

Labotek

Power in Plastics



Manual

Mini-Feed (MF)

Model: 15, 30, 60, 120BL

LT nr.: 986811

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TABLE OF CONTENTS

1.0 Intro & Information	3
2.0 General Information	4
2.1 Safety Directions	4
2.2 Packaging and Transport	4
2.3 Application	4
2.4 Standards, Instructions, Directives	4
2.5 Restrictions	5
2.6 Limitations	5
2.7 Operating Principles	6
2.7.1 Operating Steps	6
3.0 Technical Data	7
3.0.1 Specification Table	7
3.0.2 Capacities	7
3.0.3 Security Measures	7
3.0.4 Noise Level	7
3.1 Type Plate	8
3.2 Dimension	9
4.0 Installation	10
4.1 Assembly of MF	10
4.2 Adjustment of Suction Pipe	10
4.2 Setup of P1, P2 & P3	11
5.0 Operation	12
5.1 Operator Panel	13
5.2 P1 - Standard Conveyance	14
5.3 P2 - Conveyance from Grinder	15
5.4 P3 = Conveying of Two Materials via Ratio-Selector	15
5.5 Filter Cleaning Setting	16
5.6 Service Options	17
5.7 Alarms	17
6.0 Troubleshooting	18
7.0 Maintenance	19
7.1 Maintenance of Filter	19
7.2 Maintenance of Motor for Blower	19
8.0 Options	20
9.0 Appendix	21
9.1 Warnings for Blower (GB)	21
9.2 Varningar för Fläkt (SE)	22

1.0 Intro & Information

Manufacturer:

Labotek A/S
Strøbjergvej 29
DK-3600 Frederikssund

Postal address:

Strøbjergvej 29
DK-3600 Frederikssund
Denmark

Telephone:

+45 48218411

E-mail address:

info@labotek.dk

Type of units:

Mini-Feed 15, 30, 60, 120BL

Model: MF 15, 30, 60, 120BL

The Mini-Feed is used for automatic conveyance of free-flowing, granule-formed raw material (min. grain size of 3 mm).

The compact design makes the Mini-Feed suitable for mounting on all minor and medium sized production units. Especially where weight and size of the conveyor are of crucial importance.

The Mini-Feed is constructed in stainless steel to ensure a long lifetime and minimize cleaning.

ISO certificate:

<https://labotek.com/about-us/labotek-quality/>

CE-Declaration of Conformity:

CE-Declaration of Conformity is attached in your customer documentation.

Abbreviations:

- Scanning Vacuum Receiver (SVR)
- Drying Hopper (DH)
- Mini-Feed (MF)
- Brushless (BL)

2.0 General Information

2.1 Safety Directions

This manual contains important measures which should be applied when operating and handling the Labotek drying equipment.

This manual is directed at users involved in operating and servicing the MF. This manual should always be available to the operating staff.

This manual should be read to completion before the MF is put into operation. The section pertaining to 'Safety Measures' is especially important to the operating staff, as it also contains information on safety signs and their meaning.

The staff should be instructed in the functioning of the control unit and its operating parameters before the unit is put into operation.

Reliability

Capacity and reliability of the Labotek drying equipment are dependent on competent operation and careful maintenance. Misoperation and insufficient or inadequate maintenance may cause stoppage.

Sufficient and lasting reliability may be achieved only by correct operation and careful maintenance.

Only a qualified operator, following the correct procedures must operate the Mini-Feed.

See section 4.0 for information on the correct operation of the drying unit.

The service section of this manual does not contain instruction for extensive refurbishment of the machine. Labotek's service department is trained to carry out refurbishment.

Warranty - exceptions when misoperating/not using labotek original spare parts.

Read more about 'Warranty Conditions' in your customer documentation file, which you received in an e-mail from support@labotek.dk.

NOTE!:

Only original Labotek spare parts should be used. Spare parts are available from Labotek's service department at any time.

