Operating Instructions
Linear Conveyor „HFA-L“

fimotec – fischer
Montagetechnik

HFA-L 440
HFA-L 460
HFA-L 480
HFA-L 4 99
HFA-L 800
HFA-L 1000
HFA-L 1200
HFA-L 1400
HFA-L 1600
HFA-L 1800
HFA-L 2000

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

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Tel.: +49 (0) 7424/884-0, Fax.: +49 (0) 7424/884-50 Date 01 / 2015

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Contents

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!
Failure to observe can lead to personal injury or cause damage to the machine.

WARNING!
High voltage.
Ignoring this warning can result in death or severe bodily injury.

NOTE:
Here are given hints and important informations to handle the device.

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.

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1. Safety Instructions

1.2 Danger from the machine

Mechanical:

No danger is to be expected from a machine that is in its original condition.

Electrical:

No danger is to be expected from a machine that is used in accordance with operating instructions (chapter 1.4), that is in its original condition and the electrical equipment of which is technically in perfect order.

Contact with liquids may cause an electrical shock.

➔ Ensure that the ground connections are in good order.

1.3 Noise emission

The level of noise generated by the HFA-L depends on the articles to be sorted and the construction of the conveyor rail. The noise level according to the EU directive „Machines“ can therefore only be ascertained on site under actual working conditions.

If the sound intensity level exceeds the authorized noise level, suitable noise protection measures must be taken.

1.4 Authorized applications

The linear conveyor may only be used in a dry environment, as it is not protected against being splashed with water.
It must not be used in explosive and wet areas!
The use of the HFA-L is to drive linear conveyor rails. The purpose of these is to transport and feed in the correct position mass-produced parts, as well as dosed feeding of dry bulk material.
Any other application of the HFA-L which varies from these uses are not authorized.

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

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2. Transport and Storage

2.1 Transport

When moving the linear conveyor HFA-L within the factory use a flat truck or similar means of transport. A crane should be used for lifting.
The individual weights for the various models are given in chapter 4 under Technical Data.

ATTENTION!
The HFA-L must not be lifted or transported by the oscillator.

2.2 Storage

If the linear 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.

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3. Installation and Starting up

3.1 Installation

The linear conveyor must be located on a sufficiently stabile base. It must not pass on vibrations coming from the linear conveyor.
The HFA-L are fitted during manufacture with rubber-metal buffers. These have an internal thread on the under side by which the linear conveyor can be securely screwed to its foundation.
Detail of the boreholes for the various models are given in the Technical Data (chapter 4).

NOTE:
In operation the linear conveyor and any elements connected to it must not come into contact with other machines.

3.2 Starting up

Mount the special linear conveyor rails to the HFA-L. For doing this use the threaded plates included. This operation does not apply where the linear conveyor is a part of ready-built plant.

NOTE:
- ensure that the linear conveyor rail is securely screwed to the unit.
- check to ensure that the machine is standing freely.
- ensure that the linear conveyor power supply cable is in good condition.
- compare the details of the available voltage supply and its frequency with the HFA technical specification.

Connection to the electric mains is effected exclusively via a suitable control device. The connecting loads may be found in the Technical Data (Chapter 4).

NOTE:
The control unit for the HFA-L-800....2000 types must be set to half wave (oscillating frequency of 3000 min^{-1}).

A connection to the mains supply may only be made by a qualified electrician.

The behaviour of the conveyor must be checked after the power supply has been connected.

- complete HFA-L units are supplied by the manufacturer pre-adjusted to their optimal settings. These are marked on the scale of the control unit supplied.

- HFA-L supplied without linear conveyor rails are set during manufacture with a certain loading weight (linear conveyor rail). These loading weights are given in the Technical Data (chapter 4).
  If the loading weight differs from the given values, the result will be a reduced conveying capacity.
  How the machine is to be re-set, is described in chapter 7.

