Operating Instructions
Band Bunker „BB“

fimotec – fischer
Montagetechnik

BB 150
BB 190
BB 300
BB 460

FB.-No.: _____
Customer: _____
Date: _____

fimotec-fischer GmbH & Co. KG
78588 Denkingen, Friedhofstr. 13
Tel.: 07424/884-0, Fax.: 07424/884-50

Date 01 / 2015

fimotec-fischer GmbH & Co. KG
78588 Denkingen, Friedhofstr. 13
Tel.: 07424/884-0, Fax.: 07424/884-50

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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).

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.

Before assembling or dismantling disconnect the power supply.
Observe accident prevention and safety regulations relating to specific operations.
Before bringing into operation check that the local power supply matches the machine´s rated voltage.
The EMERGENCY OFF mechanism must be active in all operating modes. Releasing the EMERGENCY OFF mechanism must not cause an uncontrolled re-start.
The guard equipment that is fitted must not be removed.

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1. Safety Instructions

1.2 Danger from the machine

Mechanics:
Because the conveyor belt rotates, parts of the body or parts of clothing can be drawn in.

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

1.3 Noise emission

The noise level of the band bunker when running unloaded reaches a maximum of 75 dB(A).
This level can be exceeded when the band bunker is in operation, depending on the type and constitution of the bulk material being conveyed.

If the noise exceeds the permitted level, suitable noise protection measures must be taken.

1.4 Authorized applications

The band bunker unit must not be used in explosive areas!
The BB is designed to bunker bulk material and to proportion it when required.

ATTENTION!
Improper use can lead to damage to the unit.

1.5 Take special care

Whatever the size of the container, the band bunker is designed for a maximum loading of 100 kg. On no account may the capacity of the band bunker be exceeded.

ATTENTION!
If the figures for maximum loading are exceeded, damage could be caused to the unit.

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2. Transport and Storage

2.1 Transport

For transporting, the band bunker is placed in the crate / on the pallet with the container underneath.

The band bunker should be carried within the building where it is to operate, on a trolly or similar vehicle. In order to avoid damage to the band bunker by it falling, we recommend that it be carried with the container underneath, as on original delivery.

Always take care when transporting that the light barriers (bunker level control accessory) mounted on the side of the container are not damaged.

NOTE:
Never carry the band bunker by the drive motor.

ATTENTION!
Failure to observe these directions can lead to the machine being damaged.

2.2 Storage

If the band bunker is stored for a long period of time it must be protected from damp and aggressive agents. Excessive variations in temperature should be avoided.

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3. Installing and Starting up

The band bunker unit must be mounted on a stabile foundation. The permissible ambient temperature (0°C to 40 C) and relative humidity (15% to 95%) must be observed. Strong magnetic fields in the proximity of the machine can lead to malfunctioning.

3.1 Installing

To install the band bunker, proceed as follows:

1. Screw the upper part of the stand and the lower part of the band bunker together.
2. Adjust the band bunker to the discharge device. For this step, secure the band bunker against falling.
3. Mark on the foundation the position of the fixing boreholes on the underside of the stand.
4. Cut the necessary threads (M8) at the positions marked on the foundation).
5. Screw the lower part of the stand to the foundation.
6. Set the inclination of the chute to 25° - 30°.
7. Attach the level detector (pendulum initiator) having regard to the direction of movement of the discharge device (for example, oscillating rotary conveyor) and the desired capacity in a proper position.

3.2 Starting up

After the band bunker unit has been set up at the place where it is to be operated, it can be supplied with electrical power.

Proceed as follows:

1. Check the band bunker connecting values against the supply voltage available.
2. Connect the bunker control to the mains supply with a lead and earthed plug.

Connecting values for band bunker BB:

voltage:	230 V
frequency:	50 Hz
consumption:	0.3 A

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4. Technical Data

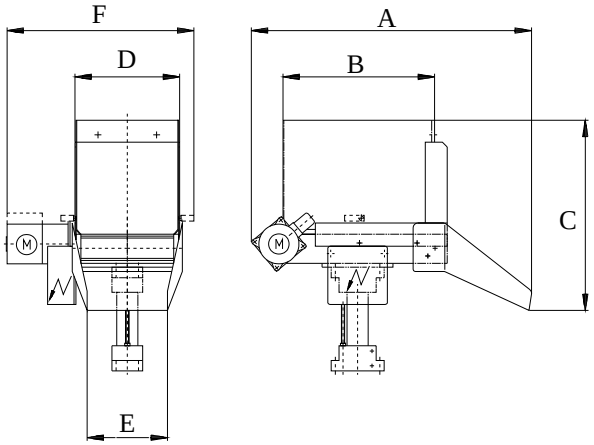
4.1 Motor

model		8IDGE-25G (M) / 8GBD180BMH (G)
voltage	[V]	230
frequency	[Hz]	50
output	[W]	25
speed	[rpm]	1300
protective system		IP 54
gear transmission		180 : 1

