

Operating Instructions  
Small Conveyor Band „KFB“



KFB	30/30	centre drive / end drive
KFB	40/40	centre drive / end drive
KFB	50/50	centre drive / end drive
KFB	60/30	centre drive / end drive
KFB	80/40	centre drive / end drive
KFB	100/50	centre drive / end drive
KFB	150/40	centre drive / end drive
KFB	200/40	centre drive / end drive
KFB	250/40	centre drive / end drive
KFB	300/40	centre drive / end drive

FB.-No.: \_\_\_\_\_  
Customer.: \_\_\_\_\_  
Date: \_\_\_\_\_

Operating Instruction Small Band Conveyor

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Declaration of incorporation

## 1. Safety Instructions

### 1.1 General

This section contains information necessary for the correct use of the products described. It is directed at technically qualified personnel.

Qualified personnel are persons who on account of their education, experience and training as well as their knowledge of appropriate norms, regulations, rules concerning accident prevention and conditions prevailing at the place of work who have been authorized by those responsible for the safety of the equipment to carry out the particular operation required and thereby are able to recognize and avoid possible dangers (definition from IEC 364 of skilled personnel).

#### Danger Warnings

The following notes relate not only to the operator's personal safety but also to the protection of the products described and the equipment involved.



#### **ATTENTION!**

Nonobservance can lead to personal injury or material damage to the device.



#### **WARNING!**

Dangerous voltage.

Nonobservance can lead to death or serious bodily injury.



#### **NOTE:**

Here, tips for use and important information about how to work with the device are given.

Disconnect the power supply before installation or dismantling.

Observe the valid accident prevention and safety regulations for your specific application.

Before commissioning, check whether the nominal voltage of the device agrees with the local mains voltage.

EMERGENCY STOP mechanisms must remain active in all operating modes. Unlocking the EMERGENCY STOP mechanism must not result in uncontrolled reactivation.

Existing protective equipment must not be removed.

Carefully read through the operating instructions before commissioning and follow these.

## 1. Safety Instructions

### 1.2 Danger from the machine

**Mechanics:**

If care is not taken when using the small band conveyor, there is a danger that clothing or parts of the body may be carried along by, or drawn into the conveyor belt.

For this reason the unit may only be operated with suitable protective equipment.

**Electronics:**

If the electrical equipment is in good working order, no danger may be expected.

### 1.3 Noise emission

When a small band conveyor is running unloaded with a standard belt, the continuous noise level is a maximum 70 dB(A).

If material is being conveyed or a special type of belt is used, the noise level can exceed 70 dB(A).

In these cases please approach the manufacturer for information on noise protection measures.

### 1.4 Authorized applications

The small band conveyor must not be used in explosive areas!

The KFB is designed for the transport of clean and dry material. This material may not have any sharp edges.



***ATTENTION!***

Improper use can lead to damage to the belt or to the drive unit.

## 2. Transporting and Storing

### 2.1 Transporting

The small band conveyor should be carried horizontally

### 2.2 Storing

If the small band conveyor is stored for a long period of time it must be protected from damp and aggressive agents.

Excessive variations in temperature should be avoided.

## 3. Installing and Starting up

### 3.1 Installing

Do not drag or carry the small band conveyor by any electrical part.

Always protect the belt from contact with pointed or sharp objects.

The machine must be located where it is protected from external vibrations and jarring.

The permissible ambient temperature (0°C to 40°C) and relative humidity (15% to 95%) must not be exceeded.

Strong magnetic fields near the machine can lead to malfunctioning.

If the small band conveyor is installed on an already existing machine, the belt must have sufficient clearance to neighbouring machines and other components.

### 3.2 Starting up



**WARNING!**

The small band conveyor may only be connected to the power supply after suitable protective equipment is in place.

**Connection to the electricity mains provided by the local electricity supplier may only be made by a qualified electrician.**

The small band conveyor must be provided with a supply of electrical energy.

Connection values of geared motor:

voltage: 230V / 400V  
frequency: 50Hz  
current consumption: 0.943 / 0.525A

After connecting to the power supply the conveyor belt's direction of movement must be checked and if necessary, corrected by switching two outer guides.

Check the running of the conveyor belt.  
For making corrections, please see chapter 7.