Labotek makes reservations against damages arisen from not complying with the directives of this manual or incorrect use of the Labotek dryer.

Labotek's domestic service department and Labotek's international service department are available to provide you with any further information necessary to comprehend this manual.

2.2 Packaging and Transport

The system will be packed in one pallet:

Package no. 1: Mini-Feed (MF)

- Shipping volume: 0.12 [m³]
- Shipping dimensions: 86 x 42 x 32 [mm]

Options may result in separate packages.

2.3 Application

The Mini-Feed is designed for the automatic transport of free-flowing, granule-formed raw materials (minimum grain size 3 mm) with minimal dust content from a bag or container to a machine hopper.

Any use beyond this intended purpose is considered non-compliant, and Labotek is not liable for damages resulting from such misuse. In such cases, the operator assumes full responsibility.

To ensure proper operation, maintenance, and service, the requirements outlined in this manual must be followed.

The compact size and low profile of the Mini-Feed make it ideal for installation on small to medium-sized production units, especially where weight and dimensions are critical.

2.4 Standards, Instructions, Directives

We refer to the CE-Declaration of conformity agreement attached in your documentation.

2.5 Restrictions

Intended Use:

- The MF is to be used only for the specified purposes. It is not suitable for handling powders, liquids, or living creatures.

Qualified Operation:

- The MF units must be operated by qualified personnel who follow the correct procedures.

Explosion Hazard:

- The MF and the blower with motor and controller must not be used in areas with any risk of explosion.
- The hopper may only be used in such an atmosphere if the bottom flap is fitted with an explosion-proof power switch.

IMPORTANT!

The person in charge of the installation/operation and/or owner is responsible for the prescribed and adequate installations, corresponding to the local regulations. In other words, only authorized or trained personnel is allowed to install the equipment.

Should the equipment be interfered with by unauthorized or untrained personnel leading to damage, or should the consumer allow the equipment to be interfered with in this manner by third parties, then all claims under guarantee relating to the entirety of the object concerned become null and void.

The right to make design changes is reserved, but there's no obligation to implement them, even in equipment that has already been supplied.

This information is based on our present state of knowledge and is intended to provide general notes on our products and their uses. Therefore, it should not be construed as guaranteeing specific properties of the products described or their suitability for particular applications.

2.6 Limitations

The Mini-Feed is equipped with a one-phased motor with a limited lifetime. Therefore, it is recommended that you only use the Mini-Feed for smaller capacities, and short transport distances. (See “Capacity” - Chapter 3.0.2).

The device must not be used for any other purpose than stated. The device cannot be used for materials in powder form nor in liquid form.

The temperature on the conveyed material must not exceed the maximum permitted surrounding temperature of the device.

The device must be operated by a qualified operator, and in accordance with correct procedures, only.

The device must not be used in areas where explosion might occur.

Safety

The owner and/or personnel responsible for installing and commissioning the device must ensure the installation complies with this manual's guidelines and local regulations.

Only qualified operators should operate the device, following the procedures outlined in this manual.

Service must be performed by authorized service engineers in accordance with the service and maintenance manual.

If the device is operated by unauthorized or unqualified personnel, resulting in damage, or if the owner permits third-party operation, all warranty claims and liabilities against Labotek A/S will be void. Labotek is not responsible for consequential damages in such cases.

Labotek reserves the right to make design changes to the device without obligation to modify previously delivered units or notify the owner/operator.

NOTE:

Damages caused by non-compliance with this manual or improper use of the conveyor are not covered by Labotek's liability.

This manual reflects our knowledge at the time of the product's development and provides essential information to ensure safe and proper use of the conveyor.

It is intended primarily for personnel involved in the operation and maintenance of the conveyor.

The manual does not provide detailed descriptions of the product's behavior or all possible applications, nor does it serve as a guide for extensive repairs.

