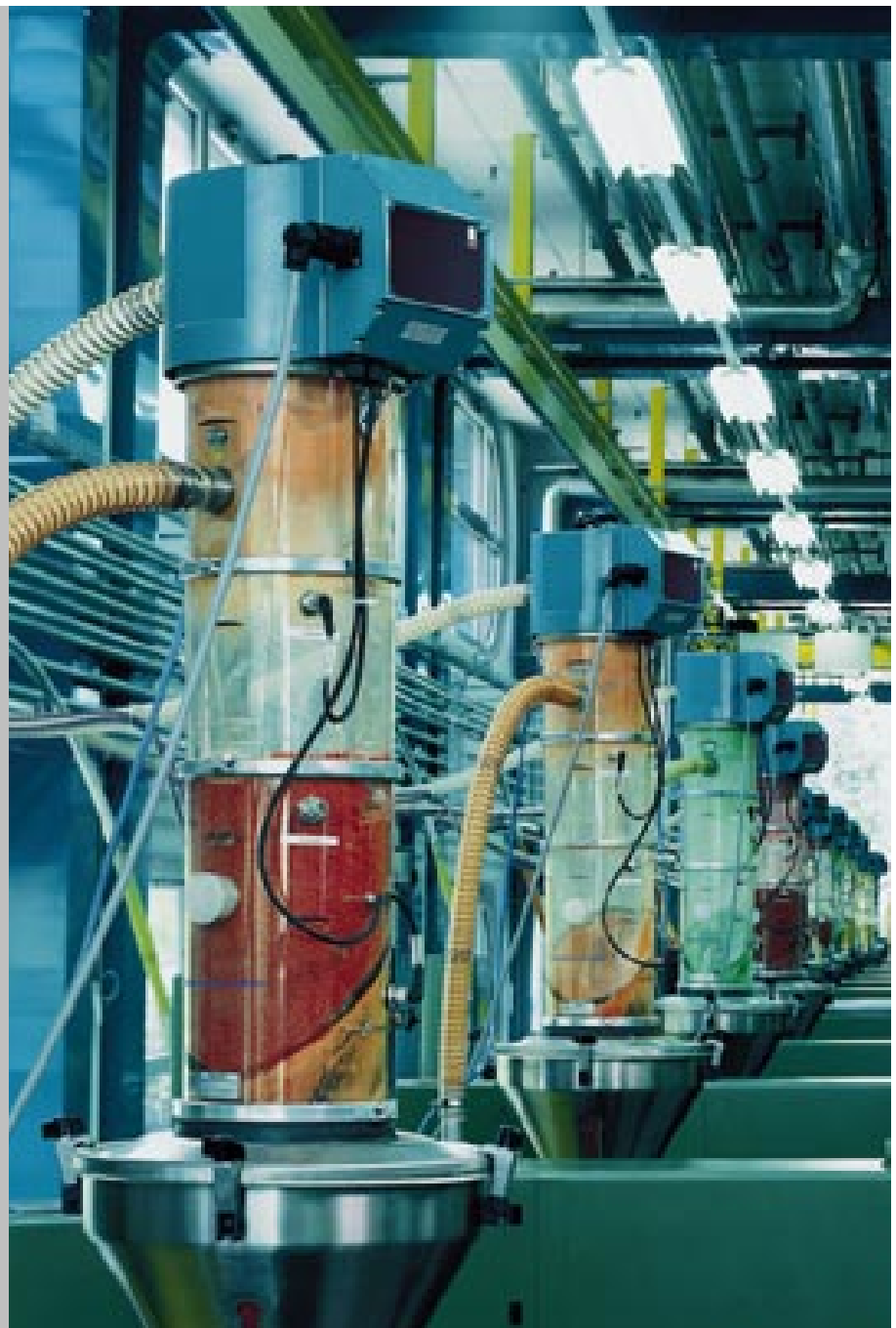


# Multiple Feed Station Conveying Systems FG 200 (38) Series

- Fully automatic supply of all consumers with any pellets being used
- Dilute-phase conveying or dense-phase conveying in suction mode
- Dust-free, environmentally friendly operation in sealed system
- No internal material transport, no material supplies and no strewing losses in manufacturing
- Machine- or material-specific conveying lines
- Manual or automatic material changing
- Modular construction
- Flexible, future-oriented system design
- Step-by-step extension and adaptation to changing operating conditions
- Individual solutions for all usual applications
- Use under clean-room conditions possible
- Use for careful conveying of abrasion-sensitive pellets types possible
- Available in wear-resistant version
- Economical and reliable operation
- Easy operation and maintenance



# Application

The FG 200 multiple feed station conveying systems, which work in suction mode, are an important component of modern, fully automated material supply systems. They feed processing machines, central drying, dosing and mixing systems or the dryers and dosing and mixing units allocated to the processing machines, in good time and in sufficient quantity from a central or decentral material store and in a sealed system with all pellets types being processed.