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4. Technical Data

model		HFA-L-			
		440	460	480	499
dimensions					
length	[mm]	430	630	830	1030
hight	[mm]	108	108	108	108
oscillator width (model B)	[mm]	84	84	84	84
oscillator width (model S)		66	66	66	66
width		93	93	93	93
weight	[kg]	6.5	8.0	10.0	12,5
fixing measures					
thread		M4 (4x)	M4 (4x)	M4 (4x)	M4 (4x)
boring measure	[mm]	200 x 60	300 x 60	450 x 60	500 x 60
number of spring assembly		2	2	3	4
number of springs per spring assembly (standard)		2 x 2.0 3 x 3.0	2 x 2.0 4 x 3.0	2 x 2.0 4 x 3.0	3 x 2,0 5 x 3,0
spring dimensions					
length x width	[mm]	70 x 40	70 x 40	70 x 40	70 x 40
thickness	[mm]	2.0 / 3.0	2.0 / 3.0	2.00/ 3.0	2.00/ 3.0
weight of oscill. units (max.)	[kg]	ca. 5	ca. 6	ca. 7	ca. 8
rail length (max.)	[mm]	700	900	1100	1300
voltage *	[V]	230	230	230	230
mains frequency *	[Hz]	50	50	50	50
oscillation frequency	[1/min]	6000	6000	6000	6000
current consumption	[A]	0.55	0.55	0.55	0.55
power requirement	[VA]	110	110	110	110
air gap (max.)	[mm]	1.0	1.0	1.0	1.0

model		HFA-L						
		800	1000	1200	1400	1600	1800	2000
dimensions								
length	[mm]	850	1050	1250	1450	1650	1850	2050
hight	[mm]	162	162	162	162	162	162	162
width (model S)	[mm]	123	123	123	123	123	123	123
width (model B)	[mm]	126	126	126	126	126	126	126
weight	[kg]	18.5	20.5	23.5	24.0	31.5	34.0	39.5
fixing measures								
thread		M6 (4x)	M6 (4x)	M6 (4x)	M6 (4x)	M6 (4x)	M6 (4x)	M6 (4x)
boring measure	[mm]	300 x 83	450 x 83	600 x83	750 x 83	900 x 83	1050 x 83	1200 x 83
number of spring assembly		2	2	2	2	3	3	3
number of springs per spring assembly (standard)		1 x 2.5 5 x 3.5	1 x 2.5 5 x 3.5	1 x 2.5 6 x 3.5	1 x 2.5 6 x 3.5	2 x 2.5 7 x 3.5	2 x 2.5 7 x 3.5	2 x 2.5 9 x 3.5
spring dimensions								
length x width	[mm]	108 x 55	108 x 55	108 x 55	108 x 55	108 x 55	108 x 55	108 x 55
thickness	[mm]	2.5/3.0/3.5	2.5/3.0/3.5	2.5/3.0/3.5	2.5/3.0/3.5	2.5/3.0/3.5	2.5/3.0/3.5	2.5/3.0/3.5
weight of oscill. units (max.)	[kg]	appr. 11	appr. 13	appr. 15	appr. 17	appr. 19	appr. 21	appr. 23
rail length (max.)	[mm]	1100	1300	1500	1700	1900	2100	2300
voltage *	[V]	200	200	200	200	200	200	200
mains frequency *	[Hz]	50	50	50	50	50	50	50
oscillation frequency	[1/min]	3000	3000	3000	3000	3000	3000	3000
current consumption	[A]	1.25	1.25	1.25	1.25	1.25	1.25	1.25
power requirement	[VA]	250	250	250	250	250	250	250
air gap (max.)	[mm]	3.0	3.0	3.0	3.0	3.0	3.0	3.0