## 4. Technical Data

### 4.1 End drive (KFB / E)

width of band [mm]	30	40	50/100	60	80/150/200/250/300
belt speed, constant [m/min] on transmission					
75 : 1					
38 : 1	3.5	4.5	5.0	3.5	4.5
15 : 1	7.0	9.0	11.0	7.0	9.0
	17.5	23.0	29.0	17.5	23.0
belt speed, variable [m/min] on transmission					
75 : 1	1.0 - 3.5	1.0 - 4.5	1.5 - 5.0	1.0 - 3.5	1.0 - 4.5
38 : 1	2.0 - 7.0	2.5 - 9.0	3.0 - 11.0	2.0 - 7.0	2.5 - 9.0
15 : 1	4.5 - 17.5	5.5 - 23.0	7.0 - 29.0	4.5 - 17.5	5.5 - 23.0

### 4.2 Centre drive (KFB / M)

width of band [mm]	all available band widths
belt speed, constant [m/min] on transmission	
75 : 1	5.0
38 : 1	11.0
15 : 1	29.0
belt speed, variable [m/min] on transmission	
75 : 1	1.5 - 5.0
38 : 1	3.0 - 11.0
15 : 1	7.0 - 29.0

### 4.3 Belts

type	characteristics
standard belt	resistant to oil and grease anti-static heat resistant to 100°C
special belt	suitable for use with foodstuffs carrier fluting depending on required use increased resistance to wear
further options	available on request

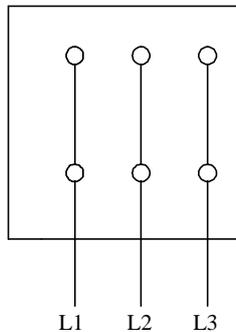
## 4. Technical Data

### 4.4 Motor

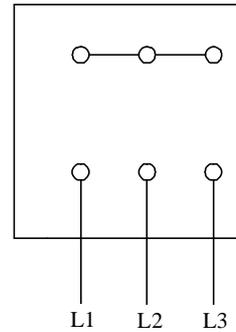
manufacturer	Groschopp
model	IGL 80-40
voltage	230V/400V
frequency	50 Hz
performance	0.17 KW
speed	2650 U/min
protective system	IP 54

### 4.5 Connections diagram

△ wiring



Y wiring



### 4.6 Gear

manufacturer	Groschopp	comment
model	E-32	
transmission 1	5:1	must be ordered
transmission 2	7:1	must be ordered
transmission 3	10:1	must be ordered
transmission 4	15:1	immediately available
transmission 5	22:1	must be ordered
transmission 6	30:1	must be ordered
transmission 7	38:1	immediately available
transmission 8	55:1	must be ordered
transmission 9	75:1	immediately available

## 5. Description of Machine

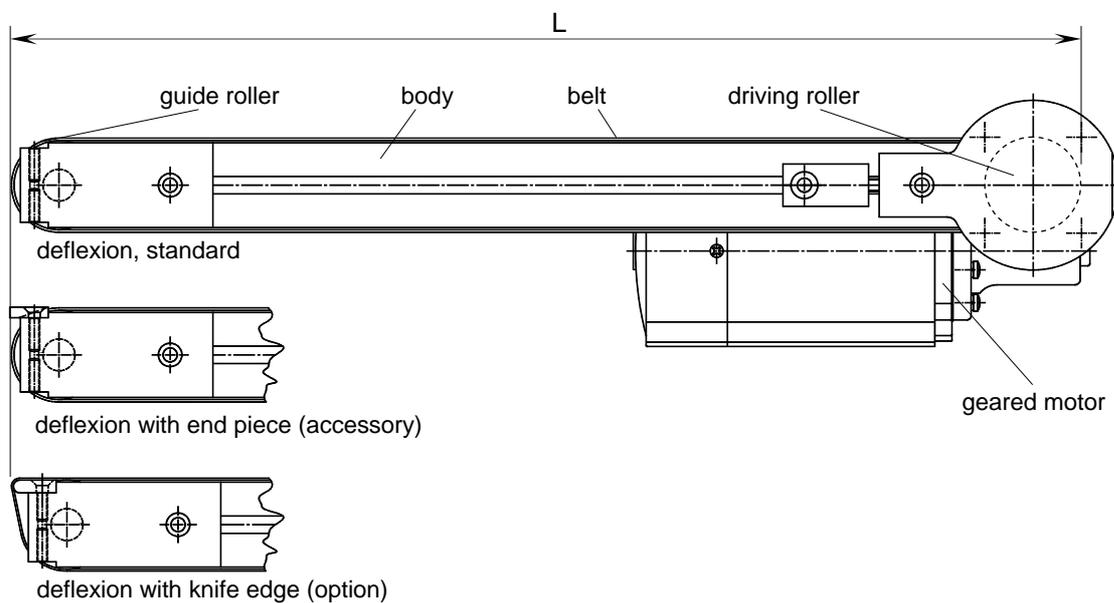
### 5.1 Construction and function

The small band conveyor consists of the following components:

