



MIXING | DOSING | CONVEYING | DRYING

>6000

ZUFRIEDENE KUNDEN

>50

HAUSEIGENE PATENTE

7

STANDORTE WELTWEIT

+200

KOMPETENTE MITARBEITENDE

>50

JAHRE ERFAHRUNG

2x

MADE IN GERMANY
ISPRINGEN UND GÖBRICHEN



	Foreword	6
01	The company	8
	50 years of company history	12
02	KOCH MODULAR SYSTEM	16
	Schematic drawing	19
	The large type V 40 x batch mixer	21
03	MIXING DOSING	22
	Control units for premixers	25
	Premixer for injection moulding and extrusion	26
	Chamber volume dosing	32
	KEM-Touch	38
	Graviko	44
04	CONVEYING	52
	Dust-free conveying	56
	Mini conveyor	58
	Compact conveyors	60
	Intermediate hopper and filter	63
	Single conveyors	64
	GLASKO	66
05	DRYING	70
	Dry air dryers - theory & practice	72
	Dew point control	76
	ECO system control	77
	EKO-N dry air dryer	78
	KKT machine-side dryer	82
06	CENTRALISED CONVEYOR SYSTEMS	90
	Components of centralised conveyor systems	94
	Conveyor separators for centralised conveyor systems	96
	Vacuum generator	98
	Safety filter	99
	Navigator	100
	Material distribution	102
07	VISUALISATION	104
	REFERENCES	110
	Legal notice Contact person	122



KOCH MODULAR SYSTEM

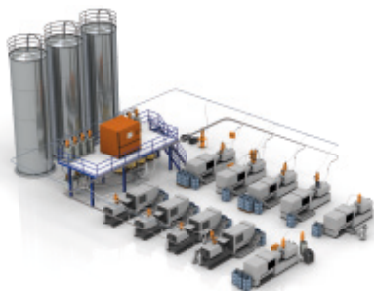
MIXING | DOSING



CONVEYING



DRYING



CENTRALISED CONVEYOR SYSTEMS

VISUALISATION

FOREWORD

Welcome to Koch Technik!

As the founder and Managing Director of this medium-sized company, I, Werner Koch, look back with great pleasure on over 50 years of success. Together with my son, Alex Koch, who has been at my side as Managing Director since 2022, and Alexander Miehl, our Sales Manager and authorised signatory since 2022, we are continuing to pursue our vision: Innovative strength and reliable technology that inspires.

Our patented processing techniques have made us one of the market leaders in the field of peripheral equipment for plastics processing. This would not be possible without the commitment and technical expertise of our more than 200 employees. They work passionately every day to develop and manufacture our Koch devices - always with the aim of offering our customers customised solutions of the highest quality.

In an industry that is constantly evolving, we stand for progress and reliability. We are proud to offer you innovative products and services that meet the highest standards. Let's shape the future together!



Prof. Dr h.c. Werner Koch

Owner, Managing Director



Alex Koch

Managing Director



Werner Koch, owner and Managing Director
Alex Koch, Managing Director



01

THE COMPANY



We are your specialist in the field of dosing, mixing, colouring and conveying plastic materials. We provide you with precise and reliable technology for supplying your injection moulding machines and extruders. Our global sales network enables us to respond quickly and expertly to your needs.

WERNER KOCH MASCHINENTECHNIK GMBH

For over 50 years, the name KOCH-TECHNIK has been inextricably linked with the mixing, dosing, conveying and drying of plastic materials. You will find KOCH devices and systems working reliably and precisely every day in more than 5,000 companies worldwide. The particularly high proportion of regular customers shows that our research and development, the resulting innovations, our service and the high degree of reliability of our technology correctly understand and implement the signals on the market. I would like to take this opportunity to thank all our customers, employees and business associates at home and abroad. It is only through their joint efforts that KOCH-TECHNIK has become one of the world's leading companies in the fields of mixing, dosing, conveying and drying technology.

MIXING AND DOSING

We are specialists in dosing, mixing and colouring plastic materials!

We provide you with precise, reliable technology - for injection moulding machines and extruders.



CONVEYING

We offer peripheral devices for the material supply of your plastics processing. Our compact and individual conveyors transport material quickly and cleanly to injection moulding machines and extruders.



THE COMPANY



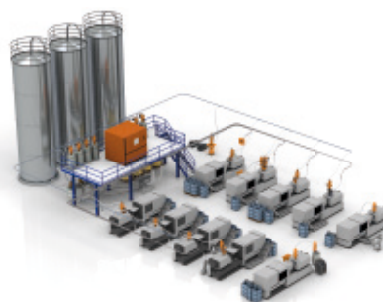
DRYING

Our dryers for plastic pellets are characterised by their high efficiency and cost-effectiveness.



CENTRALISED CONVEYOR SYSTEMS

We plan, manufacture and install your centralised material supply system. Designed entirely according to your wishes and customised to your plastics processing.





KOCH TECHNIK
1974 - 2024



1974

Foundation

Foundation of the company "WEKO" - known nowadays as Werner Koch Maschinentechnik.
First patent application for temperature control units.

1976

Breakthrough with Playmobil

The breakthrough came with the first "major order" from the Playmobil company. It ordered 20 machines for the mixing and dosing area.

First appearance at the K trade fair
KOCH-TECHNIK co-exhibits for the first time on the Single stand at the K trade fair.



First own exhibition stand
At the K trade fair in Düsseldorf in 1980, the company presents itself for the first time as a pioneer with its own exhibition stand. The following year, KOCH-TECHNIK exhibits at the Fakuma in Friedrichshafen for the first time.

1985

Focus on dryer construction

There was renewed focus on the topic of dryer construction and Werner Koch began working on the designs.



1990

Extension of the office building in Ispringen



1975

Specialisation

Specialisation in the areas of dosing, mixing and conveying of plastic materials. WEKO was the only supplier in the industry to offer liquid colouring.

Licensors

WEKO becomes the licensors for the company Single Thermogerätebau in Wernau.



1979

Relocation to the factory building

Werner Koch rents a 200 square metre factory building very close to the current headquarters in Ispringen and initially employs 9 people.

1984

Move to the first company building

After completion of the first company building, the company grew to 30 employees and was constantly expanded.



1989

Ispringen extension

Extension of the site in Ispringen

1990

Plant in India

In 1990, KOCH-Technik opened its first plant in Ahmedabad, India, as a joint venture with partner Prasad-Koch Group Ltd.



2001

Opening of Plant II in Göbrichen

After the expansion, a new production hall was built for dryer construction in the neighbouring municipality of Göbrichen in order to meet the increasing requirements and the particularly successful dryer series.



2010

Takeover of the company FASTI

The company FASTI and its product portfolio of compact dryers for plastic granulate is acquired and relocated to Ispringen as FASTI-KOCH.



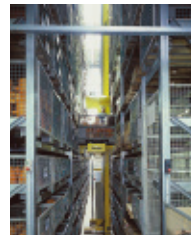
2,000

Extension with high-bay warehouse

In order to meet the increased demand for products and devices as quickly as possible, a high-bay warehouse is built at the existing plant in Ispringen. At the same time, the building is extended.

Technical centre

A technical centre and a training centre are built at the existing plant in Ispringen in 2001



2006 and 2008

Honouring Prof. Dr. h.c. Werner Koch

On 25 April 2006, the oldest Russian university for technology, the "Technological Institute" in St. Petersburg, awarded Werner Koch the title of professor at a ceremony.

On 26 June 2008, Prof. h.c. Werner Koch was awarded an honorary doctorate for his achievements in the field of production organisation.

Werner Koch enables students from St. Petersburg to complete a ten-day work experience placement in Germany.



2018

Acquisition of shares in Gitamsa Mexico
KOCH-Technik acquires a majority stake in the Mexican company Gitamsa, based in Querétaro, with which it has worked successfully since it was founded in 2011.



2019

Alex Koch joins the family business

Werner Koch's youngest son, Alex Koch, joined KOCH-TECHNIK in 2019 and has been supporting the management team ever since. Prior to this, he completed a 3½-year apprenticeship as a mechatronics technician at Härter Stanztechnik GmbH and then began a "Bachelor of Arts/Entrepreneurship" dual study programme at the Baden-Württemberg Cooperative State University (DHBW).

2023

New management

Werner Koch is supported by his son Alex Koch as an additional Managing Director and Alexander Miehl as an authorised signatory and Sales Manager.



2024 - anniversary year

New plant in Mexico

The third sales office in Mexico is established in Guadalajara.

At around 600 square metres, the plant will be roughly the same size as the main site in Querétaro and will offer both a technical centre and a training centre.



We celebrate 50
years of
the KOCH-TECHNIK
success story



02

KOCH MODULAR SYSTEM



Reacting flexibly means combining devices, omitting devices, rearranging devices! The KOCH modular system is based on the concept of modularity: Everything fits together, each device complements another device in a well thought-out modular system.

THE PERFECT SYSTEM, EASILY EXPANDABLE...

The KOCH MODULAR SYSTEM adapts flexibly to market requirements:

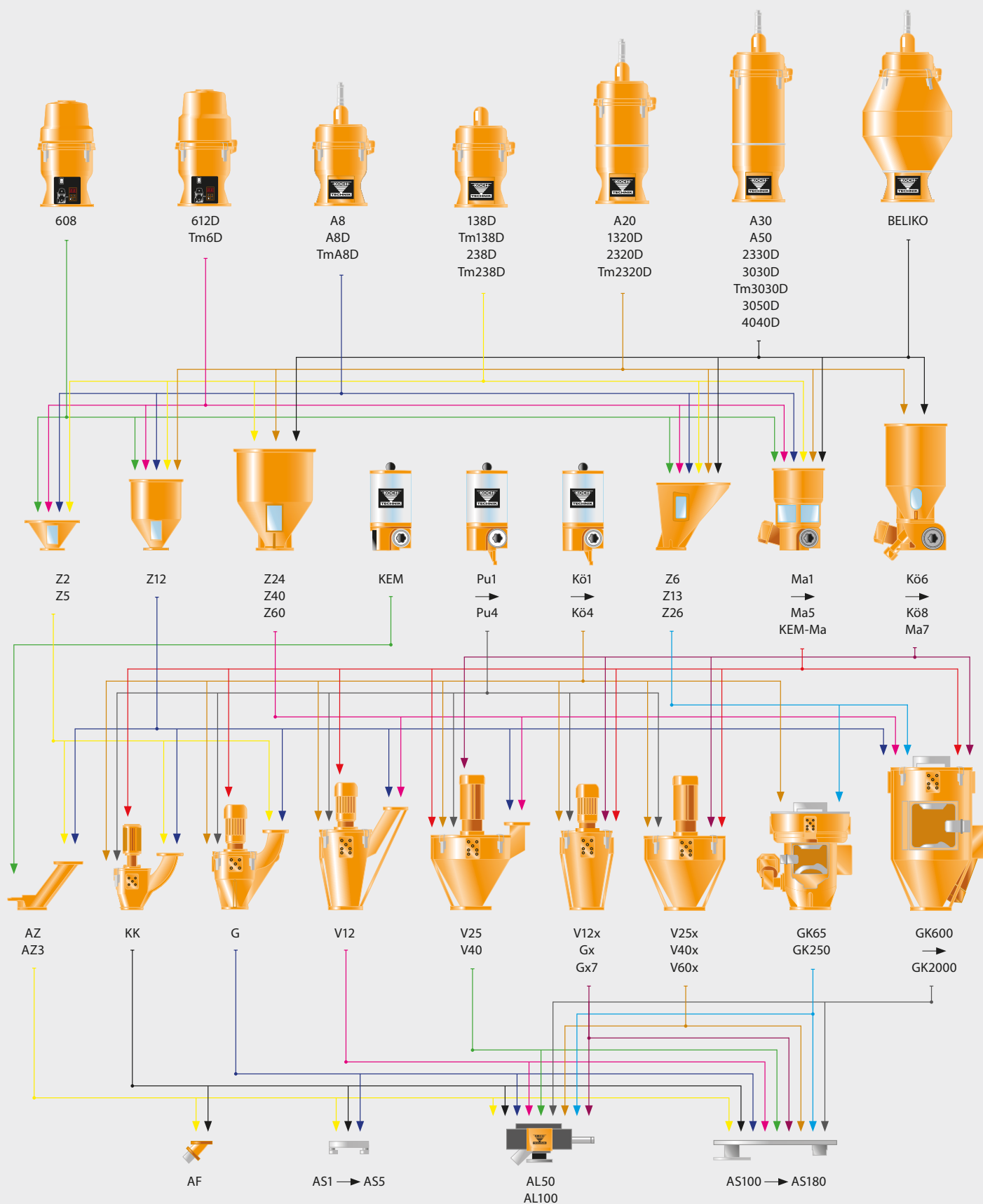
- Modular design of all device components (hoods, main body, intermediate hopper ...)
- All components are standardised and fit together
- Simple and tool-free handling (cleaning, conversion, customisation)
- Conveyors can be opened and swivelled through 360°, dosing stations can be moved for cleaning
- Devices and systems can be combined and expanded over many years



KOCH MODULAR SYSTEM

KOCH MODULAR SYSTEM

Schematic drawing

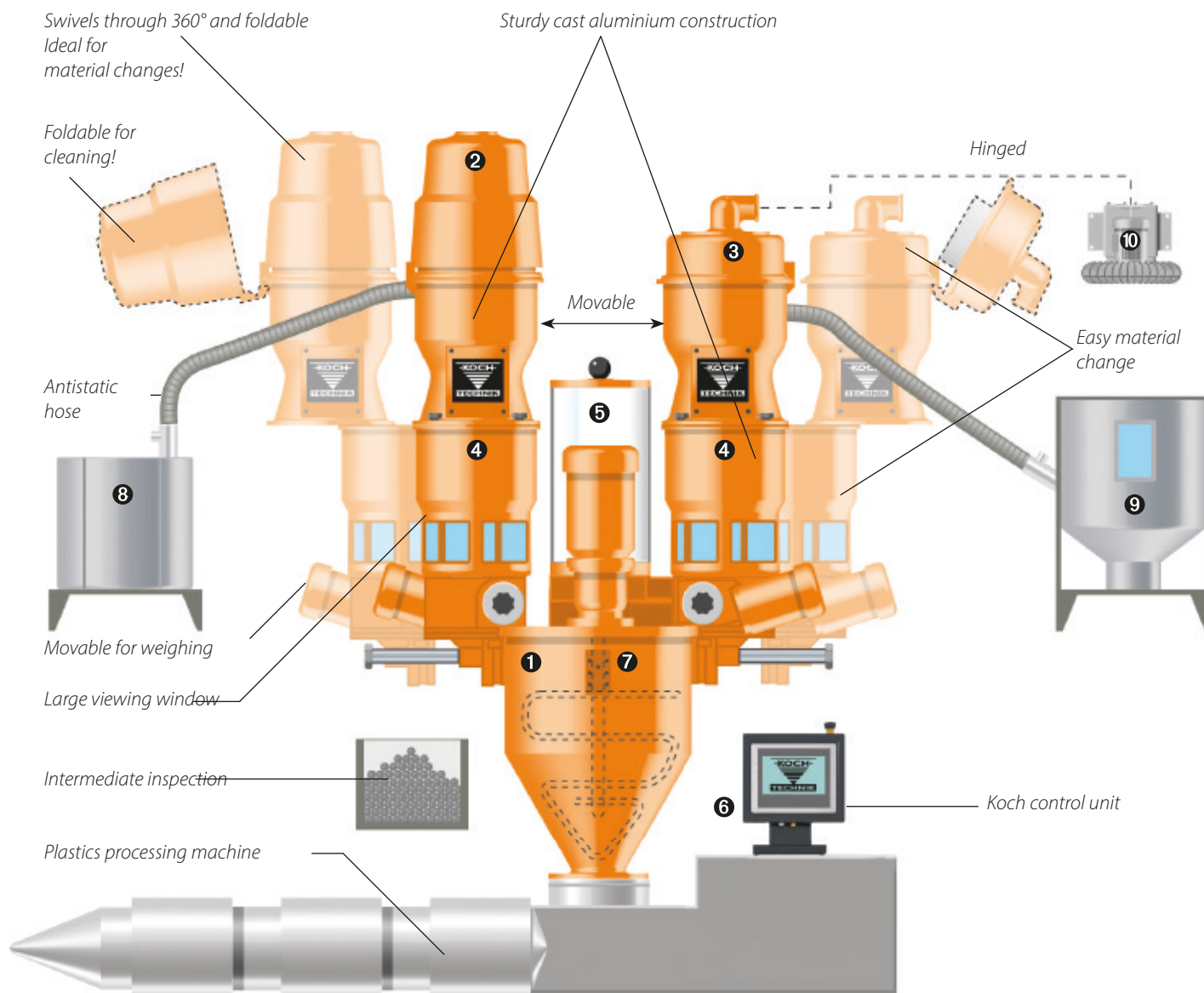


MODULAR AND FLEXIBLE



KOCH MODULAR SYSTEM

The large type V 40 x batch mixer



Item	Designation	Item	Designation
①	Type V 40 x premixer	⑥	Connection 400 V / 50 - 60 Hz
②	Conveyor, e.g. for regrind	⑦	Connection for an additional dosing station
③	Conveyor for virgin material	⑧	Drum or octabin on request
④	Dosing station for regrind or grains	⑨	Small containers on request
⑤	Powder or batch station	⑩	Side channel compressor



03

MIXING | DOSING



Benefit from over 50 years of experience in plastics processing; we place particular emphasis on quality and durability. We offer you solutions that are optimally customised to your needs. Rely on our expertise for first-class results!

PREMIXER FOR INJECTION MOULDING AND EXTRUSION



MIXING

MIXING

Control units for premixers



Type SLT 1

KOCH control unit for one station

Important features:

- Simple, user-friendly handling
- Clearly arranged control panel with keypad and text display
- Memory for up to 100 recipes
- RS 422 data interface optional

You can enter the shot weight and dosing percentage values directly via the control panel. The device automatically determines the required dosing times. A restart programme facilitates the automatic filling of the mixer after a material change.

Type SLT 2

KOCH control unit for two stations

For connection to injection moulding machines - the dosing and mixing times are controlled for each production cycle (not illustrated).



Type MCT

KOCH control unit with MCT control for up to 4 stations and 1 mixer

Important features:

- Simple and user-friendly operation
- Clearly arranged control panel with keypad and text display
- All operating data is stored and can be accessed at any time
- Memory for up to 100 recipes
- Programmes for virgin material and regrind
- Interface for external data processing or printing

The device controls and monitors all the processes you specify. You enter the material to be processed on the device and then enter the desired percentage values. The KOCH MCT control unit then automatically calculates the exact dosage. All operating data is recorded in an internal memory and can be accessed at any time. This is particularly important for the obligation to provide evidence in certified companies.

MIXING

Premixer for injection moulding machines



Type KK

Machine throughputs up to 25 kg/h

Shot weights up to 200 g

You should use a premixer for powder dosing and precise masterbatch processing. If you need to add regrind, you are on the safe side here. In combination with a conveyor unit, everything runs fully automatically. This small mixer fits all small machines. Mixer made of GAL / So-HB 100, abrasion-resistant.

Fig. Type KK premixer
with type Z 5 intermediate hopper
and Kö 2-1 dosing station



Type G

Machine throughputs up to 70 kg/h

Shot weights up to 900 g

A reasonably priced device for medium machine throughputs. You can process up to four different components in a modular system. The system then runs fully automatically and reliably with the KOCH-TECHNIK conveyors. Mixer made of GAL / So-HB 100, abrasion-resistant.

Fig. Type G premixer
with type Z 12 intermediate hopper
and Kö 2 dosing station

MIXING

Premixer for injection moulding machines



Type V 12

Machine throughputs up to 100 kg/h

Shot weights up to 1.5 kg

Here, too, you can choose from dosing devices for powder, masterbatch, virgin material or regrind with the appropriate conveyors.

The mixing body is made from V2A.

Fig. Type V12 premixer
with type Z 12 intermediate hopper
and Kö 3 dosing station



Type V 25

Machine throughputs up to 250 kg/h

Shot weights up to 4.0 kg

This 25-litre mixer is designed for medium-sized machine throughputs and for up to four components. It is made from V2A.

Fig. Type V 25 premixer
with type Z 24 intermediate hopper
and Ma 2 dosing station

(not illustrated - comparable with type V25)

Type V 40

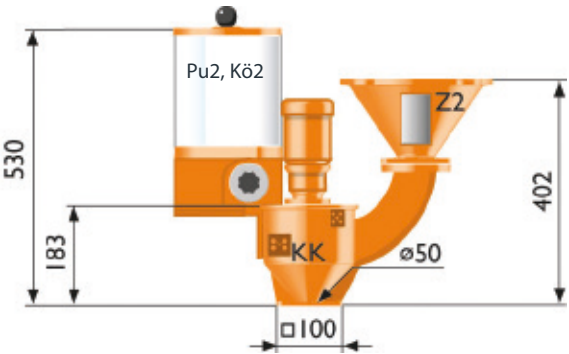
Machine throughputs up to 400 kg/h

Shot weights up to 7.0 kg

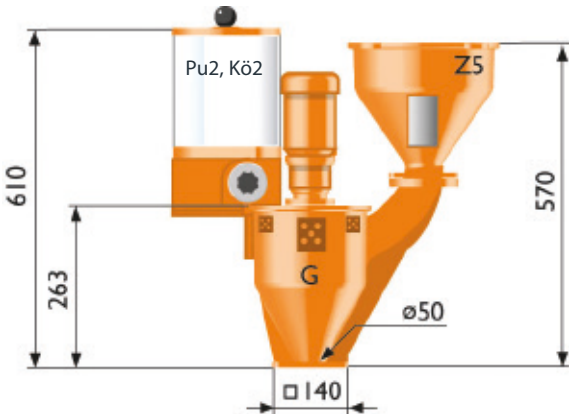
The V 40 made from V2A can be used for the largest machine throughputs and for processing up to four different components.

MIXING

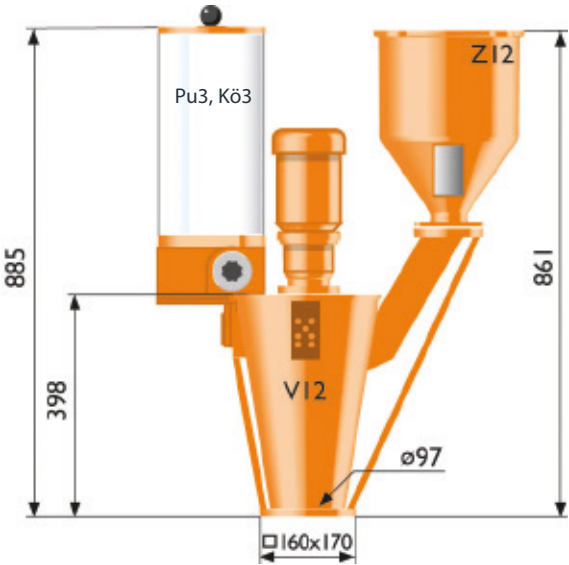
Performance information about premixers for injection moulding machines



Total throughput capacity:	Type KK	
for powder and virgin material	max.	20 kg/h
for masterbatch	max.	25 kg/h
Shot weight		
for powder	max.	150 g
for masterbatch	max.	200 g
Connected load	approx.	0.1 kW
Components (stations)	max.	3



Total throughput capacity:	Type G	
for powder and virgin material	max.	60 kg/h
for masterbatch	max.	70 kg/h
Shot weight		
for powder	max.	700 g
for masterbatch	max.	900 g
Connected load	approx.	0.15 kW
Components (stations)	max.	4



Total throughput capacity:	Type V 12	Type V 25
for powder and virgin material	max. 80 kg/h	200 kg/h
for masterbatch	max. 100 kg/h	250 kg/h
Shot weight		
for powder	max. 1,000 g	2,000 g
for masterbatch	max. 1,500 g	4,000 g
Connected load	approx. 0.2 kW	0.25 kW
Components (stations)	max. 4	4 - 5

MIXING

Premixers for extruders and other machines



Type G x

Machine throughputs up to 60 kg/h

Up to three dosing stations on the mixer. Made of GAL / So-HB 100, abrasion-resistant. For extruders and blow moulding machines. Product added in batches. If the fill level falls below a certain level, all stations dose a precisely adjustable quantity into the mixer. It does not matter whether the machine output is even or uneven. The colour tone always remains constant.

Type G x 7

Machine throughputs up to 120 kg/h

Up to four dosing stations, similar to G x, made of GAL / So-HB 100, abrasion-resistant.

Type G x pre-mixer
with Ma 2, Kö 3, 612 D



Type V 12 x

Machine throughputs up to 250 kg/h

Batch dosing device for maximum throughputs. You can easily process up to four components here. Whether powder, grains or regrind - anything goes! Add the appropriate conveyors and the system will run fully automatically.

Mixer made of V2A.

Type V 12 x pre-mixer
with Ma 4 and A 8

MIXING

Premixers for extruders and other machines



Type G x

Machine throughputs up to 60 kg/h

Up to three dosing stations on the mixer. Made of GAL / So-HB 100, abrasion-resistant. For extruders and blow moulding machines. Product added in batches. If the fill level falls below a certain level, all stations dose a precisely adjustable quantity into the mixer. It does not matter whether the machine output is even or uneven. The colour tone always remains constant.

Type G x 7

Machine throughputs up to 120 kg/h

Up to four dosing stations, similar to G x, made of GAL / So-HB 100, abrasion-resistant.

Type G x premixer
with Ma 2, Kō 3, 612 D



Type V 12 x

Machine throughputs up to 250 kg/h

Batch dosing device for maximum throughputs. You can easily process up to four components here. Whether powder, grains or regrind - anything goes! Add the appropriate conveyors and the system will run fully automatically.

