

Operating Instructions Drier

KTX 600



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1 Safety

1.1 Correct Usage

For the drying of plastic granulate or similar dry bulk materials. The machine is only intended for use of this type.

If the machine is used outside its field of application, SIMAR GmbH is not liable for damage or faults arising during operation.


Before commissioning the drying machine, the Operating Manual must be read carefully. The notes on safety information must be followed to the letter.


Only trained and fully inducted operating personnel are qualified to operate the machines and to carry out maintenance work.


Correct usage also involves compliance with inspection and maintenance work schedules.


1.2 Safety Markings

In this document, the following signal words are used in combination with safety signs to represent potential hazards.

	Danger ! Fatality, serious injury or extensive damage to property will occur if the relevant precautionary measures are not taken.
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	Warning ! Fatality, serious injury or extensive damage to property may occur if the relevant precautionary measures are not taken.
---	---

	Beware ! Slight injury may occur if the relevant precautionary measures are not taken.
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	Caution ! Damage to property may occur , if the relevant precautionary measures are not taken.
---	---










Application notes !






1.3 Safety Information

Knowledge of basic safety information and safety in the workplace instructions is a precondition for safe handling and problem-free operation of the machine.


This Operating Manual includes all the important information needed to operate the machine safely.

The in-house safety in the workplace regulations must be followed.

	<p>Caution ! The Drier framework must always be earthed.</p>
	<p>Warning ! Unless indicated otherwise, do not operate on voltages other than 230 V/400 V / 50 Hz.</p>
 	<p>Danger ! Touching live parts is potentially fatal. Always keep control cabinets locked. Do not carry out any work on live parts.</p> <p>Work on the electrical fittings may only be carried out by authorised electrical specialists. Access to the control cabinets is only permitted for authorised personnel with a button or tools. Cables may not become trapped or squashed. Cables must be laid in such a way that they do not constitute a trip hazard nor are liable to be damaged.</p>
	<p>Danger ! Do not work in explosive areas. Do not dry explosive materials.</p>
	<p>Caution ! Never switch off the Drier directly at the main switch. First switch off the Drier with the “Drier on” button and wait until the blower after-run time has completed (5 min.). Only now may the main switch be used to switch it off.</p>
	<p>Danger ! The machine is only safe if all safety devices are properly installed and in operation. Do not operate the Drier without safety devices, or with faulty devices, or with safety devices that have been bridged. Safety devices may only be removed once the main switch is disabled. Refit all safety devices once repair work is completed and test them for proper functioning. Anyone working on the machine must be informed prior to the start of maintenance work of any imminent movements on the machine.</p>

	<p>Warning ! Injury due to unexpected movement of the reversing box.</p>
	<p>Warning ! Risk of injury due to improper handling of compressed air.</p> <p>Never direct the outlets of compressed air lines towards people – serious injury may result.</p> <p>Do not pressurise any loose compressed air hoses. Any people who may be in their vicinity may be hit. Never hold compressed air hoses on loose objects.</p> <p>Work on the compressed air devices may only be carried out by authorised specialists.</p>
	<p>Warning ! Risk of the pallet falling during transport. Ensure equal loading of the pallet and that suitable means of transport are used.</p>
	<p>Warning ! Slip hazard due to spilt drying agent during maintenance work. Clean the floor immediately of spills.</p>
	<p>Caution ! Risk of injury due to incorrect programming. Do not make any changes to the software on programmable systems.</p>



1.4 Protective Measures


	<p>Warning ! Never make any unauthorised modifications to nor deactivate safety devices. These may result in serious injury.</p>
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The warning and safety signs fitted to the machine must be observed.
They may not be changed or removed.
Damaged signs must be immediately replaced.
Protective measures may not be circumvented during operation.

1.5 Residual Hazards

During operation of the Drier, further hazards may arise that can be prevented through safety-conscious working procedures.

	Danger ! Touching live parts is potentially fatal. Observe the warning notices fitted.
	 Do not remove any covers on the control cabinet. Work on the electrical fittings may only be carried out by authorised electrical specialists.

	Caution ! Parts of the Drier heat up during operation.
---	--

1.6 Requirements on Personnel and Duty of Care

Work on the Drier may only be carried out by reliable, trained and fully inducted personnel.


Only authorised personnel may work at the machine.

Never allow machine components to be operated by personnel who are under the influence of sedatives, or who for health reasons are not in a fit state to operate them.

Any personnel who are under training, induction, or who are involved in general training, may only work at the machine under the constant supervision of a qualified and experienced person.



Work on the electrical fittings of the individual machines may only be undertaken by authorised electrical specialists and in compliance with the operating manual of the electrical fittings supplier.


Only fully inducted personnel with special knowledge and experience of pneumatics may work on compressed air devices.

	Caution ! The Operating Manual must always be available at the place of use. The operating personnel must know where it is kept.
---	---

2 Transport

The machine is to be bolted down into the floor in the production hall. When moving the machine, the suitability of the floor should be ascertained so as to be able to anchor the machine securely back in the floor. Alternatively, Driers are also fitted with a mobile chassis.

	Danger ! Touching live parts is potentially fatal.
	Even when making small changes in position, isolate the machine from any external power source. Before recommissioning the machine, it must be properly reconnected to the mains.

	Warning ! Risk of the pallet falling during transport. Ensure equal loading of the pallet and that suitable means of transport is used. Ensure it is securely attached and that the load is distributed horizontally. Never stand under a suspended load. Nominate a competent banks man for the lifting operation.
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Only use a suitable transport vehicle with adequate load bearing capacity. Ensure the load is reliably secure.

Prior to recommissioning, carefully fit and secure any parts that have had to be removed for transport purposes.

On recommissioning, always power up in line with the Operating Manual.

Commissioning may only be undertaken by specially trained operating and maintenance personnel.

3 Commissioning

1. Set up the drying silo on the designated site.
2. Install the connection pipe work.
3. Mount the vacuum hopper loader on the drying silo.
4. Open the butterfly valves of the drying silo airlines.
5. Before filling the drying silo, close the manual stop valve for discharge of the material.
6. On the **suction box** option, the material can be extracted from the drying silo.
7. Connect the Drier up to the power supply, coolant and compressed air systems.
8. Check the rotation of the motors.
9. Set the drying temperature.
10. The switch-on time and period can be preselected via the timer.
11. Switch on the Drier via the “**Drier on**” button.

4 Functional Description

The adsorption air blower extracts the moist air from the drying silo. This is cleaned via a cartridge filter and cooled by an air/water heat exchanger (optional).

Via the change-over damper, depending on its setting, the air arrives at the drying agent bin that is ready for drying.

Here the moisture is removed from the air by the drying agent.

Air then flows through the dry air heater where it is heated to the preset temperature and then reaches the drying agent bin again via an insulated connection line.

In the drying agent bin, the air flows equally distributed through the plastic granulate, dries and heats it and is then aspirated again by the adsorption air blower in the dry air generator in the form of moist return air.

As the drying agent becomes saturated after a certain time, it has to be regenerated. This regeneration is divided into two phases and occurs in parallel with the drying operation, but in a second circuit of the system. During phase 1 of the regeneration, air is aspirated from the return air line, heated to approx. 230°C and pressed through the drying agent with the regeneration air blower.

The high air temperature and the moisture from the drying agent are expelled and vented outdoors via the changeover valve.

