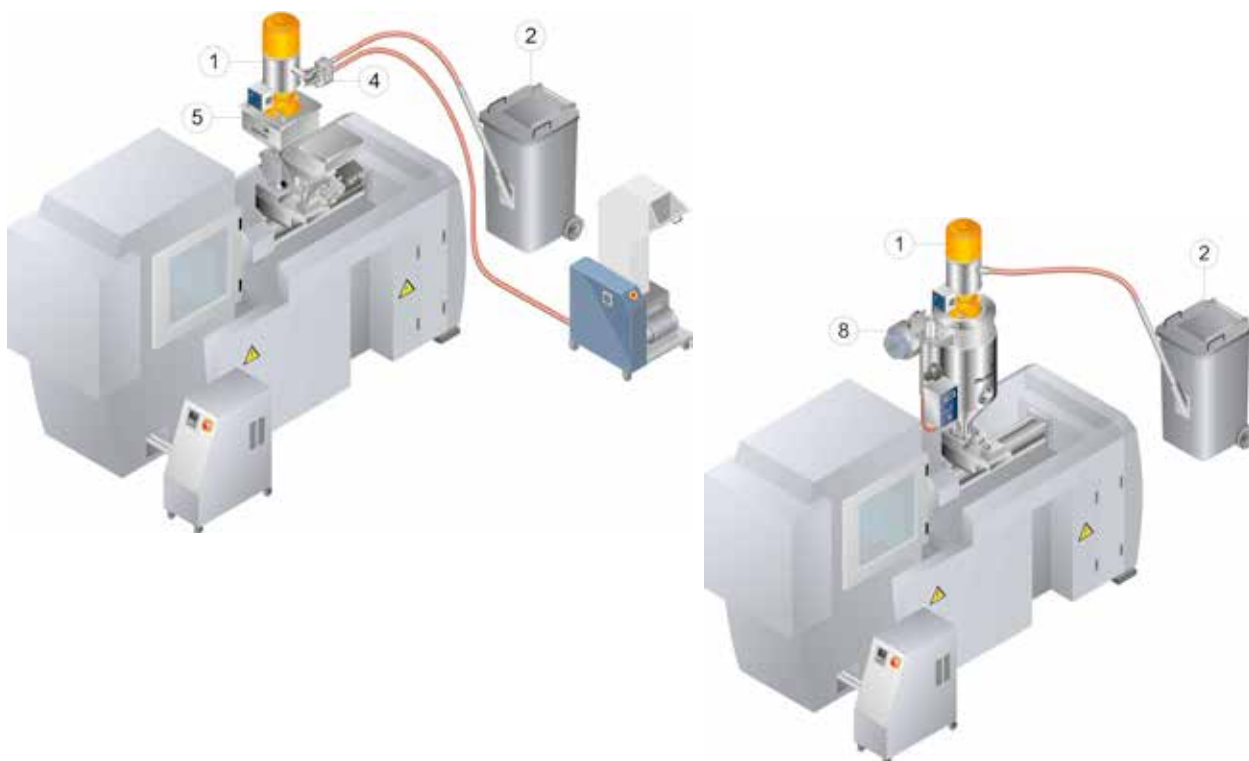
 think materials management



INCREASING PRODUCTIVITY WITH THE LEAST CAPITAL EXPENDITURE

motan's single units comprise a range of equipment for optimising and automating plastics processing machinery production. All units can be combined or expanded in order to satisfy increasing and changing requirements. They 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.