* if required the units are also available with 115 V and 60 Hz

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5. Description of Machine

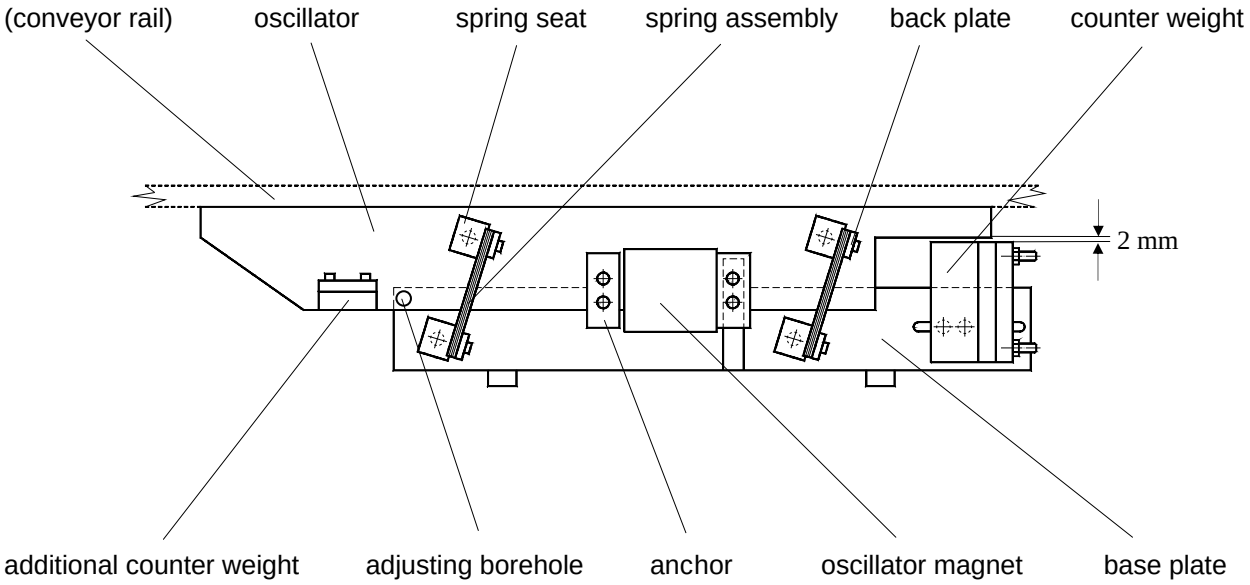
5.1 Construction

The linear conveyor HFA-L comprises the following components:
- base plates
- oscillator
- oscillator magnet with anchor
- spring assembly
- counter weight
- additional counter weight

(- linear conveyor rail)

The HFA-L is available as model S (narrow) and model B (wide).

5.2 Side view



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5. Description of Machine

5.3 Operating principle

The HFA-L linear conveyor employs a two mass oscillator system whereby the oscillator mass (oscillator, linear conveyor rail and bulk material) are connected via the spring assembly to the counter mass (base plates with directly attached elements and counter weights). This spring mass system has a certain natural frequency with which the system after initial activation - depending on the absorption being employed - reverberates for a certain period.
When alternating current passes through the oscillating magnet, it exercises on the active mass which is connected to the anchor, a sinusoidal force. As a result the system is compelled to respond by oscillating, the frequency from which diverges from the natural frequency. This frequency is described as the oscillating frequency.

Through vibrations, the linear conveyor rail which is connected to the oscillator, causes the bulk material being conveyed to make small jumping movements. The direction of the jump is dictated by the spring assembly setting and will be at right angles to the spring assembly plane.

The vibrations and therefore the jumping movements made by the material being sorted will be all the greater, the nearer the natural frequency approaches the oscillating frequency. The strongest vibrations occur at the resonance point where the natural and oscillating frequencies match. Resonance operation is not however worthwhile with linear conveyor units, as on the one hand every change in absorption (eg from uneven bulk material) causes changes to the vibrations, and on the other hand, it would be necessary to set a wide air gap between the oscillating magnet and anchor, in order to prevent them striking. In the latter case constant propulsion from the oscillating magnet would no longer be present, as magnetic attraction decreases in inverse proportion to the square of the air gap. In practice therefore a difference is made between two operating modes:

(a) Divergent operation:
Here the oscillating frequency exceeds the natural frequency.
The result of working in this mode - as with resonance operation - is that the vibrations and therefore the speed of conveyance become dependent on the character of the material being sorted. Additionally, electricity consumption can drastically increase, because the vibration movements and the force created run approximately in opposition of phase, and it can therefore occur that the widest air gap coincides with maximum electric current.

(b) Subcritical operation:
Here the operating frequency is less than the natural frequency.
In this operating mode the vibrations and therefore the speed of conveyance are to a great extent independent of the character of the material being sorted. Also, because the vibration movements and the force created almost run in phase, the narrowest air gap coincides with minimum electric current.

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6. Maintenance

The linear conveyor units HFA-L are in main maintenance free. We do however recommend that a thorough cleaning is carried out if the unit comes into contact with liquids or becomes dirty.

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

- first remove the linear conveyor power supply plug from the control unit.

- clean the inside of the linear conveyor if dismantling the oscillator (see chapter 7.3).

- remove accumulations of dirt in the air gap between oscillation magnet and anchor.

- check the air gap and adjust if necessary (see chapter 7.4 and chapter 4).

- replace the oscillator.

- re-connect the power supply.

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7. Adjustments

WARNING!
The unit must be disconnected from the power supply before commencing adjustments work.

HFA-L machines are set during manufacture to a certain loading weight (about 25% less than as stated in chapter 4) and a conveying speed from 4 - 6 m/min. If the weight of the load differs greatly from the data given, or if another conveying speed is desired, re-setting is necessary.