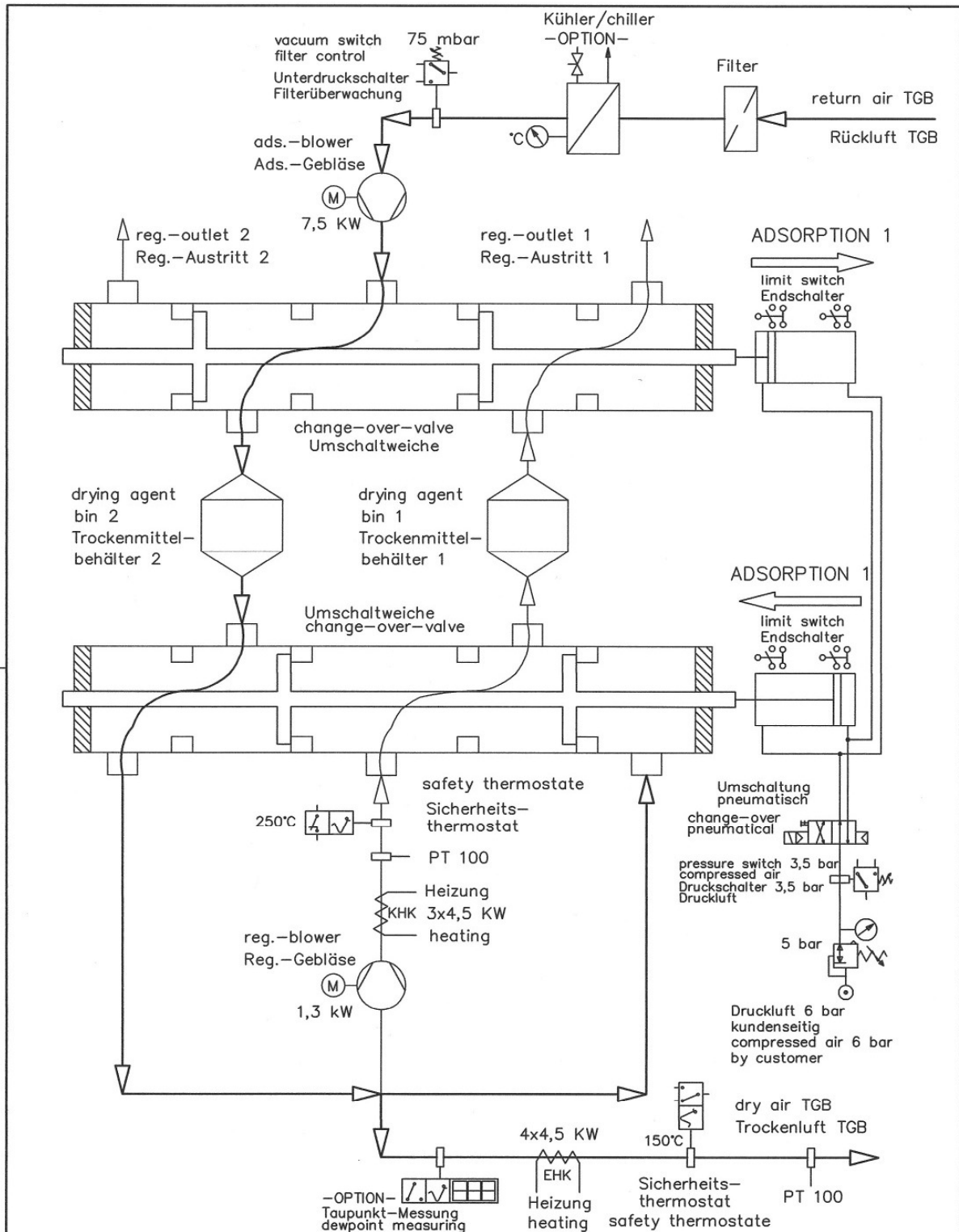
Once the regeneration time has completed, the regeneration heater is switched off and the second phase – drying agent bin cooling – begins. Once the cooling time has completed, the changeover valve is switched and the regeneration of the second drying agent bin starts.

If the dew-point analysis option is installed, the cooling time is extended at the end of the regeneration process. Switching is not actuated until values drop below the set dew-point. However, the permanently programmed times needed to optimally regenerate the drying agent are processed first. This means the following: The dew-point may drop below the set value during operation.

The SIMAR dry air generator thus continuously dries plastic granulates with dry air. It works independently of the work room humidity due to the closed dry air circuit and can achieve reproducible degrees of dryness at any time.



Nevertheless, the permanently preset programmed times always run first, as these are needed for optimum regeneration of the drying agent. This means that during operation the dew-point may also drop below the preset value.



Ohne unsere Genehmigung darf diese Zeichnung weder vervielfältigt, noch dritten Personen oder Wettbewerbsfirmen zugänglich gemacht werden.

Diagram shows regeneration in drying agent bin 1
Darstellung zeigt Regeneration in Trockenmittelbehälter 1

 FOERDERTECHNIK GmbH				Werkstoff	Masstab	Fließbild <small>flow diagram</small> Trockner / drier KTX 600	
				A4		CAD - Zeichnung Nr.:	
				KTX 600-dgb		Blatt	
						Bl.	
A-Nr.	Aenderung	Tag	Name	Gepr.			

5 Technical Data

Dry air generator	KTX 600
Adsorption air mass	600 cbm/h
Regeneration air mass	180 cbm/h
Total connected rating	45 kW
Operating voltage	230 / 400V / 50Hz
Total rated current	60 A
Coolant consumption	430 ltr./h
Compressed air consumption	2,2 Nltr./h

Adsorption air blower

Type designation	WT 804_25M
Connected rating	7,5 kW
Operating voltage	400 / 690V
Rated current	16,7 A

Adsorption air heater

Type designation	403V 450 / 48 / 7B
Connected rating	4 x 4,5 kW
Operating voltage	230 / 400V
Rated current	27 A

Regeneration air blower

Type designation	WT 501_22E
Connected rating	1,3 kW
Operating voltage	230 / 400V
Rated current	3,8 A

Regeneration heater

Type designation	ceramics 2840181-098
Connected rating	3 x 4,5 kW
Operating voltage	230 / 400V
Rated current	21 A

Information applies to driers without additional equipment.



When drying with several auxiliary heaters, see the relevant nameplate for the connection data of the Drier.

5.1 Control Parameters in -Configure System- Menu

Software-Version	KTX 600
Drier with dew-point sensor, optional	0 (no)
Blower after-run time	5 min.
Valve actuating time	60 sec.
Regeneration time	50 min.
Cooling time	30 min.
Regeneration monitoring time	45 min.
Regeneration temperature	230 °C
Adsorption monitoring time	50 min.

On the dew-point option

Dew-point evaluation	Evaluation ON
Changeover set point	-35 °C
Dew-point alarm output (optional)	0 °C

5.2 Monitoring elements set points

Type Drier	KTX 600
Safety thermostat - Adsorption	150 °C
Safety thermostat – Regeneration	250 °C
PT 100 - Regeneration	230 °C
Compressed air controller	5 bar
Pressure switch compressed air	3,5 bar
Vacuum switch filter control	- 100 mbar

Material	Start Moisture	Resident Time	Temperature ° C	air requirement m³/kg/h	KTX															
					KTX50	KTX70	KTX120	KTX180	KTX200	KTX300	KTX450	KTX600	KTX900	KTX1200	KTX2000					
ABS	0.4	3.4	80	1.60	31	44	75	115	125	190	280	375	565	750	1250					
CA	0.8	2.3	75	2.05	24	34	59	90	100	145	220	295	440	585	975					
CAB	1	2.3	75	2.60	19	27	46	70	75	115	175	230	345	460	770					
CP	1	2.3	70	2.20	23	32	55	80	90	135	205	275	410	545	910					
LCP	0.04	4	150 *	1.40	36	50	86	130	145	215	320	430	645	855	1430					
lonomere	1	4.5	90	2.80	18	25	43	65	70	105	160	215	320	430	715					
PA 11	1	4.5	100	2.50	20	28	48	70	80	120	180	240	360	480	800					
PA 12	1	5	100	2.05	24	34	59	90	100	145	220	295	440	585	975					
PA 6	1	4.5	80	2.40	21	29	50	75	85	125	190	250	375	500	835					
PA 6	2	4.6	80	2.90	17	24	41	60	70	105	155	205	310	415	690					
PA 6.6, 6.10	1	4.5	85	2.00	25	35	60	90	100	150	225	300	450	600	1000					
PA 6.6, 6.10	2	4.6	85	2.40	21	29	50	75	85	125	190	250	375	500	835					
PBTP	0.5	2.3	120 - 135	1.70	29	41	71	105	120	175	265	355	530	705	1175					
PC	0.2	3	120	1.40	36	50	86	130	145	215	320	430	645	855	1430					
PE*		2	85	2.35	21	30	51	75	85	130	190	255	385	510	850					
PE black	1	2.3	85	2.50	20	28	48	70	80	120	180	240	360	480	800					
PEEK		4	150 *	1.45	34	48	83	125	140	205	310	415	620	830	1380					
PETG	0.4	4.5	65	3.00	17	23	40	60	65	100	150	200	300	400	665					
PETP inj.mould.	0.5	3.4	120	1.30	38	54	92	140	155	230	345	460	690	925	1540					
PETP Preforms	0.3	4.6	160 - 190*	2.60	19	27	46	70	75	115	175	230	345	460	770					
PETP film	0.3	4.6	160 - 190*	2.00	25	35	60	90	100	150	225	300	450	600	1000					
PI	0.1	2.3	120	1.10	45	64	109	165	180	275	410	545	820	1090	1820					
PMMA	0.4	2.3	90	1.45	34	48	83	125	140	205	310	415	620	830	1380					
POM	0.6	2	100	1.30	38	54	92	140	155	230	345	460	690	925	1540					
PP*		1.2	100	1.80	28	39	67	100	110	165	250	335	500	665	1110					
PPO Noryl	0.1	2	120	1.50	33	47	80	120	135	200	300	400	600	800	1335					
PPS	0.1	3.4	150 *	1.50	33	47	80	120	135	200	300	400	600	800	1335					
PS*	0.1	1	80	1.10	45	64	109	165	180	275	410	545	820	1090	1820					
PSU Polysulfon	0.2	2.3	120	1.30	38	54	92	140	155	230	345	460	690	925	1540					
PUR	0.3	2.3	90	1.80	28	39	67	100	110	165	250	335	500	665	1110					
PVC	0.4	1	70	1.20	42	58	100	150	165	250	375	500	750	1000	1665					
SAN	0.2	2	80	1.30	38	54	92	140	155	230	345	460	690	925	1540					
SB	0.4	1.2	80	1.30	38	54	92	140	155	230	345	460	690	925	1540					

* High temperature drier required

6 Operating the Drier Control

SIMATIC S7-313C PLC Control and Touch Control Display

The control cabinet is equipped with the following hardware components:

1. One main switch, integrated into the door or the control cabinet side depending on drier type.
2. A programmable logical controller (PLC)
3. A touch control display
4. A red central alarm lamp for drier faults, (lights up in case of a malfunction).