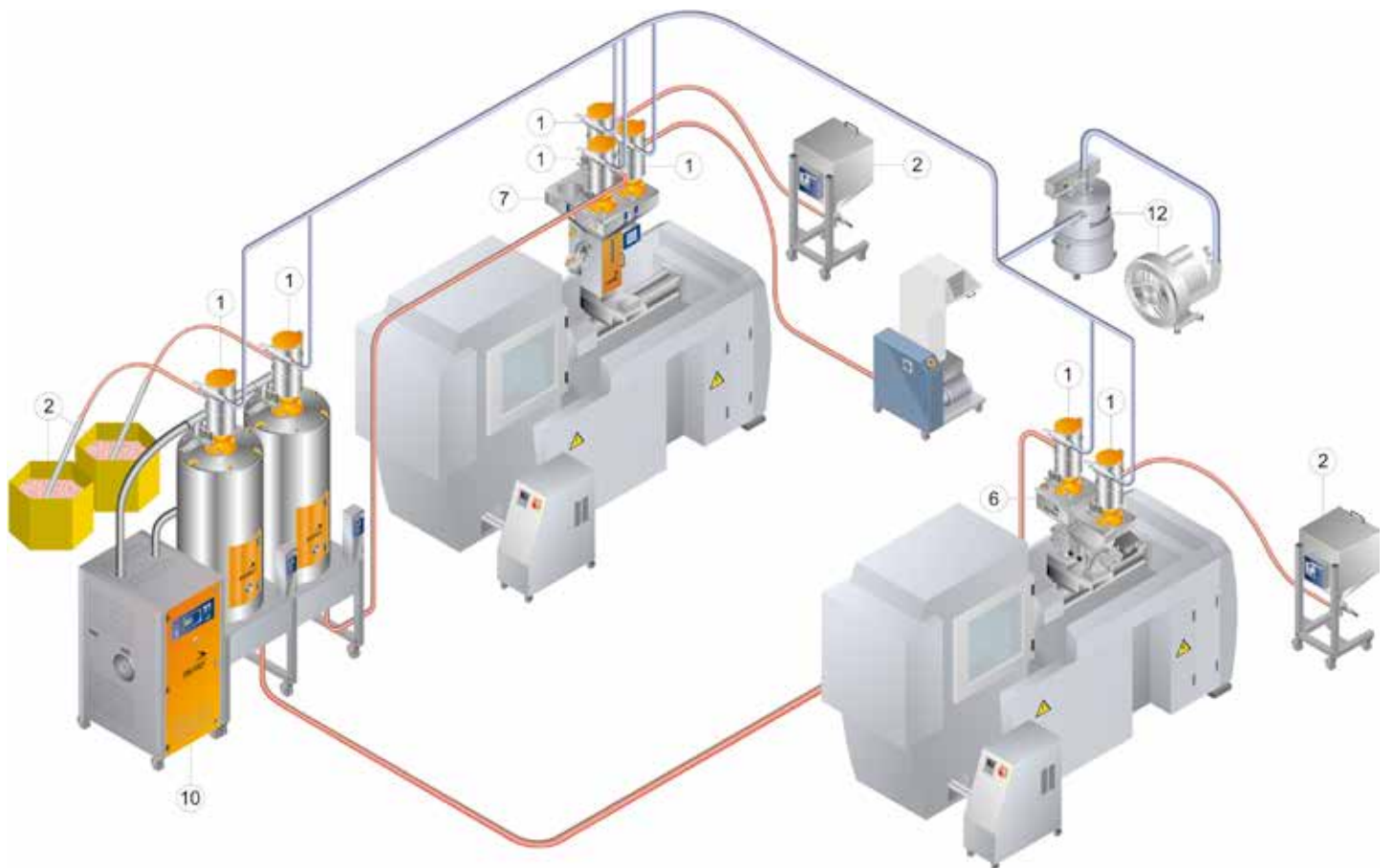
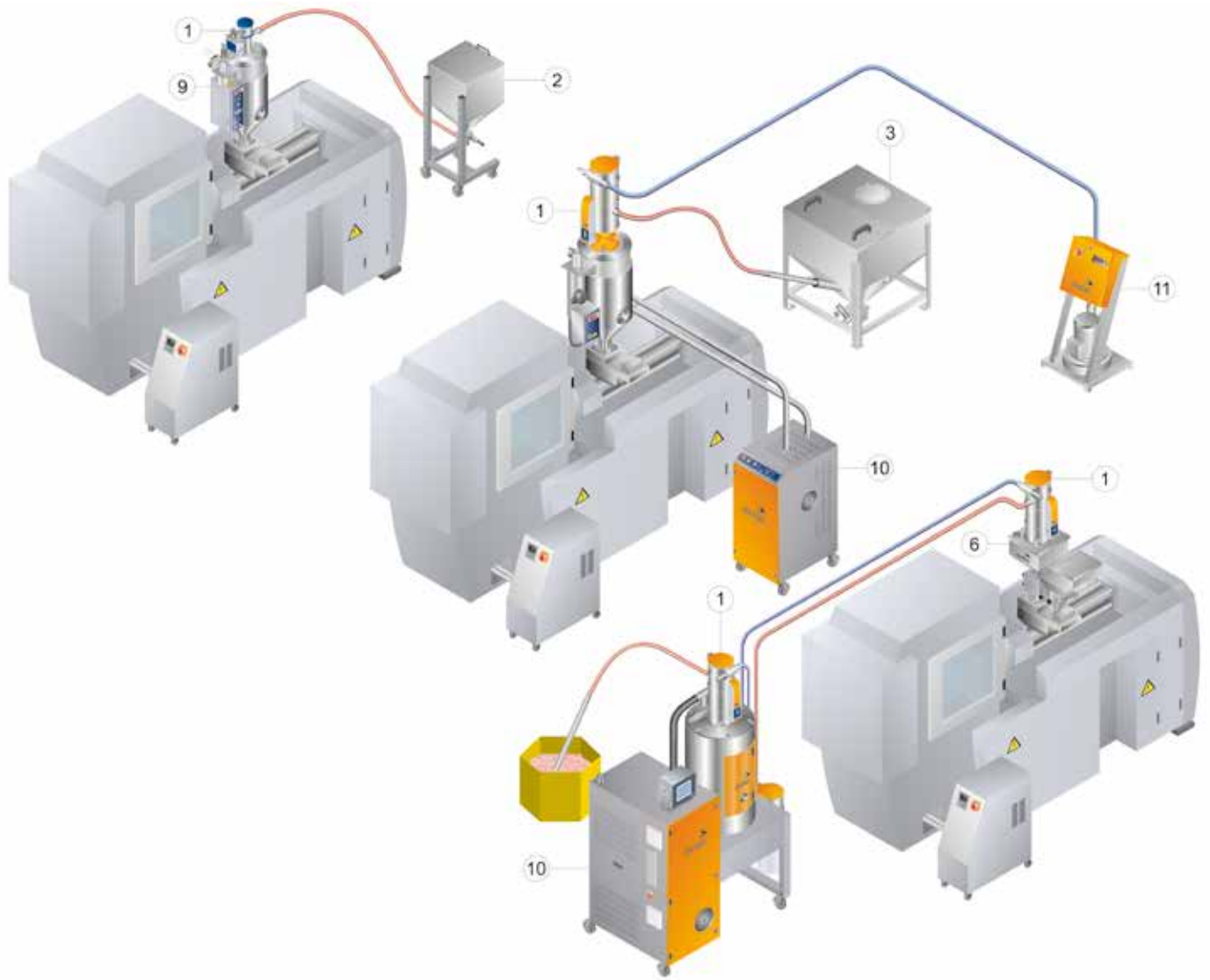
Individual applications and problems are rapidly solved and may be the first steps towards a later system solution. The single units correspond to motan's high quality standard in spite of lower prices and are available through motan's world-wide distribution and service network. All units may of course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