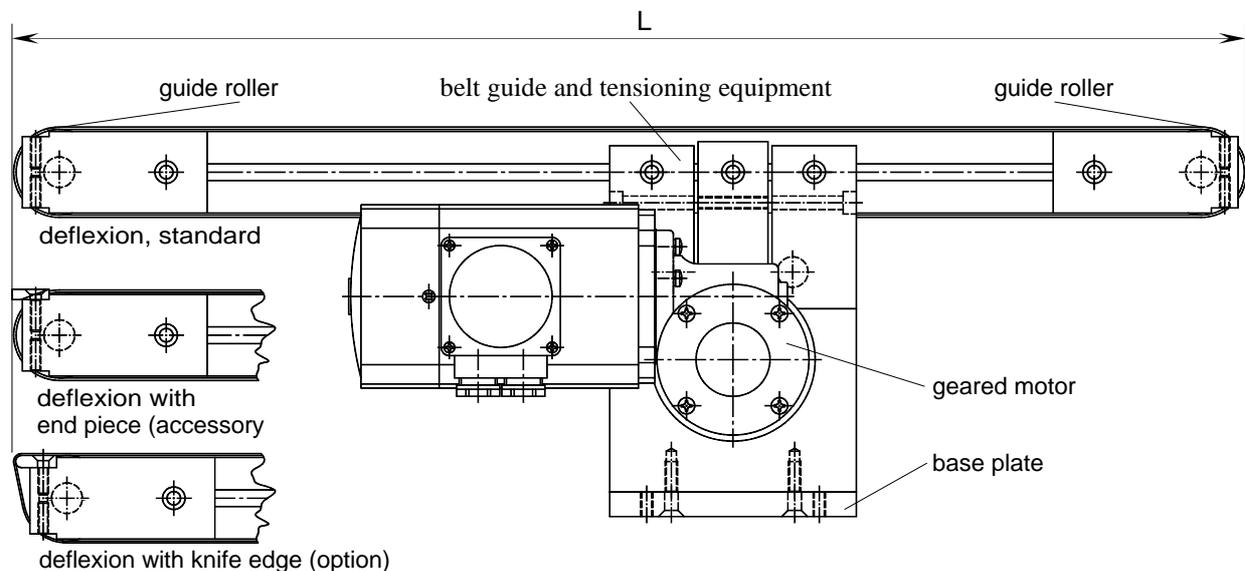
- body
- belt guidance rollers
- tensioning equipment
- belt
- rotary current geared motor

The conveyor belt is equipped with either end or centre drive, as required.

### 5.2 View of small band conveyor / end drive



### 5.3 View of small band conveyor / centre drive



## 6. Maintenance

In order that your small band conveyor operates smoothly and reliably, we recommend that you follow the maintenance instructions given.



**WARNING!**

The unit must be disconnected from the power supply before commencing maintenance work.

### 6.1 Belt

If the belt becomes soiled, it should be cleaned with a suitable cleaning agent using a lint-free cloth.

Suitable cleaning agents include

- standard and transport belt:    cleaning petrol
- belt for foodstuffs:                acetone



**ATTENTION!**

Ensure when cleaning that there is an adequate supply of fresh air.

### 6.2 Motor

The rotary current drive unit is maintenance-free. The ventilation grid must be kept clean in order to ensure adequate cooling during operation.