6.1 Control and Operating Unit

The PLC control unit S7-313C is used to control all driers of the KTX series.

The GP4xxx control unit is a TFT-Touchpanel with max. 65535 colours and a resolution of 320x240 (640x480) pixels.

Menu navigation is event-controlled.


6.2 Icon Explanation

Control button icons



This icon is an ON/Off switch with status indicator.
Select this switch to invert it, thereby displaying the current state.
This touch switch is used to turn the drier on or off.



Use this icon to switch the drier on or off according to a timer.
This icon is only active if the "Drier On/Off" icon is switched on.
The operator must enter the on and off times.
If the drier timer clock is conditionally switched off, only the clock icon is depicted in the status screen.
The icon  next to the clock icon in the status screen lights up if the drier has been switched on by the timer function.
If the timer programme is not activated, the clock icon is not depicted in the status screen.
If this is the case, the clock icon in the menu screen is greyed out.



Most faults are automatically reset as soon as the cause has been remedied.
Some faults are accumulatively processed to prevent an uncontrolled restart.
If a fault has occurred that must be reset, the reset fault icon is displayed.



If a fault is pending, the fault indicator lamp on the control cabinet and the touch display depicts the lamp acknowledge icon.
If the fault indicator (lamp) is a source of irritation while the fault is being remedied, use this button to switch off the fault indicator lamp.
After the acknowledgement, the lamp acknowledge icon also disappears from the screen.



Use this icon to open the screen containing the drier menu.



Monitoring states

Use this icon to select the status screen. The status screen provides information about in which process sequence currently is in and how much of this sequence has already been processed.

Currently pending temperatures are also depicted.



TGB = Drying silo for granules



KT = Drier unit



Conveyor system option

Use this icon to select the status screen of the conveyor system. The parameter settings of the conveyor system can also be accessed from the status screen.



Configure timer programme

Use this icon to open the menu for the timed on and off of the drier. Individual activation/deactivation times can be entered.



Parameter input

Use this icon to open the screen for the parameter input.



Time and date

Use this icon to open the screen for entering the current time (system time).



Language selection

Use this icon to select different languages.



Read fault messages

Use this icon to open the screen for displaying a chronological list of fault messages with time and status.

ENTER key

ENTER confirms and applies input.

Clr key

Used to cancel input.

The previous input value is applied again.

6.3 Screen Control and Content

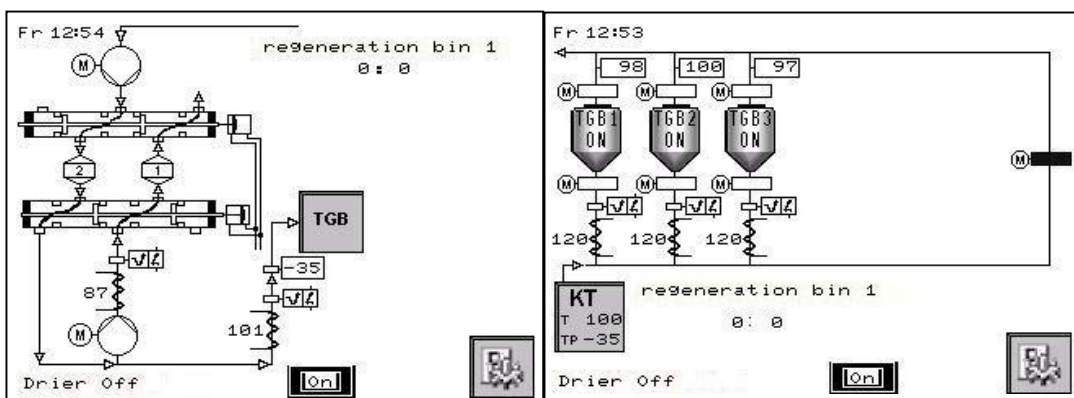
The control performs a self-test after turning on the main switch.

Then the **status screen** opens.

Status screen

The status screen is automatically displayed unless otherwise indicated.

Or use the following icon:



The status screen depicts the temperatures for the adsorption and regeneration heater as well as the switching state of the changeover valve.

A graphical depiction of the blower states  OFF  ON  Fault are displayed as well.

Additional equipment such as dew-point monitor, auxiliary heater or motorised flaps are also depicted graphically.

The current process state with information about the remaining time are listed in plain text in the upper section of the menu window.

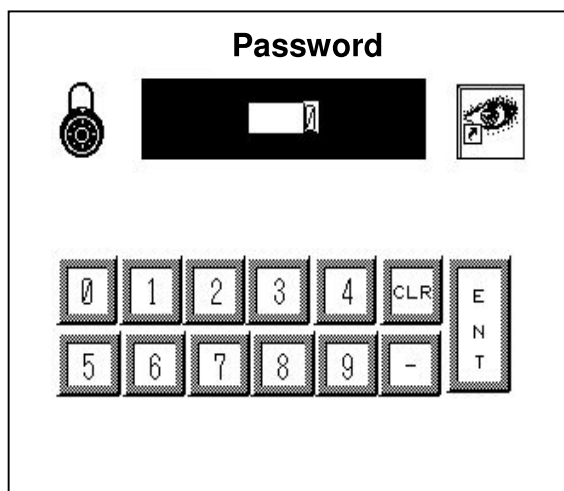
From the drier display screen, use "TGB" to open the "TGB" screen and "KT" to return to the drier display.

Tap the TGBs to switch them on or off (password-protected).
The lamp on the TGB indicates the status of the TGB.



6.4 Password

Certain drier parameters that affect operational safety are password-protected. To change these types of parameters, enter the code "1357" when asked for a password and confirm with ENTER. The password release is now active for 5 minutes and is then automatically reset.



Note:

The first parameter set in the drier parameter menu concerns the functional safety and reliability of the drier and may only be changed by SIMAR personnel. For this reason, these parameters cannot be accessed with the "1357" code.

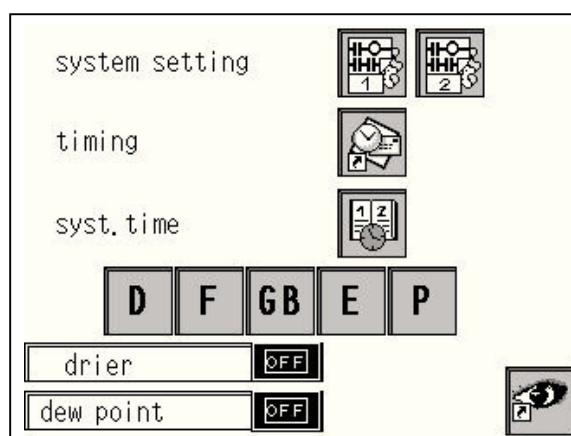
6.5 Main Menu

Select the



icon to open the main menu.
Here you can switch the drier on and off.

If the dew-point option is installed, activate or deactivate this option here.



Drier parameters and the timer and system time screen can be opened from this menu as well. Also select the menu language from this screen.



6.6 Weekly Timer

Select the



icon to open the timer menu.

Enter the switching times of the timer here.

timing	on	off	
Monday	00:00	00:00	
Tuesday	00:00	00:00	
Wednesday	00:00	00:00	
Thursday	00:00	00:00	
Friday	00:00	00:00	
Saturday	00:00	00:00	
Sunday	00:00	00:00	

If the drier is to be switched off over night, select the switching on time (e.g. 8:30 am) and then the switching off time (e.g. 7:30 pm) for the respective day of the week (e.g. Tuesday).

Now the drier works Tuesdays from 8:30 am to 7:30 pm.

If the drier is to run continuously during workdays, enter the start time for Monday (e.g. 3:30 am) and the stop time (e.g. 12 midnight). The start time is 00:00 and the stop time is 24:00 (24-hr clock) for all other workdays. The start time is 00:00 and the stop time is 6:00 pm, for example, for the day on which the drier is to be switched off again (e.g. Friday). Now the drier works from Monday 3:30 am to Friday 6:00 pm without interruption.

On days when the drier is to be off, the start and stop time remains the same (00:00).

6.7 Drier Parameters

Select the



icon to open the drier parameter screen.

change over-dew point	-30 C	adsorption temperature	110 C
blow, after run, time	20 min	adsorption temperature TGB-1	120 C
change over time	40 s	adsorption temperature TGB-2	125 C
regeneration time	45 min	adsorption temperature TGB-3	110 C
cooling time	45 min	adsorption temperature TGB-4	0 C
ADS.-control time	60 min	adsorption temperature TGB-5	0 C
REG.-control time	60 min	adsorption temperature TGB-6	0 C
REG.-temperature	220 C		

TGB-1 temp. -difference	20 C
TGB-2 temp. -difference	20 C
TGB-3 temp. -difference	20 C
TGB-4 temp. -difference	20 C
TGB-5 temp. -difference	0 C
TGB-6 temp. -difference	0 C

Enter the drier parameters in this screen.

All input is password-protected.

A plausibility check is carried out when entering or changing parameters. If the value is not permissible, an acoustic signal is emitted and input cannot be finished.