Each multiple feed station conveying system consists in its basic version of a vacuum generator with or without an upstream central filter, several feed stations assigned to the individual material consumers, a pipe system and a central control system.

Modern multiple feed station conveying systems consider the entire material flow within the production hall and integrate the drying, dosing, mixing and regrind reuse processes. Thanks to the modular construction, the technical plant design can be so flexible that

Machine-specific conveying lines are preferably used where a large number of different types of material are fed to all consumers, according to requirements, on a relatively frequently changing basis. Each consumer is supplied via its own conveying line which can be connected to a manual or automatic coupling station at each of the conveying lines coming from the silos or other storage hoppers.

Material-specific conveying lines are preferably used where a small number of different types of material are fed to all consumers, according to requirements, on a relatively rarely changing basis. The conveying lines assigned to the types of material are routed parallel past all consumers and each consumer can be connected to each conveying line manually or automatically.

The conveying capacity is determined primarily by the length and configuration of the conveying line system, the properties of the granular bulk material to be conveyed and the feed stations being used.



subsequent adaptation to altered conditions of material storage and supply is possible without problem.

The conveying lines of the multiple feed station conveying systems can be arranged according to machine or material.

Example:  
with PE pellets, a conveying capacity of max. 800 kg/h, with a distance of 40 m horizontal and 6 m vertical and a total of 7 90° bends, can be achieved.

# Feed stations

The pellets feed stations of the FG 200 series are available in polyamide and stainless steel versions. To separate the conveyed material from the conveying air, the feed stations are equipped with a filtering bag or filtering plate. Depending on the control concept and

the control system being used, the feed stations can be delivered with:

- Connection box (FG 24\_.0/\_3)
- Terminal box (FG 24\_.0/\_5) or
- Bus connection box (FG 24\_.0/\_7)