### 6.3 Guidance, tensioning and drive rollers

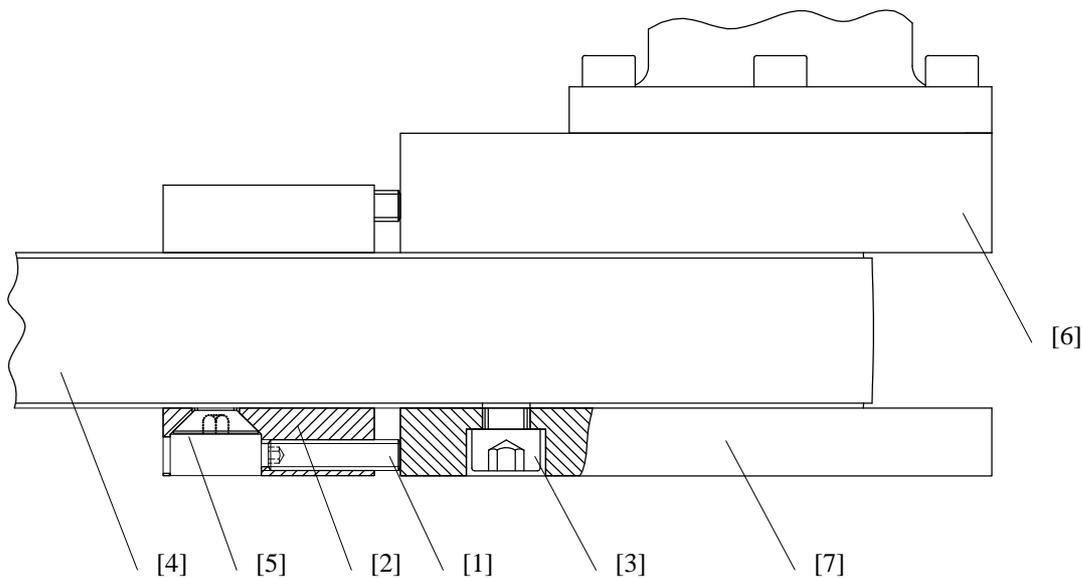
Clean the rollers when they become badly soiled (see chapter 7).

## 7. Changing a Belt

### 7.1 End drive belt change

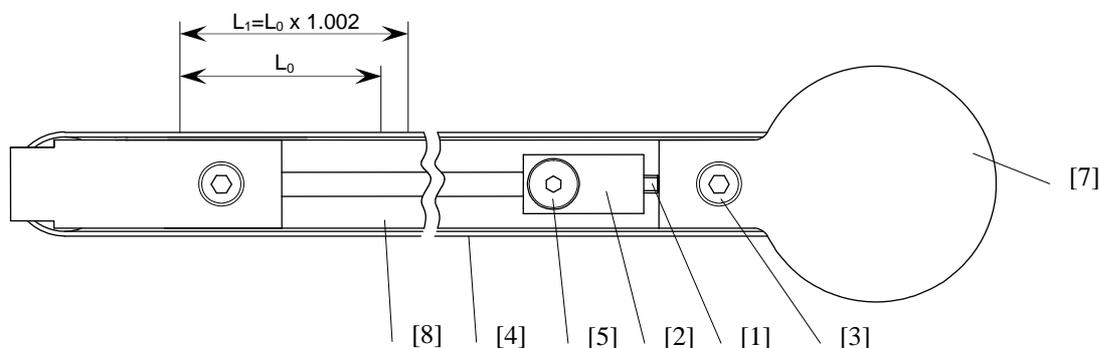
Proceed as follows to change the belt:

1. Disconnect small band conveyor from power supply
2. Remove small band conveyor
3. Release tension in belt:
  - loosen the set screws [1] on both sides in the tension plates [2]
4. Loosen drive support / support
  - loosen the cylinder screws [3] on both sides
  - slide the drive support [6] and the support [7] to the centre of the band
5. Remove belt
  - pull the belt [4] off over the guide roller
  - if the belt does not come away, proceed as follows:
    - loosen the flat headed screw [5]
    - slide the drive support [6] and the support [7] to the centre of the band



## 7. Changing a Belt

6. Cleaning the drive elements:  
Remove deposits from the drive elements listed in the following, with appropriate cleaning agents
  - drive roller
  - guide roller
  - belt rest
7. Inspect moving parts for wear
8. Install belt
  - mark on the belt [4] distance  $L_0$ , for example a distance of **500 mm**
  - lay the belt on
9. Tension belt
  - slide the drive support [6] and the support [7] away from the centre of the band
  - the belt [4] now lies flat on the body [8]
  - screw in the cylinder screws [3] of the drive support [6] and the support [7], so that they are still moveable.
  - slide the tension plate [2] against the drive support [6] or support [7]
  - tighten up the flat headed screw [5]
  - turn the set screws [1] until the calculated setting distance  $L_1$  is reached.
  - tighten up the cylinder screws [3] of the drive support [6] and the support [7]
10. Check tension in belt
  - check the tensioned length  $L_1$
  - the tension in the belt must be **2 per thousand** in relation to the length of the belt
  - in the example,  $L_1 = 501\text{mm}$
  - check that the belt is running smoothly