EXAMPLES FOR STEP-BY-STEP AUTOMATION OF INJECTION MOULDING MACHINES

KEY FEATURES

- 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 for the addition of additives and regrind
1. Hopper loader for automatic machine feeding
 2. Day bin
 3. Debagging station
 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 MATERIAL LOADERS

METRO MES 10



METRO HES 50



METRO HES 250



METRO HBS 300/2



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 processing machine hopper of drying bin or day bin. Material is delivered exactly when needed keeping machines running and avoiding costly downtime. Material wastage is eliminated and the workspace is kept clean and safe.

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

Nowadays, it is assumed that production downtimes 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 downtimes.

METRO MES 10

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

METRO HES 50

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

METROMIX



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 HBS 300/2

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

METRO VL



LUXOR CA with METRO VL



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 wear-free operation
- Requires very little maintenance

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

METRO HES/MES SINGLE-PHASE LOADERS

METRO MES 10



METRO HES 10



METRO HES 50



METRO HES 250



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. The filter is cleaned after every conveying cycle by compressed air.

METROMIX PROPORTIONING VALVE

METROMIX



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

METRO HBS with blower station



METRO HBS 300/2



The METRO HBS models offer a wide choice of loader-blower sets and are designed for higher throughputs from 300 up to 1600 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 G LOADERS FOR SMALL SYSTEMS

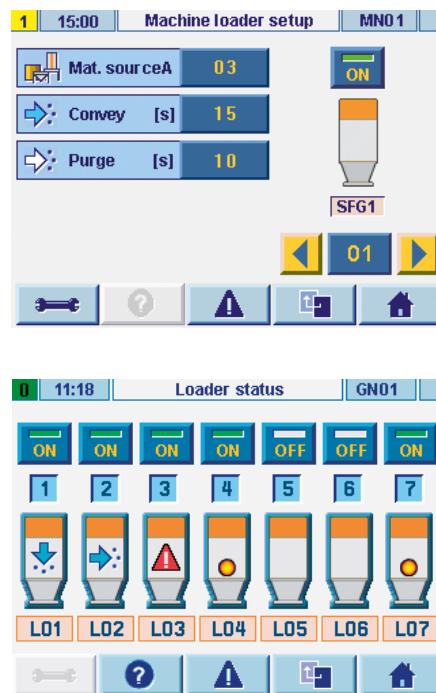
METRO G 031 HSS
with METROMIX



METRO G 1.5I HSS



GRAVInet



Implosion valve

All METRO G 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.

Modularity

- The motan METRO G range with 0.5 to 50 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

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.

MATERIAL HOPPERS / STORAGE BINS

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.

Technical data			
Material hoppers	Gross filling quantity approx. (l)	Net filling quantity* approx. (l)	Suitable loader sizes approx. (l)
2 litre, round, SST	2	0.3	0.5/1.5/3/5
8 litre, round, SST/glass	8	6	6/10
8 litre, round, SST	8	6	6/10
8 litre, round, SST insulated	8	6	6/10
10 litre, square, SST	10	5	0.5/1.5/3/5
15 litre, square, SST	15	10	6/10
20 litre, round, SST/glass	20	14	15/30/50
20 litre, round, SST	20	14	15/30/50
20 litre, round, SST insulated	20	14	15/30/50
30 litre, round, SST/glass	30	22	15/30/50
30 litre, round, SST	30	22	15/30/50
30 litre, round, SST insulated	30	22	15/30/50
30 litre, square, SST	30	25	15/30/50
60 litre, square, SST	60	50	15/30/50

* Filling quantity with hopper loader fitted.

Material hopper, round, stainless steel



Insulated material hopper, round, stainless steel



Material hopper, round, glass and stainless steel



Material hopper, square, stainless steel



Material storage containers

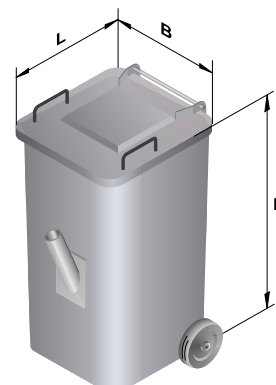
Profitability starts with well-thought-out material storage and the use of small and mobile bins.

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).

Technical data			
Day bin, mobile			
Volume (l)	120	240	360
B (mm)	480	580	600
L (mm)	550	730	870
H (mm)	930	1075	1100

Day bin, mobile



MATERIAL STORAGE BINS / CONTAINERS



Day bin, stainless steel

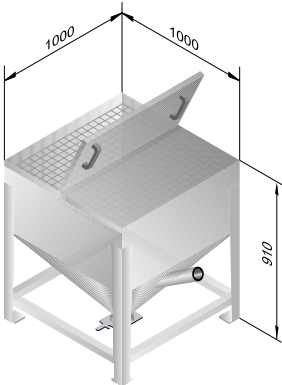


Day bins made of stainless steel

Shut-off valve and a suction box is included.
Compact design and mobile with four castors.

Technical data	
Day bin	DB 60
Volume (l)	60
Material (hopper)	stainless steel
Weight (kg)	27
Colour (RAL)	7040

Debagging station, standard type 1



Debagging stations made of aluminium, 400 litres

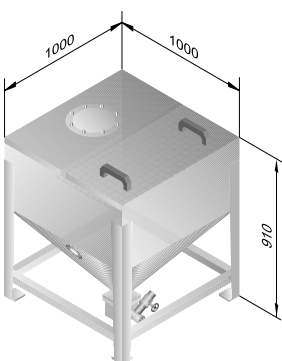
Bulk material stations for storing free-flowing plastics granules.