Feed station FG 243.0/23



Feed station FG 243.0/43

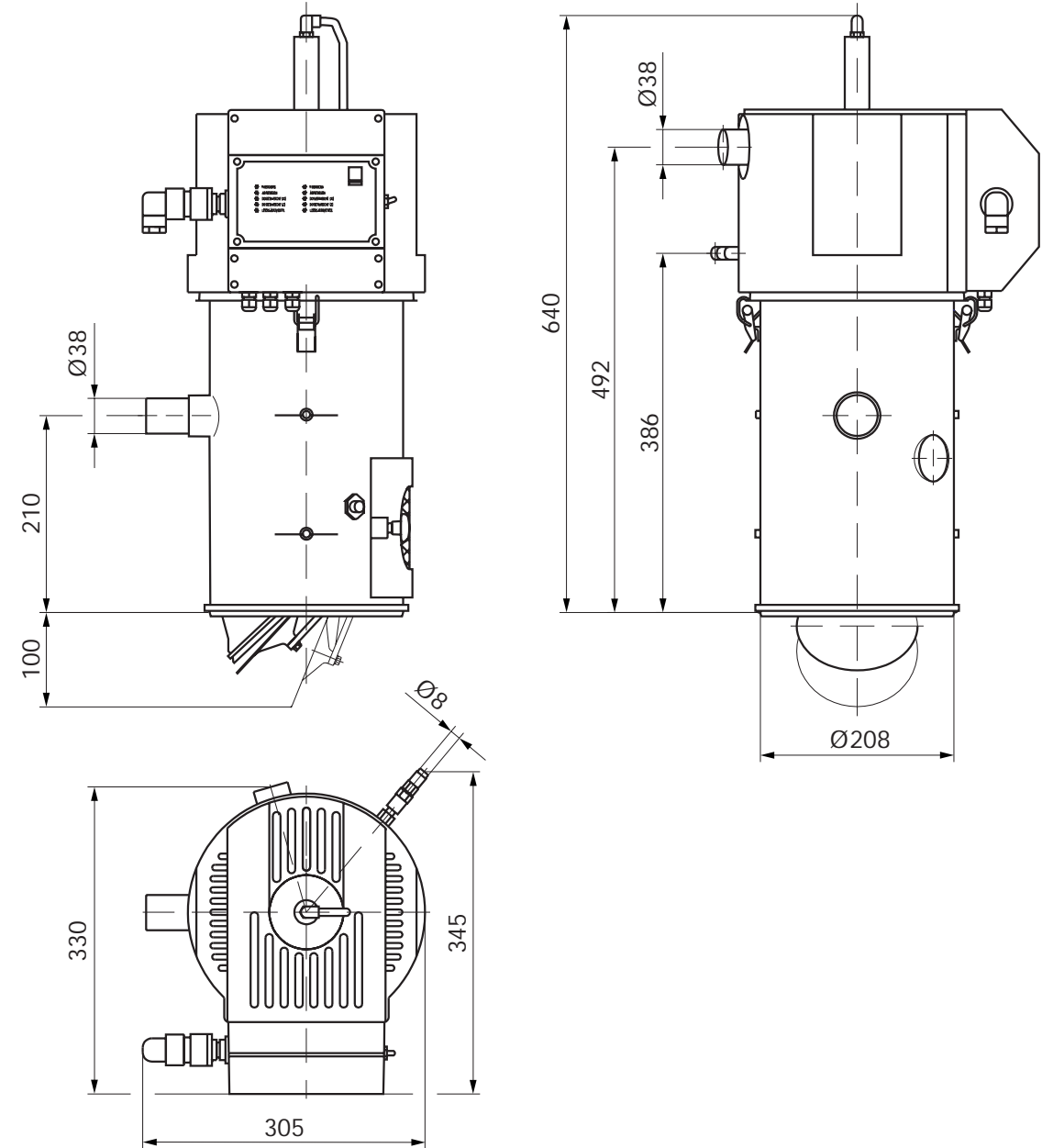


Feed station FG 244.0/23

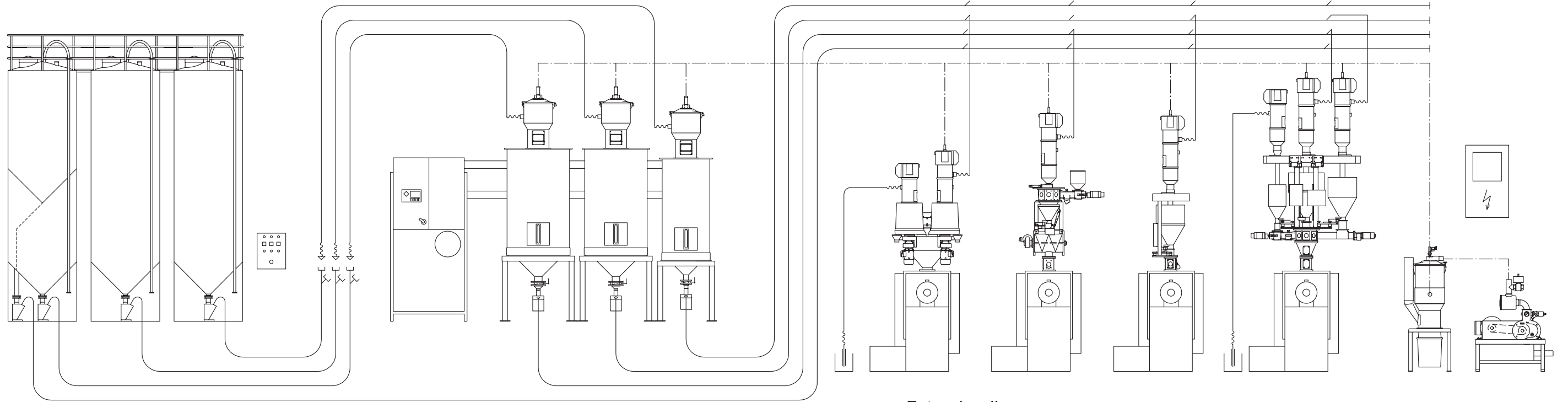


Feed station FG 244.0/43

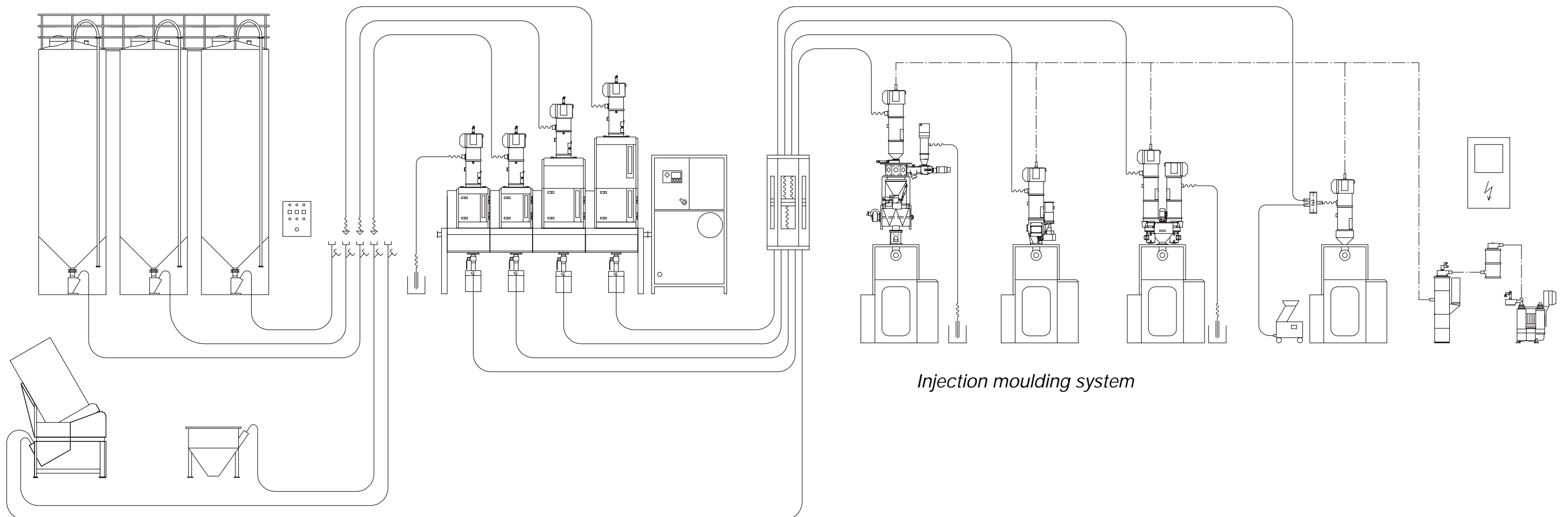
## Feed station FG 243.0/2\_



• Conveying line diameter	mm	Ø 38	• Noise emissions	dB (A)	< 80
• Material to be conveyed		pellets, regrind	• Control voltage		PE 24 V DC
• Material hopper			• Compressed air		
– Material		PA, transparent	– Pressure	bar	6
– Net volume	l	2.5	– Connection	mm	Ø 8 x 1
• Conveying air filter			– Requirement	NI/cycle	0.24
– Version		filtering plate	• Operating conditions		
– Material		stainless steel	– Bulk material temperature	°C	80
– Surface	dm <sup>2</sup>	3.0	– Ambient temperature	°C	5 – 50
– Cleaning		–	– Relative air humidity	%	< 80
• Valve attachment colour		RAL 5018	• Weight	kg	8.7