Re-setting is carried out by altering the springing (conveying speed) and setting the angle of the springs or the centre of gravity (conveying behaviour).

* first set approximately the rate of the conveying speed.
* next, the conveying behaviour must be set.
* finally, an adjustment is made to set the exact conveying speed.

7.1 Conveying speed

In order to change the conveying speed, it is essential to determine whether the HFA-L setting range lies above or below 100 Hz (HFA-L-440....499 types) resp. 50 Hz (HFA-L-800....2000 types).
For this, one or two plates are removed from the counter weight. If this causes a change in the conveyor speed, springs must be either removed or added according to the following table.

NOTE:
When carrying out these adjustments, the settings on the control unit must not be altered.

Change in conveying speed after reducing the counter weight	Conveying speed is to be increased	Conveying speed is to be reduced	Position of the natural frequency
slower	remove springs	install springs	> 50 Hz resp. 100 Hz
faster	install springs	remove springs	< 50 Hz resp. 100 Hz

NOTE:
When setting the HFA-L try to ensure that the number of springs per spring assembly is as equally distributed as possible (with a maximum difference of 2 springs).

Because spring resistance rises squared in relation to the thickness of the spring, the spring rate of the various leaf springs must be taken into account when adjusting the speed of the conveyor.
For this reason approximate settings should be made with broad springs and fine settings should be made with thin springs.

NOTE:
The HFA-L natural frequency must not correspond with the power supply frequency, as this would result in resonance.

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7. Adjustments

7.2 Conveying behaviour

In order that bulk material is transported evenly on the conveyor rail, it is essential that the angle of incidence of the spring assembly is identical with the angle of the centre of gravity. This angle is determined by the position centre of gravity of the oscillating weight and counter weight. If the spring and centre of gravity angles are the same, the direction of force of the springs will be lead exactly to the centre of gravity of the oscillating weight, which equals the vertical amplitude of the incoming and outgoing side of the rail.

If the spring angle is greater than the centre of gravity angle the direction of force of the springs will be lead in front of the centre of gravity of the oscillating weight. The vertical amplitude is greater on the incoming side than on the outgoing side. The bulk material will jump the rail in the feeding area and is not, or is only badly, transported away from the discharge area. In order to match the spring angle to the centre of gravity angle, it is possible here for

* the counter weight to be reduced or moved in the direction of conveyance,
* the additional counter weight to be reduced, or
* the spring assembly to be set at a steeper angle.

If the spring angle is less than the centre of gravity angle, the direction of force of the springs will be lead behind the centre of gravity of the oscillating weight. The vertical amplitude is greater on the outgoing side than on the incoming side. The bulk material will jump the rail in the discharge area and is not, or is only badly, transported away from the feeding area. In order to match the spring angle to the centre of gravity angle, it is possible here for

* the counter weight to be increased or moved against the direction of conveyance,
* the additional counter weight to be increased, or
* the spring assembly to be set at a less steep angle.

NOTE:
The spring angle can be set in a range between 5° and 20° (HFA-L-800....2000 types) resp. between 5° and 25° (HFA-L-440....499 types). If the centre of gravity angle lies outside this range, an even speed of conveyance with the alterations to the counter weights or additional counter weights from the configuration of the linear conveyor rail (see chapter 8), can be affected.

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7. Adjustments

7.3 Inserting and removing leaf springs

To change the HFA-L leaf springs, proceed as follows:

1. Remove the HFA-L mains plug from the control unit.

2. Remove the upper spring seat side fixing screws (4 or 6 screws). On the HFA-L-800....2000 types also remove the lower magnet anchor yoke fixing screw.

3. Pull the complete oscillator off in an upwards direction.

4. The spring assembly in question can be removed after both side fixing screws have been unscrewed from the lower spring seat.

   NOTE:
   On the rear spring assembly the protector fitted to the upper spring seat must be unscrewed.

5. Clamp the spring assembly horizontally to the spring seats in a parallel jaw vice. Use protective covers on the jaws to avoid damaging the spring seats.

6. Remove the spring fixing screws and the back plates and then change the spring. Ensure that spacer plates are always inserted between each individual spring.

7. Before tightening the spring fixing screws (do not overlook the back plates) the shorter (upper) spring seat must be adjusted so that it is at the centre of the longer one and both spring seats are parallel. The tightening torque for the spring fixing screws should be 15 Nm (HFA-L-440....499 types) resp. 30 Nm (HFA-L-800....2000 types).