### Belt runs against the drive support

- loosen the cylinder screw [3] of the drive support [6]
- by turning the set screw [1] adjust the drive support [6] until the belt runs correctly
- tighten up the cylinder screw [3] of the drive support [6]

### Belt runs against the support

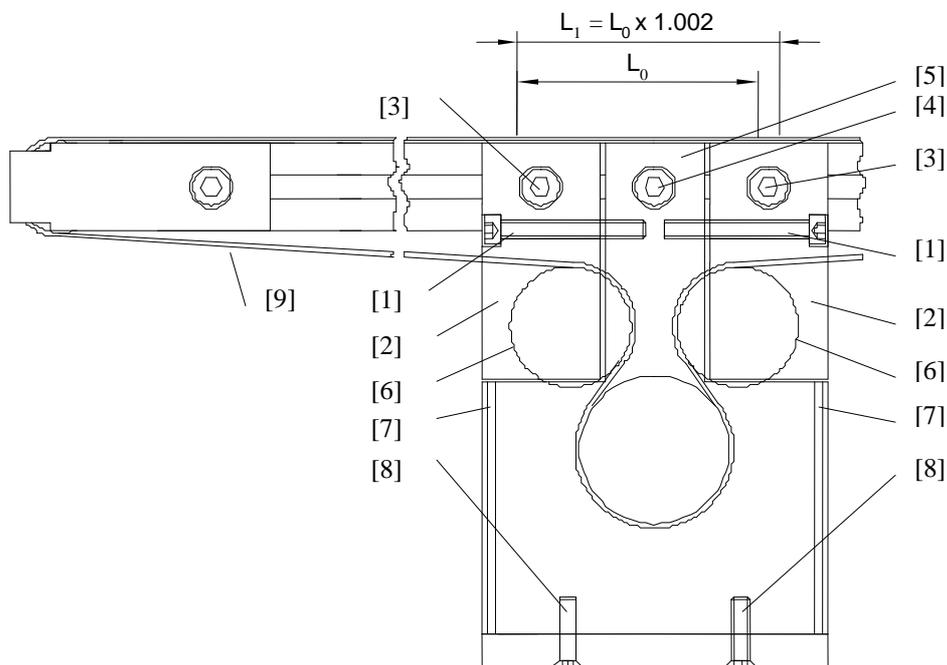
- loosen the cylinder screw [3] of the support [7]
- by turning the set screw [1] adjust the support [7] until the belt runs correctly
- tighten up the cylinder screw [3] of the support [7]

## 7. Changing a Belt

### 7.2 Centre drive belt change

In order to change the belt, proceed as follows:

1. Disconnect small band conveyor from the power supply
2. Remove small band conveyor
3. Release tension in belt
  - loosen the cylinder screws [1] in the tension plates [2]
  - the tension plates move away from the drive axle
  - the belt [9] relaxes
4. Remove belt
  - remove the cylinder screws [1] and [3]
  - withdraw the tension plates [2]
  - carefully retain the O rings mounted in the tension rollers [6]
  - remove the cylinder screws [4] and the flat headed screws [8]
  - remove the support [5]
  - carefully retain the bearing compensation plate in the support
  - remove the protective cover [7]
  - the belt may now be removed



## 7. Changing a Belt

5. Cleaning the drive elements:  
Remove deposits from the drive elements listed in the following, with appropriate cleaning agents:
  - drive roller
  - guide roller
  - belt rest
6. Inspect moving parts for wear.
7. Install belt
  - mark on the belt [9] distance  $L_o$ , for example a distance of **500 mm**
  - lay the belt on
8. Tension belt
  - assemble the support [5] with the bearing compensation plate
  - tighten up the cylinder screw [4] and the flat headed screws [8]
  - assemble the tension plates [2] with the O-rings
  - insert the cylinder screws [3]
  - turn the cylinder screws [1] until the calculated distance  $L_1$  is reached
9. Check tension in belt
  - check the tense length  $L_1$
  - the belt tension must be **2 per thousand** of the length of the belt
  - in the example  $L_1 = 501\text{mm}$
  - check that the belt is running smoothly
  - replace the protective cover [7]