The first parameter set concerns the drier and may only be changed by SIMAR personnel except for the changeover dew-point value. The second parameter set is material-dependent and must be adjusted by the operator.



Important!

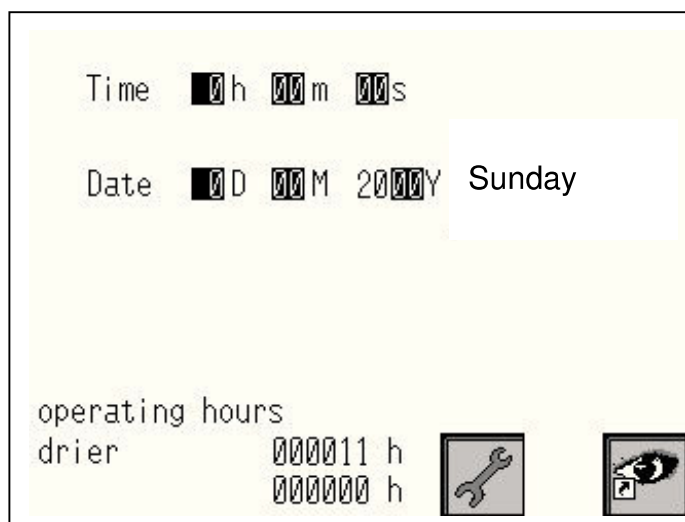
The adsorption temperature of the drier may not be higher than the adsorption temperatures of the individual TGBs. The auxiliary heaters are only able to heat but not cool.

6.8 System Time

Select the



icon to open the system time setting screen.



Enter the current date and time in this screen.

The PLC and the display use the set time.

The day of the week is not entered but calculated by the system.

6.9 Fault Message Screen

Select the



icon to open the fault message screen.

The current drier and separator faults together with time are displayed in this screen.

7 Fault Messages

7.1 Rotation Direction Fault

The phase sequence relay has been triggered.

Fault source: - L1 and L3 were mixed up with the feed line cable.

7.2 Compressed Air Fault

The pressure switch to monitor the compressed air has been triggered.

Fault source:

- Compressed air supply failure
- Leaking pneumatic hoses
- Defective pressure switch

7.3 Changeover Valve Fault

One or two limit switches to monitor the end position of the changeover valve was **not switched**.

Fault source:

- Pressure in compressed air supply too low (min.5 bar).
- Pneumatic valve or solenoid coil defective.
- Changeover valve sticky
- Leaking pneumatic hoses
- Limit switch defective
- Pneumatic cylinder defective

7.4 Filter Cleaning Fault

The resistance on the suction side of the drier is too high; the vacuum pressure switch has been triggered.

Fault source:

- Plugged dry air filter
- Cooler dirty
- Return air filter in drying agent bin soiled

7.5 Adsorption Control Time Fault

The set temperature value of the adsorption heater was not reached.

- Fault source:**
- Temperature controller defective
 - Heating element defective
 - Set temperature too high

7.6 PT100 Adsorption Heater Fault

The control system does not detect a signal from the temperature sensor of the adsorption heater.

- Fault source:**
- Temperature sensor defective or cable breakage

7.7 PT100 Regeneration Heater Fault

The control system does not detect a signal from the temperature sensor of the regeneration heater.

- Fault source:**
- Temperature sensor defective or cable breakage

7.8 Safety Thermostat Adsorption Heater Fault

The set temperature value (150°C) of the safety thermostat for the adsorption heater was exceeded.

- Fault source:**
- Semiconductor relay defective
 - Temperature controller defective
 - Safety thermostat defective

7.9 Safety Thermostat Regeneration Heater Fault

The set temperature value (250°C) of the safety thermostat for the adsorption heater was exceeded.

- Fault source:**
- Semiconductor relay defective
 - Temperature controller defective
 - Safety thermostat defective

7.10 Blower Fault

The current draw of the respective blower is too high; the over current trip has been triggered.

- Fault source:**
- Damper flaps of drying silos are closed
 - Filter plugged
 - Blower runs heavily, maybe defective ball bearing
 - Blower defective

7.11 Automat Triggered TGB n

The current draw of the heating elements is too high; the over current trip has been deactivated.
The safety thermostat has triggered the protective motor switch via the shunt trip.

- Fault source:**
- Heating element defective
 - Damper flaps of drying agent bins are closed

7.12 Automat Triggered - Regeneration Heater

The current draw of the heating elements is too high; the over current trip has been deactivated.
The safety thermostat has triggered the protective motor switch via the shunt trip.

- Fault source:**
- Heating element defective
 - Semiconductor relay defective
 - Temperature controller defective
 - Safety thermostat defective

7.13 Dew-Point Device Fault - Dew-Point Monitoring Option

The dew-point of the drier has dropped below the set alarm value; the fault indicator has been triggered; however, the device continues to run. No fault shutdown.

If the value exceeds the alarm value again, the fault indicator goes out by itself.

Fault source:

1.) The dew-point drops below the set value during operation:

- The initial moisture of the material to be dried is too high
- The moisture load of the drying agent is too high, and the drying agent is not in order if this is the case; the fault indicator goes out after a few drying cycles

2.) The dew-point is permanently below the alarm value:

- Regeneration heater defective
- Leaking switchover valve
- Drying agent soiled or consumed

7.14 Dew-Point Fault – Dew-Point Monitoring Option

The measuring range of the sensor (+20 °C to -100 °C dew-point) was exceeded.

Fault source: - Broken/faulty sensor cable

7.15 Regeneration Control Time Fault

The set temperature value of the regeneration heater was not reached.

Fault source:

- Temperature controller defective
- Heating element defective
- Set regeneration temperature too high (target 240 °C)
- Semiconductor relay defective

7.16 TGB n Fault – Control Time Expired – Dwell Time Control Option

The calculated control time when filling the TGB for one measuring cycle has been exceeded 6-fold. Fill control has triggered a fault.

- Fault source:**
- Upper fill level sensor defective
 - Separator unit switched off
 - No material in silo (separator system malfunction)
 - Material removal from TGB too high
 - More removal than addition over the indicated time

7.17 TGB n Fault – Tolerance Exceeded – Dwell Time Control Option

The set dwell time plus the tolerance value was exceeded.

- Fault source:**
- Lower fill level sensor defective
 - No removal from TGB

7.18 TGB n Fault – Value below Tolerance – Dwell Time Control Option

The set dwell time minus the tolerance value was not reached.

- Fault source:**
- Removal from TGB too high

7.19 Separator n Has Conveyance Malfunction

The separator has no or too little material even after a second feeding attempt.

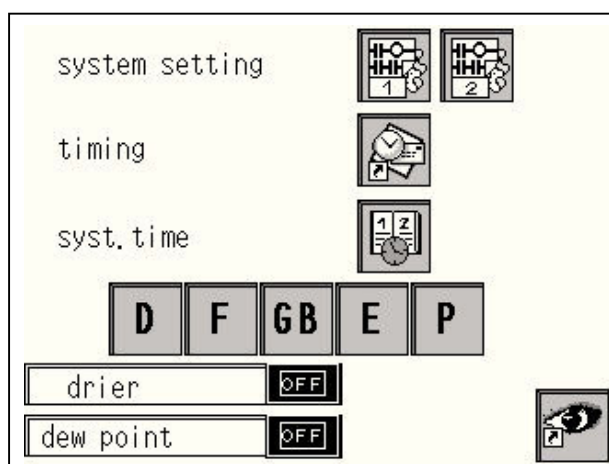
- Fault source:**
- Material bin is empty
 - Vacuum line leaks
 - Vacuum valve on separator leaks
 - Conveyor pipe leaks
 - Plugged conveyor pipe
 - Suction nozzle incorrectly set
 - Plugged conveyor air filter

8 Bypass Moisture Measuring System - Option -

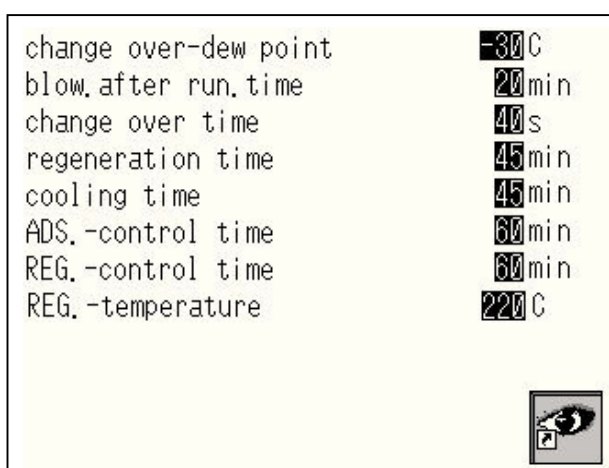
Introduction

Using the bypass moisture measuring system the dew-point in the process air is continuously measured, monitored and displayed.

Dew-point monitoring can be switched on and off in the drier main menu.



The switchover dew-point can be entered in the drier parameter screen. This value determines the time of the switchover between the two TGB after the respective regeneration or cooling phase.