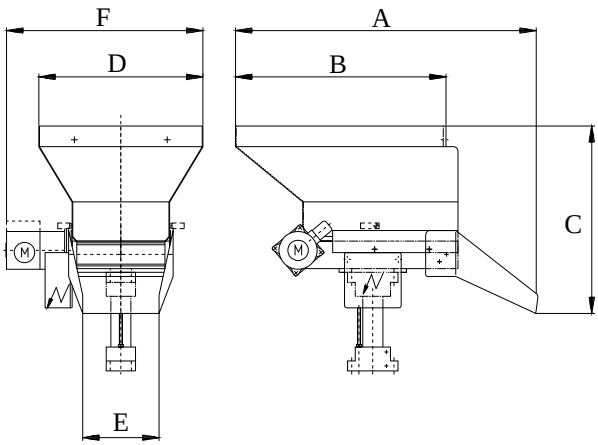
4.2 Dimensions

Model	Series	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	Volume [lt.]	Weight when full [kg]	Stand
BB 150-5	1	500	235	290	170	130	350	5	100	STB 80
BB 150-10	2	590	385	310	275	130	365	10	100	STB 80
BB 190-15	1	575	310	395	210	170	390	15	100	STB 80
BB 190-25	2	660	455	410	355	170	425	25	100	STB 80
BB 300-40	1	645	420	505	320	205	495	40	100	STB 80
BB 300-60	2	800	590	505	530	205	565	60	100	STB 80
BB 460-80	1	935	585	545	485	365	660	80	100	2x STB 80
BB 460-100	1	935	585	620	485	365	660	100	100	2x STB 80
BB 460-120	1	935	585	690	485	365	660	120	100	2x STB 80
BB 460-140	1	935	585	760	485	365	660	140	100	2x STB 80
BB 460-170	1	1095	800	725	485	365	660	170	100	2x STB 80

Series 1



Series 2



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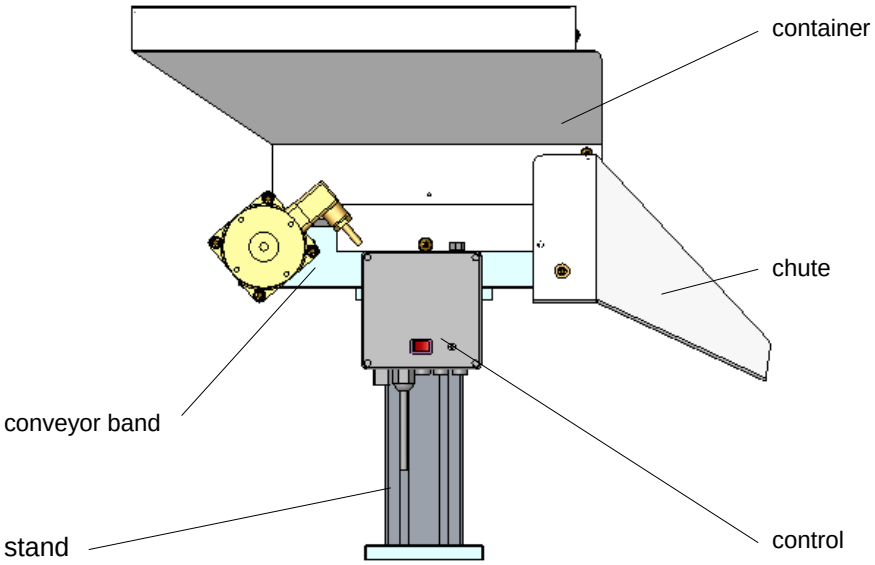
5. Description of Machine

5.1 Construction

The band bunker consists of the following components:
- container
- conveyor band
- chute
- (stand STB-80)
- hopper control

The band bunker can be supplied with various capacities (5, 10, 15, 25, 40, 60, 80, 100, 120, 140, 170 litre).
The container is supplied in stainless steel.

5.2 Side view



5.3 Method of operation

A level detector (pendulum initiator / optical sensor) continuously registers the level in the discharge device (for example, oscillating rotary conveyor). When a lack of parts is detected, the conveyor band transports bulk material to the discharge device. The conveyor band stops when the level detector registers that the required quantity, as pre-set when the machine was installed, has been reached in the discharge device.

If the store of material in the band bunker drops below a certain mark, this will be registered by a light barrier installed on the side of the container (see chapter 9: Accessory bunker level control) and this is shown optically or acoustically by a signal lamp.

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6. Maintenance

In order to ensure that your band bunker unit operates smoothly and reliably, we recommend that you follow the maintenance instructions given.