Mixer made of V2A.

Type V 12 x premixer
with Ma 4 and A 8

MIXING

Premixers for extruders and other machines



Type V 40 x

Machine throughputs up to 500 kg/h

Here, too, the product is added in batches. Up to a maximum of four stations, alternatively six stations, which fit on the premixer. For a material change, you only need one minute to move all the stations away from the mixer and another minute to swivel the conveyors away. All without any tools! This is another way to save costs and make your work easier. Mixer made of V2A.

Type V 25 x

Machine throughputs up to 350 kg/h

Similar to V 40 x, suitable for four dosing stations. Mixer made of V2A.

Type V 60 x

Machine throughputs up to 1,000 kg/h

Similar to V 40 x, but higher.

Type V 100 x

Machine throughputs up to 1,500 kg/h

Similar to V 40 x, but higher.

CHAMBER VOLUME DOSING - A KOCH PATENT

KOCH dosing devices with chamber volume dosing achieve ultra-fine dosing down to 0.01%. A dosing station allows colouring with shot weights from 1 g to 5000 g.

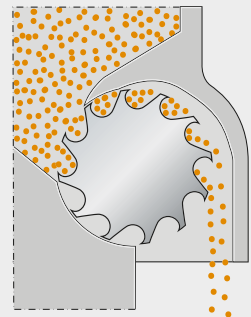
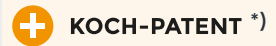
GRAIN DOSAGE

with $\pm 0.15\%$ accuracy for grains / KOCH patent

Each chamber of the dosing roller is filled evenly before it is discharged. If there are too many grains in the chamber, they are wiped off. Extremely high dosing accuracy can be achieved with a constant speed.

ADVANTAGES & FEATURES

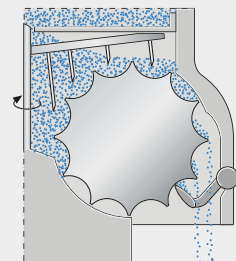
- 5 dosing rollers for shot weights from 2 g to 10,000 g
- Simple roller exchange
- High dosing accuracy



POWDER DOSING

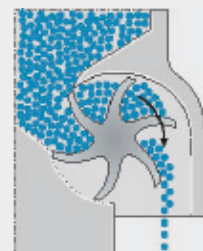
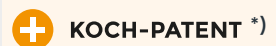
with $\pm 0.15\%$ accuracy

The chambers of the dosing roller are always filled evenly with powder. The same bulk density is always present under a carrier plate - regardless of how much or how little powder there is in the storage container. Together with the agitator arm and scraper, the dosing roller is the best prerequisite for precise powder dosing.



CELL EDGE DOSING

A V2A cellular wheel with large chambers is used for granulate or regrind.



DOSING

Chamber volume dosing rollers

The corresponding single dosing rollers or alternatively dosing rollers with 2 offset chambers are available for the following shot weights:



2 g to 80 g
9/0



5 g to 300 g
9/1



10 g to 500 g
9/2



20 g to 2,000 g
9/3



100 g to 10,000 g
Cellular wheel 8/1 for KEM-Ma



Example of a dosing roller
for shot weights from 5 g
to 300 g.

The selection of dosing
rollers
covers shot weights from
2 g to 2,000 g.



Example of a
powder dosing roller

available in various
sizes
Shot weights
2 g to 15 g | 5 g to 100
g | 15 g to 1,000 g



Example of a dosing roller
for shot weights from 100
g up to 1,000 g.

Especially for regrind &
virgin material

EXPANDABLE

DOSING

Dosing stations with chamber volume dosing



*) A patent developed by Koch-Technik.

Type Pu

Powder station

With the Pu powder station, you can dose free-flowing powder very precisely - and with an accuracy of $\pm 0.15\%$. Colour changes are no longer a problem for you - they can be carried out quickly and cleanly without soiling the surroundings. The powder station is reliable, has a technically logical design and is easy to use. Dosing takes place via a dosing roller whose chambers are forcibly discharged. The agitator in the station moves the powder and prevents bridging at the same time. A star knob screw allows you to remove the roller for cleaning or replacement.

Type	kg /h	Capacity in litres
Pu 1	0.5	* 4.0
Pu 2	1.0	* 6.0
Pu 3	2.0	* 10.0
Pu 4	4.0	* 10.0
Pu 5	7.0	* 20.0
Pu 7	15.0	40.0 (V2A)

* Container made of perspex



Type Kö

Grain station for masterbatch

With this grain station, you can add grain very precisely and continuously. Whether a masterbatch, small or large grains - the dosing roller can do it all. This is what it is built for and it has proven its worth.

Type	kg /h	Capacity in litres
Kö 2-1	0.5	* 4.0
Kö 2	1.0	* 6.0
Kö 3	4.0	* 10.0
Kö 4	7.0	* 10.0

* Container made of perspex



Type Ma

Grain station for virgin material and regrind up to 200 kg/h

Being able to dose sharp-edged grains without the dosing body jamming is an essential prerequisite for continuous production. This is why this dosing station has a cellular wheel made of V2A. Absolutely leak-proof towards the outside; it has an agitator on the inside. A sliding device under the station allows you to quickly change colours and materials on the mixer without having to dismantle the entire device.

Type	kg /h	Capacity in litres
Ma 1	7.0	* 11
Ma 2	14.0	* 11
Ma 3	25.0	* 11
Ma 4	140.0	* 11
Ma 5	200.0	* 20

* Container made of GAL and perspex



Type Ma 7

Grinding station up to 500 kg/h

We have built this large Ma 7 dosing station especially for poorly flowing regrind or grit. A built-in cellular wheel and an agitator on the base ensure an even discharge. Identical to Pu 7 with a powder throughput up to 15 kg/h

Type	kg /h	Capacity in litres
Ma 7	600.0	* 40

* Container made of GAL and perspex

DOSING

Dosing stations with chamber volume dosing



Type Kö - Kö 8

Grain station for virgin material and regrind

A large cellular wheel with built-in sealing rings makes it possible to dose virgin material and free-flowing regrind. The chamber volume dosing system ensures precise dosing.

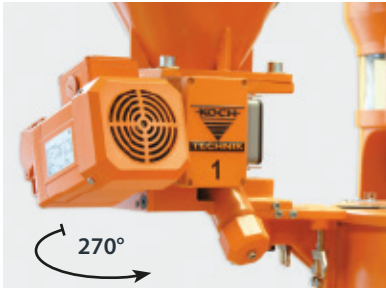
Type	kg /h	Capacity in litres
Kö 6	350.0	* 40.0
Kö 7	600.0	* 60.0
Kö 8	1,000.0	* 100.0

* Container made of
V2A



DOSING

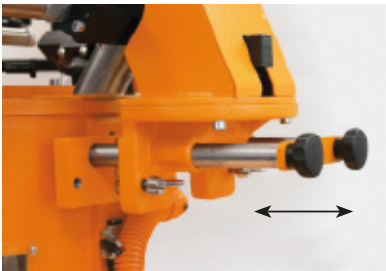
Devices for chamber volume dosing



SV 3 swivelling device

Swivelling device for large dosing stations

- Facilitates material changes and weighing
- For large dosing stations
- Made of sturdy grey cast iron
- For easy swivelling of the dosing station



SV2 | SV3 | SV4 sliding device

Sliding device for dosing stations

- Facilitates emptying and weighing
- For small to medium-sized dosing stations on mixers
- Made from high-strength cast aluminium
- Easy movement of the dosing station on the shafts



Grain device type V

Grain device for powder station

This patented device is used to add any type of coloured grains in a PU type powder station. The ring insert is attached with two screws and grains can be dosed. Many tasks can be completed quickly and flexibly in this way.

 KOCH-PATENT *)

*) A patent developed by Koch-Technik.



Colouring devices for injection moulding machines and extruders

KEM-TOUCH

DOSING KEM-TOUCH

The new KEM-Touch is a simple and intuitive dosing and colouring device. Masterbatch or additives are dosed into the free-flowing main material via chamber volume dosing. For shot weights from 2 g to 2,000 g.



KOCH MODULAR SYSTEM

In the KEM-TOUCH, the control unit is integrated directly into the housing body and offers various programs for direct use on injection moulding machines or extruders.

- A start pulse either comes from the processing machine or is time-controlled.
- Compatible with components from the KOCH modular system
- Choice of 115 V or 230 V supply voltage
- Alarm output, potential-free, 24 V or 115 V / 230 V (option)
- Suitable for all KOCH type AZ adapter flanges
- Simple, quick and tool-free installation

New motor for volumetric dosing:

In the KEM-TOUCH with a control unit in the housing body, a stepper motor* ensures constant chamber volume dosing via a dosing roller.

The advantages of this stepper motor with a planetary gearset are:

- high torque and holding torque for exact repeat accuracy and a smooth dosing cycle
- precise start/stop behaviour
- 60% less energy consumption

DIRECT COLOURING IN THE KOCH MODULAR SYSTEM:
KEM-TOUCH dosing device with the AZ3 adapter flange, Z2 material hopper and Tm6D compact conveyor - for conveying two material components, e.g. virgin material and regrind.



DOSING

KEM-TOUCH – colouring devices for injection moulding machines and extruders



Type KEM / AZ

Machine throughputs of up to 200 kg/h and shot weights from 2 g to 10 kg

KEM with AZ flange for colouring granulate on any machine. The device is suitable for three components; the dosing station is removable. The infinitely adjustable dosing quantity also guarantees you an absolutely consistent colour tone.

Type KEM with AZ / 608 / Z 2



Type KEM / AZ with two stations

Machine throughputs of up to 200 kg/h and shot weights from 2 g to 10 kg

With this KEM, you can add two components to the new material. Ideal if you need to add a blowing agent, antistatic agent or flame retardant in addition to colouring with a masterbatch.

Type KEM with AZ / Z 12



Type KEM / AZ 3

For machine throughputs of up to 200 kg/h and shot weights from 2 g to 10 kg

KEM for a dosing station. An additional SV 2 sliding device allows you to move the dosing station backwards at lightning speed and weigh out the masterbatch.

Type KEM with AZ 3 / Z 5

DOSING

KEM-TOUCH – colouring devices for injection moulding machines and extruders



Type KEM-Ma / AZ

For machine throughputs of up to 500 kg/h and shot weights from 2 g to 10 kg

KEM-Ma dosing devices are available for different material throughputs: KEM-Ma1 for up to 7 kg/h, KEM-Ma2 for up to 14 kg/h, KEM-Ma3 for up to 30 kg/h and KEM-Ma4 for up to 140 kg/h. The devices dose large quantities of free-flowing regrind, as well as masterbatch, via a cellular wheel made of V2A stainless steel. A KOCH conveyor can be fitted on the high-quality cast aluminium storage container for automatic filling. The SV2 sliding device facilitates weighing and emptying. An agitator in the storage container ensures even dosing of the material.

Type KEM-Ma / AZ / Z 12 with SV 2 sliding device



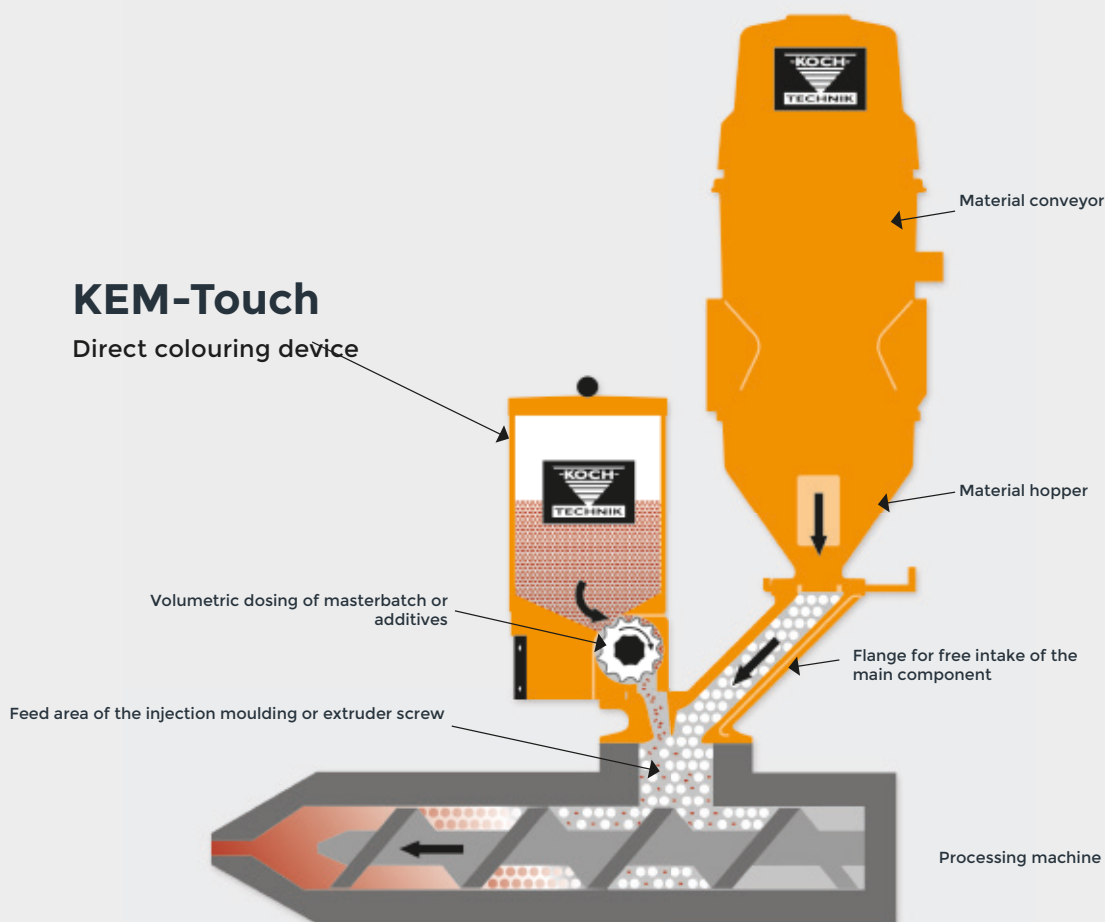
KEM-PU

Direct dosing of free-flowing powder

The KEM-Pu for quantities of up to 2 kg/h of free-flowing powder is also equipped with a touch panel control unit. During powder dosing, the chambers of a special dosing roller are emptied using a scraper. An agitator in the hopper prevents bridging in the material and ensures that the powder dosing roller is filled evenly. Various dosing rollers are available for adding powder.

DOSING

KEM-TOUCH devices



RING INSERT AND SLIDING DEVICE

for automatic filling and the easiest material changes

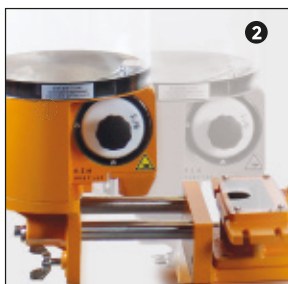
1

The MIKO conveyor (up to 15 kg/h) can be fitted on the perspex material container using a rubber-mounted ring insert.

2

For frequent material changes, it is advisable to fit the KEM-TOUCH on a flange with the SV2 sliding device. In this way, the entire station can be pulled away from the material chute very easily and can be balanced or emptied without the use of tools.

Functional:
KEM-TOUCH with
AZ flange and
SV2 sliding device



DOSING

KEM-TOUCH Control unit

DOSING CONTROL VIA TOUCH DISPLAY:

- 3.5" touch-sensitive colour display (8.9 cm diagonal)

4 PROGRAMS FOR DIRECT DOSING:

- PROGRAMME 1 for extruders with constant speed
- PROGRAMME 2 for injection moulding machines:
The start pulse is issued by the injection moulding machine.
- PROGRAMME 3 for extruders and blow moulding machines with variable speed. Dosing as a function of the rotary pulses from the extruder screw, which are picked up via a contact.
- PROGRAMME 4 for injection moulding machines: Dosing via a potential-free contact or pulse from the processing machine. Input of the colour percentage.
- Infinitely variable adjustment of dosing quantities in per cent or seconds
- 100 freely configurable recipes (Programme 4)
- Language selection and password protection for different operators
- Software updates via micro SD card
- Backward compatible with older KEM devices

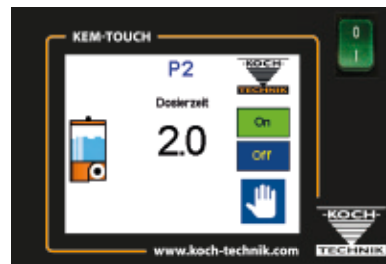
COMMUNICATION WITH EXTERNAL SYSTEMS:

Optionally, you can integrate the KEM-TOUCH control unit into higher-level, external systems:

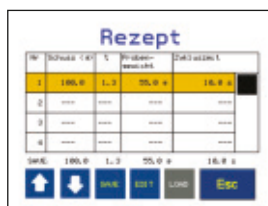
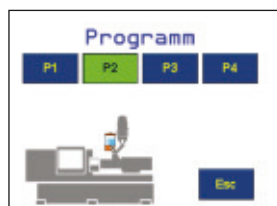
- Ethernet interface (protocol: Modbus-TCP)
- Industry 4.0 compatible thanks to OPC-UA
- Easy integration into the machine control unit and integration into the Koch visualisation software

OPTIONS:

- Fill level and rotation monitoring
- Ethernet for remote maintenance, Modbus TCP and app control



Ideal if antistatic agents or flame retardants need to be added in addition to the master-batch: 2 KEM-TOUCH dosing devices with AZ adapter flange, Z5 material hopper and TmA8 conveyor separator for two materials, such as virgin material and regrind.



Simple operation via touch display guides the user through the menus.



Gravimetric dosing and weighing system for plastic material

GRAVIKO

DOSING GRAVIKO

The patented GRAVIKO dispenses the plastic materials precisely and reliably with maximum repeat accuracy. Precise and reproducible dosing is decisive for the quality of every end product manufactured in process engineering. Without precise dosing and weighing of raw materials, additives and other components, the characteristic features of many moulded parts could not be achieved. GRAVIKO was developed for precise dosing - a patented gravimetric dosing and weighing system that is characterised by its high reproducibility.

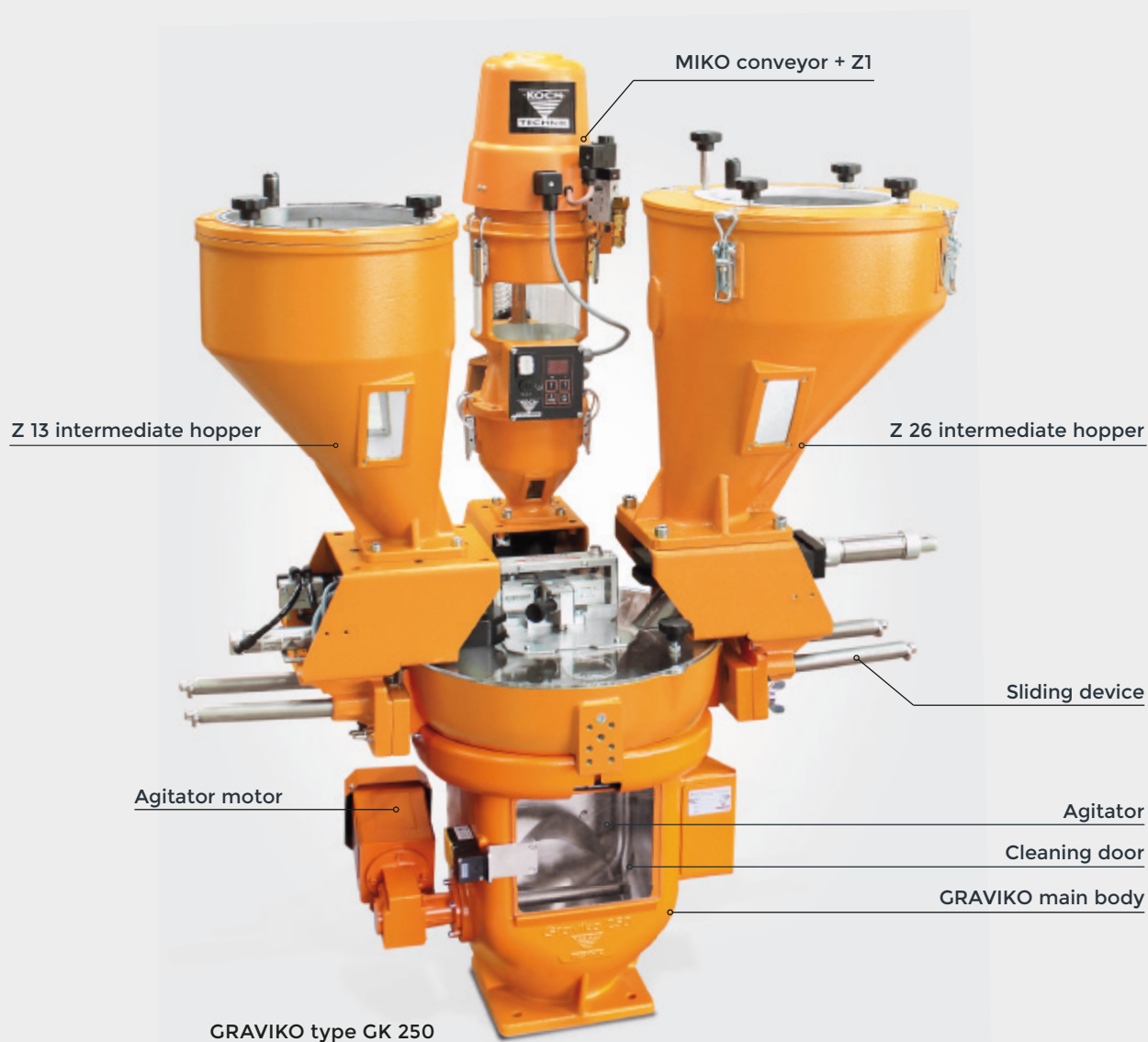


The weighing for each filling is carried out hundreds of times in succession, whereby fluctuations are equalised. If the target and actual weights match, the bulk material is emptied into the mixer. A horizontal agitator optimally mixes the batches before they are processed on the machine. The very precise ultra-fine dosing in combination with gravimetric weighing creates a control circuit that guarantees absolutely correct dosing independent of the bulk material. The patented GRAVIKO offers an accuracy with a tolerance of ± 4 grains when adding 1,000 grains. This value remains unrivalled in comparison to conventional dosing systems on the market.



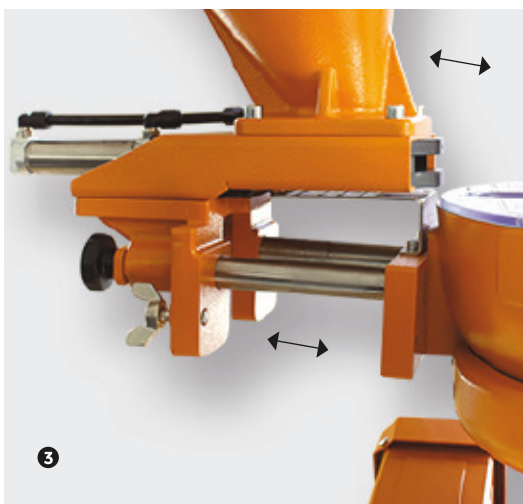
DOSING GRAVIKO design

Depending on the throughput of the processing machine, up to four different materials can be processed in the basic version. The GRAVIKO can be used directly on the injection moulding machine or extruder and is compatible with all KOCH-TECHNIK devices and accessories.



DOSING

GRAVIKO functionality



FUNCTIONALITY

The individual components, such as grains, powder, regrind or grit, can be dosed into the weighing hopper via a slider, or alternatively finely dosed with chamber volume dosing. Very small quantities are dosed with an accuracy calculation of 0.001 s. One or two weighing cells register the actual weight of the individual components and transmit the values to the Koch control unit. This compares the values with the calculated target weight. The weighing of each filling is carried out hundreds of times in succession, whereby fluctuations in the subsequent doses are equalised. If the target and actual weights match, the bulk material is emptied into the mixer. An agitator optimally mixes the added batch before it is processed on the machine.

Depending on the throughput of the processing machine, up to eight different materials can be processed in the basic version. The GRAVIKO can be used directly on the injection moulding machine or extruder and is compatible with all KOCH-TECHNIK devices and accessories.

1

GRAVIKO GK 600
with Z13 intermediate hopper
and A8 material separator

2

GRAVIKO GK 65
in modular system with MCM-G
touch control unit.
For machine throughputs
up to 80 kg/h

Up to four components can be added via sliders or the tried-and-tested masterbatch or grain stations (Pu/Ma/Kö). All components are mixed very thoroughly after weighing and before further processing. The GRAVIKO can be dismantled in two minutes without tools.

GRAVIKO GK 250

The basic concept of the GK 250 is identical to the GK 65, but larger and for machine throughputs of up to 250 kg/h.

4 dosing stations can be put together in a modular system

**GRAVIKO GK 600,
GRAVIKO GK 800,
GRAVIKO GK 1000**
Machine throughputs up to 600 kg/h, 800 kg/h or 1,000 kg/h

Depending on the version, 4 to 8 dosing stations can be combined in a modular system. Grains, regrind or grit - each material is individually weighed, registered and homogeneously mixed before it is processed.

3

GRAVIKO DISASSEMBLY

A GRAVIKO GK can be dismantled within two minutes without the use of tools. The dosing stations can be quickly pushed outwards after loosening two wing nuts.