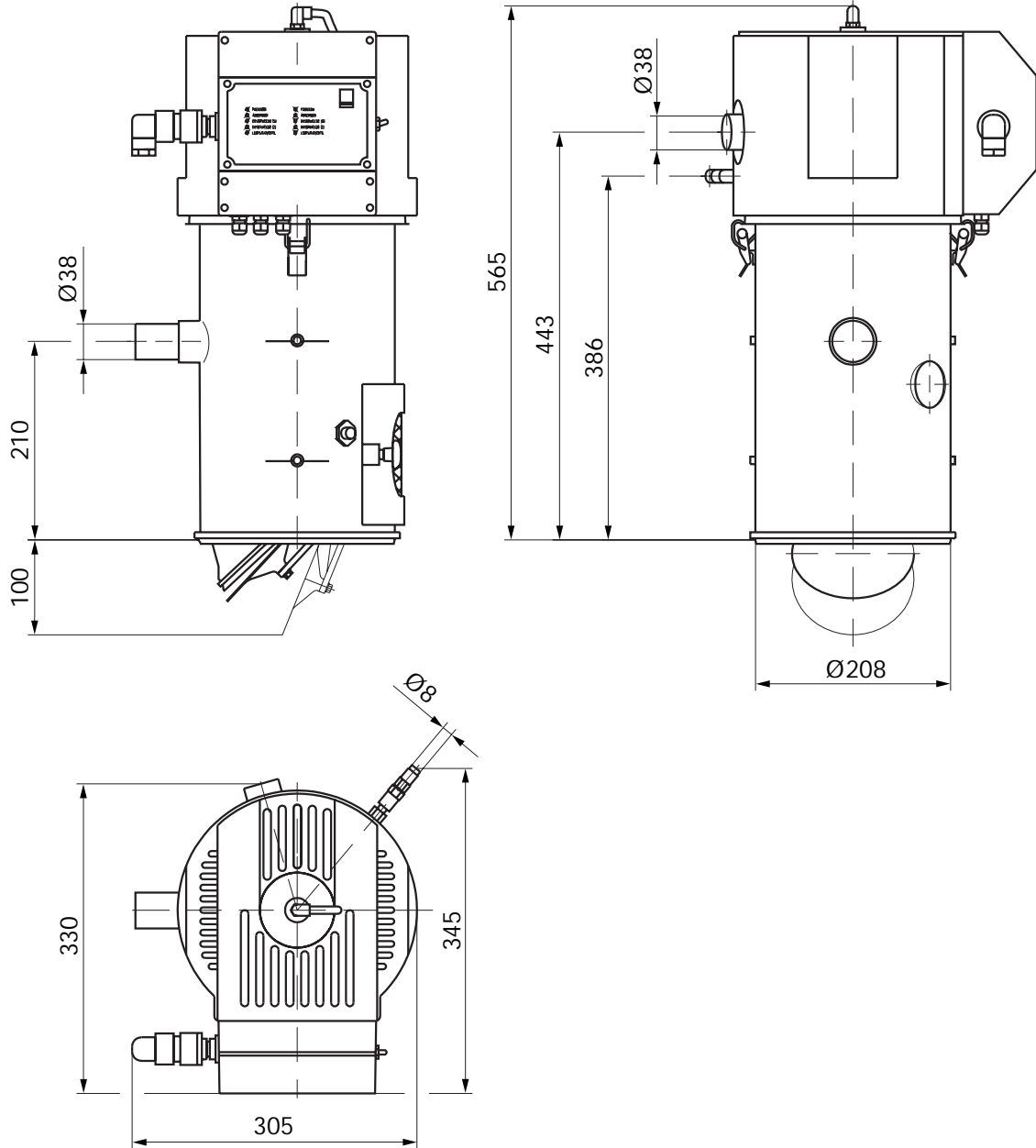


*Extrusion line*



*Injection moulding system*

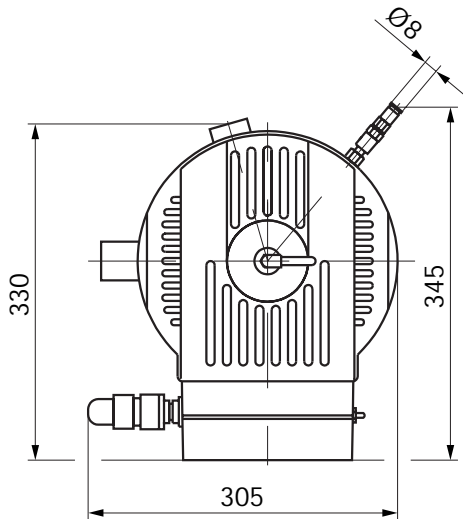
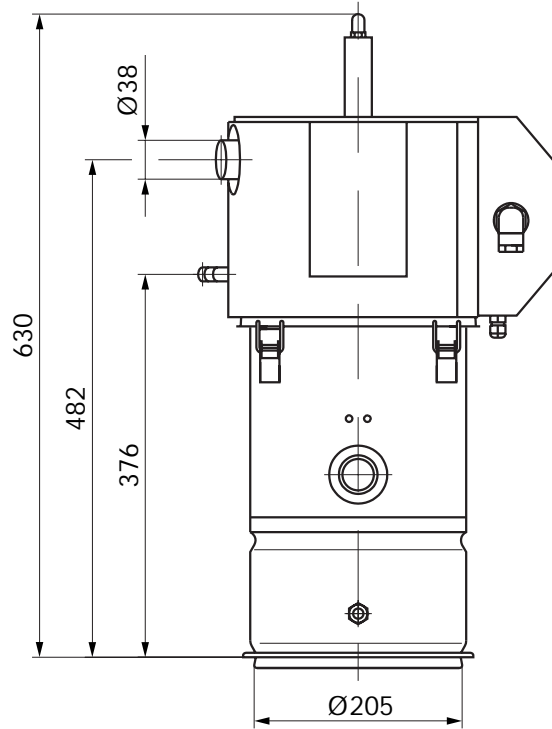
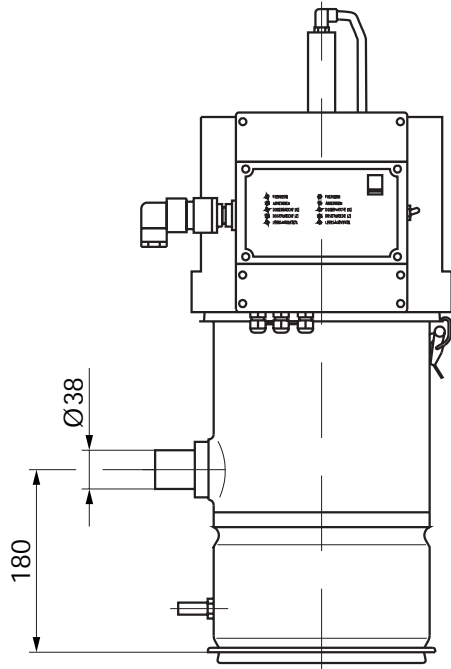
Feed station FG 244.0/2\_



• Conveying line diameter	mm	$\varnothing 38$
• Material to be conveyed		pellets, regrind
• Material hopper		
– Material		PA, transparent
– Net volume	l	2.5
• Conveying air filter		
– Version		filtering bag
– Material		PA fabric
– Surface	dm <sup>2</sup>	6.0
– Cleaning		compressed air
• Valve attachment colour		RAL 5018

• Noise emissions	dB (A)	< 80
• Control voltage		PE 24 V DC
• Compressed air		
– Pressure	bar	6
– Connection	mm	$\varnothing 8 \times 1$
– Requirement	NI/cycle	3.0
• Operating conditions		
– Bulk material temperature	°C	80
– Ambient temperature	°C	5 – 50
– Relative air humidity	%	< 80
• Weight	kg	8.3