Standard type 1

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



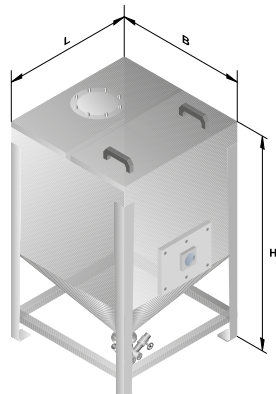
Debagging station, standard type 2



Standard type 2

Hinged lid, grid insert, screw socket for minimum level 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.

Intermediate storage container



Intermediate storage containers made of aluminium, 1500 - 5000 litres

Bulk material container for free-flowing plastics granules.

Technical data					
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

METRO

TECHNICAL DATA

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 at 3 bar (m ³)	0.12
Weight approx. (kg)	2.5
Colour	stainless steel, electropolished

METRO VL

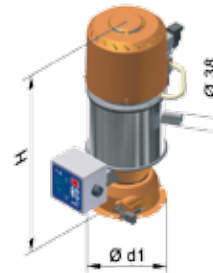


METRO VL

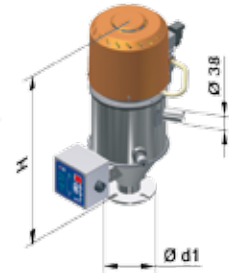


Loader type METRO ...	HES 10	MES 10	HES 50	MES 50	HES 250	MES 250
Volume (l)	1.4	6	6	6	6	6
Material throughput approx. (kg/h)**	10	50	50	50	250	250
Filter cleaning	compressed air	compressed air	compressed air	compressed air	compressed air	compressed air
Filter type	cloth	cloth	cloth	cloth	cloth	cloth
METROMIX connection	no	yes	yes	yes	yes	yes
Blower capacity/connected load (W)	800	1100	1100	1100	1100 brushless	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)	6 - 8	5 - 7	5 - 7	5 - 7	5 - 7	5 - 7
Dimensions (mm)						
H	480	474	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	

METRO HES

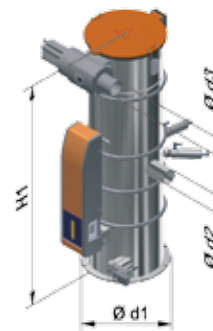


METRO MES

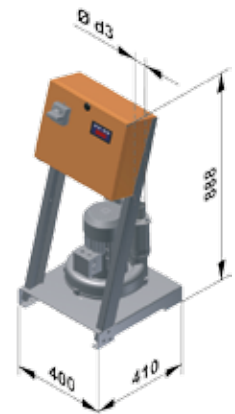


Loader type METRO G ...	HBS 300	2HBS 300	HBS 400	2HBS 400	HBS 1200	2HBS 1200	HBS 1600	2HBS 1600
Number of hopper loaders	1	2	1	2	1	2	1	2
Volume (l)	6	6	6	6	15	15	30	30
Material throughput approx. (kg/h)**	300	400	400	400	1200	1200	1600	1600
Filter cleaning	implosion	implosion	implosion	implosion	implosion	implosion	implosion	implosion
Filter type	cloth	cloth	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	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	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	5 - 7	5 - 7
Dimensions (mm)								
H1	729	729	729	729	902	902	1082	1082
Ø d1 (hole circle)	225	225	225	225	325	325	325	325
Ø d2	38	38	45	45	60	60	60	60
Ø d3	45	45	45	45	60	60	60	60
Weight approx. (kg)	11.5	11.5	11.5	11.5	18.5	19	20.5	21
Blower station:								
Ø d3 vacuum connection (mm)	45	45	45	45	60	60	60	60
Connected load (kW)	0.9	0.9	1.3	1.3	2.2	2.2	4.3	4.3
Power supply (V/Hz)	3/PE 400/50	3/PE 400/50	3/PE 400/50	3/PE 400/50	3/PE 400/60	3/PE 400/60	3/PE 400/60	3/PE 400/60
Weight approx. (kg)	39	39	45	45	54	54	82	82
Colour RAL	2011	2011	2011	2011	2011	2011	2011	2011

METRO G HBS

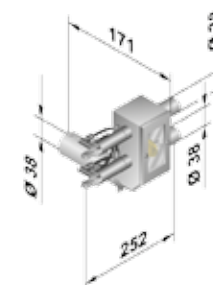


Blower station



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

METROMIX



* 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.

METRO

STAND-ALONE MATERIAL LOADERS



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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