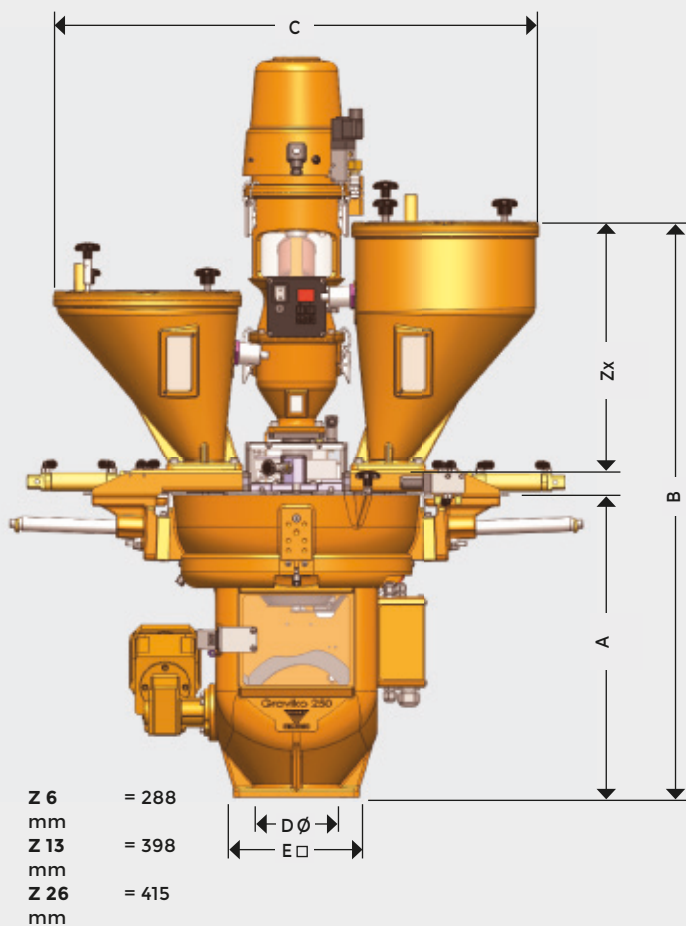
4

SWIVELLING DEVICE

From a feed rate of more than 800 kg/h, the sliding device is replaced by a 90° swivelling device. This facilitates material changes and cleaning.

DOSING

Technical data of the GRAVIKO



GRAVIKO IN EXPLODED VIEW

- 1 Lid
- 2 Weighing hopper with precision weighing cell
- 3 Cleaning door (window)



ALL GRAVIKOS CAN PROCESS UP TO 5 MATERIAL COMPONENTS USING TWO-COMPONENT CONVEYORS.

Type	Through put in kg/h*	Housing	Stations max.	Output kW	Voltage V/Hz
GK 65	80	GKAL	4	0.19	400/50
GK 250	250	GKAL	4	0.19	400/50
GK 600	600	V2A	4/6	0.19	400/50
GK 800	800	V2A	5	0.47	400/50
GK 1000	1,000	V2A	6	0.47	400/50
GK 1500	1,500	V2A	6	0.47	400/50
GK 2000	2,000	V2A	8	0.47	400/50

* Prerequisites: Bulk density > 0.65 kg/h (with feeder unit D 50)

Type	A mm	B mm	C mm	D Ø mm	E □ mm
GK 65	405	A + 35 + Zx	671	50	140
GK 250	485	A + 35 + Zx	729	96	200
GK 600	700	A + 35 + Zx	910	96	200
GK 800	980	A + ZF* + Zx	1,060	96	330
GK 1000	1,161	A + ZF* + Zx	1,190	96	330
GK 1500	1,362	A + ZF* + Zx	1,190	96	330
GK 2000	1,658	A + ZF* + Zx	1,449	96	300

* ZF = feed unit (depending on type: flat version 35 mm, high version 142 - 225 mm)

DOSING GRAVIKO GK 2000



GRAVIKO GK 2000

Machine throughputs up to 2,000 kg/h

You can process up to 2,000 kg/h with this GRAVIKO. Depending on the container type and size, 4 to 8 dosing stations can be installed. All KOCH conveyors and conveyor separators are suitable for conveying materials. As an option, the GRAVIKO can be equipped with differential dosing (loss-in-weight control) and adapted to any extruder.



DOSING

Optional GRAVIKO **LOSS-IN-WEIGHT CONTROL UNIT**



LOSS-IN-WEIGHT control system

As an option, the GRAVIKO can be equipped with differential dosing, also known as loss-in-weight control, and adapted to any extruder.

Loss-in-weight control is based on the principle of recording the weight of the material added, in the same way as for the desired material throughput. The weight is recorded with the highest guaranteed accuracy.

The GRAVIKO GK 1500 (left) was equipped with a loss-in-weight control system. All dosing stations or conveyors in the KOCH modular system can be used for dosing and conveying the material.



GRAVIKO GK 1000 with Loss-in-Weight control unit in use

DOSING

GRAVIKO CONTROL UNIT

TYPE MCGT CONTROL UNIT

The MCGT is an easy-to-operate control unit for gravimetric dosing systems. All dosing parameters, including all results, can be documented via the control unit. Once the recipe has been entered in %, dosing takes place from the first cycle without manual calibration.



DISPLAY

- TFT-LCD 7", 24-bit with LED lighting and touch function

HARDWARE

- 16-bit processor ARM 9 and up to 4 GB memory
- SD card slot and optional interfaces: Ethernet, USB, RS232/422
- Control of up to 4 dosing units (8 dosing units optional)

SOFTWARE

- Software with easy handling
- Language switching: display in 16 national languages
- Manual operation of all functions (cleaning and set-up mode)
- 100 recipes and grinding program
- Dosing parameters with target and actual value display
- Specification of the dosing quantity, e.g. for octabin filling
- USB interface for outputting the recorded dosing data
- Internet FTP server implemented (IP and DNS server address can be set)
- 3x password levels and password management
- Alarm recording, alarm configuration and tolerance monitoring
- Connection to visualisation software (optional)
- Control of 4 conveyor components (up to 8 conveyors optional)

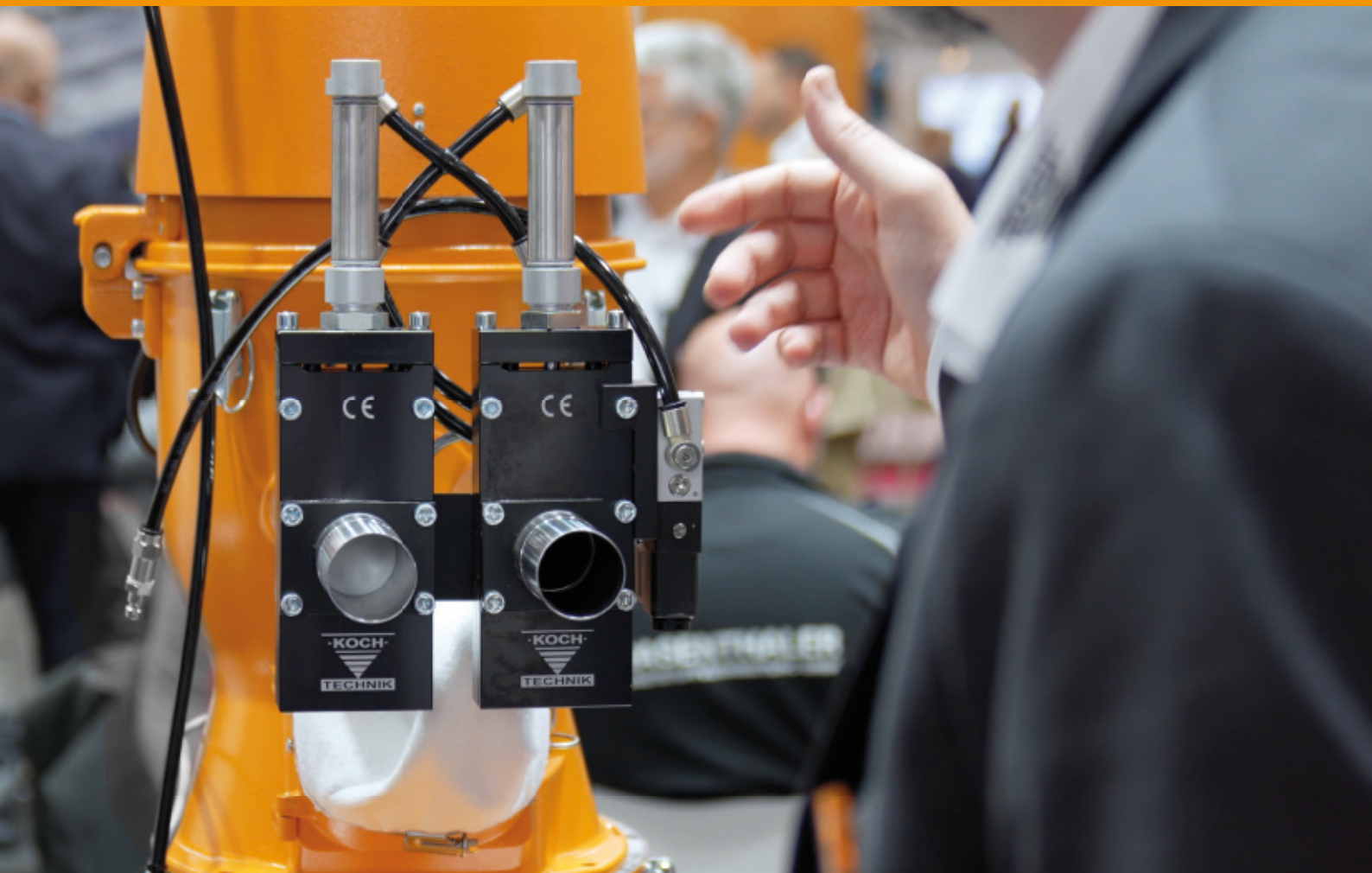
Alarm table

Alarm definition
Results
Graphic weighing value display
Dosing parameters



04

CONVEYING



KOCH conveyors are designed for easy handling and very fast material changes. The conveyor hoods can be opened and the devices swivelled away - without the need for tools. This means that a material can be changed in just one minute

KOCH CONVEYORS - EXPERT TECHNOLOGY FOR EVERY APPLICATION

The range of KOCH conveyors is diverse and extends from the smallest conveyors to compact conveyors with a high conveying capacity and compact design, through to individual conveyors with three-phase blowers. We have responded flexibly to the trend towards the increasing use of glass fibre-reinforced, extremely hard materials and offer the GLASKO with a 5-year anti-wear guarantee.

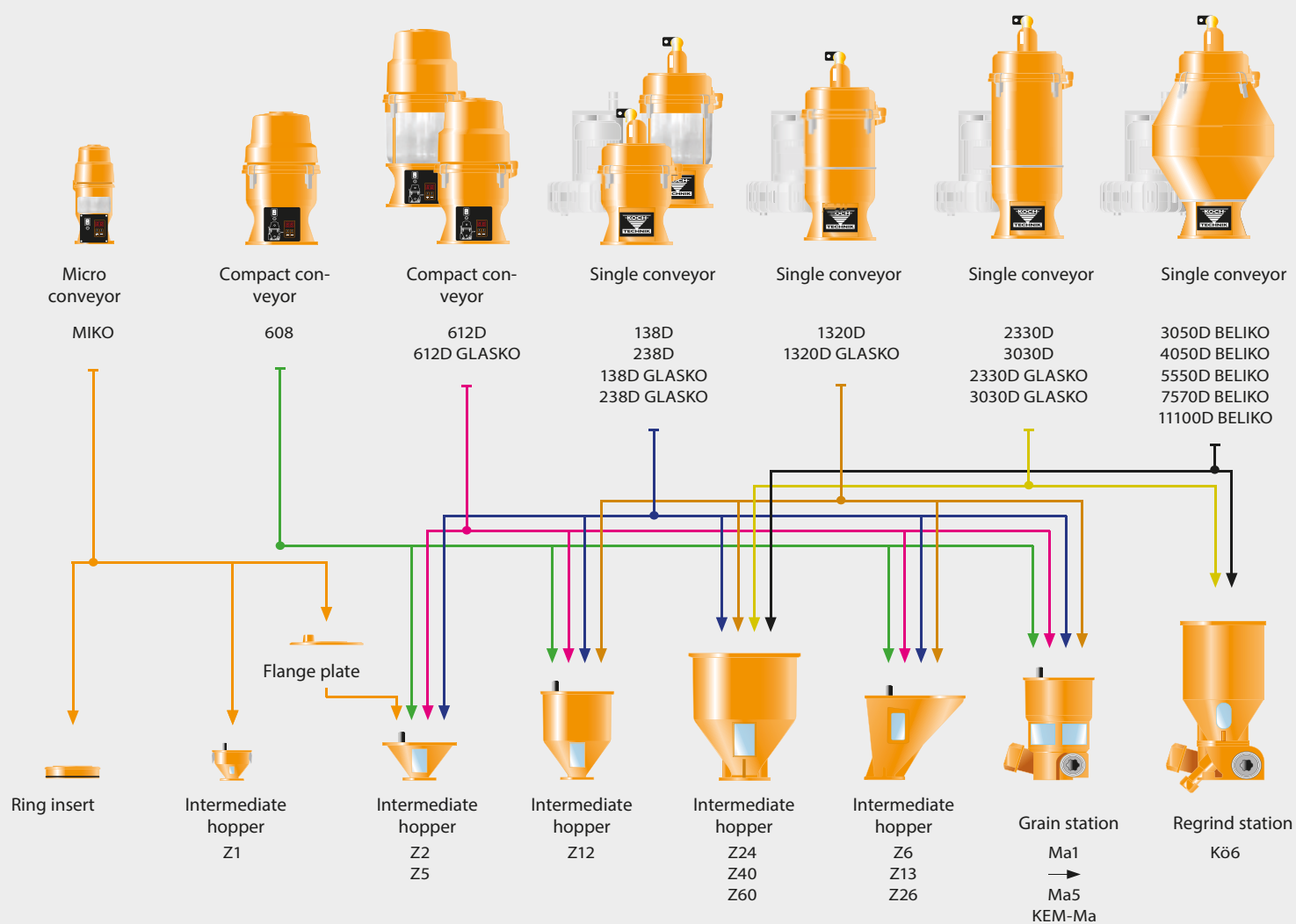


The type 612D compact conveyor can be swivelled through 360°, as shown here on the Z5 intermediate hopper - without the need for any tools!

CONVEYING

Overview of conveyors

Compact and individual conveyors for conveying one or two material components (Tm)



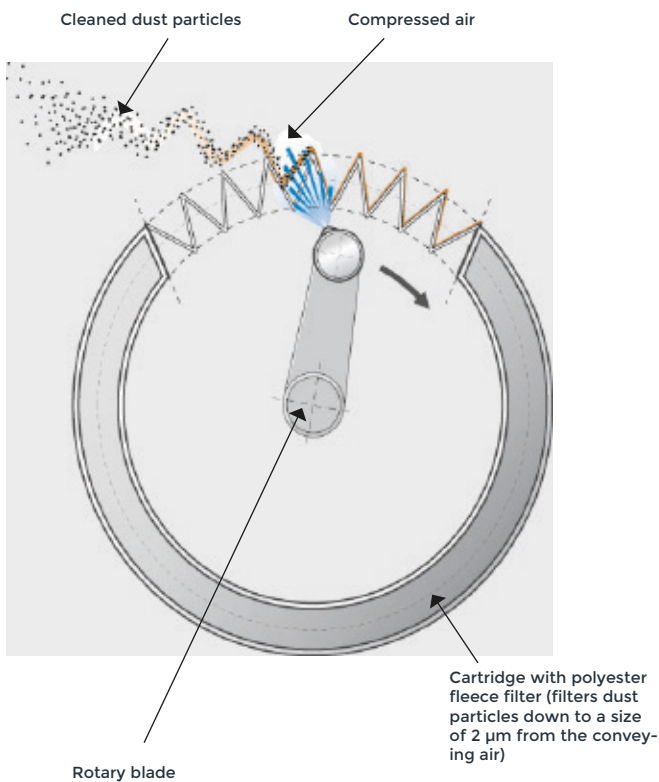
FLEXIBLE

CONVEYING

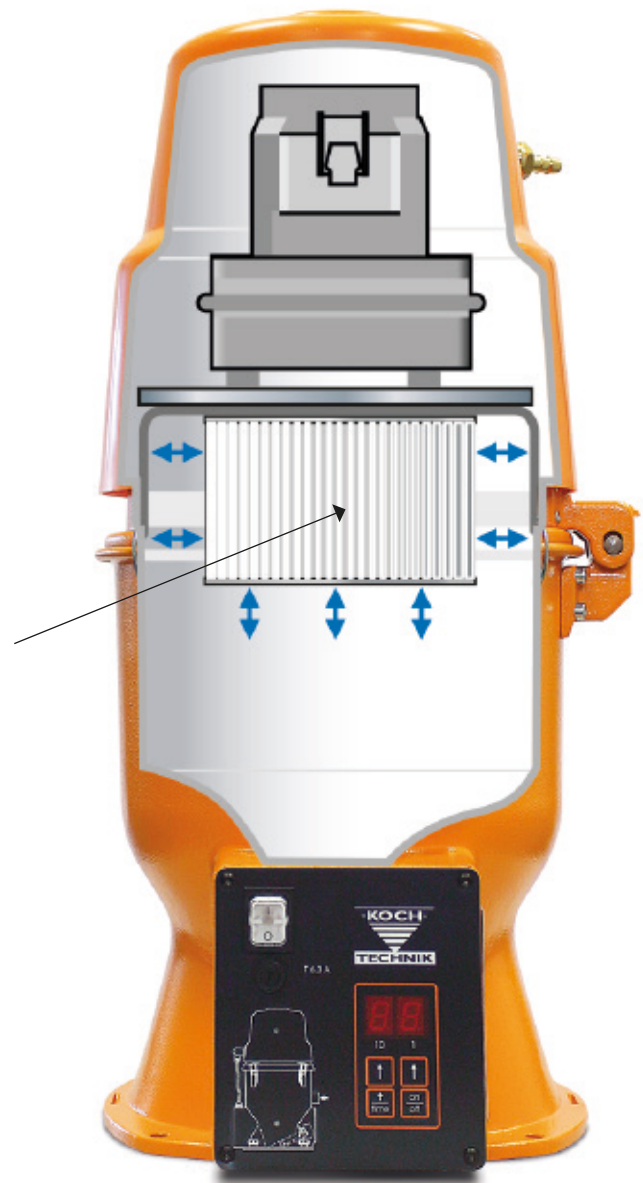
Dust-free conveying

The rotary blade cleaning system developed by Koch-Technik guarantees dust-free conveying

KOCH conveyors with automatic rotary blade cleaning guarantee absolutely dust-free conveying, regardless of whether virgin material, regranulate or powdery material is being processed. The discharged conveying air is cleaned by an absolutely leak-proof and environmentally friendly polyester fleece filter. The filter cartridge separates dust particles down to a size of $2\text{ }\mu\text{m}$. After each conveying process, the fleece in the cartridge is pneumatically cleaned within 0.4 s via a rotary blade. This means that no residual dust remains when reclaim or powder is being conveyed. A clean and absolutely flat clamping surface seals the conveyor 100% against escaping dust particles and thus guarantees dust-free production.



After each conveying process, a rotary blade cleans the polyester fleece filter pneumatically. This means that no residual dust remains in the conveyor. We offer the right filter for every conveyor unit with filter areas of 0.33 m^2 , 0.6 m^2 and 2.5 m^2 .



CONVEYING

Filters for dust-free production

With the automatic rotary blade cleaning system, dust is a thing of the past.

The environmentally friendly polyester fleece cartridge filters are absolutely leak-proof and filter the conveying air without allowing dust to escape. The large filter has a filter surface area of 2.5 m² and is also used in centralised conveying systems. The separation efficiency of all filters is 2 µ.



We have the right filters and filter sizes in stock for all devices

CONVEYING

MIKO micro conveyor for grains or regrind



MIKO mini conveyor

- 43 cm high and a weight of just 4,800 grams
- Capacity: 1.3 litres
- With a powerful 0.65 kW fan - connection 230 V / 50 Hz
- Automatic rotary blade cleaning of the cartridge filter
- Polyester fleece filter with down to 2 µ separation
- Easy handling, swivelling and foldable
- Throughput up to 15 kg/h, conveying distance up to 25 m, conveying height up to 5 m
- Includes 1 m suction pipe and 2.5 m antistatic hose (NW 30)
- Alarm message in the event of insufficient material
- With glass ring



MIKO on a grain station

MIKO's strengths are the smallest throughputs. With a rubber-mounted ring insert, the device can easily be placed on all dosing stations.



MIKO with Ma regrind / grain station

With the flange plate (F), MIKO or A 2 fit on all KOCH grinding stations and Z hoppers. The conveyors can also be fitted directly on the machine hopper. The drill holes required for installation (Ø 7 mm) are standard.



Type MIKO / Z 2

The MIKO with a Z 2 or Z 5 intermediate hopper is ideal for throughputs of up to 15 kg/h. For very low flow rates of max. 5 kg/h, the Z 1 intermediate hopper is the ideal solution.

Type	Throughput kg/h	Blower	Housing	Capacity in litres	Weight kg	Voltage V/Hz	Height/□ mm	Cleaning Rotary blade	Filter
MIKO	15	1.1 kW	GKAL / So HB 100 glass	1.3	4.8	230/50	446 / 189		Automatic polyester fleece filter 2μ

GKAL / So is abrasion-resistant and made from die casting with a Brinell hardness of 100



MIKO with Z 1 intermediate hopper

kg/h Conveying capacity of type MIKO / Z 2

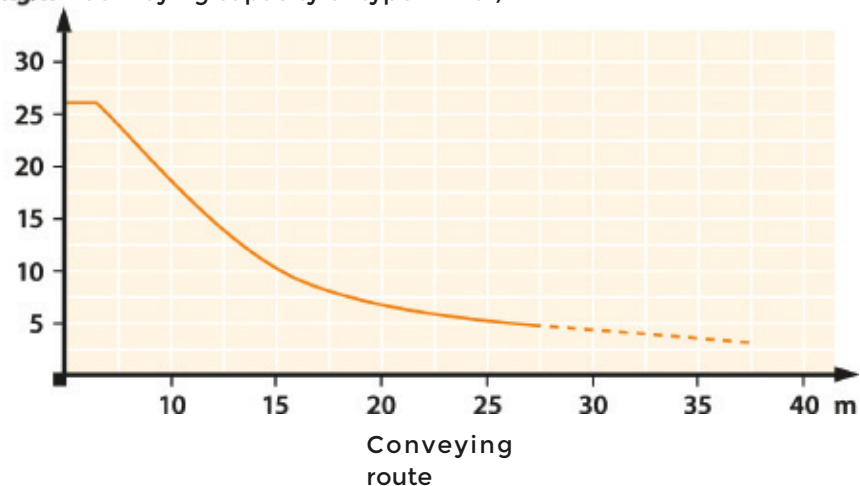


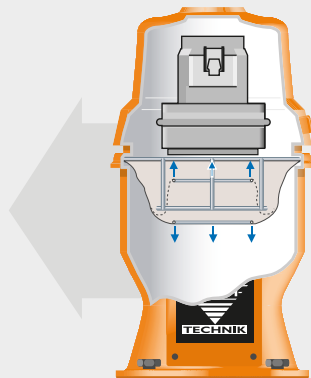
Diagram data:

- Conveyor line: Ø 40 mm
- Grain size: Ø 3 - 4 mm
- Bulk density: 0.65 kg/dm³
- With 2 x 90° bends

CONVEYING

Compact conveyors

KOCH compact conveyors are easy to handle and exceptionally robust. As the vacuum generator is integrated directly into the device, only a 230 V connection is required for conveying. The compact KOCH single conveyors are the ideal solution for loading a machine from adjacent containers. A suction pipe and an antistatic hose are included with every conveyor unit.



Inexpensive and effective:

The material/air mixture is separated via a movable filter cloth.



Universal use:

KOCH type Tm conveyors can convey two components, e.g. regrind or virgin material.

Single-component conveyors

Two-component conveyors (Tm)

Height in cm

	MIKO	608	612D	TmMIKO	Tm6D
Material components	1	1	1	2	2
Collector fan (kW)	0.65	1.1	1.1	0.65	1.1
Housing	GKAL/HB100 glass	GKAL	GKAL	GKAL/HB100 glass	GKAL
Volume (in litres)	1.3	8	12	1.3	12
Max. delivery rate	15 kg/h	50 kg/h	60 kg/h	12 kg/h	60 kg/h
Voltage	230 V / 50 Hz	230 V / 50 Hz	230 V / 50 Hz	230 V / 50 Hz	230 V / 50 Hz
Nominal diameter Ø *	30 mm	40 mm	40 mm	30 mm	40 mm
Height/depth max. (mm)	446/320	535/340	600/440	446/338	600/440
Compressed air **	5 to 7 bar	-	5 to 7 bar	5 to 7 bar	5 to 7 bar
Filter cleaning/ filter type	Rotary blade/ polyester fleece	Filter cloth	Rotary blade/ polyester fleece	Rotary blade/ polyester fleece	Rotary blade/ polyester fleece

*Standard ** Oil/Water-free)



Type 608

For granulate up to 50 kg/h

Compact conveyor with a conveying volume of 8 litres. Ideal for grains with dust particles over 200 μ . As with the other KOCH compact feeders, the 608 has an automatic signal when the storage container is empty. The material/air mixture is separated by a large, movable filter cloth. Once the suction process is complete, the filter cloth falls off and cleans itself automatically on the outer wall.

Type 608



Type 612 D

For granulate, reclaim or free-flowing powder up to 60 kg/h

Compact conveyor with a conveying volume of 8 litres and automatic warning signal when there is no material left in the container. The air filter, which is fitted to be absolutely leak-proof, is cleaned at lightning speed and without residue after each conveying process by means of rotary blade cleaning. This means that it is not a problem to convey free-flowing powder in a dust-free manner for the environment.