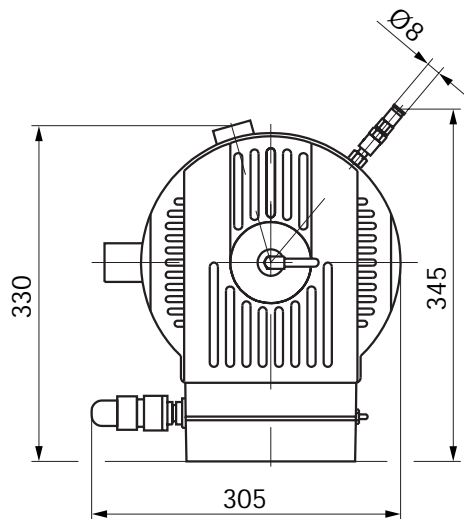
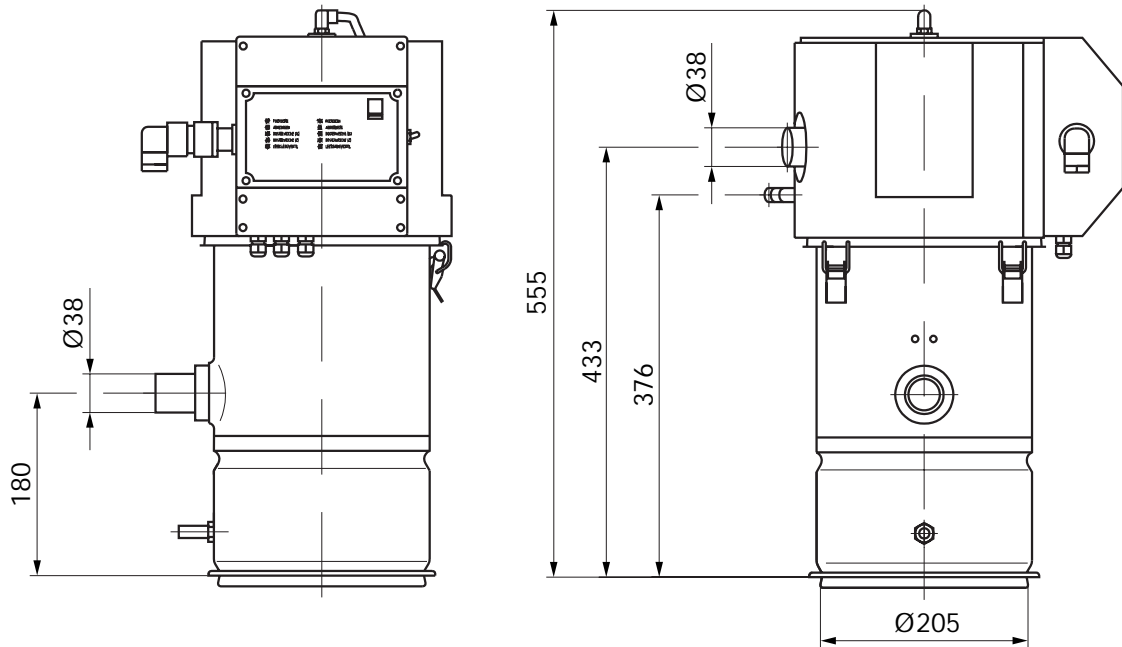
Feed station FG 243.0/4\_



• Conveying line diameter	mm	Ø 38
• Material to be conveyed		pellets, regrind
• Material hopper		
– Material		stainless steel
– Net volume	l	1.5
• Conveying air filter		
– Version		filtering plate
– Material		stainless steel
– Surface	dm <sup>2</sup>	3.0
– Cleaning		–
• Valve attachment colour		RAL 5018

• Noise emissions	dB (A)	< 80
• Control voltage		PE 24 V DC
• Compressed air		
– Pressure	bar	6
– Connection	mm	Ø 8 x 1
– Requirement	NI/cycle	0.24
• Operating conditions		
– Bulk material temperature	°C	95
– Ambient temperature	°C	5 – 50
– Relative air humidity	%	< 80
• Weight	kg	9.9

Feed station FG 244.0/4\_

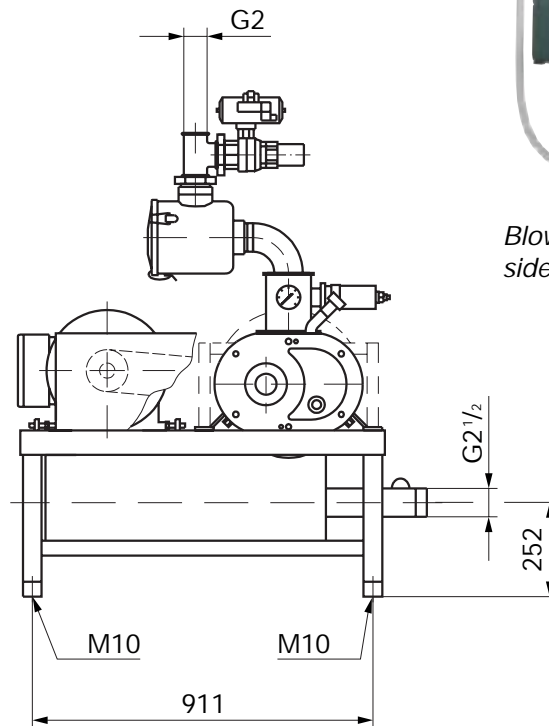
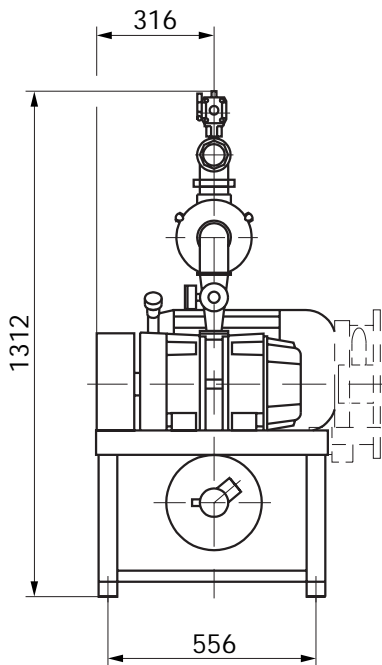