8. Re-install the spring assembly with the desired angle. The correct setting for the oscillator to the counter weight is reached on two M6 screws with a minimum length of 15 mm (HFA-L-440....2000 types) resp. two M8 screws with a minimum length of 20 mm (HFA-L-800....2000 types) being inserted in adjusting boreholes located on the side of the oscillator and base plate. Also, a 2 mm spacing plate must be inserted between the counter weight and the oscillator. The tightening torque for the spring seat fixing screws should be 10 Nm (HFA-L-440....499 types) resp. 30 Nm (HFA-L-800....2000 types).

9. Remove the two M6 resp. M8 screws and the spacing plate.

10. Re-connect the HFA-L to the control unit.

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7. Adjustments

7.4 Adjusting the magnet gap

The magnet gap can be adjusted without any components having to be removed. Proceed as follows:

1. Remove the HFA-L mains plug from the control unit.

2. Loosen the two anchor fixing screws. These can be reached through two boreholes on the right side (viewed in the direction of conveyance) of the oscillator (HFA-L-440....499 types) resp. on the left side (HFA-L-800....2000 types) of the oscillator.

3. Next to the two boreholes provided for adjusting the anchor, are two further boreholes in the oscillator frame. Insert through both of these boreholes a round bar (HFA-L-440....499 types: ø 1 mm / HFA-L-800....2000 types: ø 3 mm).

4. Press the two anchor fixing screws against the magnet (counter to the direction of conveyance) and tighten them.

5. Remove the two round bars and re-connect the power supply to the HFA-L.

NOTE:
Always ensure that the gap between the magnet and the anchor is set parallel.

The magnet gap can also be adjusted without using round bars, as follows:

As before, remove the HFA-L mains plug. After loosening the two anchors fixing screws (point 2 above) the magnet gap can be adjusted from the under-side of the linear conveyor by using a feeler gauge or similar instrument. For this it may be necessary to detach the HFA-L from its base.

7.5 Adjusting the spring angle of incidence

Proceed as follows:

1. Disconnect the HFA-L power supply plug from the control unit.

2. Secure the position of the oscillator to the counter weight by inserting two M6 screws with a minimum length of 15 mm (HFA-L-440....499 types) resp. two M8 screws with a minimum length of 20 mm (HFA-L-800....2000 types) in the adjusting boreholes located on the side of the oscillator and base plate. Lay a 2 mm thick spacing plate between the counter weight and the oscillator.

3. Loosen all spring seat side fixing screws.

4. Set the spring assembly angle of incidence by moving the lower spring seat in the curved elongated holes in the base plate (forwards: the angle increases, backwards: the angle reduces).

5. Re-tighten the spring seat fixing screws (tightening torque: 15 Nm resp. 30 Nm).

6. Remove the two M6 resp. M8 screws and the spacing plate.

7. Re-connect the HFA-L with the control unit.

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8. Rules for the Linear Conveyor Configuration

The conveyor rail should be laid out so that it is as light as possible. It should be ensured that the recommended loading weight (see chapter 4) is not exceeded.

The length of the conveyor rail should not exceed the given dimension (see chapter 4).

The distance the conveyor rail projects out from the linear conveyor oscillator should be not more than 100 mm on the incoming side and not more than 200 mm on the outgoing side.

In order to avoid uncontrolled vibrations at the ends of the rails, long conveyor rails should be adequately stiffened against twisting.

A carrying plate made from 4 - 6 mm thick aluminium mounted between the linear conveyor rail and the oscillator will increase the lateral torsion in the conveyor rail.

If the conveyor rail consists of several short pieces, these should be gathered on the oscillator and tightly screwed together. On the incoming side flat chamfering eases the changeover of bulk material from one part of the rail to another.

The play between the upper edge of the bulk material and the lower edge of the rail cover should be set taking into account the speed of conveyance. The greater the speed, the greater is the play. It is best to select the greatest play possible, by which the bulk material can be transported without it becoming tangled or wedged.

The conveyor rail cover must be securely screwed down. Loose or folding covers should not be used (reduction in oscillations, increase in noise level).