Type 612 D



Type Tm 6 D (tandem)

Two-component conveyor for regrind and granulate up to 60 kg/h (100 kg/h and 200 kg/h)

With these conveying devices, you can convey two different components in infinitely variable percentages. A pendulum flap switches continuously and thus ensures good mixing in the conveyor. Together with the rotary blade cleaning system and the automatic warning signal, it is an ideal solution for processing new material and regrind from the grinder or drum.

Type Tm 6 D rear with two-component connection

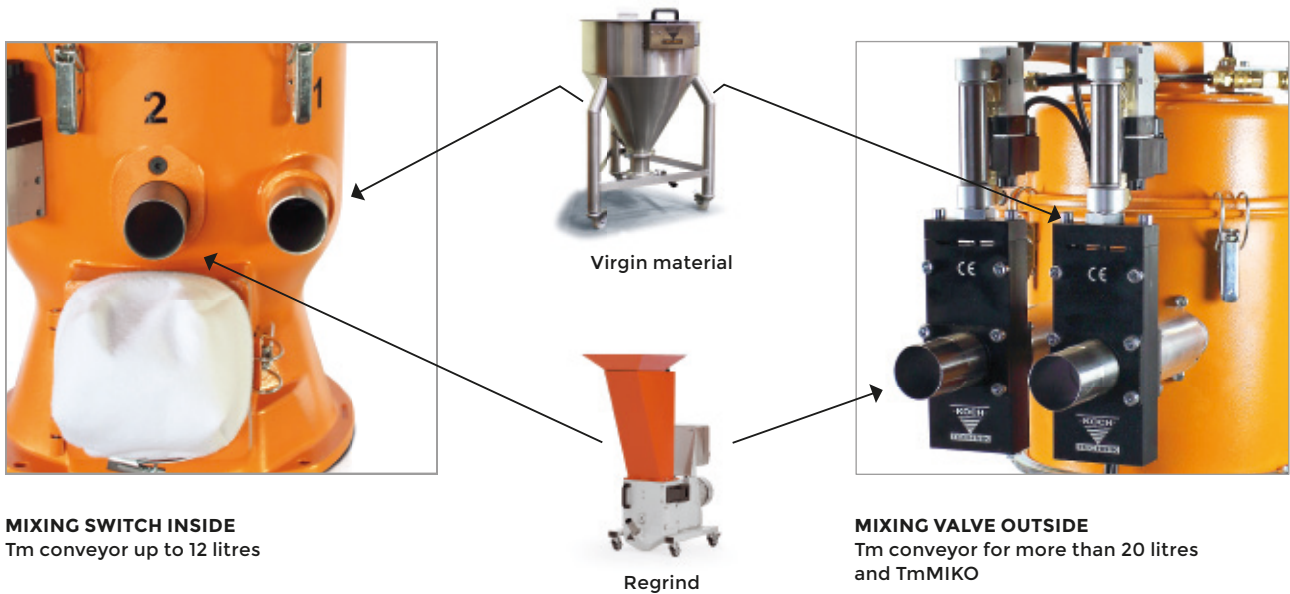
* Tm - two-component connection | ** Collector blower, all others three-phase blower *** Weight without GA / So three-phase blower is abrasion-resistant, made from die casting with a Brinell hardness of 100

Type	Materials	Blower kW	Housing	Volume in litres	Weight* kg	Voltage V/Hz	Height/□ mm	Cleaning
608	1	** 1.1	GKAL / So	8	10.0	230/50	535 / 311	-
612 D	1	** 1.1	GKAL / So	12	13.0	230/50	605 / 434	autom.
Tm6 D *	2	** 1.1	GKAL / So	12	14.0	230/50	605 / 434	autom.
Tm13 D *	2	1.3	GKAL / So	12	*** 9.0	3x 400/50	550 / 434	autom.
Tm23 D *	2	2.3	GKAL / So	12	*** 9.0	3x 400/50	550 / 434	autom.
Tm2320 D *	2	2.3	GKAL / So / V2A	20	*** 12.0	3x 400/50	770 / 434	autom.

CONVEYING

Conveying two material components (Tm)

Tm devices can convey two material components via a mixing valve. The integrated control unit directs the mixing valve and conveys, for example, virgin material and regrind in predetermined percentages. The cycles of the mixing valve can be set so that the materials are mixed well when the valve switches alternately. The compact devices have an internal mixing valve. Devices with a volume of 20 litres or more and the TmMIKO are fed via an external mixing valve.



CONVEYING

Overview of intermediate hoppers and filters for conveyors

The intermediate hoppers are made from GKAL or alternatively from V2A. The large intermediate hoppers are made of V2A. Each conveyor or separator can be set up and swivelled through 360° in this combination*. Hoppers are available in sizes of 2, 5, 12, 24, 40, 60 or 100 litres as well as new hoppers for fitting on mixers and GRAVIKO in sizes of 6, 13 and 26 litres. All hoppers have one or two sight glasses. *GKAL version only



Z 2

Z 5

Z 6

Z 12

Z 13

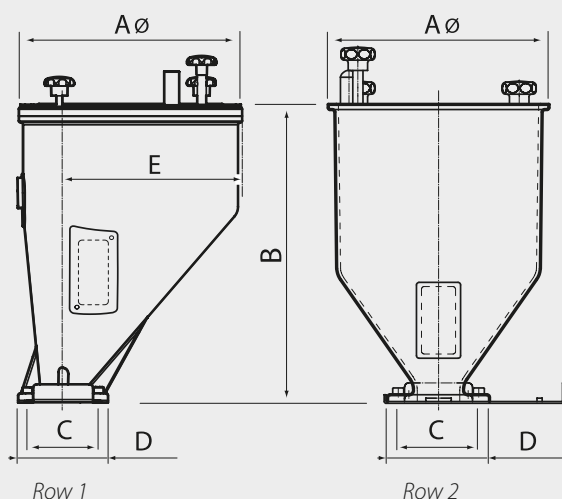


Z 24

Z 26

Z 40

Z 100



Hopper	A Ø mm	B mm	C □ mm	D □ mm	E mm	Volume in litres	Swivel- ling*
Z 2	260	148	95	120	130	2	X
Z 5	260	218	95	120	130	5	X
Z 6	298	288	95	120	238	6	X
Z 12	260	352	95	120	130	12	X
Z 13	298	398	95	120	238	13	X
Z 24	388	395	150	180	194	24	X
Z 26	392	414.5	150	180	316	26	X
Z 40	394	515	150	180	197	40	
Z 60	394	697	150	180	197	60	
Z 100	388	1,055	150	180	194	100	

CONVEYING

Single conveyors for large quantities

Important features:

- Automatic rotary blade cleaning
- Polyester fleece filter with separation efficiency 2 µ
- Hinged hood, main body can be swivelled through 360°*
- Warning message in the event of insufficient material
- Suction pipe and antistatic hose included with the delivery

* Up to Z 26 hopper made of GKAL



Side channel compressors are available with outputs from **1.5 kW to 11 kW**. The control unit for the conveyor is fitted directly on the blower.

			
	138D, 238D	1320D, 2330D, 3030D	BELIKO 3050D, 4050D, 5550D, 7570D, 11100D
Material components	1 or 2 (Tm)	1 or 2 (Tm)	1 or 2 (Tm)
Blower (external)	1.6 kW to 2.5 kW	1.6 kW to 3.0 kW	3.0 kW to 11 kW
Housing	GKAL	GKAL/V2A stainless steel	GKAL/V2A stainless steel
Volume	12 litres	20/30 litres	50/70/100 litres
Max. delivery rate	150/200 kg/h	300/400/480 kg/h	600/900/1200/1500/2100 kg/h
Voltage	3x 400 V / 50 Hz	3x 400 V / 50 Hz	3x 400 V / 50 Hz
Max. depth (mm)	440	440	605
Height (in mm)	580	20l = 840; 30l = 970	50l = 1230; 70l = 1340; 100l = 1510
Compressed air (oil/water-free)	5 to 7 bar	5 to 7 bar	5 to 7 bar
Filter cleaning/filter type	Rotary blade/polyester fleece 0.33 m²	Rotary blade/polyester fleece 0.33 to 0.6 m²	Rotary blade/polyester fleece 2.5 m²

Single conveyors - technical data

Type		Blower kW	Housing	Capacity in litres	Weight* kg	Voltage V/Hz	Output A	Height/□ mm	Cleaning rotary blade
138 D		1.3	GKAL	8	9	3x 400/50	3.0	550 / 434	autom.
238 D		2.3	GKAL	8	9	3x 400/50	5.5	550 / 434	autom.
1320 D		1.3	GKAL / V2A	20	11	3x 400/50	3.0	770 / 434	autom.
2330 D		2.3	GKAL / V2A	30	18	3x 400/50	5.5	1045 / 418	autom.
3050 D	BELIKO	** 3.0	GKAL / V2A	50	34	3x 400/50	7.2	1011 / 478	autom.
4050 D	BELIKO	** 4.0	GKAL / V2A	50	34	3x 400/50	10.0	1011 / 478	autom.
5550 D	BELIKO	** 5.5	GKAL / V2A	50	34	3x 400/50	11.5	1011 / 478	autom.
7570 D	BELIKO	** 7.5	GKAL / V2A	70	40	3x 400/50	15.1	1380 / 480	autom.

* Weight not including three-phase fan

* Suitable for 100% duty cycle continuous operation. GKAL= abrasion-resistant die-cast aluminium with a Brinell hardness of 100



Side channel compressor

(three-phase blower)

Three-phase blowers are used for individual delivery of higher quantities and delivery distances of up to 100 metres. The vacuum generators used are durable, maintenance-free side channel compressors that are always customised to your requirements. The following are available: 1.3 kW, 2.3 kW, 3.0 kW, 4.0 kW, 5.5 kW, 7.5 kW, 11 kW. The control unit for the conveyor is fitted directly on the blower.



Type 138 D / 238 D

For regrind, grains up to 150 / 200 kg/h

KOCH conveyor with separate three-phase blower. Long conveying distances, larger conveying volumes, maintenance-free operation and a long service life are just some of the advantages of this single conveyor.

Type 138 D



Type 1320 D / 2330 D

For regrind, grains up to 300 / 400 kg/h

Durable KOCH conveyor and ideal for continuous operation. In combination with a three-phase blower, fresh air supply, air interlock and automatic rotary blade cleaning, you can convey up to 400 kg/h.

Main body made of GKAL underneath; the container is made of V2A.

Type 1320 D



Type 3050 D / 4050 D / 5550 D / 7570 D BELIKO

For regrind, grains up to 600 / 800 kg/h and type 5550 D up to 1,500 kg/h

Durable KOCH conveyors which, together with a three-phase blower, fresh air supply, air interlock and rotary blade cleaning, are optimally designed for long conveying distances and the very largest quantities required.

The containers are made of V2A.

Beliko with Z 40 intermediate hopper



The KOCH conveyor with the longest service life and a 5-year guarantee.

GLASKO

CONVEYING

GLASKO (the glass conveyor)

Patented conveyor and separator made of special glass for glass fibre-reinforced materials. KOCH conveyor with the longest service life and A 5-year anti-wear guarantee on the glass body

The increasingly frequent use of glass fibre-reinforced plastics places the highest demands on the conveyors used. Regardless of whether they are made of stainless steel, cast iron or coated material - the exceptional hardness of the material to be conveyed is a problem for the devices and often limits their service life to just a few months. These devices must then be replaced.

We have an inexpensive and effective solution to this problem in our range: the GLASKO conveyor. The conveying container is made entirely of 8 mm thick, hardened special glass. When conveying extremely hard material, the service life is increased a hundredfold compared to conventional conveyors!



5-YEAR GUARANTEE

This special glass has been used for years in pipe bends in our centralised granulate conveying systems and has proven its worth there. As abrasion of the glass impact surface can be ruled out for years to come, we offer a 5-year anti-wear guarantee on the glass body of the GLASKO - regardless of which material is used!



CONVEYING

GLASKO - Wear-resistant with guarantee

As the GLASKO can be combined with the KOCH modular system, there are variants as a compact conveyor with an integrated vacuum generator and as a single conveyor - depending on the version - for throughputs of 60 kg to 400 kg of material per hour. The GLASKO is available in a Tm version with an external mixing valve made of stainless steel or special glass for conveying two materials.

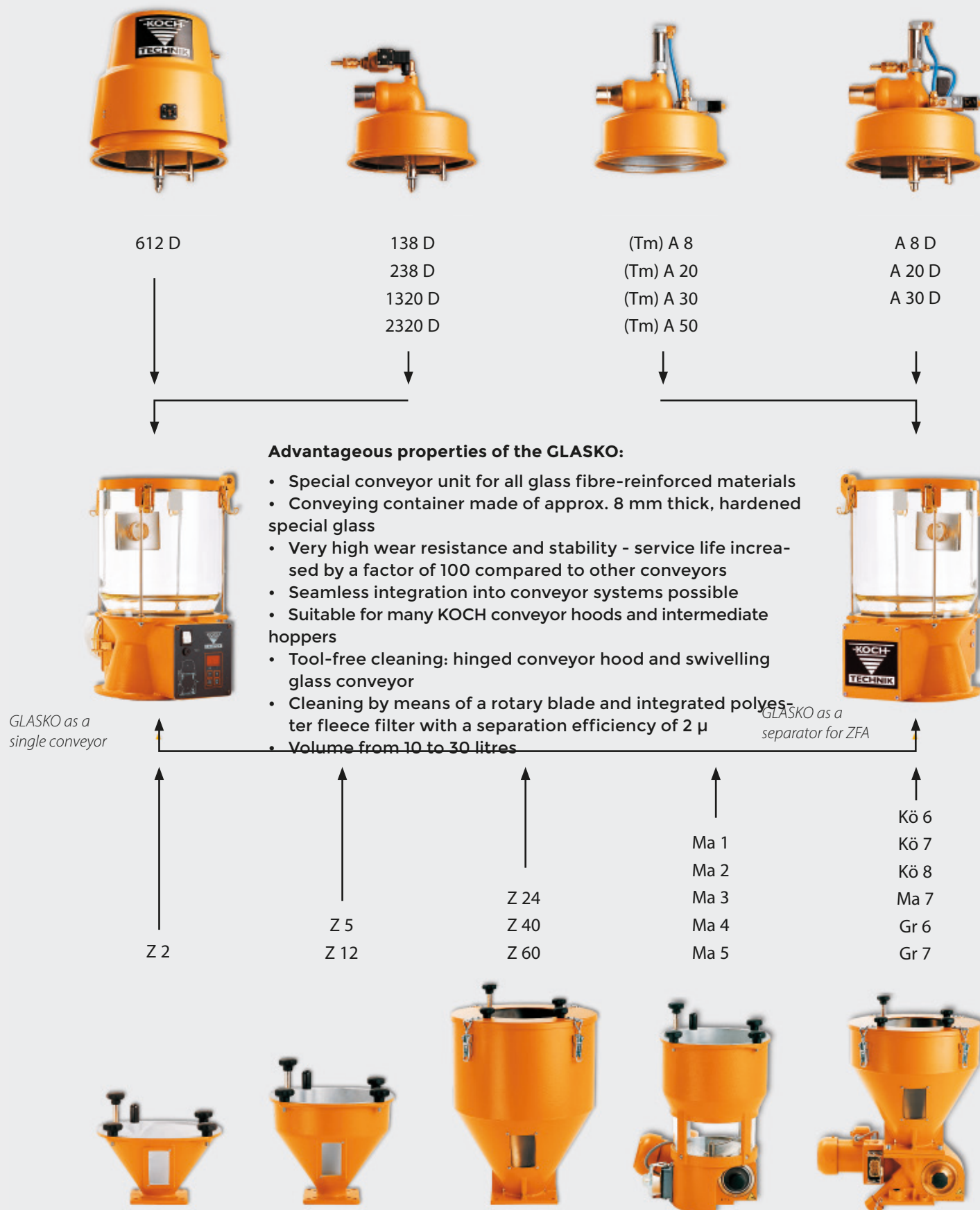


GLASKO
AS A COMPACT CONVEYOR 612DG



GLASKO
AS A SINGLE CONVEYOR 138DG

CONVEYING GLASKO IN THE Koch modular system





06

DRYING



The drying process improves the processing properties of the material. The energy that you use during drying is saved thanks to improved flow behaviour in the subsequent processing stage.

DRY AIR DRYER



YOU NEED TO DRY PLASTICS

... in order to achieve the material-specific values of the plastic. The drying process improves the processing properties of the material. The energy that you use during drying is saved thanks to improved flow behaviour in the subsequent processing stage. Hygroscopic, i.e. water-retaining materials always require drying. This is the only way to obtain a high-quality end product with a streak- and bubble-free surface and the required breaking strength.

DRYING WITH DRY AIR

KOCH dryers use dry air to dry plastic granulates to the optimum residual moisture required for processing.

This is an energy-saving, self-contained circulation system that works completely independently of the ambient climate: dry, warm air flows through the granulate, absorbs its moisture and releases it to a desiccant. This constant regeneration achieves a constant degree of drying, which dries in a dew point range of -30°C to -60°C .

DRYING

Dry air dryers - theory & practice

DEW POINT AND DRYING PROCESS

The dew point of the air depends on the humidity it contains. The lower the dew point, i.e. the less water in the air, the faster the drying process.

The critical limit at which the air quality is no longer sufficient for perfect drying is at a dew point of approx. -15 to -18°C .

The drying air in KOCH dryers always has a dew point below -30°C , i.e. far from the critical point. Absolutely reliable drying is therefore always guaranteed

Examples:

A dew point of $+20^{\circ}\text{C}$

In humid, muggy summer weather with an air temperature of 30°C and 85% saturation (residual humidity), 1 m^3 of air contains 26 g of water (H_2O). This corresponds to a dew point of 27°C .

-2.5°C dew point is at 0°C with 80% saturation: $4.00\text{ g H}_2\text{O}/\text{m}^3$

-30°C dew point is at 0°C with 100% saturation: $0.33\text{ g H}_2\text{O}/\text{m}^3$

-40°C dew point is at 0°C with 100% saturation: $0.12\text{ g H}_2\text{O}/\text{m}^3$

-50°C dew point is at 0°C with 100% saturation: $0.04\text{ g H}_2\text{O}/\text{m}^3$

-60°C dew point is at 0°C with 100% saturation: $0.011\text{ g H}_2\text{O}/\text{m}^3$

THE AIM MUST THEREFORE BE TO ACHIEVE A LOW DEW POINT!

Not only so that the drying process is quick and a lot of energy is saved, but also so that the hygroscopic granulate can be dried to a residual moisture content of 0.01%. You should be aware of this with your dryer!

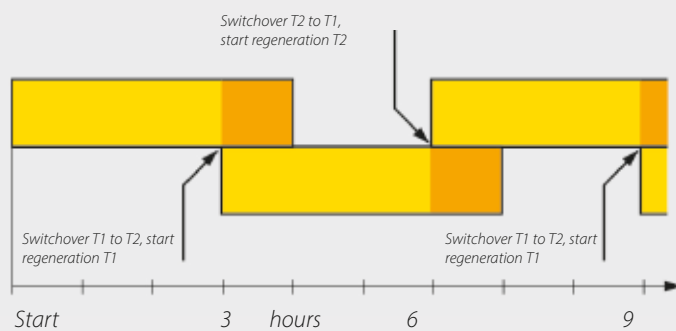
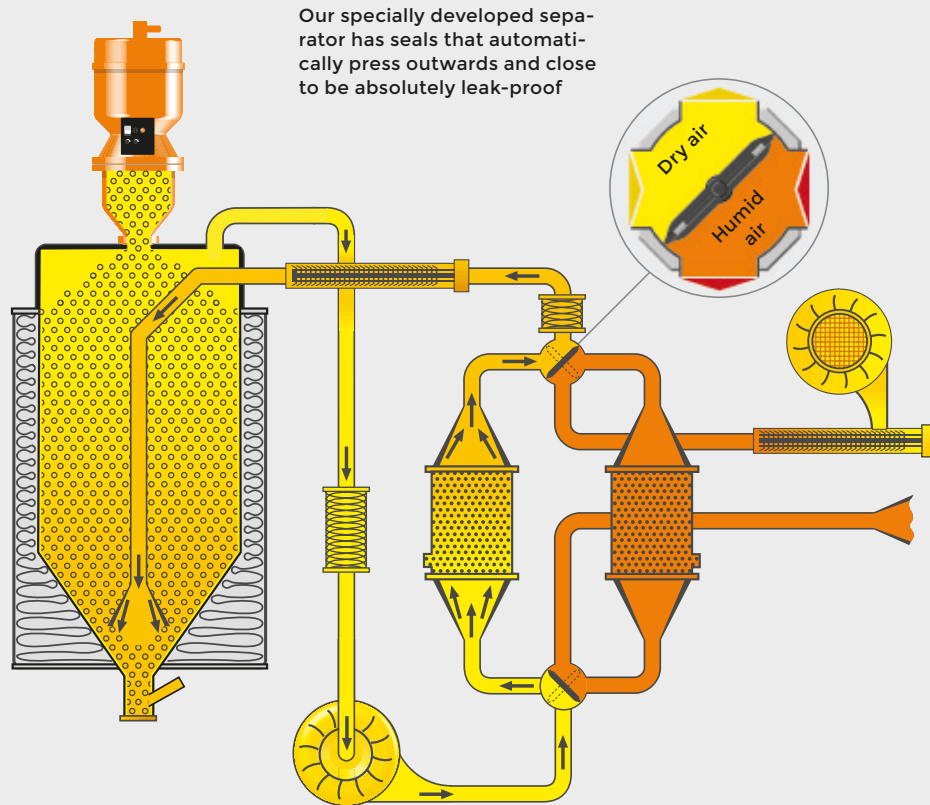


ECONOMICAL

DRYING

How a KOCH dry air dryer works

The drying cycle: Koch dry air dryers work according to the drying and regeneration principle - an energy-saving drying method

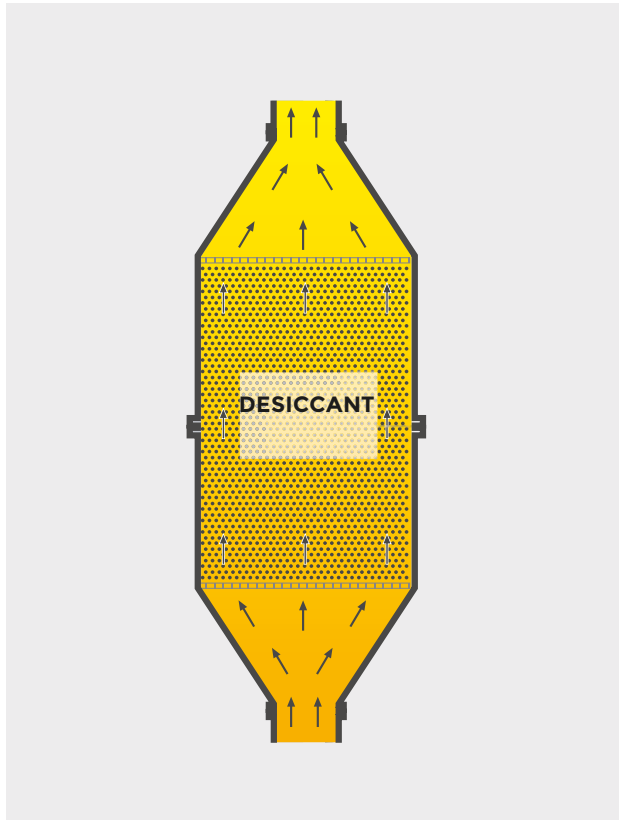


Schematic example of the time-dependent drying and regeneration phases

DRYING

Economical drying - an invaluable advantage!

Desiccant: The small pore size of four ångströms (corresponds to a pore size of 4×10^{-10} m) guarantees an above-average service life of the environmentally friendly desiccant



The end product and the resulting economic success are the top priority in every production process. You can only produce successfully if your production systems work economically.

The energy required to dry a certain amount of material to a predefined residual moisture level is decisive for the economic efficiency of a plastic dryer.

Thanks to an ingenious system, KOCH dry air dryers are energy-saving and economical! The efficiency of KOCH dryers becomes clear here: To dry ABS material with an initial moisture content $< 1\%$ to the optimum residual moisture content, the KOCH dry air dryer consumes just 0.08 kW per kg of material.

There is no more cost-effective way to dry and at the same time ensure a flawless end product!

DRYING

Frequency-controlled fans

In the drying process in particular, frequency-controlled drying fans promise further high energy-saving potential. Optional frequency converters allow the speed to be adjusted depending on the load and thus the speed of the dry air. The adjustment means that only a quarter of the energy that would otherwise be used is consumed at half power. This means that the energy costs for operating the drying fans alone can be reduced by 25% to 75%. Frequency control thus becomes an investment that quickly pays for itself.