• Conveying line diameter	mm	$\text{Ø} 38$
• Material to be conveyed		pellets, regrind
• Material hopper		
– Material		stainless steel
– Net volume	l	1.5
• Conveying air filter		
– Version		filtering bag
– Material		PA fabric
– Surface	dm <sup>2</sup>	6.0
– Cleaning		compressed air
• Valve attachment colour		RAL 5018

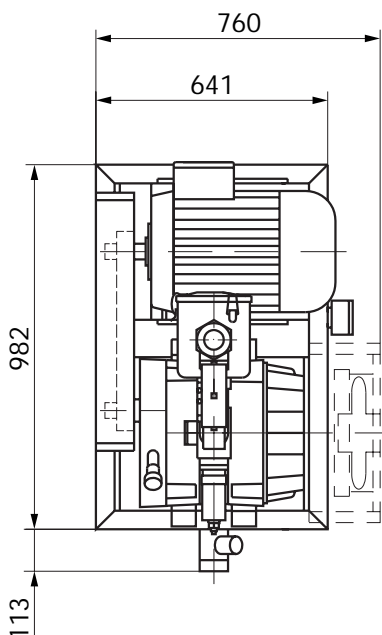
• Noise emissions	dB (A)	< 80
• Control voltage		PE 24 V DC
• Compressed air		
– Pressure	bar	6
– Connection	mm	$\text{Ø} 8 \times 1$
– Requirement	NI/cycle	3.0
• Operating conditions		
– Bulk material temperature	°C	95
– Ambient temperature	°C	5 – 50
– Relative air humidity	%	< 80
• Weight	kg	10.2

# Blower stations

The blower station used in a specific application as a vacuum generator, is primarily determined by the required conveying capacity and the pressure loss in the conveying system. With a pressure loss of up to 300 mbar, blower stations based on two-stage, air-cooled side-channel vacuum pumps are used. For details, please refer to the VKD 425 leaflet. With a greater pressure loss, blower stations on the basis of rotary piston vacuum pumps are used.



*Blower station on basis of a side-channel vacuum pump*



*Blower station on basis of a rotary piston vacuum pump*

Features	Blower station	
	A	B
• Rotary piston blower		
– Suction volume	m <sup>3</sup> /min	1.5      2.0
– Vacuum	mbar	max. 350      max. 500
– Speed	1/min	1400      1800
• Power supply	3 N PE AC 50 Hz 400 V	
• Drive motor		
– Nominal power	kW	3.0      4.0
– Nominal current	A	6.5      8.5
– Protection	IP 54	
• Operating temperature	C°	0 – 40
• Noise emissions	dB (A)	67      69
• Weight	kg	approx. 350