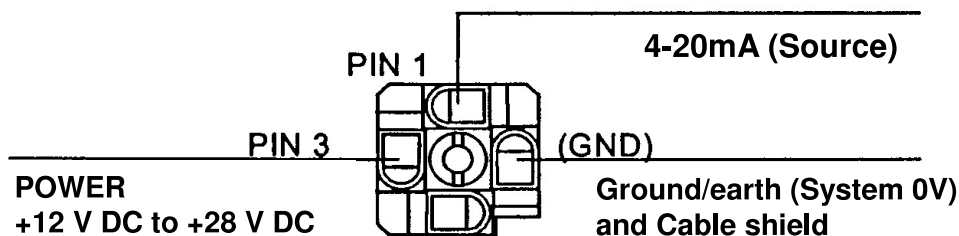
This allows unnecessary premature reversal to be avoided. The resulting extended pause times between the individual regeneration phases can make a major contribution to saving energy, as the regeneration heaters remain switched off during these pause times. Please note that a more negative changeover dew-point value results in shorter pause times. In most cases, a dew point of -25°C is sufficient for adequate dehumidifying of the plastic granulate.

8.1 Dew-Point Transmitter

The dew-point transmitter is an inline instrument for measuring the moisture content of air and other gases over a working range of -100°C to $+20^{\circ}\text{C}$ dew-point. The analogue output is standardised and factory preset to 4-20mA. The sensor functions as a 4-20mA transmitter, providing a linear analogue output to an external controller or monitoring unit. The dew-point indication is on the Drier controller display.

8.2 Dew- Point Transmitter Connection

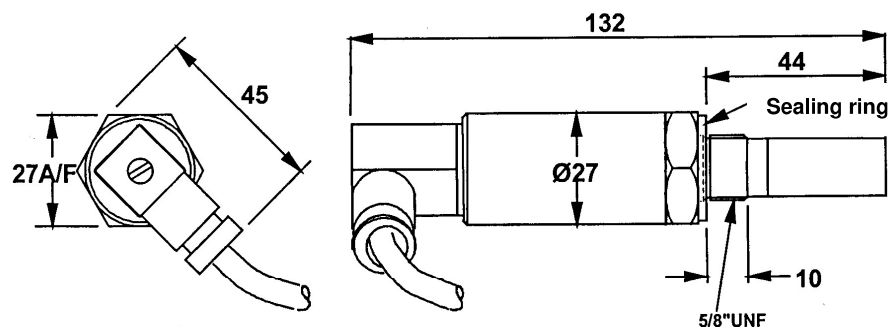
The sensor can be connected via the detachable plug connector. The inside unit of the plug connector can be removed by first removing the central screw and then levering out the terminal block using a small screwdriver. The three sensor cable wires with terminals are connected as follows to the interface unit.



8.3 Maintenance

Routine maintenance of the dew-point transmitter is limited to regular calibration. The only option for recalibration is to expose the moisture sensor to a test gas of known humidity. In most applications annual recalibration is sufficient to maintain the specified accuracy of the sensor. Transmitters with a 4-20mA interface can be interchanged at will. Interchange ability of the sensors is not affected by the length of the sensor cable, meaning that for all sensors replacement may be used as an alternative method to calibration. For applications where the dew-point transmitter is not continuously in use, it may be sent in to SIMAR for recalibration.

Dimensions



8.4 Technical Specification of Dew-Point Transmitter

Measuring range	-100 to +20°C dew point
Power supply	12 to 28 V DC
Output	0 –10 V power source over the entire dew-point
Dew-point accuracy	± 2°C over the entire measuring range
Gas temperature	- 40°C to + 60°C
Service environment	- 20°C to + 50°C
Storage temperature	- 40°C to + 75°C
Temperature coefficient	Temperature compensated
Working pressure	10 ⁻⁶ bar vacuum to 300 bar
Flow rate	1 to 5 l/min when fitted in standard sampling block 0 to 10 m/sec. on direct application (80 µm sinter protection)
Certification basis	- 90 to + 82°C dew-point based on National Physical Laboratory - 75 to + 20°C dew-point based on National Institute of Standards and Technology (For dew-points < - 90°C : with direct reference to a dew-point monitor that works according to a fundamental measuring principle).
Protection of the environment	IP 65 (IP 66 or NEMA 4 available as an option)
Weight	0,15 kg
max. load (power source)	200 Ω at the PSU = 12 V, 750 Ω at the PSU = 24 V Absolute max. load is 1K Ω at the PSU = 28 V

8.5 Fault Message

State	Output	
Sensor fault	23mA	Factory-programmed
Under-range dew-point	4mA (0mA ComCon)	Factory-programmed
Over-range dew-point	20mA	Factory-programmed

9 Load-Dependent Control - Option

The load-dependent control can be used for dry air driers with two or more drying silos (TGB).

This control is used to achieve an even air distribution with different materials, fill heights, bin sizes, or throughput capacities. The load-dependent control can also be used to prevent over drying of the material to be dried.

In this case, the supplied air volume is adjusted in dependence of the return air temperature of each individual TGB using motorised flaps. The temperature difference between air inlet and air outlet is here a measure for the degree of dryness of the material. The smaller the temperature difference, the drier the material. When setting the temperature difference, the degree of dryness is set as well at which the load-dependent control starts.

Until the entered temperature difference has been reached, the motorised flaps remain completely open at the supply and return lines of the respective TGB. When the temperature difference becomes smaller, the control is activated in 6 increments up to the point when the temperature difference is zero and the airflow of the drying air is completely closed.

A bypass flap regulates the airflow so that the process air blower does not have to strain against closed flaps. The bypass flap starts to open as soon as the sum of positions of all load adjustment flaps correspond with an open load adjustment flap.

In order to be able to check the temperature difference with completely closed flaps, i.e. without airflow in the TGB, the flaps are forced open for the duration of 30 seconds at intervals of 10 minutes. This makes it possible to redetect the respective temperature difference to update the control.

Any possibly installed auxiliary heaters at the individual TGBs are switched off at the start of the last closing cycle of the respective TGB flap.



9.1 Setting the Temperature Difference

Select the




icon in the drier menu, the temperature difference screen opens.

adsorption temperature	110 C
adsorption temperature TGB-1	120 C
adsorption temperature TGB-2	125 C
adsorption temperature TGB-3	110 C
adsorption temperature TGB-4	0 C
adsorption temperature TGB-5	0 C
adsorption temperature TGB-6	0 C

Here you can enter the temperature differences for the individual TGBs.

TGB-1 temp.-difference	20 C
TGB-2 temp.-difference	20 C
TGB-3 temp.-difference	20 C
TGB-4 temp.-difference	20 C
TGB-5 temp.-difference	0 C
TGB-6 temp.-difference	0 C



10 Integrated Separator Control - Option

10.1 Function

The separator AX serves the efficient feeding of processing machines with granulated or powdery bulk goods.

The demand of the separators is controlled with the outlet flap.

Is the flap closed, there is demand for feeding material.

Is the flap stacked open in the material, there is no demand.

The flap switch is designed as a NOC contact. The separators are queried in series or "FI-FO" (selectable) as needed.

The separators are additionally switched on or off with a separate On/Off switch.

The demand is queried after switching the separator on.

If a separator reports a need, the blower starts, the evacuation valve at the blower closes, the vacuum valve at the separator opens. The adjustable feeding time starts to run down. After the feeding time has expired, the clean out valve opens if a time has been entered for the line clean out. After the clean out time has expired, the vacuum valve at the separator closes.

The evacuation valve opens, the vacuum in the separator is reduced and the material drops down due to its own weight.

Now the demand of the next separator is queried.

If a separator reports a demand, the process described under item 1 is repeated for this separator if the blower is already running.

If none of the separators reports a demand, the evacuation valve remains open and the adjustable blower after-run starts to run down.

If a separator reports a demand during this time, the process described under item 1 is repeated for this separator with the blower already running as well.

If none of the separator reports a demand during the blower after-run, the blower is switched off after the blower after-run has expired, the system enters standby until a new separator reports a demand.

10.2 Filter Flushing

The filter cleaning at the separator or the central filter is freely selectable.

Possible settings are:

- Filter flushing before feeding
- Filter flushing after feeding
- Filter flushing before and after feeding

The number of filter cycles can be determined as well after which a filter cleaning is carried out each time.

10.3 Central Filter - Option

The central filter makes it possible to use separators with filters that keep the area around the processing machine free of dust.

The conveyor air is aspirated via the air inlet nozzle and routed through a filter on the inside of the bin.

The dust in the conveyor air is trapped by the filter. The cleaned conveyor air leaves the central filter via the air outlet nozzle. To prevent clogging of the filter, the dust collected by the filter is blown off and cleaned off using a compressed air pulse by the flushing valve. The dust blown off from the filter now settles on the floor of the bin and can be easily removed by opening the spring-actuated opener.

10.4 Filter Cleaning

The filter should be removed regularly and cleaned on the inside with compressed air.

Compressed air free of oil and condensate.

Before removing the cover, switch off the separator control and interrupt the compressed air supply.

If the desired conveyor capacity is not reached again after cleaning the filter, it may be that the pores of the filter are clogged.

The filter must be replaced with a new one.

10.5 Clean out Valve - Option

The clean out valve serves to suction empty the conveying line after each feeding cycle. This is especially useful if vertical conveying pipes with more than a 5-m height difference.