DRYING

KOCH-TECHNIK dew point control

ENERGY SAVING WITH DEW POINT CONTROL:

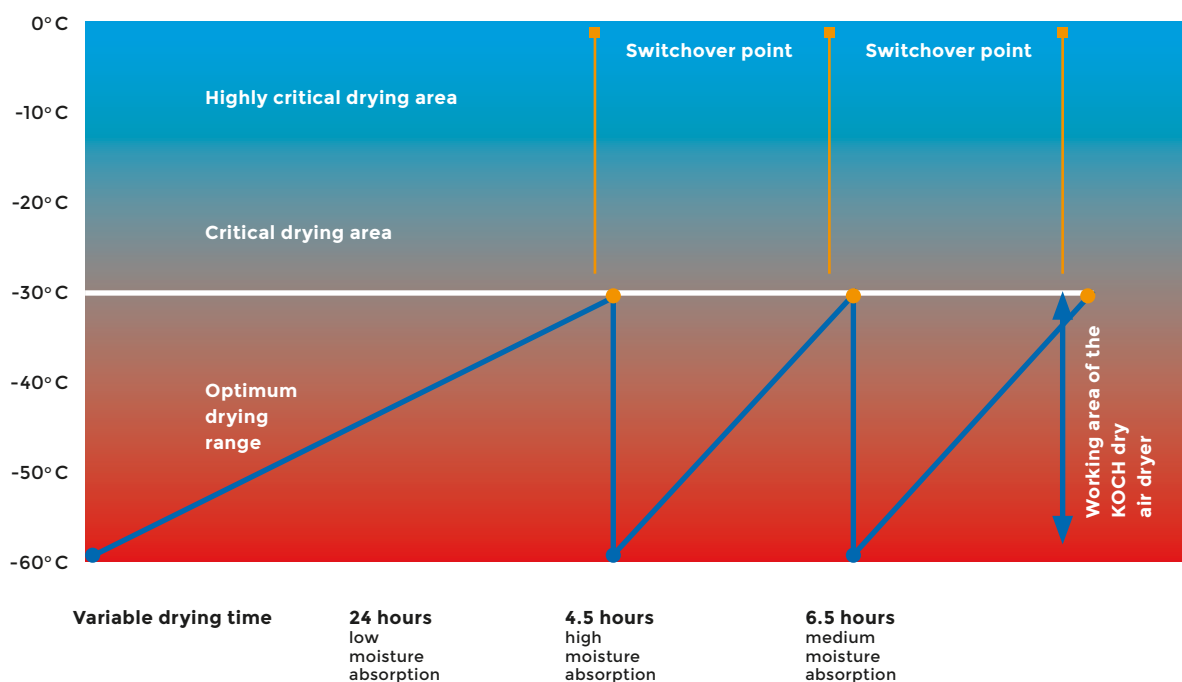
There are two drying systems that differ in terms of energy consumption: The energy-intensive system switches cyclically regardless of the moisture content of the drying basin and does not take into account whether a little or a lot of moist or dry material is being used.

KOCH dry air dryers, on the other hand, work on the basis of the dew point and are therefore the more energy-efficient system. Only when the dew point of -30°C is reached does the system switch to the new desiccant container. The dryer always adapts to the actual conditions. If the plastic material is moist, the switchover takes place in shorter cycles; if the material is dry, the cycle takes correspondingly longer.

The advantage is obvious: High energy savings during regeneration and consistent quality of the end product!



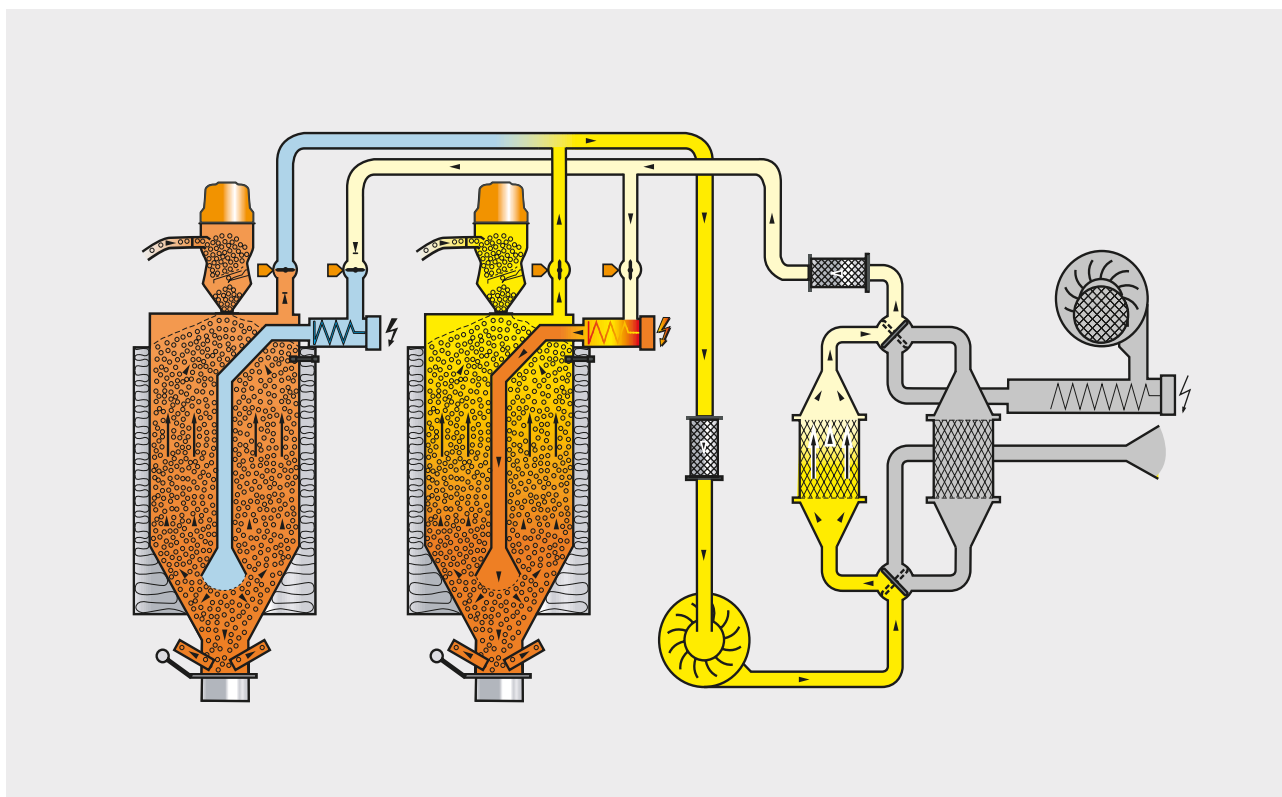
AUTOMATIC DRYING THROUGH DEW POINT CONTROL



DRYING

ECO system control

Our patented system control for material-friendly and energy-saving drying



ECONOMICAL CONTROL, MATERIAL-FRIENDLY AND ENERGY-SAVING DRYING!

Our optional ECO system control guarantees that no overdrying of hygroscopic materials such as PA, PC, LCP, POM etc. takes place in the storage containers: If little or no material is removed from a storage container, there is a risk of material damage due to the constantly hot drying air. The ECO system control prevents this! When a certain temperature is reached in the upper area of the storage container, it automatically switches to the idle position.

The system only goes back into operation when material is removed or the dwell time is too long. Advantage: This saves you up to 50% energy and you can access pre-dried material at any time. At the same time, you can be sure that no material damage has occurred. The end product quality is therefore assured.

FURTHER PROPERTIES:

- Control depending on the required air volume of the respective container
- Control of the defined air volume - independently of filling quantity and material shape
- The exact amount of air required always flows through the containers
- Optionally with automatic load adjustment



Dry air dryer for plastic material

EKO-N

DRYING

EKO-N - The highest level of energy efficiency

The type EKO-N dry air dryer combines the advantages of the existing and successful CKT & EKO dryer concepts into one dryer unit. The heat exchanger concept in the pipe system adopted from the EKO dryer has been further improved in the EKO-N series and is used even more efficiently and successfully here.

Thermal energy recovery reduces energy consumption by up to 50%, depending on the drying temperature of the material. This reduces the average energy consumption while maintaining the same quality. Sensors are used to continuously monitor the drying and temperature-controlled regeneration process. Both processes work in closed circuit systems for a consistent degree of drying. Thanks to this energy-efficient drying process, the EKO-N dries in a dew point range from -30°C to -60°C.

ADVANTAGES OF THE EKO-N

- **Nine EKO-N units with dry air volume of 110 - 2,000 m³/h**
- 110(F) / 150(F) / 200(F) / 300F / 500F / 800F / 1100F / 1700F / 2000F
- **Up to 50% energy savings with consistently stable drying quality in combination with...**
 - thermal energy recovery by means of a heat exchanger (air - air)
 - frequency-controlled dry air generation*
 - dew point-controlled regeneration when a dew point of -30°C is reached*
 - patented KOCH-ÖKO energy system control for EKO-N drying containers
 - energy-saving counterflow regeneration for the fastest dehumidification
- **EKO-N drying containers from 40 - 1,200 litres can be integrated (from 1,500 litres in CKT design)**
 - Container on frame (stationary or mobile) or embedded in stage floor
 - Container heaters up to 120°C or up to 170°C directly integrated, without heat loss
 - With viewing window and hinged cleaning lid as standard
 - Container can be extended with cleaning door
- **EKO-N concept with modular design for easy expansion of a drying system**
- **Control unit (S7) with 10.4" colour touch display & material database with 240 recipes**
- **Can be fully integrated into the KOCH visualisation software**
- **"Smart Factory": industry 4.0-compatible thanks to OPC UA communication standard**

(also optional for EKO-N 110, 150 & 200)



DRYING

EKO-N control unit

OPERATION VIA TOUCH PANEL

- With Siemens S7 technology
- User-friendly 10.4" colour touch display with sequence and process control as well as integrated service functions and trend graphics
- Integrated operation for up to 4 drying containers, expandable up to 24 drying containers
- Material database with 240 recipes
- Temperature reduction control as overdrying protection
- Recording of the dew point curve over the last 500 days
- Lowering mode
- Complete control of all dry heating temperatures and energy-saving flap
- Language switching, password protection and weekly timer
- Includes data bus for visualisation and higher-level systems
- Modular design makes it easy to expand the drying system
- Control extension for integrated conveyor system with up to 24 demand points with centralised filter and vacuum station as well as for throughput recording of all drying containers and alarm signalling if throughput is exceeded



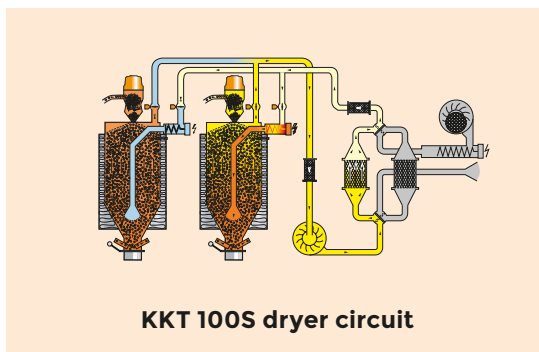
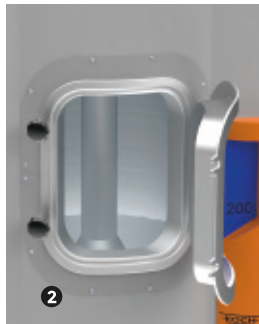
Parameters of the integrated conveyor system



On request, we enable remote monitoring of the parameters via a tablet, which has proven particularly useful for drying systems on stages

DRYING

EKO-N - Application



1

For easier and faster cleaning, all drying containers are equipped with a hinged cleaning lid.

2

For 60 litres and above, all drying containers can be equipped with a cleaning door including a viewing window. The cleaning doors are adapted to the shape of the container and are easy to open using two quick-release fasteners.

3

The suction box has up to three connection options for automatic material feed. Thanks to its design, there are no cold zones in the container. A manual shut-off valve is integrated for removing material samples and for quick container emptying. Suction box with integrated empty suction function (pictured) for conveyor systems.

4

Throughput recording with display of the degree of drying in % in conjunction with conveyor system control extension or via compact conveyors with alarm signalling if throughput is exceeded.

DRYING

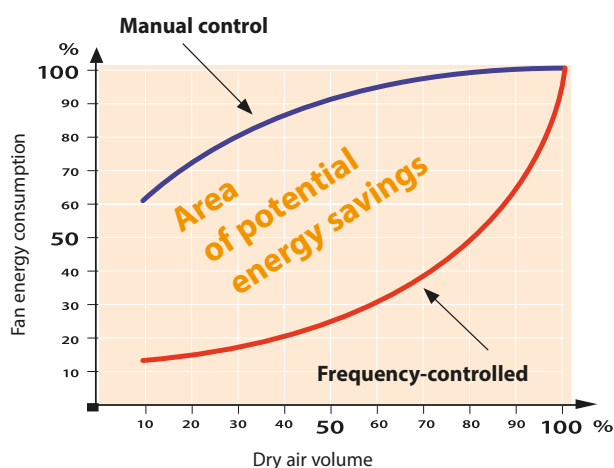
EKO-N - Energy efficiency



ECO ENERGY SYSTEM CONTROL

Patented energy layer control for material-friendly and energy-saving drying.

Our optional ECO energy system control guarantees that no overdrying of hygroscopic materials such as PA, PC, LCP, POM etc. takes place in the storage containers: If little or no material is removed from a storage container, there is a risk of material damage due to the constantly hot drying air. The ECO energy system control prevents this! When a certain temperature is reached in the upper area of the storage container, it automatically switches to the idle position. The system only goes back into operation when material is removed or the dwell time is too long. Advantage: This saves energy and you can access pre-dried material at any time. At the same time, you can be sure that no material damage has occurred. This ensures the quality of the end product.



FREQUENCY-CONTROLLED FAN/DEW POINT

In the drying process in particular, frequency-controlled drying fans promise further high energy-saving potential. Frequency inverters enable load-dependent adjustment of the speed and thus the speed of the dry air. The adjustment means that only a quarter of the energy that would otherwise be used is consumed at half power. This means that the energy costs for operating the drying fans alone can be reduced by 25% to 75%.

DEW POINT CONTROL/FREQUENCY

There are two drying systems that differ in terms of energy consumption: The energy-intensive system switches cyclically regardless of the moisture content of the drying basin and does not take into account whether a little or a lot of moist or dry material is being used.

KOCH dry air dryers, on the other hand, work on the basis of the dew point and are therefore the more energy-efficient system. Only when the dew point of -30°C is reached does the system switch to the new desiccant container.

The dryer always adapts to the actual conditions. If the plastic material is moist, the switchover takes place in shorter cycles; if the material is dry, the cycle takes correspondingly longer. The advantage is obvious: High energy savings during regeneration and a consistently good quality of the end product!



Machine-side dryer for plastic material

KKT

DRYING

KKT - Optimum drying - mobile and energy-saving

The KKT series mobile machine-side dryers are designed for optimum drying of hygroscopic granulates with dry air volumes of 55, 75 and 100 m³/h. The new dryer control system automatically adapts to the material and throughput quantities. Depending on the programme selected, it is possible to save up to 40% energy.

The operator is guided through the menus in a self-explanatory manner via the touch panel of the control unit, whereby all operating states such as temperature, time settings, drying time etc. can be monitored and changed. Time-controlled drying can be started before production starts so that dried material is always available when required.

DRYING TEMPERATURE UP TO 160°C

The machine-side dryers with dry air technology work with two desiccant containers that operate alternately. This enables dry air with a dew point of approx. -35°C, which corresponds to a value of 0.19 g H₂O per 1 m³.

The possible drying temperature of up to 160°C also allows the drying of extremely demanding plastics. By installing the modular drying containers with volumes of 12, 24, 40, 60, 100, 150, 200 and 300 litres, the machine-side dryer series can meet all the requirements of your production.



KOCH MODULAR SYSTEM

Two adjacent processing machines can be supplied from one KKT series machine-side dryer.

The drying container has a clamping flange suitable for all KOCH intermediate hoppers. This in turn fits all KOCH conveyors

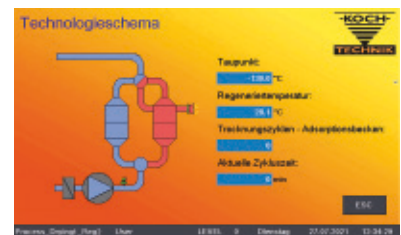


DRYING

KKT - Touch panel control system

The touch panel control system documents all relevant operating statuses and provides information such as ...

- the temperature for each container with an accuracy of $\pm 1^\circ$
- the running time of the working cycles
- the set times and the selected programme



The touch panel control system offers ...

- material database and language switching
- material detection, throughput recording of all drying containers and alarm signalling if throughput is exceeded
- lowering mode and optional patented KOCH ECO system control to protect against overdrying and to save up to 40% energy.
- network-compatible
- integrated conveyor system (optional) for up to 4 conveyor separators
- optional dew point control with recording and 24-hour display of progress

The following three operating modes for optimum granulate drying are possible:

- ECO: the energy-saving programme for up to 40% energy savings.
- NORMAL: the basic programme for your standard production.
- FAST: the high-speed programme for drying the highest material throughputs with optimum drying quality at the same time.

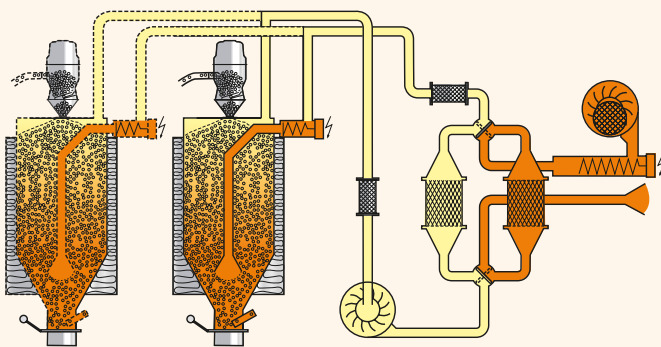
DRYING

KKT - type KKT 100S machine-side dry air dryer



KKT 100S - The most powerful mobile with dry air technology ...

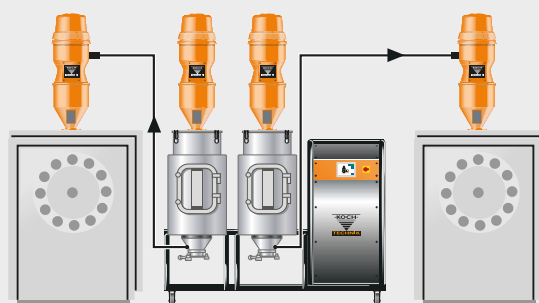
- for a dry air volume of 100 m³/h
- proven CKT technology
- mobility as an important factor in your production
- 3 microfilters ensure safe operation
- specially developed, absolutely leak-proof separators
- a single container with a total volume of up to 300 litres can be connected
- max. 4 containers up to max. 180 l total volume can be connected
- overload protection and motor protection switch
- dry air control
- optionally with patented KOCH-ÖKO system control and dew point control
- without compressed air



KKT 100S dryer circuit

KOCH-TECHNIK's most powerful machine-side dryer offers a permanent supply of dry air - even during the regeneration phase - thanks to two independently operating dryer circuits.

**SUPPLIES
TWO MACHINES
WITH KKT 100S**



DRYING

KKT - Type KKT 55 machine-side dry air dryer



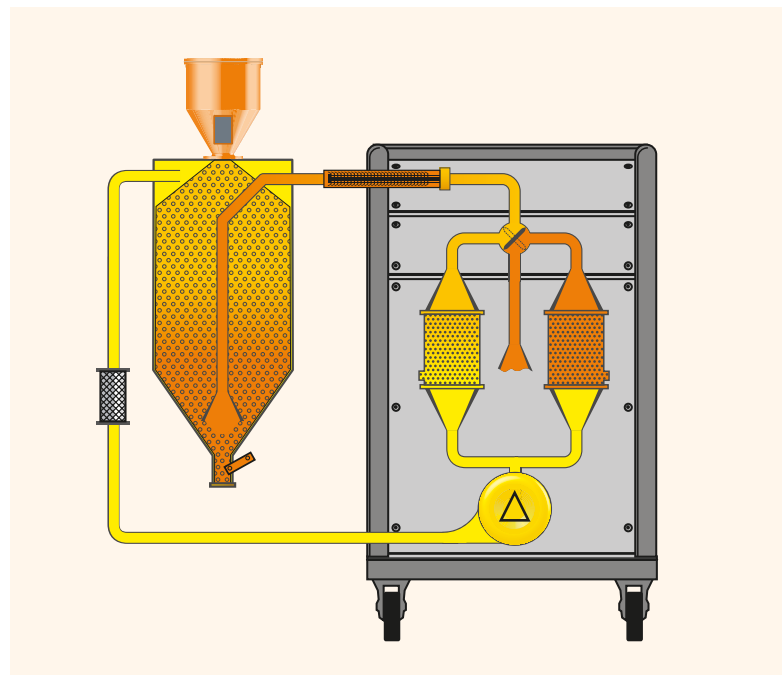
KKT 55 - the mobile with dry air technology ...

- for a dry air volume of 55 m³/h
- single container (up to 100 litres) or 2 containers with a total volume of up to 100 litres can be connected next to the drying unit
- individual containers up to 100 litres can be fitted behind the dryer unit
- microfilter, overload protection, motor protection switch and air control for safe operation
- optionally with patented KOCH-ÖKO system control and with an integrated conveyor system control for controlling up to 8 conveyor separators
- without compressed air

KKT 55



KKT 55



DRYING

KKT - type KKT 75 machine-side dry air dryer



KKT 75 - The powerful mobile with dry air technology ...

- for a dry air volume of 75 m³/h
- drying directly on the processing machine
- colouring and mixing are possible parallel to drying
- quick change of location to any processing machine
- individual containers up to 200 litres and a maximum of 3 containers up to 160 litres total volume can be connected
- a single container can be fitted on site behind the dryer unit (up to 100 litres)
- microfilter
- overload protection and motor protection switch
- dry air control
- optionally with patented KOCH ECO system control and with an integrated conveyor system control for controlling up to 8 conveyor separators
- without compressed air

KKT 55 and KKT 75 dryer circuit

The first desiccant container (yellow) dries while the second container (orange) is regenerated. When the mixing valve switches over, the first desiccant container is regenerated while the second container dries.

If dried material is kept in the container for a longer period of time, the optional KOCH ECO system control puts the container in the idle position to protect the material from overdrying and to save energy.

KKT 75

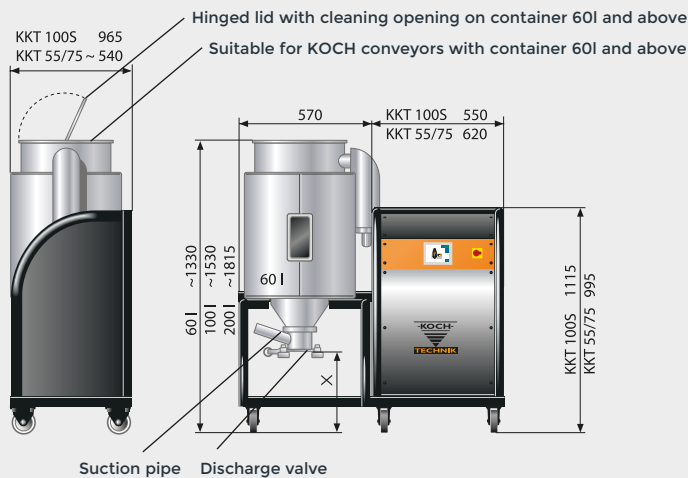


MODULAR CONTAINER SYSTEM WITH KKT 75

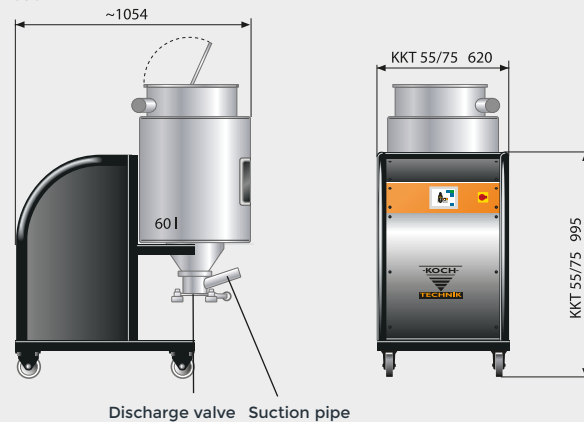


DRYING

KKT - technical data



Dimension X for 40 / 60 / 100 / 200 litres = 400 mm for 12 litres + 24 litres
= 530 mm



Type KKT 55

Dry air volume	55 m³/h
Regenerative heating	1.5 kW
Connected load of drying container*	1.0 - 3.0 kW
Average consumption**	1.1 / 1.5 / 2 kW
Blower capacity	0.25 kW
Drying hopper (in litres)	12 / 20 / 40 / 60 / 100
3 containers with total volume max.	100 litres
Temperature range	60°C to 160°C

* Heating depending on the container size; ** with 1, 2 or 3 containers

Throughput capacity* kg/h with 100 litres at temperature in °C

Material	Throughput	Temp	Material	Throughput	Temp
ABS	26 kg/h	80°C	PETP	17 kg/h	160°C
CA	31 kg/h	75°C	PMMA	18 kg/h	80°C
CAB	28 kg/h	75°C	POM	26 kg/h	100°C
PA 6	14 kg/h	80°C	PP	40 kg/h	90°C
PA 12	14 kg/h	100°C	PS	43 kg/h	80°C
PC	26 kg/h	120°C	PUR	21 kg/h	90°C
PE	44 kg/h	85°C	SAN	26 kg/h	80°C

* Guide values - may vary depending on initial moisture content

Type KKT 75

Dry air volume	75 m³/h
Regenerative heating	1.5 kW
Connected load of drying container*	1.0 - 3.0 kW
Average consumption**	1.8 / 2.2 / 3 kW
Blower capacity	0.25 kW
Drying hopper (in litres)	12 / 20 / 40 / 60 / 100 / 150 / 200
3 containers with total volume max.	140 litres
Temperature range	60°C to 160°C

* Heating depending on the container size; ** with 1, 2 or 3 containers

Throughput capacity* kg/h with 200 litres at temperature in °C

Material	Throughput	Temp	Material	Throughput	Temp
ABS	52 kg/h	80°C	PETP	32 kg/h	160°C
CA	45 kg/h	75°C	PMMA	37 kg/h	80°C
CAB	37 kg/h	75°C	POM	54 kg/h	100°C
PA 6	30 kg/h	80°C	PP	86 kg/h	90°C
PA 12	30 kg/h	100°C	PS	86 kg/h	80°C
PC	52 kg/h	120°C	PUR	43 kg/h	90°C
PE	86 kg/h	85°C	SAN	52 kg/h	80°C