## 8. Malfunctioning

malfunction	cause	remedy
drive motor does not turn	no power supply connecting cable damaged	connect main supply replace lead
drive motor overheats	blocked ventilation grid	clean ventilation grid
belt does not convey	belt torn material wedged belt slipping	replace belt remove the material clean belt adjust belt tension
belt runs out of centre	guide, tension and drive rollers incorrectly set	adjust rollers

## 9. Accessories

### 9.1 Mechanical accessories

In order to ensure a proper transfer of material to the small band conveyor or from the small band conveyor to the next machine, we can offer **end pieces** respectively **knife edges** (see chapter 5.1 and 5.2), which can be mounted on the small band conveyor guide plates with two flat headed screws.

Our **guide strip holders** make possible an individually adjustable attachment of guide strips to the small band conveyor.

To fix the small band conveyor securely to the floor, we offer 2 types of stands:

- The **STK-40 stand** has to be mounted at the side of body of the KFB and allows the small band conveyor to be adjusted a little for height. You need 2 pieces of this stand.
- For the small conveyor band with centre drive there is also the **STV 100-50 stand** available. It has to be mounted at the bottom of the base plate and allows likewise the small band conveyor to be adjusted a little for height. Is an additional support required, you can use a STK-40 stand as well.

If it is necessary to adjust the inclination of the small band conveyor, we can offer **for the STV 40a Swivel Device SKV**. A second **STV-40stand** will be necessary for a small band conveyor with centre drive and a belt width from 200 mm, and for a small band conveyor with end drive and a belt width from 150 mm.

### 9.2 Electronic accessories

The small band conveyor can be connected to the power supply in two different ways:

- \* Where the small band conveyor is connected directly to the mains power supply, a constant conveying speed is maintained, which is dependant on the gear transmission. A **protective motor switch** protects the conveyor belt motor against overloading and allows on and off switching directly on the small band conveyor.
- \* By using a **frequency converter** the conveyor belt speed can be infinitely varied within a certain range. This speed is however here also dependant on the motor gear transmission (see chapter 4). For this purpose we offer suitable equipment.

## 10. Spare Parts

For the models described in this operating instruction, the following components are available:

- \* Rotary current motor [DMK-8074](#)/[IGL 80-40](#) with [SGE-32-16](#) drive (please state transmission)
- \* Seeger ring DIN 471 - A 15
- \* O-ring 11 x 2 - 872 NBR 72
- \* Bearing compensation ring Ø47 x 0.5
- \* Deep groove ball bearing 6002 - 2.RSR (Ø32 x Ø15 x 9)
- \* Conveyor belt (please state type of band)
- \* Guide plate
- \* Drive roller, complete
- \* Protective cover, hard PVC (small band conveyor with centre drive only)

In order to guarantee a quick and correct processing of your order, please always indicate the type of unit (see type plate) and the year of production of your small band conveyor, the necessary number of pieces and the exact designation of the spare part.



## declaration of incorporation

### **The small band conveyor**

Designation: KFB 30, 40, 50, 60, 80, 100, 150, 200, 250, 300 M/E

Year of construction: starting from 10 / 2014

Has been developed, designed and manufactured in accordance with the above mentioned EU guidelines by:

Manufacturer: fimotec - fischer GmbH & Co. KG  
Friedhofstraße 13  
78588 Denkingen  
Tel.: 0 74 24 / 884-0

Person responsible for documentation:  
Edgar Nagel

**Hereby we declare, that the incomplete machine comply with the requirements of the machine guidelines (2006/42/EG) attachment II 1 B.**

The following harmonized norms have been adopted:

- DIN EN ISO 12100: 2011-03 (D) Safety of machinery- General principles for design - Risk assessment and risk reduction (ISO 12100: 2010)
- EN 60204-1: 2006 Safety of machinery- Electrical equipment of machines - Part 1: General requirements

The specified technical documents of the product according attachment VII part B were compiled. The manufacturer obligates himself, to offer those special technical documents to state departments on demand.

**This machine may not be brought into operation until it has been ensured that the equipment into which it is to be incorporated accords with the conditions of the EU guidelines.**

Denkingen 12.01.2015 Ralf Fischer, Geschäftsleitung

Place Date Identification of signatory Signature