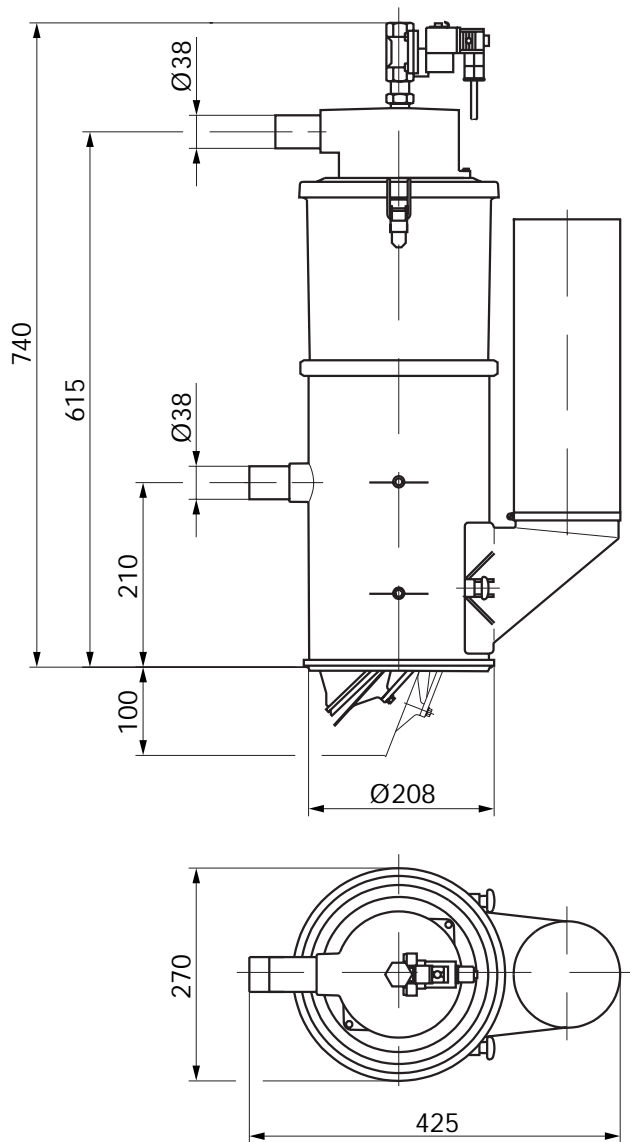


# Central filters

Central filters are primarily used in conjunction with feed stations which are equipped with a filtering plate. Through the use of these feed stations, the dust-free supply of granular and gravel-like bulk material to processing machines can be ensured. The dust contained in the bulk material to be processed is not

separated in the conveying air filter installed in the feed station, as is usual, but is drawn off and retained in the central filter, which can be cleaned, between the feed stations and blower station, i.e. it is excluded from the processing.

## Central filter ZF 206.0/20



Central filter ZF 206.0/20

• Inlet spigot	mm	Ø 38
• Housing		PA, transparent
– Material		
• Conveying air filter		filter cartridge
– Version		polyester fleece
– Material		
– Surface	m <sup>2</sup>	2.0
– Cleaning		compressed air
• Noise emissions	dB (A)	< 70

• Control voltage		PE DC 24 V
• Compressed air		
– Flow pressure	bar	1.5
– Connection		R 1/2
– Requirement	l/s	17.0
• Operating conditions		
– Ambient temperature	°C	0 – 50
– Relative air humidity	%	< 80
• Weight	kg	7.0

# Coupling stations

For changing the material, the conveying lines can be reconnected manually or automatically:

- with machine-specific pipe systems at the central coupling station
- for material-specific pipe systems above or at the feed station.

Whereas operating errors made when reconnecting the lines manually are unavoidable, use of the wrong material or material mixing can be reliably excluded with automatic reconnecting.

Within a machine-specific pipe system, as an alternative to the manual coupling station, a fully automatic multi-line distributor with integrated purging unit can be used. The desired combination of material sort / consumer is preselected at the control unit of the multiple feed station conveying system or at the master computer. Please refer to leaflet VKD 403 for details.



*Manual coupling station*



*Fully automatic multi-line distributor*

# Electrical control units

Depending on the complexity of the material supply system, various programmable logic controllers can be used, differing with regard to setup and ease of operation:

- MST-LK, with alphanumerical LC display
- MC2-DIGSY, with graphic LC display

- MST-24/PDP, with text or colour graphics display and integrated profibus master control.

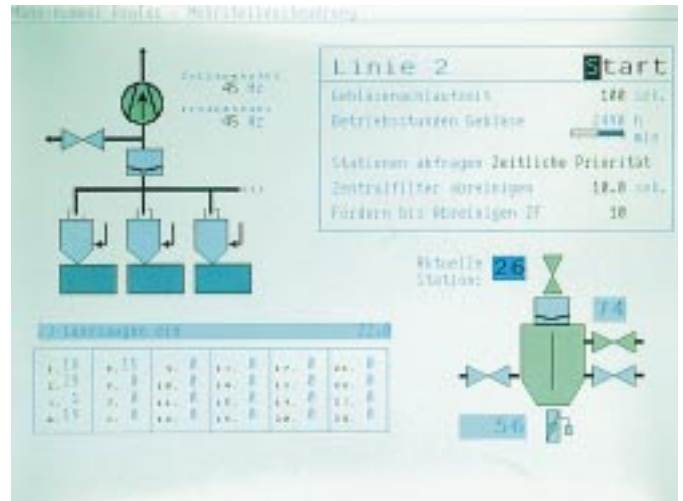
Please refer to leaflets VKD 445, 452 and 453 for details.



Control unit MST-LK



External operating panel of a control unit MC2-DIGSY



Process visualisation by means of a control unit MST-24/PDP

# Options and accessories

Each feed station of the FG 200 series can be optionally equipped with a volume extension, a proportioning attachment or a level switch. Thus the area of use of the feed stations can be expanded using the extensive

range of accessories available, and the system layout can be extremely flexible. Please refer to brochure VKD 426 for details of the respective range of accessories.