* Guide values - may vary depending on initial moisture content

Type KKT 100S

Dry air volume	100 m³/h
Regenerative heating	3.0 kW
Connected load of drying container*	1.0 - 4.5 kW
Average consumption**	3.5 / 4.5 / 5.5 kW
Blower capacity	2 x 0.25 kW
Drying hopper (in litres)	20 / 40 / 60 / 100 / 150 / 200 / 300
4 containers with total volume max.	160 litres
Temperature range	60°C to 160°C

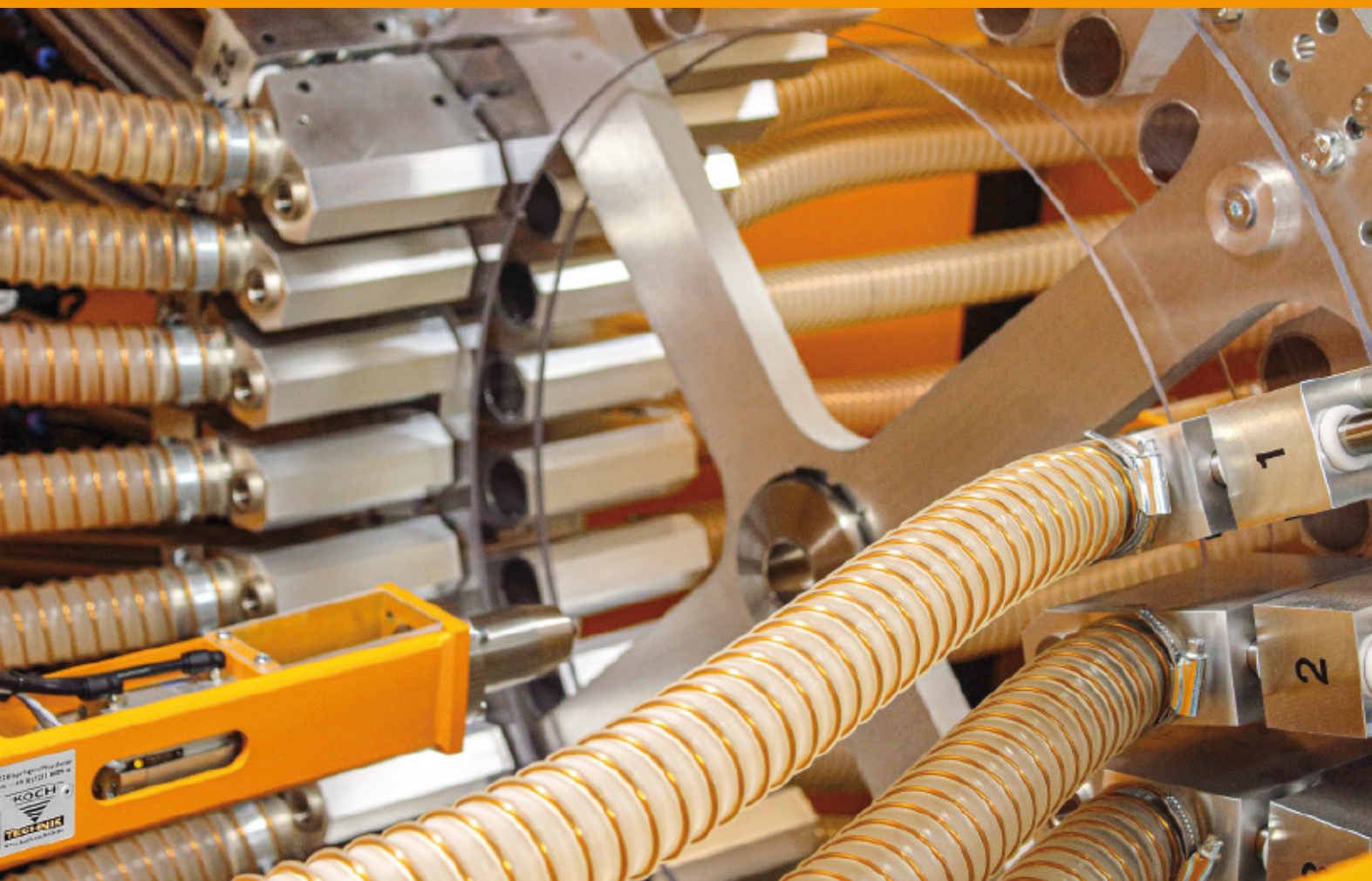
* Heating depending on the container size; ** with 1, 2 or 3 containers

Throughput capacity* kg/h with 300 litres at temperature in °C

Material	Throughput	Temp	Material	Throughput	Temp
ABS	80 kg/h	80°C	PETP	48 kg/h	160°C
CA	52 kg/h	75°C	PMMA	55 kg/h	80°C
CAB	46 kg/h	75°C	POM	75 kg/h	100°C
PA 6	43 kg/h	80°C	PP	130 kg/h	90°C
PA 12	43 kg/h	100°C	PS	130 kg/h	80°C
PC	78 kg/h	120°C	PUR	65 kg/h	90°C
PE	130 kg/h	95°C	SAN	80 kg/h	80°C

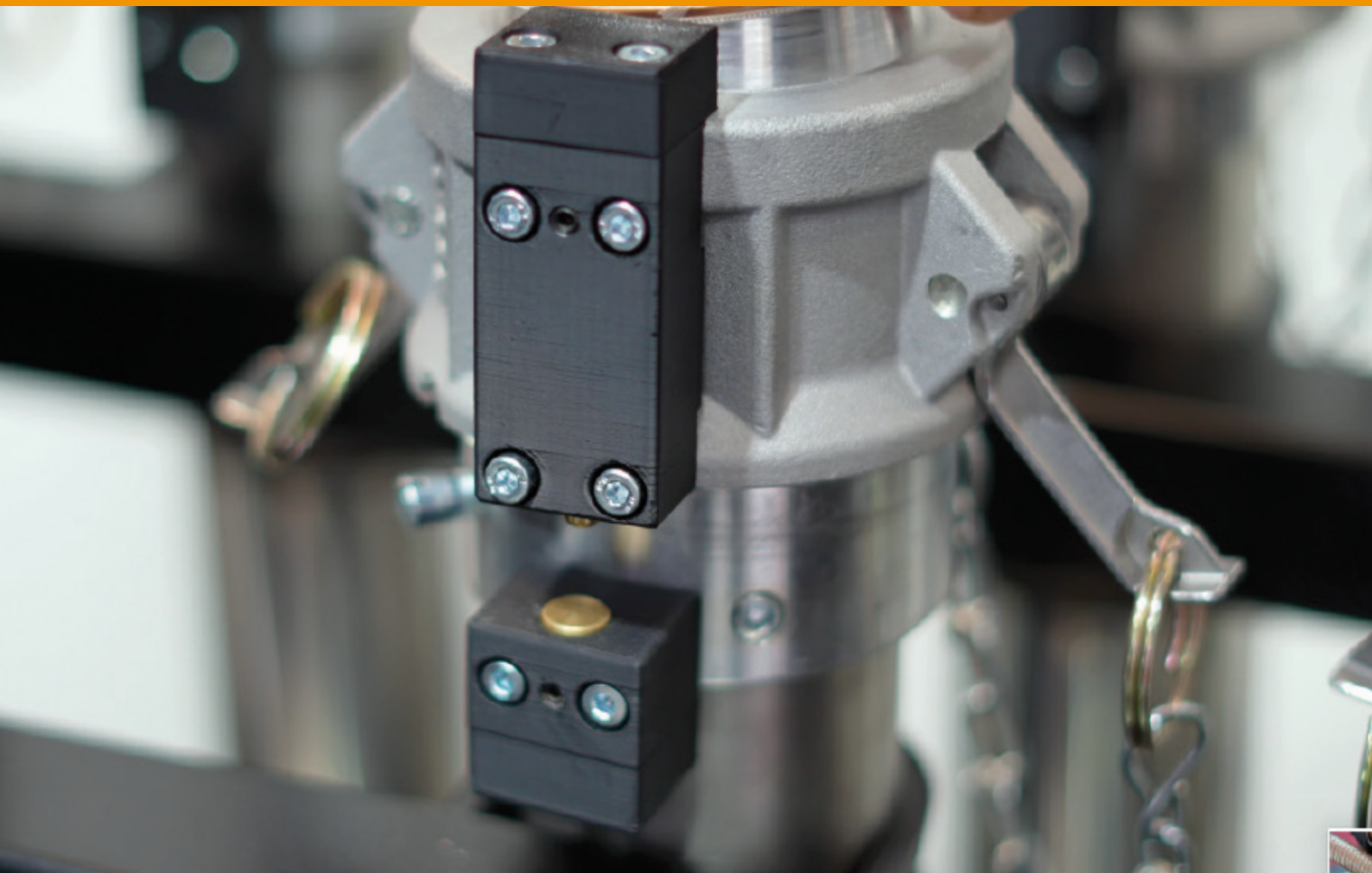
* Guide values - may vary depending on initial moisture content





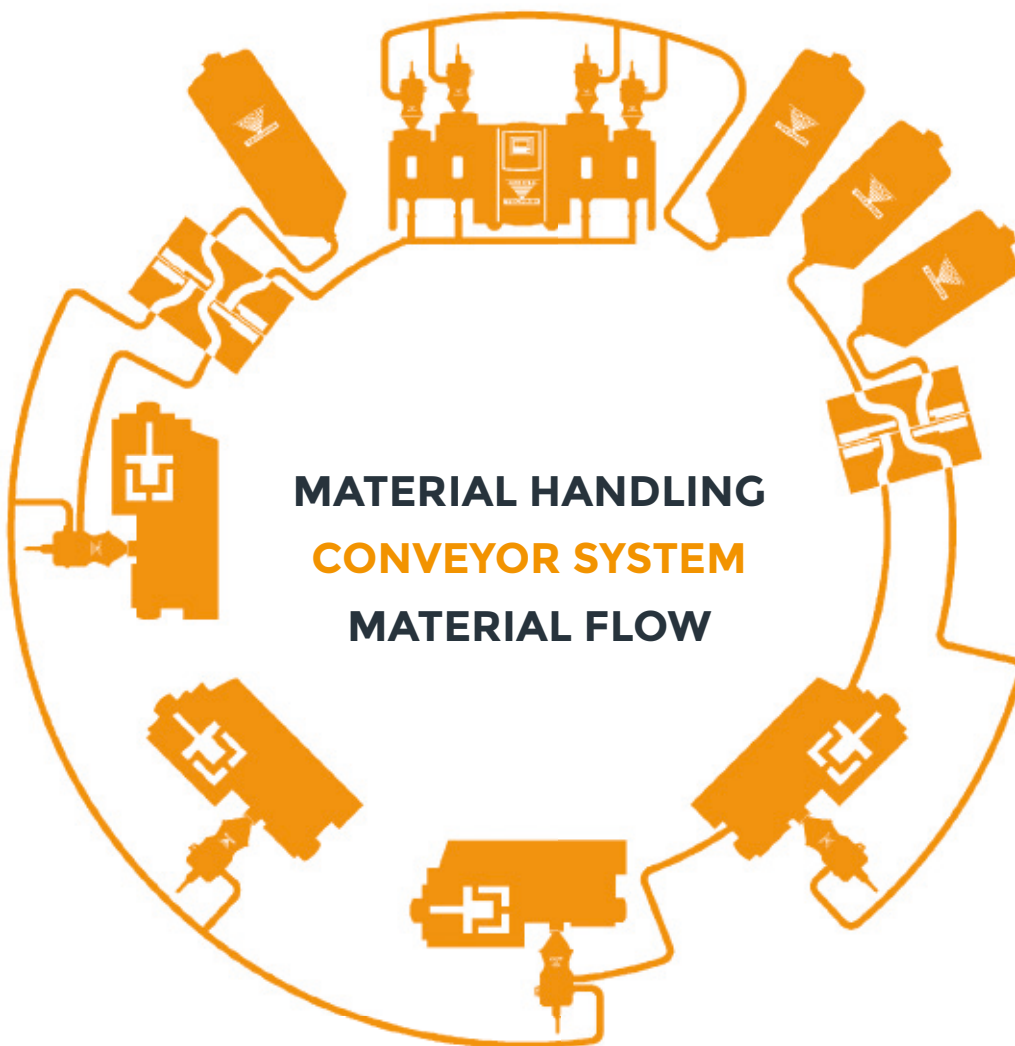
05

CENTRALISED CONVEYOR SYSTEMS



We design and install systems for centralised granulate supply. All components of the KOCH modular system are available and can be combined with each other.

CONVEYOR SYSTEMS FOR CENTRALISED GRANULATE SUPPLY



CENTRALISED CONVEYOR SYSTEMS

CONVEYOR SYSTEMS

Components of centralised conveyor systems

True to the motto: “Always ahead of the times”, we design and install systems for centralised granulate supply according to your wishes and operational requirements. All components of the KOCH modular system are available and can be combined with each other. The modular system guarantees a high degree of flexibility and future-proofing for every system.

KOCH CONVEYOR SYSTEMS OFFER YOU THE FOLLOWING ADVANTAGES:

- Centralised material storage, for example outdoor silos, indoor silos or material feeding stations
- Cost-saving, as only a small number of staff are required
- Optimum hall utilisation and centralised material management without the risk of mix-ups
- Clean production without residues on the machine
- All materials are approved for the food industry; cleanroom conditions can be implemented without major additional expense
- Integration of centralised drying system and centralised mixer without problems
- Completely different components of the modular system can be integrated and combined
- Automatic continuous operation: available 24 hours a day, 7 days a week
- Modular system - future-proof and expandable at any time

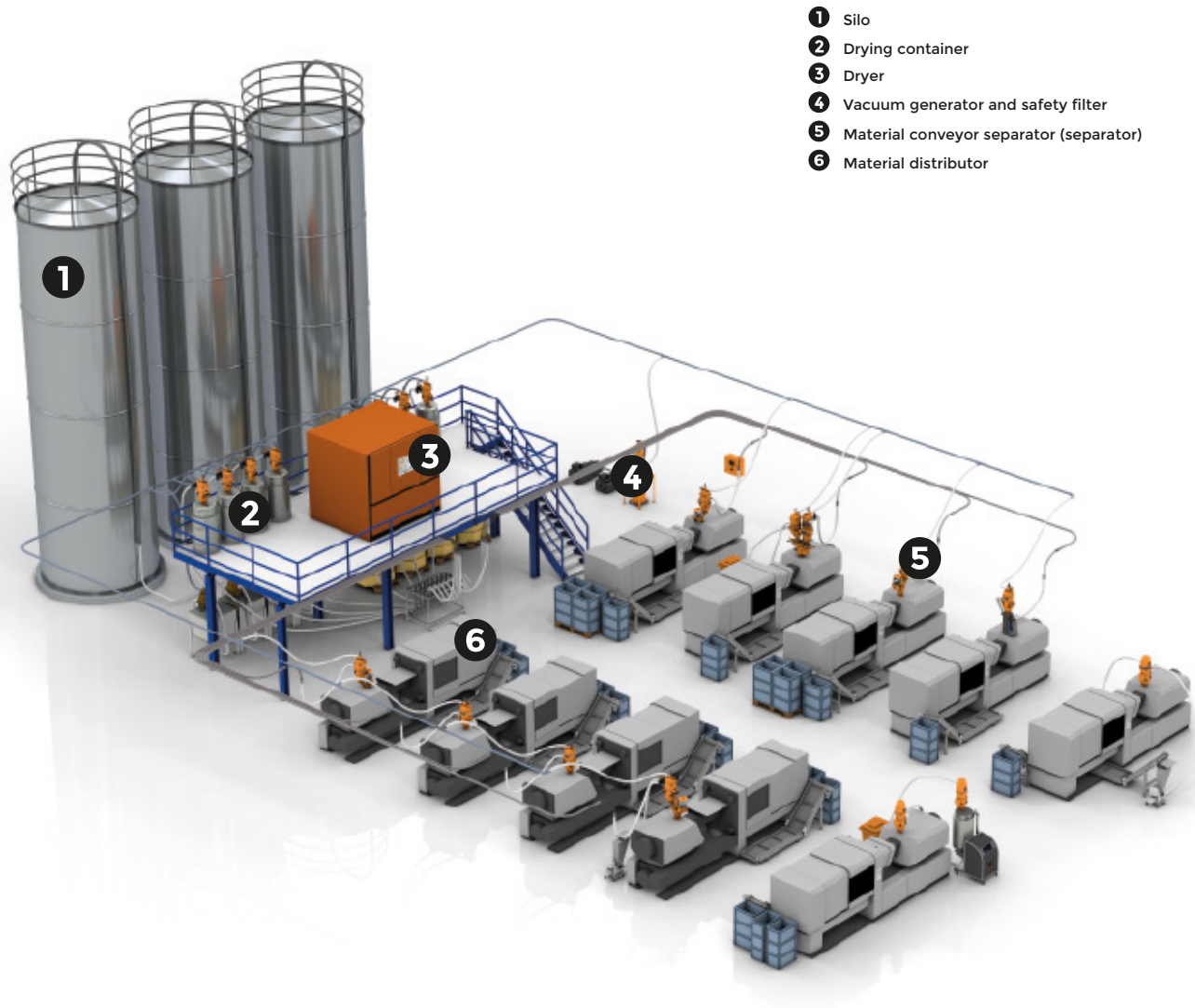
THE BASIC COMPONENTS OF A CENTRALISED CONVEYOR SYSTEM FROM KOCH INCLUDE:

- Pipe bends (elbows) made of V2A or special glass
- Flexible material distribution system
- Vacuum generator in combination with safety filters
- KOCH conveyor separators on the processing machines
- Centralised control system based on a Siemens PLC control component

CAN BE OPTIMALLY CUSTOMISED TO YOUR REQUIREMENTS:

- pipes or elbows made of special glass (for conveying particularly hard material containing glass fibres)
- centralised drying system (for drying hygroscopic materials and for increasing the material-specific properties of the granulate, such as flow behaviour etc.)
- for your process reliability: Empty suction valves and material identification
- computer-aided control of your entire system using visualisation software

FLEXIBLE



- ❶ Silo
- ❷ Drying container
- ❸ Dryer
- ❹ Vacuum generator and safety filter
- ❺ Material conveyor separator (separator)
- ❻ Material distributor



❶ SILOS

Silos and all necessary accessories are installed as required for a wide range of bulk materials. Outdoor and indoor silos and material feed stations are integrated into the centralised granulate supply system.



❷ CENTRALISED PLC CONTROL

With touch panel. The centralised control system based on a Siemens PLC component is the central element of every conveyor system. Conveying parameters are entered and changed here. All operating data is saved and can be printed out. Menu navigation is via a touch panel. Interfaces enable digital input and output as well as communication with external control systems, such as the KOCH visualisation software.

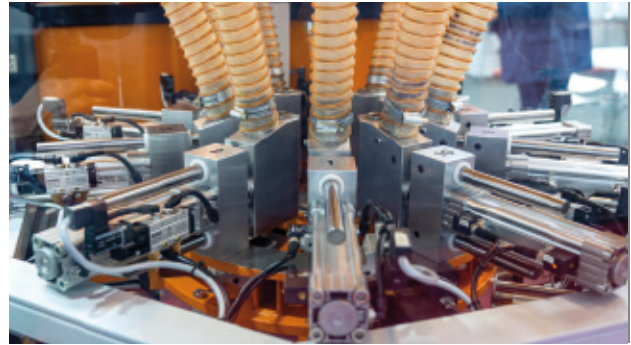
CONVEYOR SYSTEMS

Components of centralised conveyor systems



③ DRYING SYSTEM

This is where plastic materials are dried to improve their material-specific properties. The fully automatic dew point control and the patented ECO system control guarantee energy savings of up to 50%. The drying system is integrated into the centralised conveyor system as a fixed or mobile device.



④ NAVIGATOR

With a NAVIGATOR, any machine can be connected to any available material. Changing materials also works smoothly here, as the pipes are emptied after each conveying process. If a large number of processing machines have to be supplied with many different materials, the use of the NAVIGATOR material guidance system pays for itself very quickly. It guarantees a high degree of process reliability. Incorrect conveyance is ruled out and the time, staff and material resources saved quickly recoup the investment.



⑤ CENTRALISED FILTER AND VACUUM GENERATOR

The Sa 3 centralised filter (safety filter) separates dust particles down to $2\ \mu$ from the conveying air. The cartridge of the polyester fleece filter has a filter surface area of $2.5\ \text{m}^2$. Automatic cleaning takes place after each conveying process. The vacuum pumps are maintenance-free and designed for continuous operation.

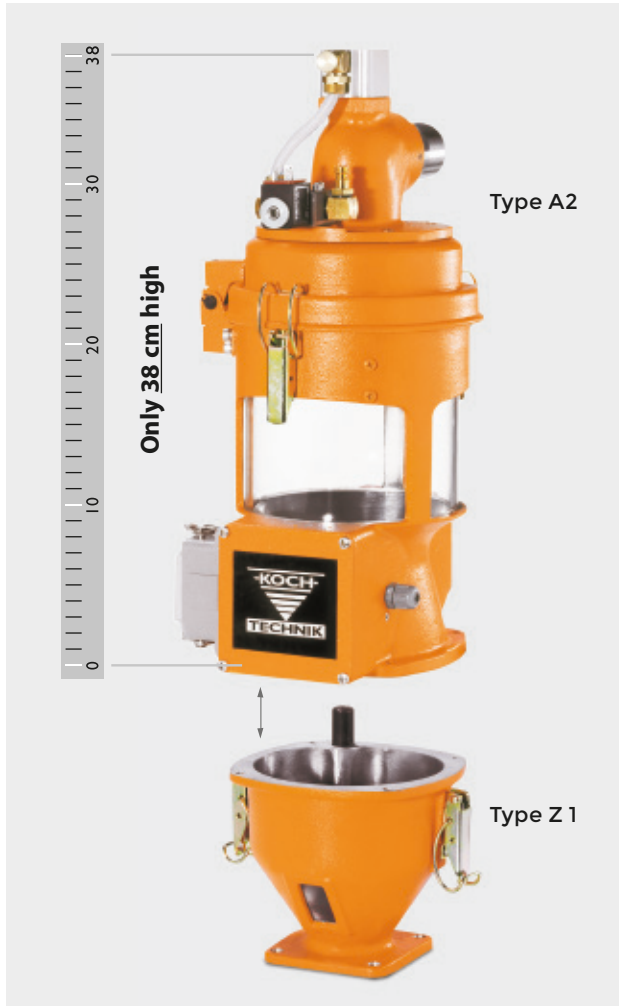


⑥ SEPARATORS

The conveyor separators are installed in place of the material hopper of the processing machine. The modules of the KOCH modular system make it possible to adapt the separators to any flow rate or to add direct colouring, for example. The main body can be swivelled and the conveyor hood can be folded for quick cleaning when changing materials. A two-component connection (Tm) enables alternate conveying of regrind or virgin material.

CONVEYOR SYSTEMS

Conveyor separators for centralised conveyor systems

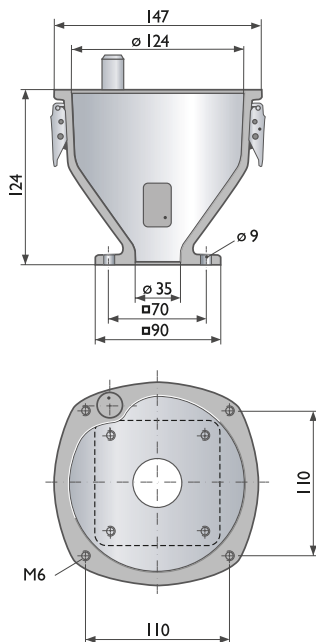


Type A 2 The small volume separator

is a conveying separator for minimum throughputs. With the matching Z 1 intermediate hopper, you can process between 4 and 5 kg per hour. The advantages are obvious, especially with highly hygroscopic and dried materials: This minimum quantity separator reduces the dwell time of the materials before processing and prevents quality losses. With a Z 2 intermediate hopper, you can achieve higher throughput rates of up to 15 kg/h.

Type Z 1 Intermediate hopper

The Z 1 intermediate hopper fits under the A 2 small volume separator and all KOCH mini conveyors. It is ideal for throughputs up to max. 5 kg/h. Capacity: 0.7 litre, made of GKAL / So, Brinell hardness 100, two windows. Intermediate plates and sliders are available as an option for small machines.



GKAL= abrasion-resistant made of die-cast aluminium with a Brinell hardness of 100 * varies depending on the version

Type		Housing	Capacity in litres	Weight kg	Height/□ mm	Cleaning
A 2		GKAL/glass	1.3	3.4	408 / 198	
(Tm) A 8		GKAL	8	9	595 / 311	
(Tm) A 8 D		GKAL	8	9	595 / 434	autom.
(Tm) A 20		GKAL/V2A	20	11	815 / 311	
(Tm) A 20 D		GKAL/V2A	20	11	815 / 434	autom.
(Tm) A 30		GKAL/V2A	30	18	1045 / 311	
(Tm) A 30 D		GKAL/V2A	30	18	1045 / 418	autom.
(Tm) A 50	BELIKO	GKAL/V2A	50	34	960 / 480	
(Tm) A 50 D	BELIKO	GKAL/V2A	50	34	1135 / 480	autom.
(Tm) A 70	BELIKO	GKAL/V2A	70	40	1155 / 480	
(Tm) A 70 D	BELIKO	GKAL/V2A	70	40	1330 / 480	autom.
(Tm) A 100	BELIKO	GKAL/V2A	100	52	1400 / 533	
(Tm) A 150	BELIKO	GKAL/V2A	150	52	1727 / 533	



Type A 8

Separator for regrind and grains up to 150 / 200 kg/h

KOCH conveyor separator for large flow rates: reliable, maintenance-free, made of GKAL with BH 100, therefore particularly durable.