Also used in conjunction with driers to avoid that predried materials remain in the conveying pipe.

The clean out valve must always be installed at the start of the conveying pipe, i.e. directly behind the suction pipe or the fixed suction point.

10.6 Mixing Valve - Option

In conjunction with hopper loaders, the mixing valve MZX provides for automatic metered addition of a second material, e.g. regrind material. The desired additional quantity can be preselected at the control by entering the corresponding conveying time.

A separate conveying pipe is connected to the mixing valve for each component.

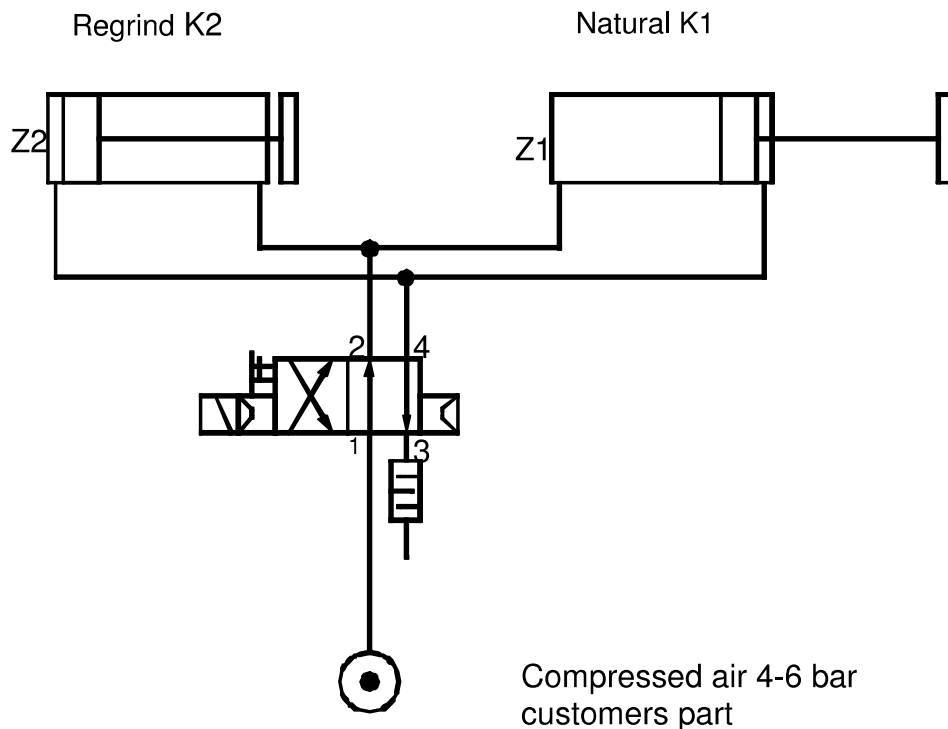
Thereby the mixing valves are opened automatically within a dosing interval in accordance with the set values.

The accuracy of the set dosing portions also depends on the length of the conveyor pipe. Optimal values are reached with a conveyor pipe length of up to 5 meters.

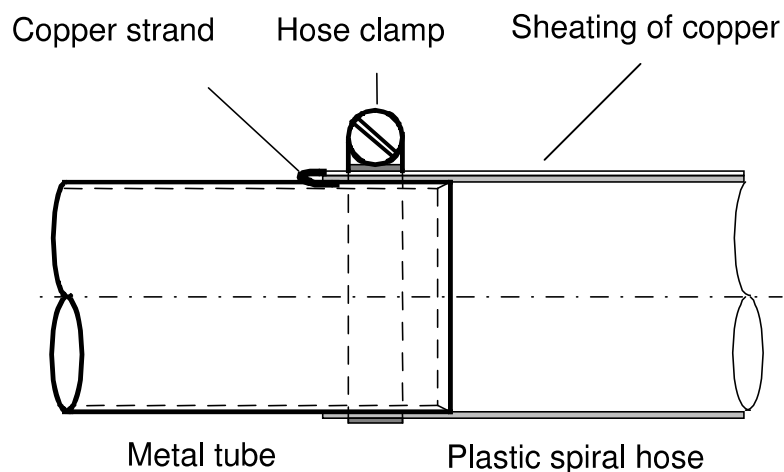
In case of very different feeding paths of the two components, the settings of the conveying time must be determined by trial and error to achieve the desired mixed ratio.

The lower dosing share is preferable (e.g. ground material) as the component C2.

If only the conveying pipe for the virgin material C1 (K1) is needed, the dosing share is to be set from C2 (K2) to "0".



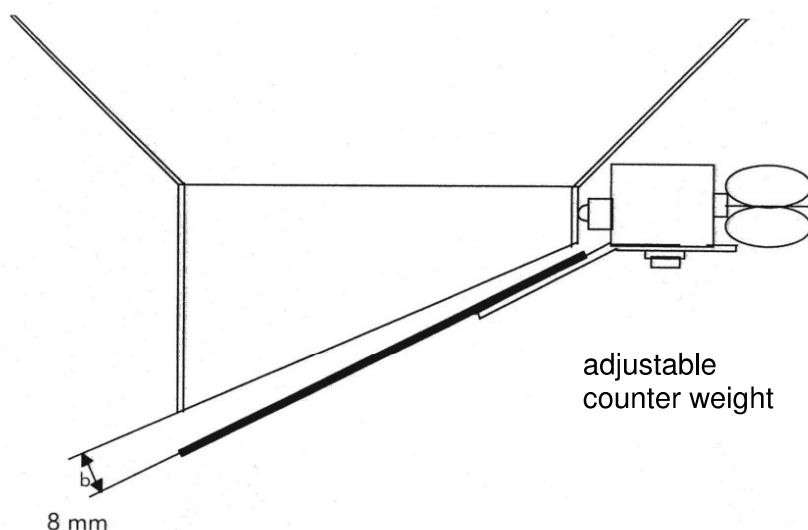
10.7 Feeding Hose



Pull out **copper strand** for earthing approx. 20-30mm from the **sheathing** and fold it back inside the **plastic spiral hose**.

When hoses with **earthing spiral** are used, make sure that there is a metallic contact to the socket. Slip **hose** onto the bright **metal tube** and fasten the hose to the metal tube by means of a **hose clamp**.

10.8 Flap



Correct settings of the discharge flap:

The air gap "**b**" is adjustable by turning the counter weight. The discharge flap should have an air gap "**b**" of 8 mm, as shown in the illustration.

10.9 Conveying Faults



Repair work is to be carried out only with mains plug and compressed air disconnected from supply !

Trouble	Possible Cause	Possible trouble shooting
No conveying although vacuum pump in operation	Discharge flap does not close	Clean and adjust discharge flap.
	Separator full	Set conveying time is too long. Set shorter conveying time.
	Conveying piping clogged.	Clean conveying piping; Change setting of suction pipe, if necessary.
Vacuum pump does not operate although discharge flap is closed	Magnetic switch on flap is defective or maladjusted.	Replace or readjust magnetic switch on flap.
	Motor protection switch released	Measure current consumption and check fan for overload.
	Motor winding burnt out on fan.	Replace fan.
	Current supply interrupted	Check fuse of socket
	Control unit defective.	Require spare control unit.
Unit works at reduced conveying capacity	Conveying air filter clogged	Check function of filter cleaning. Clean conveying air filter, replace if necessary.
	Conveying piping too long or arranged adversely	Check piping arrangement; void sharp bends and height differences. Use cleanout valve, if necessary
	Conveying time set too short or too long.	Set the conveying time so that the separator is just filled
	Conveying filter is clogged	Clean and check conveying air filter for damage
	Safety grit at blower clogged	Clean safety filter and check for damage



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10.10 Conveyor System - Option

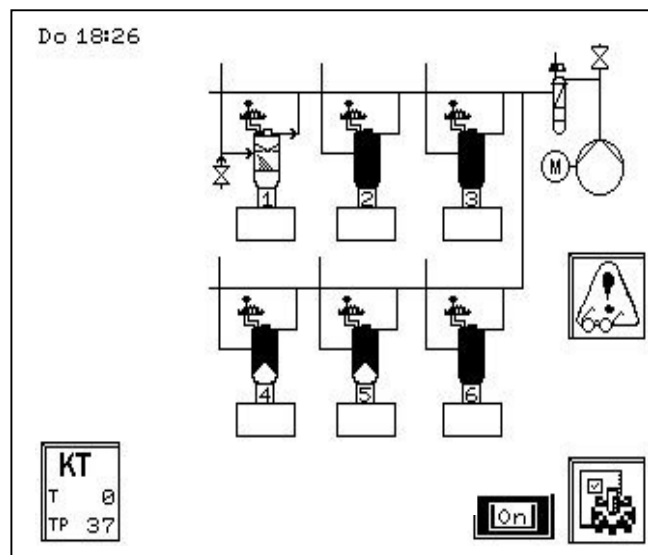
Separator status screen

Select the



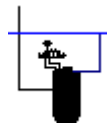
icon to open the conveyor system status screen.

This screen depicts the states of the separators and the remaining equipment. The corresponding component flashes in case of a fault.