Tips for mounting the linear conveyor rail:

* screw the conveyor rail tightly to the linear conveyor.
* ensure that conveyor rail has a uniform and even base on the oscillator.
* by changing the oscillator frame a wider (model B) or narrower (model S) linear conveyor rail support can be achieved.
* try to arrange for the conveyor rail to be in the middle of the linear conveyor.
* in order to reach a higher conveyor speed, the linear conveyor can be installed so that it has a slight inclination the direction of conveyance.

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9. Malfunctioning

WARNING !
The mains plug may only be opened by a qualified electrician.
Before carrying out work on the linear conveyor the plug must be disconnected from the mains.

malfunction	possible cause	remedy
HFA does not start when switched on	mains plug not connected	plug in mains plug
	connecting cable between HFA and control unit not connected	plug in connecting cable
	control unit fuse defective	replace fuse
	control unit mains cable defective	replace mains cable
	connecting cable between HFA control unit defective	replace connecting cable
	oscillator magnet defective	replace magnet
HFA vibrates weakly	control unit set too weakly	set controller to 80%
	electrical connected wattage incorrect	check wattage
the HFA conveying performance reduces after a long operating period	air gap between magnet and anchor maladjusted	reset air gap correctly
	conveying rail fixing screws loose	tighten screws
	spring assembly fixing screws loose	tighten screws
	broken leaf springs	replace leaf springs
	dirt accumulation between springs	clean with air blast
strongly increasing noise level	foreign body lodged in air gap between magnet and anchor	remove foreign body then check air gap
	oscillator magnet strikes anchor	correct air gap
	leaf spring fixing screws loose	tighten screws

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9. Malfunctioning

malfunction	possible cause	remedy
speed rate of conveyance higher on outgoing side than on incoming side, parts jump from outgoing side	spring angle less than centre of gravity angle ➔ vertical amplitude of the conveyor rail in area of outgoing side greater than in incoming side	* adjust spring assembly angle of incidence so that it is greater * move the counter weight against the direction of conveyance * increase counter weight * increase additional counter weight
speed rate of conveyance higher on incoming side than on outgoing side, parts jump from incoming side	spring angle greater than centre of gravity angle ➔ vertical amplitude of the conveyor rail in area of incoming side greater than in outgoing side	* adjust spring assembly angle of incidence so that it is lower * move the counter weight in the direction of conveyance * decrease counter weight * decrease additional counter weight
irregular behaviour (parts jump) but conveying speed constant	spring and centre of gravity angles are too great ➔ vertical amplitude of the conveyor rail is for the complete length too great	* move counter weight against the conveying direction * increase counter weight * increase additional counter weight * adjust the spring assembly angle of incidence to the new centre of gravity angle
- low conveyor speed at constant conveyance behaviour - irregular conveyance behaviour of oily parts or parts with large surface despite constant high amplitude	spring and centre of gravity angles too small ➔ vertical amplitude of the conveyor rail is too low for the complete length, no throwing action can take place ➔ with oily parts the strength of adhesion is greater than the strength of projection	* move counter weight in the conveying direction * decrease counter weight * decrease additional counter weight * adjust the spring assembly angle of incidence to the new centre of gravity angle
speed and behaviour of conveyance cannot be adjusted by following any of the above detailed measures	* rigidity of rail is insufficient * conveyor rail point of impact or separation work to one another * asymmetric components on the conveyor rail lead to irregular running	* increase rigidity * screw together point of impact or separation * fix asymmetric components with a lock nut or replace with lighter components

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10. Accessories

Connection to the electric mains is effected exclusively via a suitable **control device**.
For this purpose we offer several equipment.

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11. Spare Parts

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

* oscillator magnet
* magnet anchor
* leaf springs 2.0 or 3.0 mm thick (HFA-L-440....499 types)
* leaf springs 2.5 or 3.5 mm thick (HFA-L-800....2000 types)
* spacer plate (between the individual leaf springs)
* back plate (between leaf spring and fixing screws)
* spring seat, lower
* spring seat upper
* rubber-metal buffer
* cable plug STAS 20

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 linear conveyor, the necessary number of pieces and the exact designation of the spare part.

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Tel.: +49 (0) 7424/884-0, Fax.: +49 (0) 7424/884-50

fimotec – fischer
Montagetechnik

declaration of incorporation

The linear conveyor

Description:	HFA-L-440	HFA-L-460	HFA-L-480	HFA-L-499
	HFA-L-800	HFA-L-1000	HFA-L-1200	HFA-L-1400
	HFA-L-1600	HFA-L-1800	HFA-L-2000	

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	R. Fischer
Place	Date	Identification of signatory	Signature

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