Features:

- hinged hood,
- separator main body can be swivelled through 360°* (up to Z 26 hopper made of GKA)



Type A 20 / A 30

Separator for regrind and grains up to 300 / 400 kg/h

A robust KOCH conveying separator for use in centralised conveying systems - designed for required quantities of up to 400 kg/h. The container is manufactured in V2A; the main body is made of GKAL / SO.



Type A 50 / A 70 / A 100 / A 150 BELIKO

Separators for regrind and grains for throughputs from 500 kg/h to 2,500 kg/h; durable KOCH conveying separators for large conveying distances and the very largest quantities required. The BELIKO container is made from V2A



All Koch conveying separators are available with screen filters for centralised conveying systems or with fleece filters.

CONVEYOR SYSTEMS

Vacuum generator

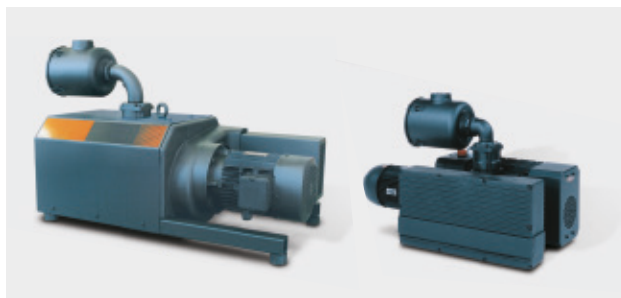
We use vacuum generators to convey the plastic material in the conveyor system. Depending on the requirements and size of your planned system, side channel compressors or large vacuum pumps are used.



Side channel compressor

(three-phase blower)

A durable, maintenance-free three-phase blower that is always customised to your needs. The following are available: 1.3 kW / 2.3 kW / 3.0 kW / 4.0 kW / 5.5 kW / 7.5 kW / 11 kW.



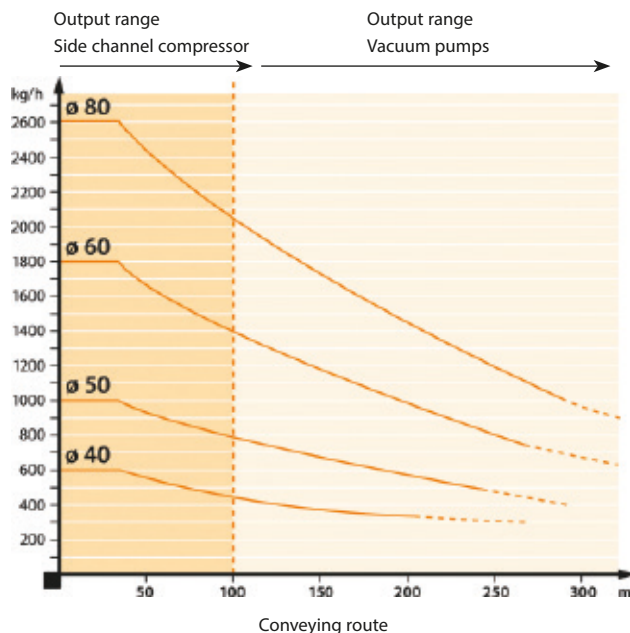
Vacuum pumps

3 kW / 4.5 kW / 5.5 kW / 7.5 kW / 11 kW / 15 kW vacuum pumps are used for the greatest distances and capacities and are customised to your requirements. The performance of these pumps is unrivalled.



Frequency control

We offer all of our vacuum generators with optional frequency inverters. Frequency inverters are used for variable speed control of the pumps. The speed is adjusted by voltage and frequency control. Frequency inverters promise high energy saving potential for vacuum generators through load-dependent adjustment of the flow rate.



Output ranges

As can be seen from the diagram, side channel compressors are preferred for conveying distances of up to 100 metres. We plan vacuum pumps for longer conveying distances.

Diagram data:

- Granules with a diameter of approx. 3 - 5 mm
- Conveyor route with 4 bends
- Conveying to a height of 6 m
- Bulk density of 0.65 kg/dm³

CONVEYOR SYSTEMS

Safety filter

Output: three-phase blower 2.3 kW/3 kW

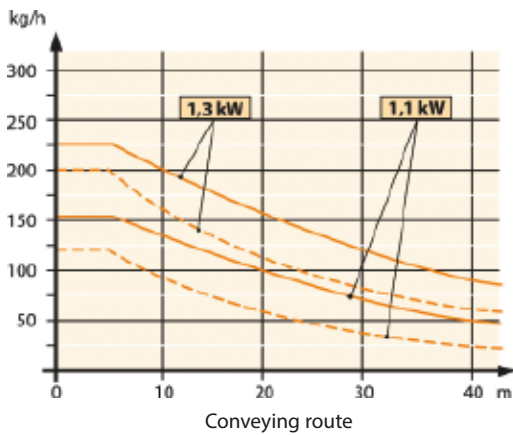


Diagram data:

- Conveyor line: $\varnothing$ 40 mm
- Conveyed material: granules/grit
- Grain size: $\varnothing$ 3 - 5 mm / $> 100 \mu$
- Bulk density: 0.65 kg/dm³
- Horizontal conveying route (m) - Vertical conveying route 5 m

———— New material
----- Free-flowing powder

Output: vacuum pump 4.5 kW/5.5 kW

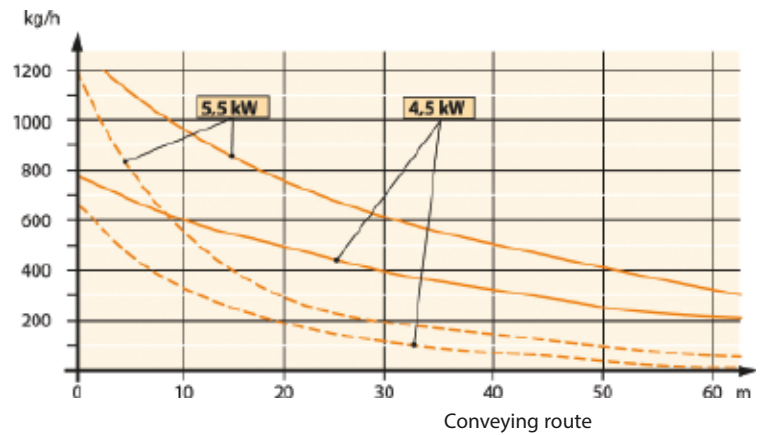


Diagram data:

- Conveyor line: $\varnothing$ 40 mm
- Conveyed material: grains/grit
- Grain size: $\varnothing$ 3 - 6 mm / $> 100 \mu$
- Bulk density: 0.65 kg/dm³
- Horizontal conveying route (m) - Vertical conveying route 6 m

- Number of bends: 5
- Conveyor line: $\varnothing$ 50 mm + 65% more output *
- Conveyor line: $\varnothing$ 60 mm + 180% more output *
- * The conveying capacities depend on the material!

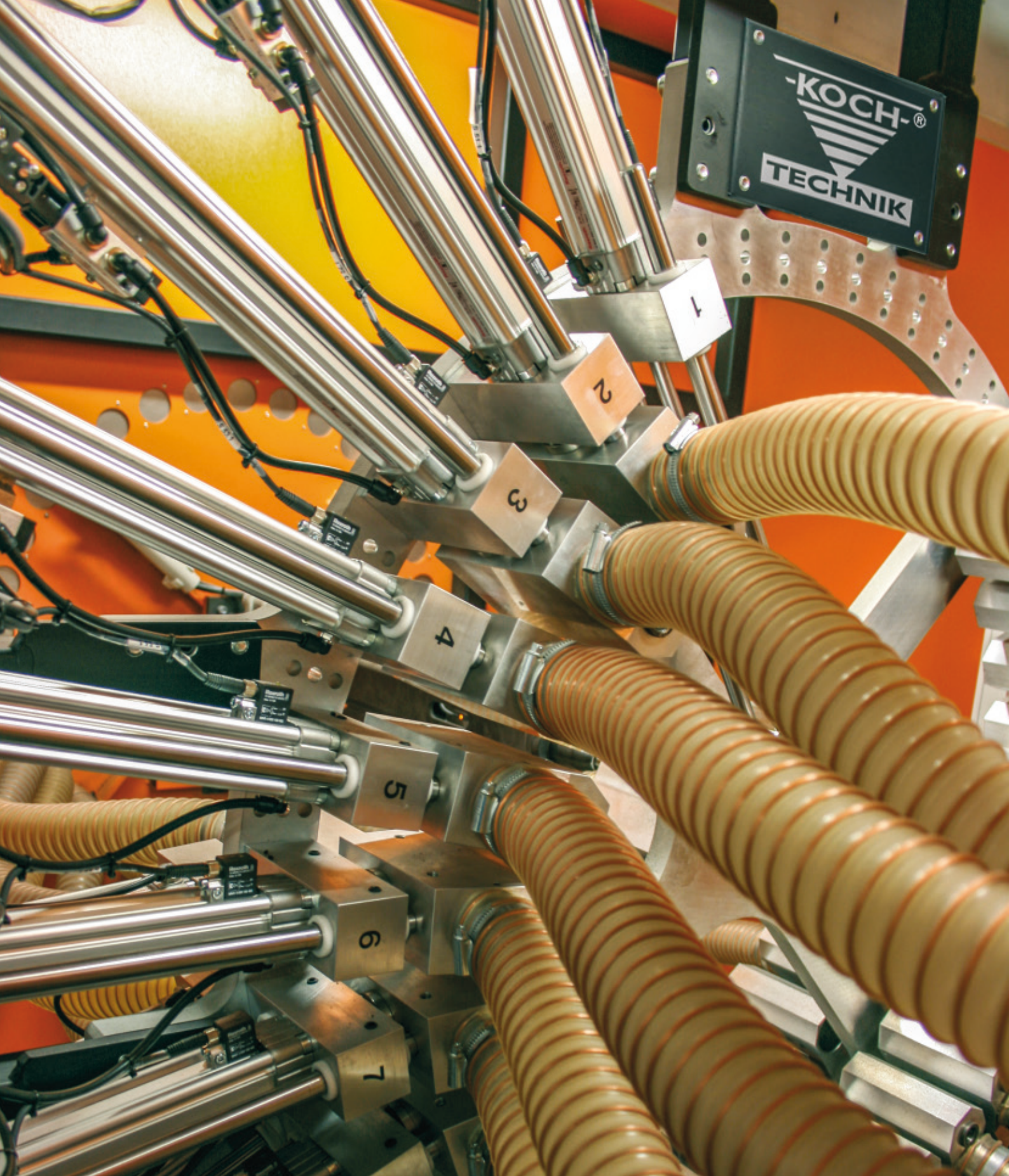


Type Sa 3 safety filter

As a safety filter, the Sa 3 is installed in a centralised conveyor system upstream of the vacuum generator. It automatically cleans the dust-laden conveying air via the rotary blade developed by Koch-Technik. The housing is made of V2A. The internal filter cartridge has a filter surface area of 2.5 m² and a separation efficiency for foreign particles as small as 2 μ . Collecting container available in 25 litres or 60 litres.



11 kW vacuum pumps with Sa 3 safety filters with 60 litre collection container



Patented material guidance system

NAVIGATOR

CONVEYOR SYSTEMS

Navigator



*) A patent developed by Koch-Technik.

Rationalised production processes require an efficient supply of free-flowing bulk materials to the plastics processing machines. It must be possible to supply every machine with every material without incurring unnecessary time and labour costs. To meet this requirement, we at KOCH-TECHNIK have developed a new and pioneering material guidance system: the NAVIGATOR. Today, more than a hundred NAVIGATORS are in use at plastics processors all over the world.

As a material guidance system for plastics processing, the NAVIGATOR combines high flexibility, simple operation and fully automatic and residue-free material distribution.

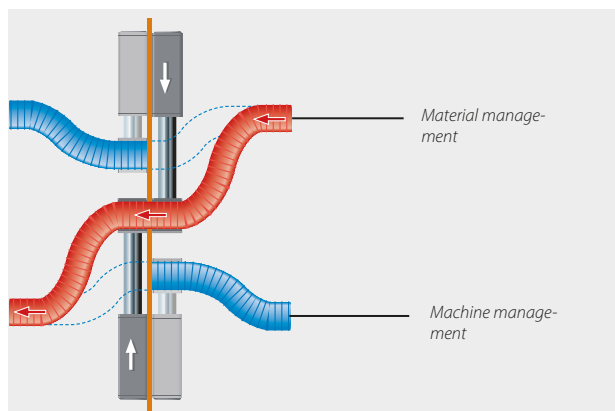
And this is how it works:

Pneumatic slide valves move the desired material and machine lines towards each other; the lines do not come into contact with any other material. Any impurities or undesirable mixtures are therefore ruled out.

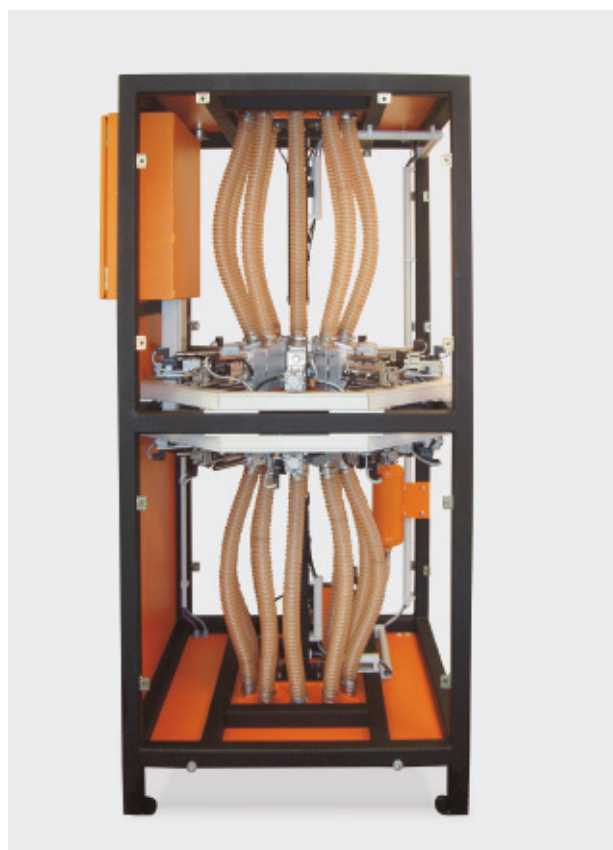
The electronic control unit has an operating status display and self-diagnosis option as well as interfaces for external storage and output of all operating data.

The NAVIGATOR fits seamlessly into the mo-

dular system and you can even integrate it into your existing conveyor systems without having to change their basic concept.



Operating principle of the NAVIGATOR



Model example of a vertical NAVIGATOR



CONVEYOR SYSTEMS

Material distribution

With a transfer station, you can set the right course for your material and combine simple operation with a residue-free material supply. There is an input for every available material. The number of outputs at the transfer station depends on the number of materials you want to process at the same time. You can connect any machine to any material using quick-release couplings. Transfer stations are customised for your centralised conveyor systems. They can be extended at a later date with little additional expense.



“Pilot”



Our revolutionary new development in the field of fully automatic material supply

Advantages

- Flexible and space-saving material supply
- 24 connections - expandable to 46 connections or more
- Fully automatic and residue-free conveying
- Direct connection of material line and machine line
- Easily expandable
- Simple operation thanks to intuitive software
- Low-wear, made of V2A
- Koch patent

*) A patent developed by Koch-Technik.

KOCH INNOVATION 2023/2024



“IMPULS” material distributor

Manual material distribution with integrated monitoring. Mechanical alternative to RFID

Advantages

- Monitored quick couplings that ensure that each machine receives the correct material
- Detection of incorrect operation during coupling
- Low repair and maintenance costs
- Tailored to your respective needs
- Easily expandable

CONVEYOR SYSTEMS

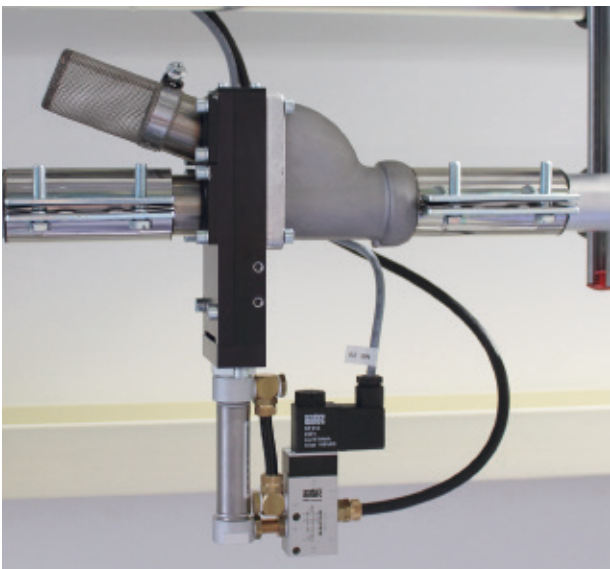
Options for your process reliability



Material interlock

The material interlock developed by Koch-Technik on the separator prevents incorrect conveying by reliably separating a material or air flow.

Optionally installed on the conveying separator, it is used in conjunction with a material distributor or when conveying two components.



Empty suction valve (patented)

The empty suction valve (safety valve) developed by Koch-Technik is an option if a dryer is integrated into the centralised granulate conveyor. By automatically opening the valve after each conveying cycle, any remaining material can be extracted. This means you can be sure that no dried material remains in the line that could absorb moisture again or even clump together.

The new empty suction valve: After each conveying cycle, the valve is opened and the residual material is sucked out of the pipework system.



07

VISUALISATION



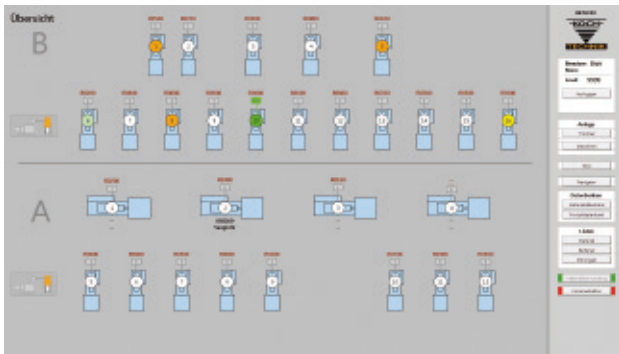
The KOCH visualisation system on Windows™ gives you access to all information in the field and back of-fice area. Your engineers, production managers and managers can use it to monitor, track and operate the entire production process on the computer as a graphical representation of real-time processes.

THE KOCH VISUALISATION SYSTEM: WHAT IS BEHIND IT?

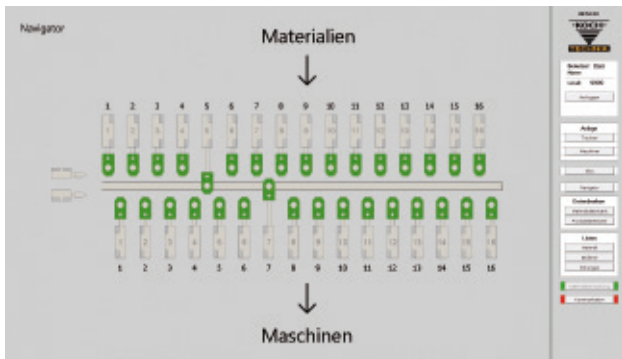
The user-friendliness and performance of the KOCH visualisation system helps you to monitor every production step of your system from your computer and to intervene in the production process as required by means of flexible parameterisation. The intuitive user interface and integrated online help make operation child's play. All production-relevant information is stored and archived in log files so that you can trace the individual production steps of your system at any time.



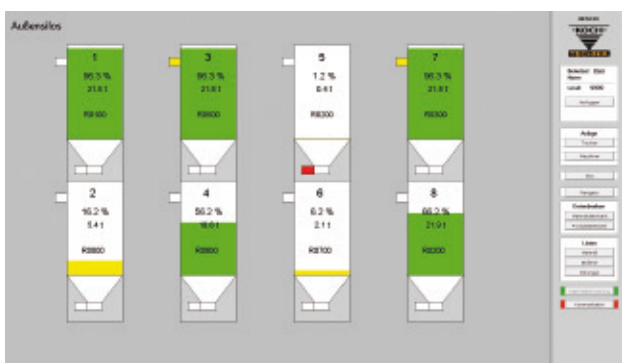
VISUALISATION



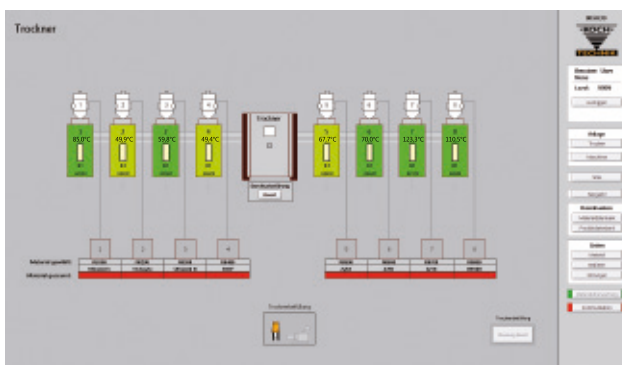
Production plant overview example



NAVIGATOR overview



Overview of silos



Overview of granulate dryers

Details of individual stations

With the help of the KOCH visualisation system, you have a perfect view of all parts of your production plant. Simply click on a production section to display all the details. This means you know exactly which phase your plant is currently in.

Material distribution

If you have integrated our NAVIGATOR into your production process, you can determine at any time which material is being fed into which production machine. You will be informed immediately of any faults and can then take the necessary steps to rectify them. The system is almost infinitely scalable. This means that the KOCH visualisation system always grows with you.

Silos

This overview provides the operator with information about the silo fill levels. The names of the materials to be processed can also be entered.

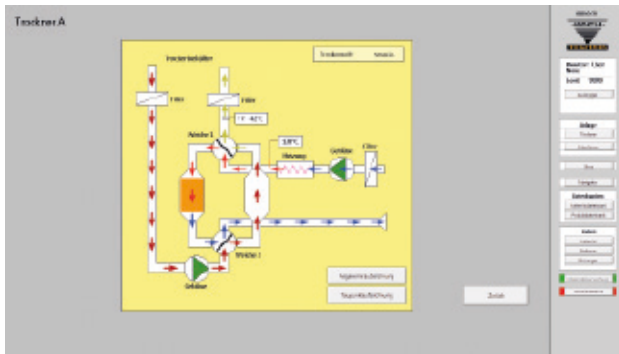
Raw material handling

Which raw material is used in which production process and what is the situation regarding resources? Of course, the KOCH visualisation system also answers these questions. You have an overview of all raw and auxiliary materials at a glance and can act quickly and purposefully in the event of insufficient material.

Dryer under control

When using KOCH dry air dryers, you can determine the current status of the individual raw or auxiliary materials in your production in the drying process. You have an overview of the supply air and material temperatures, the drying containers, material names and dew point display. Of course, it is possible to integrate all devices into the visualisation.

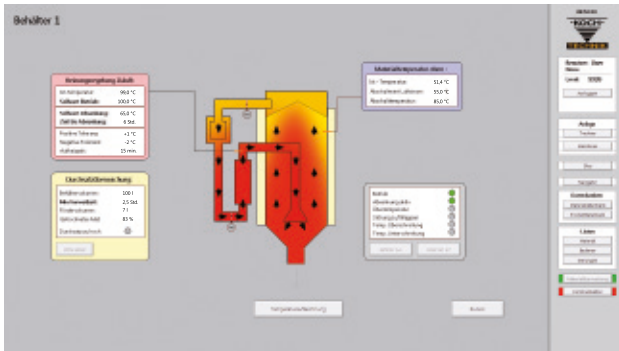
FLEXIBLE



Overview of granulate dryers: Drying unit

Drying unit

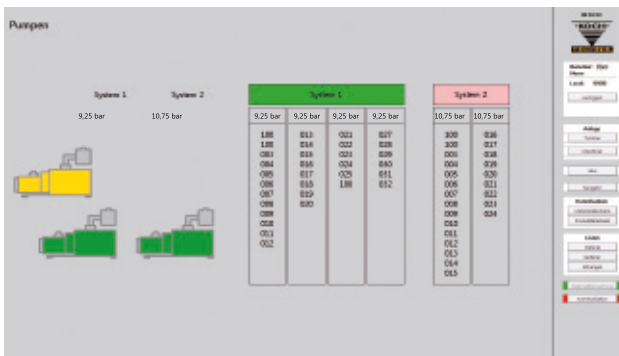
This overview provides you with information about the drying unit which is running with regeneration blower and heater. It also shows the current switch position of the changeover valves and indicates when the next changeover is possible. Any faults are visible at a glance.



Overview of granulate dryer: selected drying container

Drying container

The status of each individual drying container can be called up at any time using this overview. It provides information about the supply air temperature, air volume control, material temperature and material throughput. All parameters can be documented and archived using the Koch visualisation system.



Overview of vacuum pumps

Vacuum generator | Safety filter

This overview immediately shows you the status of all vacuum pumps. Further information, such as operating hours or maintenance intervals, can be called up for each pump. The parameters for filter cleaning can also be set.