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

6.1 General

Depending on the bulk material to be conveyed and the operating conditions, it is essential to clean the band bunker and the surrounds as and when necessary.
If the material is oily, the open construction can result in oil seeping from the container and pose a danger of slipping.

6.2 Container

Before the band bunker unit is filled each time, the two boreholes located inside the container below and to the side, should be checked and if necessary lied exposed (only when bunker level control accessory is fitted).
Any parts which have become wedged must be freed.
The container may be cleaned with a domestic glass cleaning agent and a lint-free cloth.

6.3 Conveyor belt

The conveyor´s transport belt should be checked before a shift begins to ensure that it is not damaged and has the correct tension. The procedure for changing a damaged belt and setting the correct tension is given in chapter 7.
If the conveyor belt becomes dirty it may be cleaned with a lint-free cloth.

6.4 Conveyor band motor

The motor and gears are maintenance free. The housing for the motor and gears should be cleaned as and when necessary to avoid over-heating.

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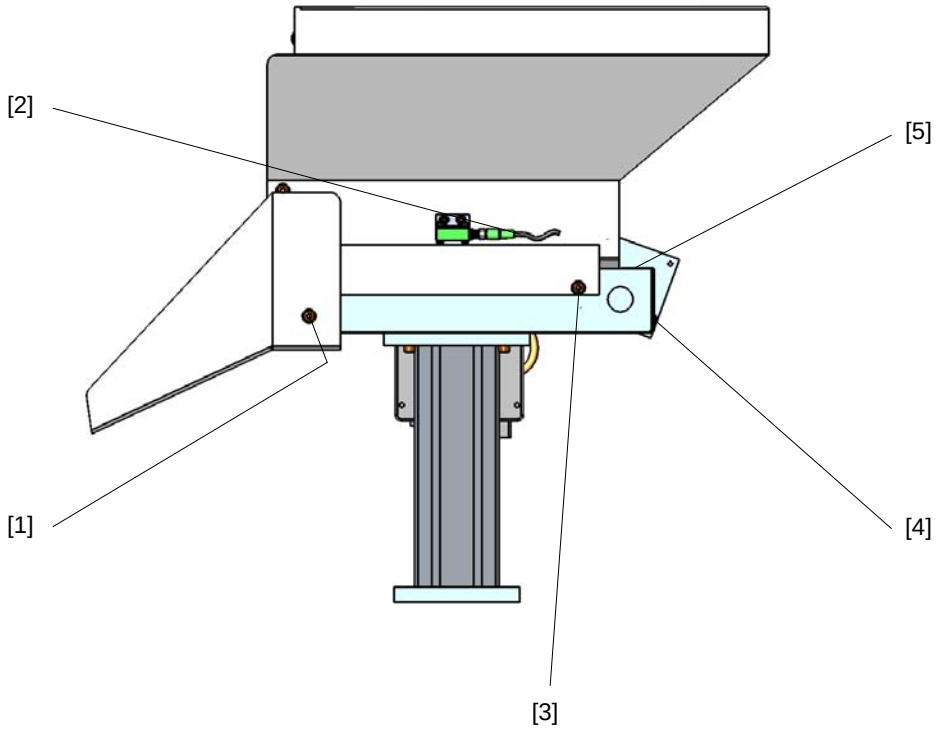
7. Replacing a Belt

In order to free the conveyor band, proceed as follows:

1. switch the bunker hopper control to OFF and pull the mains plug out.
2. remove all material from the container.
3. loosen the two cylinder screws [1] on the side of the chute and remove the chute.
4. remove the connecting cable [2] from the light barrier.
5. loosen the four/six flat mushroom head screws [3] at the bottom of the container.
6. lift the container off.
7. loosen the two flat mushroom head screws [4] at the rear of the conveyor band and remove the protective panel [5] mounted there.



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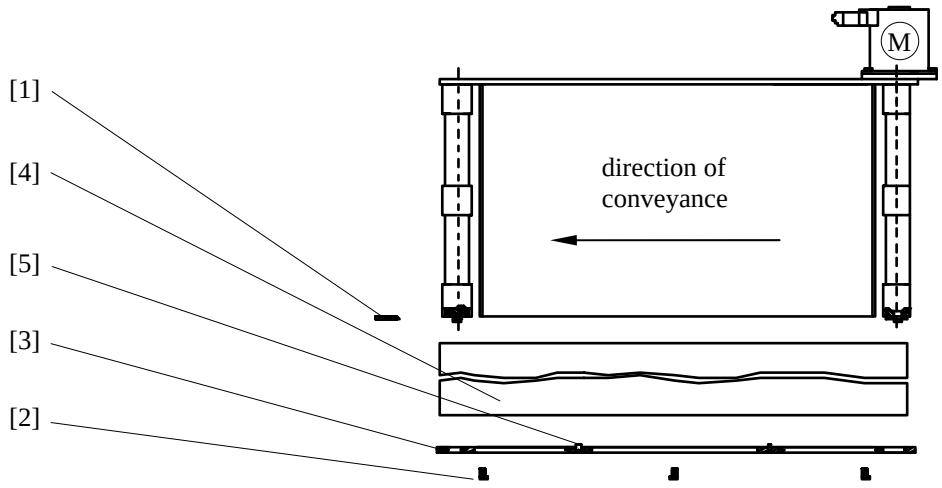
7. Replacing a Belt