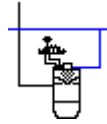


The current status of the active separator is output in plain text.
The same applies to the remaining time.
Greyed out components (black background) are switched off,
those with a white background are switched on.
An intermediate position applies to the separator number when
the separator is activated via the display but not externally

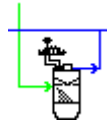
10.11 Separator Icons



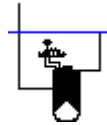
Separator without activity



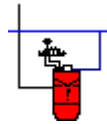
Filter cleaning on separator



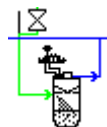
Separator is feeding



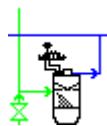
Separator is at rest and has material



Separator has feeded too little or no material



Separator in clean out cycle



Separator is feeding second component



Separator is blocked by drier

10.12 Central Filter Icons



Central filter selected



Central filter de-selected

10.13 Separator Parameters

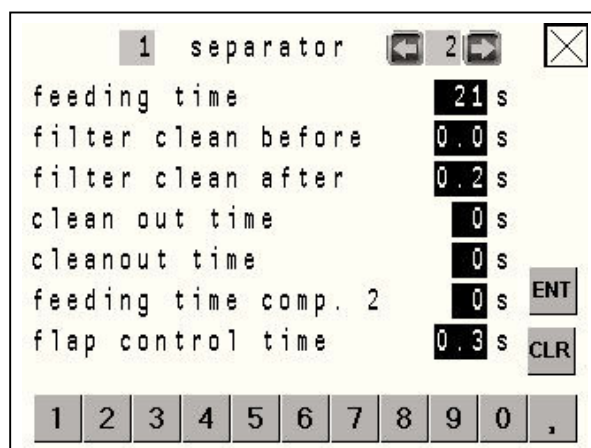
Select the



icon to open the separator parameter screen.

First, enter the separator number of the separator to be parameterised.

Separator parameters are displayed and can be changed by tapping on them.



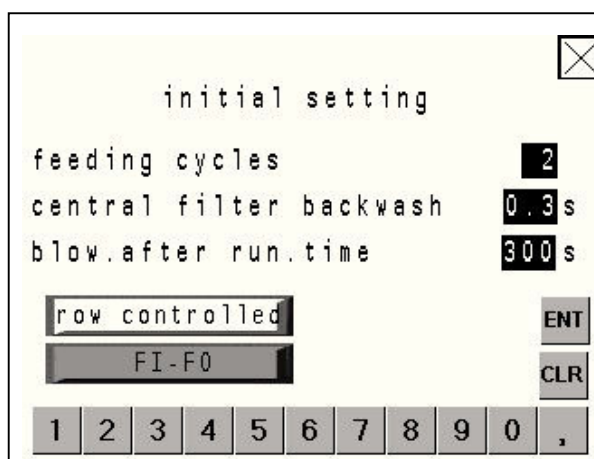
Parameter	Value
feeding time	21 s
filter clean before	0.0 s
filter clean after	0.2 s
clean out time	0 s
cleanout time	0 s
feeding time comp. 2	0 s
flap control time	0.3 s

10.14 Feed Parameters

Select



again to open the feed parameter screen.



Parameter	Value
feeding cycles	2
central filter backwash	0.3 s
blow after run time	300 s

row controlled

FI-F0





Enter the number of conveyor cycles here if the central filter cleaning is to be started. The central filter cleaning time is entered in seconds. The after-run time of the blower can be entered in this dialog. To prevent that the blower is not always switching off during the conveyor pauses, select the after-run time in such a way that the blower continues during shorter conveyor pauses.

Use the selection keys "Series Query" and "FIFO" to determine the query mode of the need reports of the separators.


11 Maintenance

11.1 Safety Information for Maintenance and Repairs

Regular maintenance and service is a precondition for reliable use of the machine.

	<p>Warning ! Only carry out maintenance and repair work on the machine when the machine is switched off at the main switch.</p>
	<p>Warning ! Crush hazard when the reversing valve switches.</p>
	<p>Warning ! Risk of injury due to improper handling of compressed air.</p> <p>Before commencing repair work, depressurise the system sections and pressure lines that need to be opened.</p> <p>Never hold compressed air hoses on loose objects.</p>
	<p>Warning ! The drying agent bin and various components in the Drier housing can become very hot.</p> <p>Before work is varied out in the Drier housing, the Drier must be switched off.</p> <p>The drying agent bins may still be hot even after longer downtimes.</p>

11.2 Maintenance Schedule

	<p>Warning ! The use of unauthorised spare parts may result in injury to people and damage to the machine.</p> <p>Only use original spare parts !</p>
---	--

Please observe the details from the relevant manufacturers relating to maintenance of the individual machine components. You can find the maintenance details in the accompanying documentation supplied.

11.3 Dry Air Filter



Caution !

Clean the dry air filter each week.

Switch the Drier off via the ON button (*-button) and wait for the blower after-run time (5 min.) to complete. Remove the hexagon nut in the centre of the filter bowl and pull out cartridge.

Blast compressed air from the inside outwards to clean the filter cartridge.



Caution !

The filter housing should not be blasted clean with compressed air, as dirt might enter the drying agent as a result.

In the course of time, the fine pores of the filter cartridge, particularly on the dry air filter, become clogged with foreign bodies, with the result that adequate cleaning is not possible. For this reason, the filter cartridge should be renewed annually, possibly earlier depending on operating conditions.

11.4 Filter Regeneration Air

Loosen the hose clamp and remove the metal filter.

Blowing out the filter with compressed air is often insufficient, especially after long operating times. The filter must then be flushed with a solvent. How often the filter must be cleaned in this manner depends on the dust content in the air and must be determined by the customer on-site.

11.5 Inlet Filter - Optional -

The inlet filter is for cleaning small particles of drying agent from the dry air. The small particles arise from friction on the drying agent in the drying agent bins. The inlet filter is mounted on the floor of the housing of the Drier next to the blower.

To clean the filter, switch off the Drier and wait until the blower after-run time (5 min.) has completed. Open the front doors of the Drier underneath the control cabinet. Loosen the hex nut in the middle of the black filter bowl and withdraw the filter cartridge. Cleaning of the filter is just as described in Section 11.3 (dry air filter). However, as a rule the inlet filter only needs to be checked and cleaned at six monthly intervals

11.6 Drying Agent

If treated properly, the drying agent remains active for many years. If the granulate becomes overheated due to operating errors, plasticisers or aggressive vapours may escape, depending on the type of plastic, and these generally adhere to the drying agent and deactivate it. The drying agent must then be replaced.



Disposal of molecular sieve !

*According to the Ordinance on Hazardous Substances, molecular sieve is **not subject to labelling requirements**.*

It is classified under the EWC Code: 120199

(European Waste Code)

and can be disposed of as industrial waste akin to domestic waste.



Warning !

Slip hazard due to spilt drying agent during maintenance work.
Clean the floor immediately of spills.

11.7 Return Air Cooler - Optional -

Cleaning is only required when the dry air filter is faulty or when plasticisers or other vapours are released.

If there is slight contamination, once the connection lines have been removed, cleaning can be carried out in situ by extraction and/or air blasting.

If there is heavier contamination, the cooler must be dismantled and cleaned with a solvent.

11.8 Blower Motors

The motors are fitted with ball bearings.

Based on the details from the manufacturer, the grease packing is sufficient for an operating time of around 2½ years and should then be renewed.

11.9 Changeover Valve

The changeover valves should be checked semi-annually for stickiness. After removing the compressed air connection, move the valve by hand to make sure it is not sticking.

Clean the friction bearings of the changeover shaft if necessary. Avoid jamming or blocking the segments during reassembly. The pneumatic unit is maintenance-free.

OA T/TG-Nr : 1 E1201740
Description1 : Spare part list Drier KTX 600
Description2

Part list no.: 1 Gült-Los : 1,000 - 999999,999
Description : Standard Gült-Dat : 20.08.2007 - 31.12.2999

Pos	OA T/TG-Nr	Bezeichnung	Z-Pos	BA	A	AVO	F	P	KB	LB	L	Menge	ME
10	1 5401085	Side vane vac.pump WT804_25M, 7,5kW, for Drier KTX600, Type WT804_25M 7,5kW 7,5kW/8,6kW, 50/60 Hz 345-415V D / 600-720V Y, 50 Hz 16,7A D / 9,6A Y, 50 Hz		1		0		1	0	0	0	1,000	pc
20	1 5211010	Dumper d75 xd51 xM12 x37		1	X	0		1	0	0	0	1,000	pc
30	1 5401011	Side vane vac. pump 2BH1503-1AC11-Z 1,3kW		1	X	0		1	0	0	0	1,000	pc
40	1 5211006	Shock absorber d40x30x M8x15 both sides		1	X	0		1	0	0	0	1,000	pc
50	1 6602130	Molecular sieve 4A-401, gran. size 2-3m KT40=3kg, KT50=13kg, KT100=8kg, KT80/120=25kg, KTF102=20kg, KT150/200=30kg, KT250=50kg, KT450/600=100kg, KT900=160kg		1	X	0		1	0	0	0	100,000	kg
60	1 1206021	Air cooler 10,9sqm		1	X	0		1	0	0	0	1,000	pc
70	1 5301005	Suction filter wet air d1=40		1	X	0		1	0	0	0	1,000	pc
80	1 6605001	Thermometer 0-120 degree, 100 mm long		1	X	0		1	0	0	0	1,000	pc
90	1 5301113	Filter cartridge C20325/2 for dryer KTX 450/600		1	X	0		1	0	0	0	1,000	pc
100	1 7102003	Heating element 403V 450/48/7B 4,5 kW		1	X	0		1	0	0	0	1,000	pc
110	1 7102045	Heater element, ceramics, 4,5 kW d 45,9 mm x 160 mm,		1	X	0		1	0	0	0	1,000	pc
120	1 7101010	Safety thermostat ATHs 20 -100lg +200°C		1	X	0		1	0	0	0	1,000	pc
130	1 7101061	Integrated-Thermostat EM-3; Justierpkt. 250°C Calibration point 250°C		1		0		1	0	0	0	1,000	pc
140	1 7101021	Resistance thermometer PT 100, with 5 mtr. cable		1	X	0		1	0	0	0	1,000	pc
150	1 7101110	Resistant thermometer PT100 for heating register KT50		1		0		1	0	0	0	1,000	pc