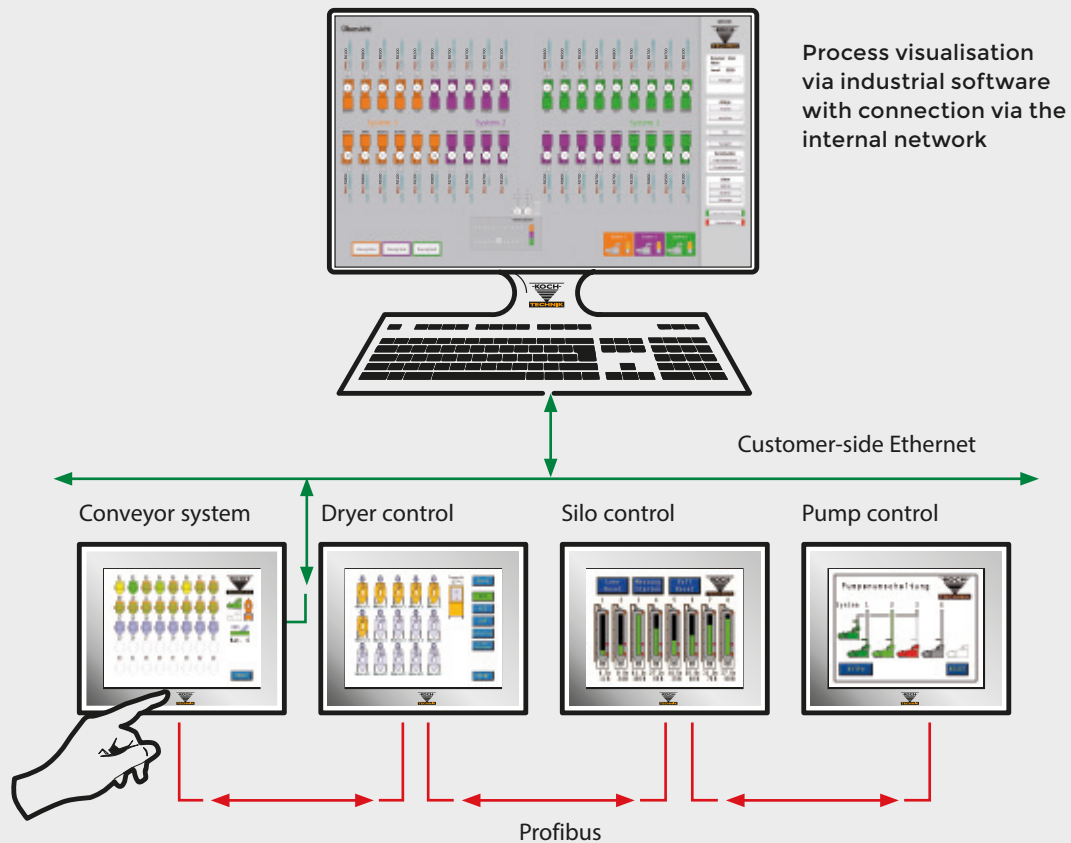
User administration and login

Access control

Your employees must identify themselves using a login script. Only then can they administratively manage your production process with the help of the KOCH visualisation system and make modifications if necessary. This ensures that the log file makes it possible to trace who made which changes and when at any time.

VISUALISATION

Integration of all external control components



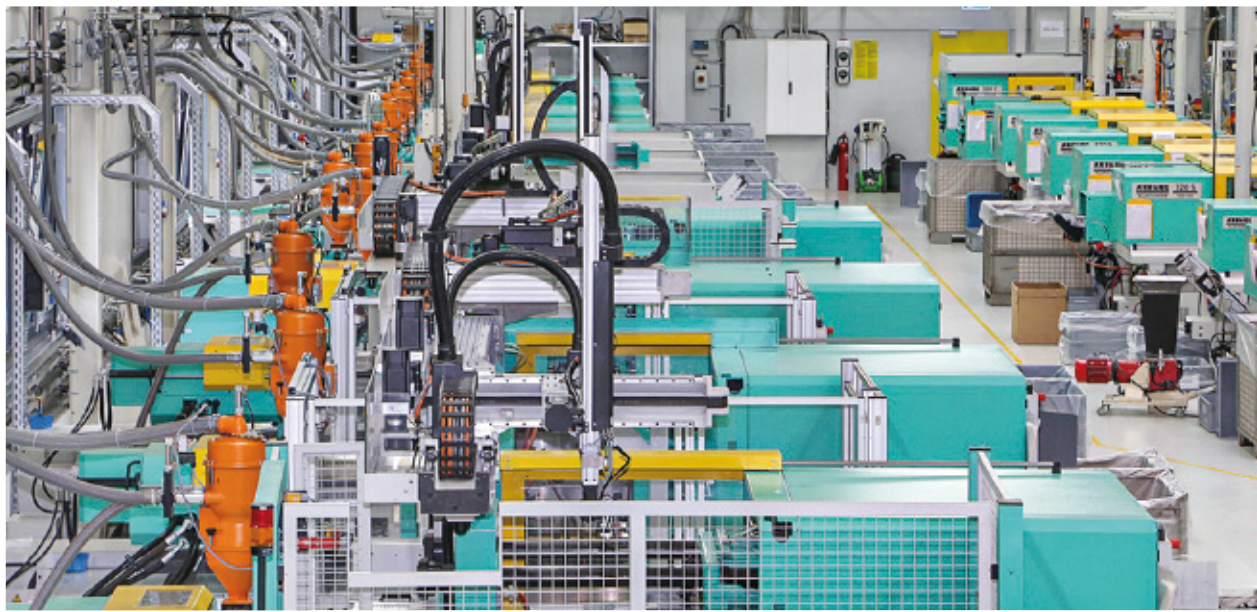
Material verification by barcode scanning

- Ensuring material approval prior to processing
- Documentation of material changes in the company's own database
- Tamper-proof in accordance with certification requirements

- Scanning the material numbers
- Comparison with the assigned specifications
- Material flow only released if the material number and specification match



OUR SATISFIED CUSTOMERS



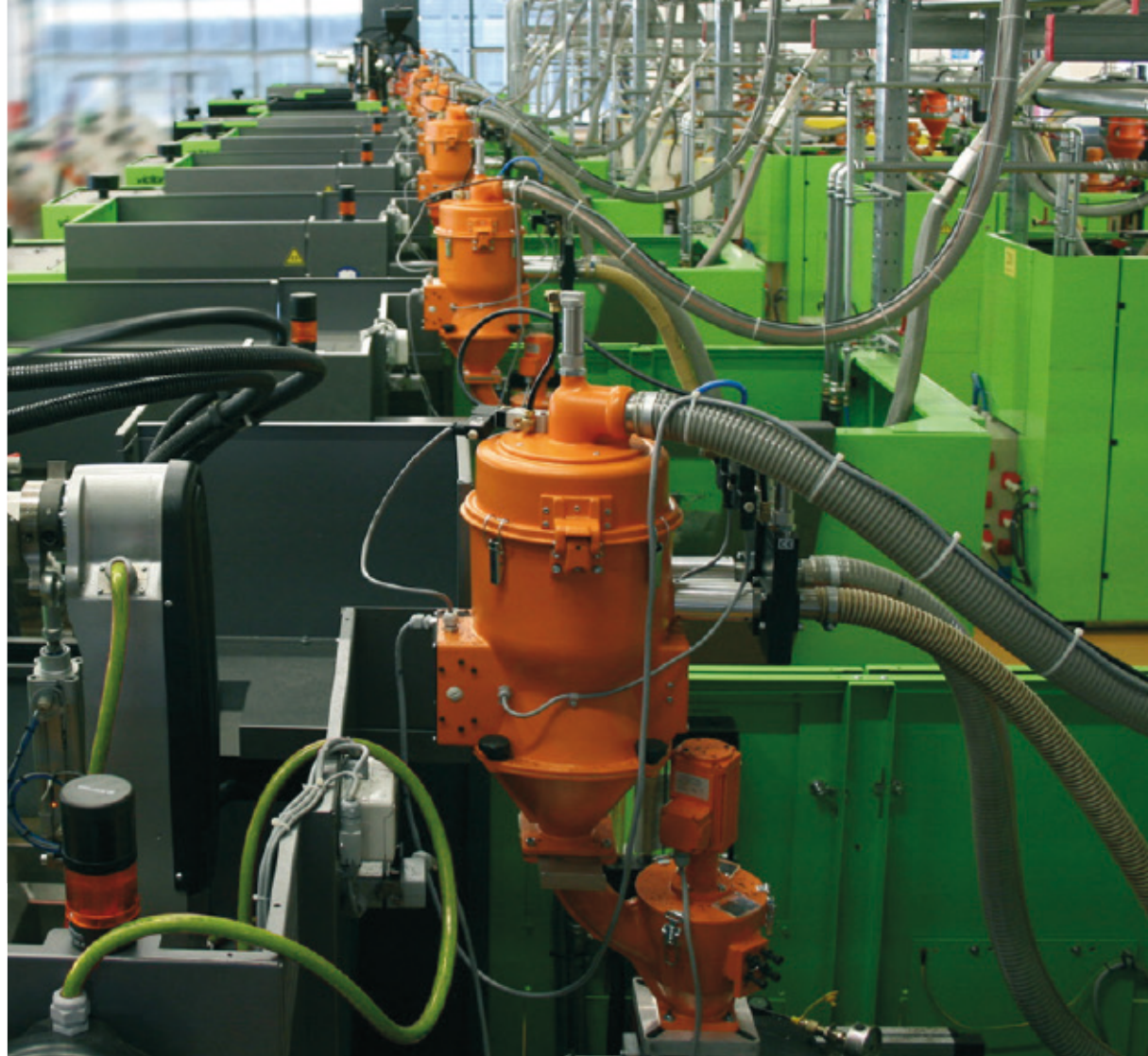


OUR SATISFIED CUSTOMERS



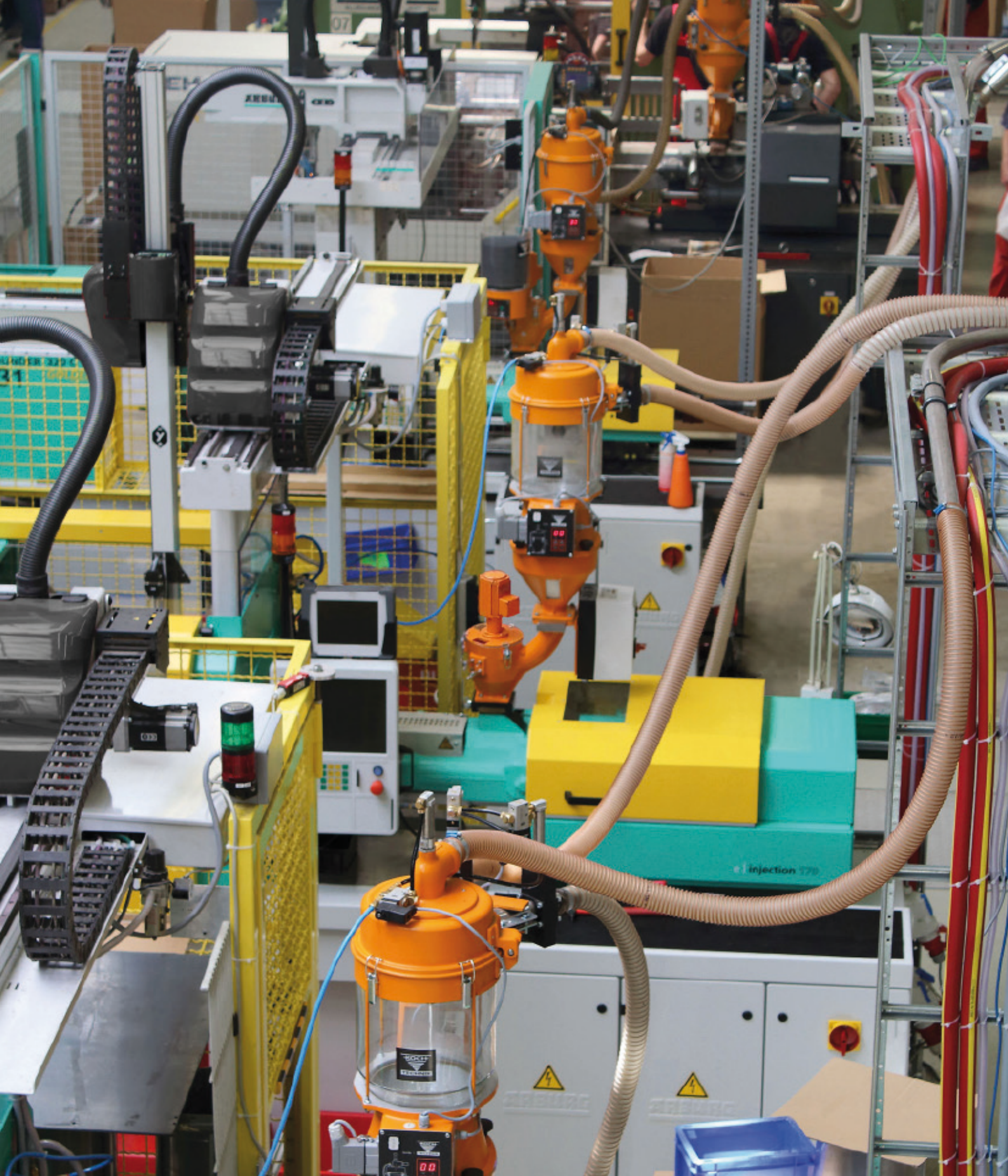


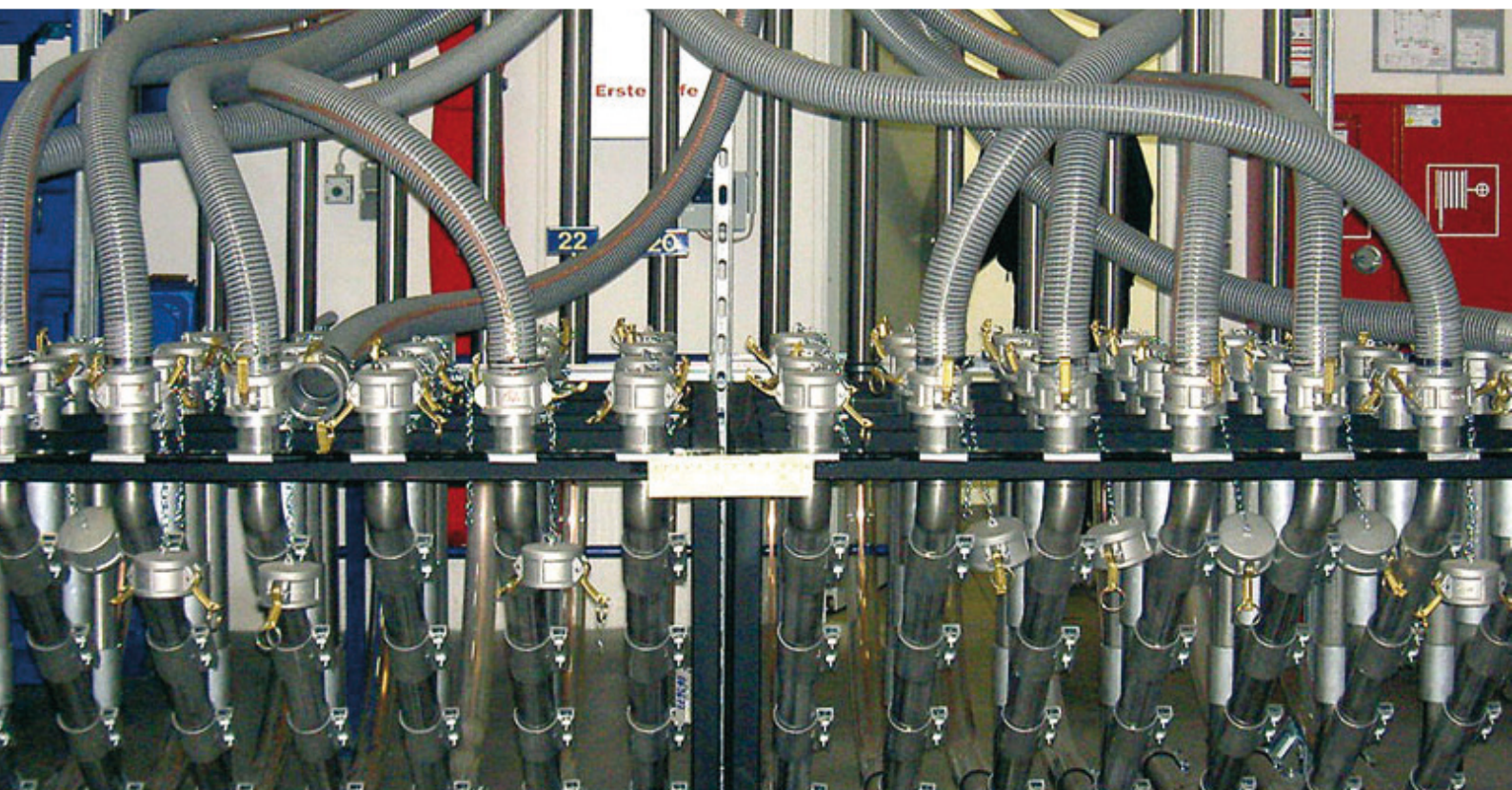
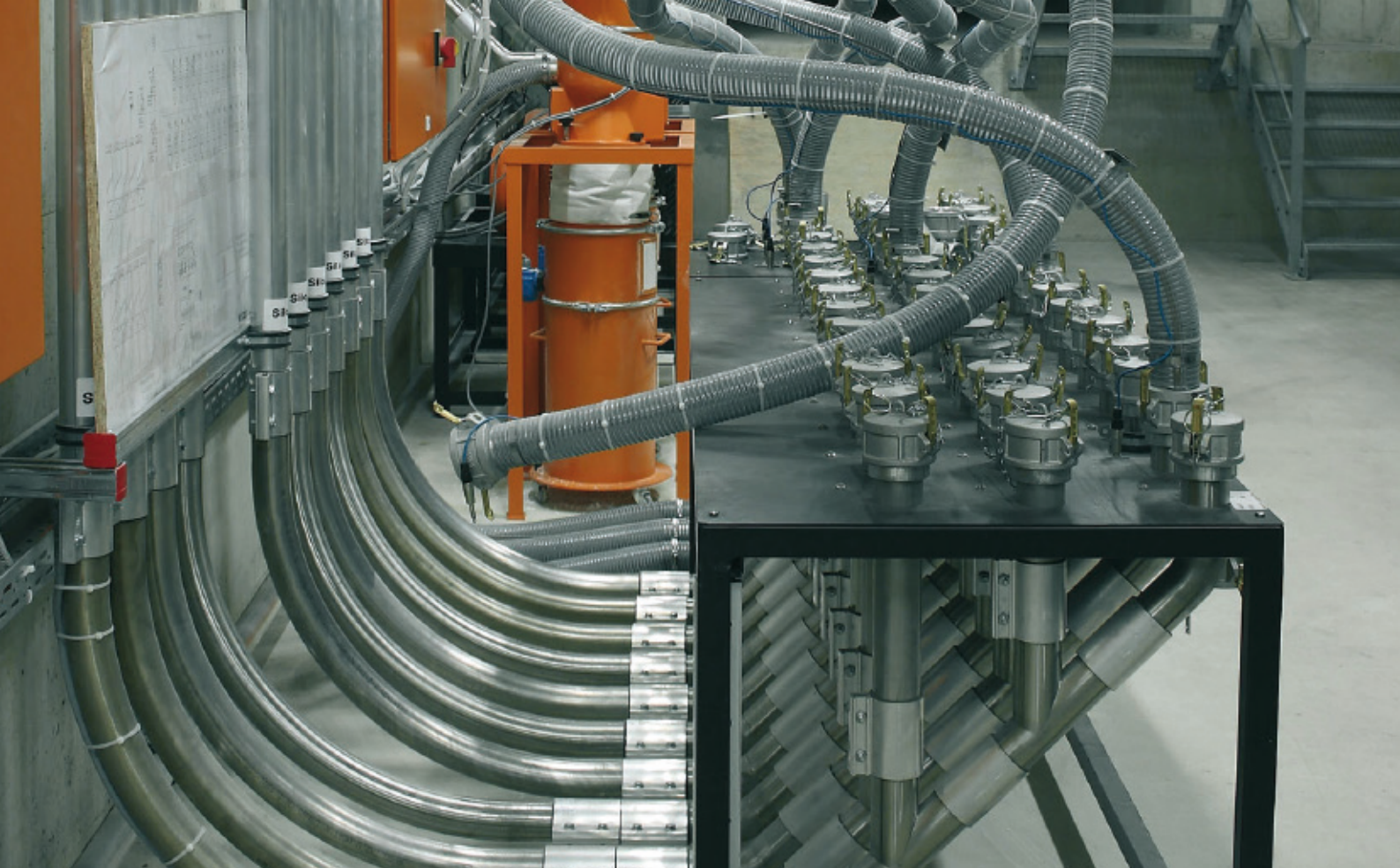
OUR SATISFIED CUSTOMERS





OUR SATISFIED CUSTOMERS



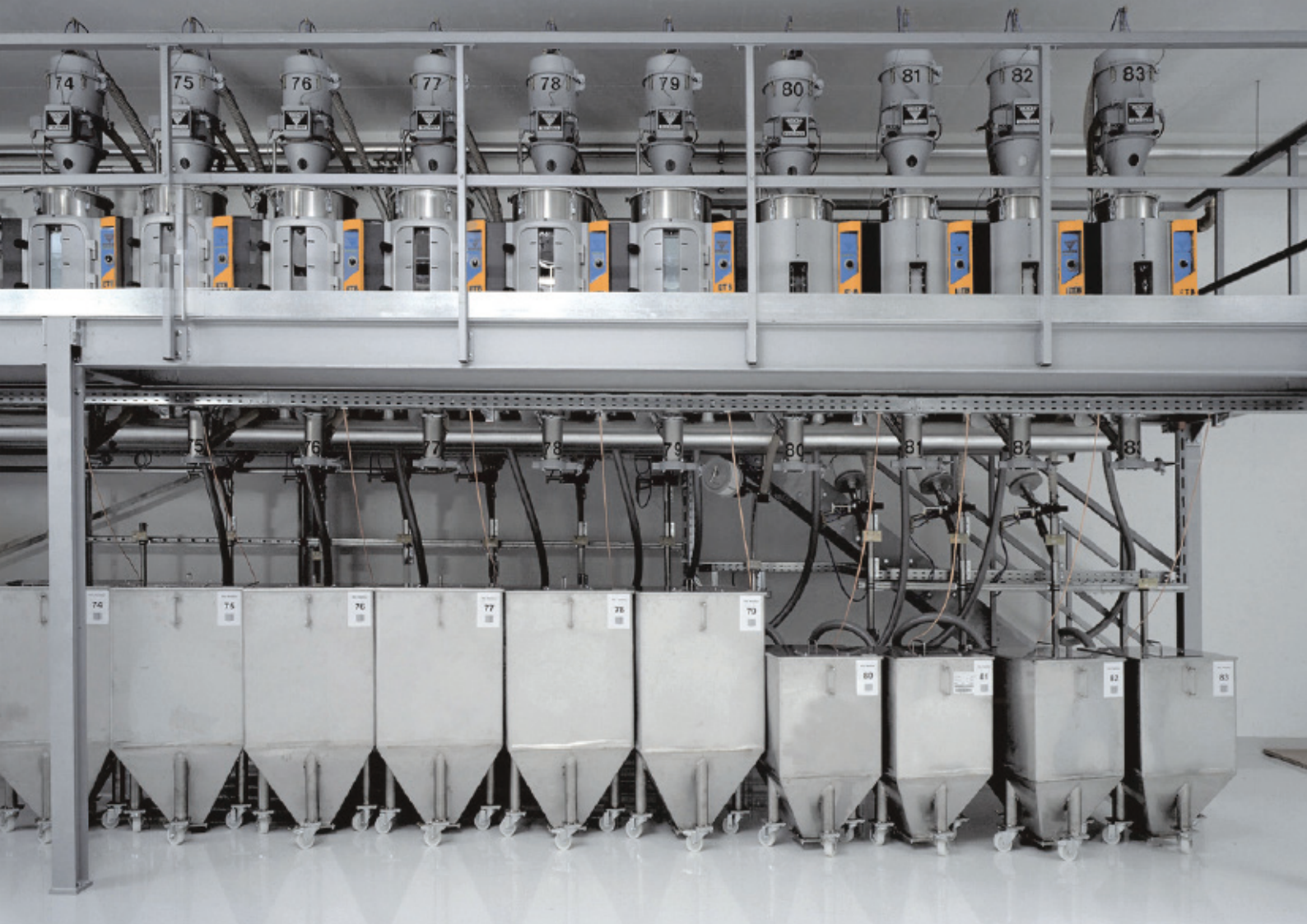


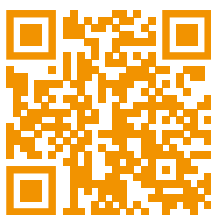
OUR SATISFIED CUSTOMERS





OUR SATISFIED CUSTOMERS





**Find your personal contact
on our homepage**

Werner Koch Maschinentechnik GmbH

Industriestr. 3 | DE-75228 Ispringen | Germany

Tel. +49 7231 8009-0 | Fax +49 7231 8009-60 | info@koch-technik.de

www.koch-technik.com

Design/photos/printing

Design: Stefanie Schulz, www.brandElements.de

Printing: WMD, Backnang

Photos: Verifications can be viewed at the editorial office.

Reproduction of the content published here only with the
written authorisation of Werner Koch Maschinentechnik GmbH

Edition 2025/10

Subject to errors and technical amendments without notice

@ Werner Koch Maschinentechnik GmbH

>6000

ZUFRIEDENE KUNDEN

>50

HAUSEIGENE PATENTE

7

STANDORTE WELTWEIT

+200

KOMPETENTE MITARBEITENDE

>50

JAHRE ERFAHRUNG

2x

MADE IN GERMANY
ISPRINGEN UND GÖBRICHEN



www.koch-technik.com