After the conveyor band has been freed, proceed as follows:

1. release the tension from the belt by loosening the two set screws at the front of the conveyor band.
2. remove set screw [1] on the carrier side (opposite the motor side).
3. remove the three cylinder screws [2] in the carrier [3] and carefully remove it.
4. now replace the belt [4].
5. ensure that after changing the belt the adjusting washers are correctly located (between the bearing and the serrated shaft on the driving axis, and between the bearing and carrier on the return axis).
6. replace the carrier and position it correctly with the aid of the two half length taper-grooved dowel pins [5].
7. screw the three cylinder screws into the carrier.
8. replace the carrier side set screw.
9. tension the belt by drawing the return axis in the direction of conveyor movement by screwing in the two set screws.
10. the belt has the correct tension when the return axis is nearly in the centre of the carrier or drive carrier elongated hole and doesn´t slide.
11. ensure that the belt is evenly tense on both sides and correct this if necessary.



Re-assemble the band bunker in reverse order.

NOTE:
Before re-starting the band band bunker, check the motion of the belt. If it runs away from the centre, turn the set screw to the side against which the belt runs so far until an even run is set. Take care when doing this not to over-tighten the belt. If this is the case, correct the running by unscrewing the opposite set screw.

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8. Malfunctioning

WARNING!
Only a skilled electrican may open the hopper control.
Before opening the unit must be disconnected from the power supply.

Malfunction	Possible cause	Remedy
band bunker conveyor band does not start despite lack of parts in the discarge device	no voltage supply	plug in mains plug
	hopper control switched OFF	set hopper control to ON
	no voltage supply to the motor	check that motor mains plug is correctly inserted
	conveyor band motor defective	replace motor
	level detector not connected	connect level detector
	level detector not correctly set	adjust level detector
	level detector defective	replace level detector
bulk material in container is not being transported	insufficient tension of the belt	adjust tension
	drive pins defective	replace drive pins
lack of parts in container is not displayed	light boreholes in container soiled	carefully clean boreholes
	light barrier soiled	clean light barrier
	voltage supply (24 V) interrupted	check that plugs to light barrier and signal lamp are correctly inserted
	light barrier defective	check transmitter and receiver and replace if necessary
	signal lamp defective	check bulb in signal lamp and replace if necessary

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8. Malfunctioning

Malfunction	Possible cause	Remedy
too many workpieces are being conveyed to the discharge device	dosing tab worn or damaged dosing tab support too high	replace dosing tab set support so that it is lower
too few workpieces are being conveyed to the discharge device	workpieces wedged in container (building bridges) fluting in conveyor belt defective or torn away dosing tab support too low	use conveyor belt with fluting replace conveyor belt set support so that it is higher
workpieces are left in the chute	chute set too flat too much friction on surface of chute	set chute so that it is steeper change surface covering
workpieces slide too quickly into the discharge device	chute too steeply set	set chute so that it is flatter

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9. Accessoires

9.1 Mechanical accessories

The band bunker can be equipped with one (BB 150 - 300) or two (BB 460) **Stands**, which provide a stable connection between the unit and its foundation. Here the band bunker is fixed in a horizontal position.

If it is necessary to adjust the inclination of the band bunker we can offer an **adjusting device** for use with a suitable stand.

9.2 Electronic accessories

In order to prevent the band bunker unit running empty, it can be fitted with a **bunker level control**. This consists of a light barrier which is mounted on the side under the container and a signal lamp gives the operator in good time an optical and / or acoustic signal that there is a lack of pieces in the container.

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10. Spare Parts

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

* dosing tab, PVC
* driving pin
* deep groove ball bearing 6001.2 RSR (Ø12 x Ø28 x 8)
* deep groove ball bearing 61805-2 RS 1 (Ø25 x Ø37 x 7)
* conveyor belt (flat or fluted)
* spur wheel back-geared motor FFM 90.1000.06 (230 V) / FFM 90.1000.07 (115 V)
* light barrier type LS-05 transmitter: FFM 90.1125.25
  receiver: FFM 90.1125.26
* level detector NF-02

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 band bunker unit, the necessary number of pieces and the exact designation of the spare part.

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declaration of incorporation

The Band Bunker

Designation: BB 150 BB 190 BB 300 BB 460

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, Chief executive	R. Fischer
Place	Date	Signatory and description	Signature

fimotec-fischer GmbH & Co. KG
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