OA T/TG-Nr : 1 E1201740
Description1 : Spare part list Drier KTX 600
Description2

Part list no.: 1 Gült-Los : 1,000 - 999999,999
Description : Standard Gült-Dat : 20.08.2007 - 31.12.2999

Pos	OA T/TG-Nr	Bezeichnung	Z-Pos	BA	A	AVO	F	P	KB	LB	L	Menge	ME
		with 1 mtr. cable											
160	1 6006050	clamping screw R 3/8" d=6mm steel		1	X	0		1	0	0	0	1,000	pc
170	1 6003022	Low pressure switch 901.73 -25/-100mba		1	X	0		1	0	0	0	1,000	pc
180	1 6011103	Pneumatic-cylinder,XL-050-0250-054		1		0		1	0	0	0	1,000	pc
190	1 6011104	Limit switch ZS-5200 for cylinder Type XL, Type ZS-5200		1		0		1	0	0	0	1,000	pc
200	1 6000410	Parts for pneumatic operated valve KT100-KT250		1	X	0		1	0	0	0	1,000	pc
210	1 5104043	Sleeve, silicone DN 150 x 80mm, 200øC		1	X	0		1	0	0	0	1,000	pc
220	1 5104040	Sleeve, silicone DN 100 x 80mm, 200øC		1	X	0		1	0	0	0	1,000	pc
230	1 5104015	Sleeve, silicone DN 70 x 80mm, 200øC		1	X	0		1	0	0	0	1,000	pc
240	1 5104014	Sleeve, silicone DN 50 x 70mm. 200°C		1	X	0		1	0	0	0	1,000	pc
250	1 6021011	Hose - PVC fiber armed 13 x 3,5 mm		1	X	0		1	0	0	0	1,000	MTR
260	1 7012005	Siemens CPU 313C for KT-Drier, Type 6ES7 313-5BF03-0AB0		1		0		1	0	0	0	1,000	pc
270	1 7012191	TFT-Touchpanel 5,7", max. 65535 colours, Typ GP 4301 TM, Type GP 4301 TM 24V DC		1		0		1	0	0	0	1,000	pc
280	1 7012193	TFT-Touchpanel 10,4", 65535 colours, Typ GP4501TW, 24V DC Type GP4501TW		1		0		1	0	0	0	1,000	pc
290	1 7012171	Analogical input card for 4xPT100, Type 700-331-PT100 for S7-CPU313 Typ 700-331-PT100		1		0		1	0	0	0	1,000	pc
300	1 7009021	Transformer 24V/5A ,Type DRA120-24FSA,		1		0		1	0	0	0	1,000	pc

OA T/TG-Nr : 1 E1201740
Description1 : Spare part list Drier KTX 600
Description2 :

Part list no.: 1 Gült-Los : 1,000 - 999999,999
Description : Standard Gült-Dat : 20.08.2007 - 31.12.2999

Pos	OA T/TG-Nr	Bezeichnung	Z-Pos	BA	A	AVO	F	P	KB	LB	L	Menge	ME
		Type											
		DRA120-24FSA											
310	1 7010027	Solid state relay 30A, 600V, Type RJ1A60D30EV Typ: RJ1A60D30E, Carlo Cavazzi		1		0		1	0	0	0	1,000	pc
320	1 7005243	Motor protection switch 0-4 A, PKZM0-4 Type PKZM0-4		1		0		1	0	0	0	1,000	pc
330	1 7005240	Motor protection switch 0-20A, PKZM0-20 Type PKZM0-20		1		0		1	0	0	0	1,000	pc
340	1 7005241	Motor protection switch 0-25 A, PKZM0-25 Type PKZM0-25		1		0		1	0	0	0	1,000	pc
350	1 7005259	Power contactor DILM12-10 (24V DC) to 5,5 kW Type DILM12-10 HS=7005257		1		0		1	0	0	0	1,000	pc
360	1 7005267	Relay DILM12-01 (24VDC) Type DILM12-01 (24VDC)		1		0		1	0	0	0	1,000	pc
370	1 7005264	Power contactor DILM25-10(RDC24) 11 kW Type AC-3(RDC24)		1		0		1	0	0	0	1,000	pc
380	1 7005210	Power contactor DILM7-10 (24V DC)to 3kW Type DILM7-10, 24V DC		1		0		1	0	0	0	1,000	pc
390	1 7005253	Auxiliary switch DILM32-XHI11 for relay DILM17-10 Type DILM32-XHI11 alternativ for 7005251		1		0		1	0	0	0	1,000	pc
400	1 7005207	Power earthed switch FAZ-B5/1 Type FAZ-B5/1		1		0		1	0	0	0	1,000	pc
410	1 7005209	Power earthed switch FAZ-B16/1 Type FAZ-B16/1		1		0		1	0	0	0	1,000	pc
420	1 7010052	Time relay 87.82.0240 Star-Delta, for Drier Type 87.82.0240 22,5mm		1		0		1	0	0	0	1,000	pc

OA T/TG-Nr : 1 E1201740
Description1 : Spare part list Drier KTX 600
Description2

Part list no.: 1 Gült-Los : 1,000 - 999999,999
Description : Standard Gült-Dat : 20.08.2007 - 31.12.2999

Pos	OA T/TG-Nr	Bezeichnung	Z-Pos	BA	A	AVO	F	P	KB	LB	L	Menge	ME
430	1 7005085	Plug relay 24V DC 40.52.9.024 Type 40.52.9.024		1	X	0		1	0	0	0	1,000	pc
440	1 7012049	Instrument Amplifier LC-MV-1xPT100...°C Type LC-MV-1xPT100		1		0		1	0	0	0	1,000	pc
450	1 7012050	Instrument Amplifier LC-MV-2xPT100...°C Type LC-MV-2xPT100		1		0		1	0	0	0	1,000	pc

End of partlist

13 Dismantling and Disposal

When replacing machine components and disposing of them, statutory regulations must be followed.



Caution !

Disposal of the drying agent is subject to stringent regulation under environmental protection legislation and its bylaws.

Deliver used lubricants to your special waste reception point. If you spill lubricants, these must be immediately broadcast with binding agents and disposed of as special waste once bonding has occurred.

Take precautions to catch any spilt lubricant (sealed floors, spill trays, spillage tarpaulins).

13.1 Drying Agent Disposal



Disposal of molecular sieve !

*According to the Ordinance on Hazardous Substances, molecular sieve is **not subject to labelling requirements**.*

*It is classified under the EWC Code: 120199
(European Waste Code)*

and can be disposed of as industrial waste akin to domestic waste

EC Attestation of Conformity

According to the EC guide line machines 2006/42/EG, appendix IIA

The legality of this attestation and the CE-sign on the name plate is valid for

Type designation Drier KTX 600

Manufacturer **SIMAR**

This machine is developed, designed, and manufactured according to the EC guide line 2006/42/EG as well as to the EC low voltage guide line 2006/95/EG and the electromagnetic compatibility guide line 2004/108/EG , in own responsibility of

Company **SIMAR GmbH, Am Fuchsloch 7, D-71665 Vaihingen / Enz**

Following harmonized standards are applied

- ☒ DIN EN ISO 12100 security of machines
- ☒ DIN EN 60 204 electrical equipment for industrial machines
- ☐
- ☐
- ☐
- ☐
- ☐

Following national standards, guide lines and specifications are applied

- ☐
- ☐
- ☐
- ☐
- ☐

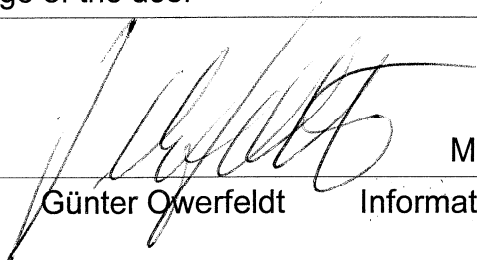
A complete technical documentation is available.

The operating instruction for this machine is available

- ☐ in the original version
- ☒ in the national language of the user

Vaihingen/Enz, 11.01.2010

Place, date



Günter Owerfeldt

Managing Director

Information about the signatory