2.7 Operating Principles

The device can handle 3 (three) different operation principles:

1. Ordinary conveyance (P1)
2. Discharge of grinder (P2)
3. Conveying of two (2) materials via Ratio-Sector* (P3)

As an option the device can be equipped with line cleaning valve, compressed air, return blowing of filter, extern alarm lamp.

**This principle will work if using a line cleaning.*

2.7.1 Operating Steps

1. The Mini-Feed operates based on the position of the button flap. When open, it waits until the material level drops, causing the flap to close.
2. When the button flap closes, the Mini-Feed initiates a new transport cycle, including filter cleaning.
3. The Mini-Feed features a built-in transport alarm. If material is not detected during three consecutive transport cycles, the device enters alarm mode (red light flashes) and waits 10 minutes before attempting another cycle.
4. The folding filter is vacuum-driven, lifting under the motor housing during operation and falling for cleaning when the vacuum stop.
5. The button flap, equipped with a magnetic position marker, is weight-loaded and flexibly suspended at the hopper outlet, eliminating the need for manual adjustment.

For more details on operation programs, refer to Chapter 5: 'Operation'.

3.0 Technical Data

3.0.1 Specification Table

Description	MF15	MF30	MF60	MF 120BL
Supply Voltage	220-240 V 50/60 Hz, 110/115 V 60 Hz			
Power consumption [kW]	1	1	1	1.1
Compressed air connection [Bar]	5-7	5-7	5-7	5-7
Motor power [kW]	0.8	0.8	0.8	1.1
Volume [liters]	1.9	2.9	5.8	5.8
Capacity* [kg/h]	15	30	60	120
Noise level [dBA]	<69	<69	<69	<69
Max. room temperature [°C]	35	35	35	35
Conveying hose, inner Ø [mm] / length [m]	32 mm / 3 m	32 mm / 3 m	32 mm / 3 m	38 mm / 32 mm / 3 m
Suction probe, inner Ø [mm]	32 mm	32 mm	32 mm	38 mm / 32 mm
Supply cable [m]	5	5	5	5
Net weight [kg]	8.4	8.6	9.1	~ 10
Shipping volume [m³]	0.12	0.12	0.12	0.12
Shipping dimensions [mm]	86 x 42 x 32	86 x 42 x 32	86 x 42 x 32	86 x 42 x 32

3.0.2 Capacities

Capacity depends on the material, conveying distance (both horizontal and vertical), and whether conveyance occurs through a pipe or a PVC suction hose. The number of bends in the conveying path also affects performance.

The capacities listed in the table are based on conveying granules with a bulk density of 0.65 kg/l, a granular size of 3–4 mm, and a maximum conveying distance of 5 meters horizontally and 5 meters vertically.

The machine is designed for maximum capacities of 15 kg/h, 30 kg/h, or 60 kg/h, with a material temperature of 40°C, using dry and free-flowing materials.

These values are guidelines only and may vary depending on the specific material and conveying setup.

3.0.3 Security Measures

The Mini-Feed control system is protected against overloading by a fuse located on the control's bottom plate.

The motor is safeguarded by a rechargeable filter that prevents dust from entering. Additionally, the motor is equipped with protection against overuse, worn brushes, and malfunction.

IMPORTANT MUST BE READ:
For detailed warnings and precautions regarding the blower, refer to the Appendix in Chapter 9.

3.0.4 Noise Level

The noise level dB (A) is in accordance with DS/ISO-3746: < 69 dB(A)

3.1 Type Plate

The identification number-which is the serial no.- consists of a code (A), (B), type number (C) and Serial number (D). See *Figure: 3.1 Type plate*

The Code (A) and (B):

The first and last digits (A) in the code represent the year the machine was produced.
For example: 0ST2 = 2002.

The two middle characters (B) in the code define the machine's characteristics:

- ST = Standard device
- SP = Special execution according to customer specification.

The type (C):

The type number (C) consists of 3 digits that characterize the machine type:
101 = MF.

Serial number (D):

The serial number is a five-digit number that refers to the specific production number of the machine.

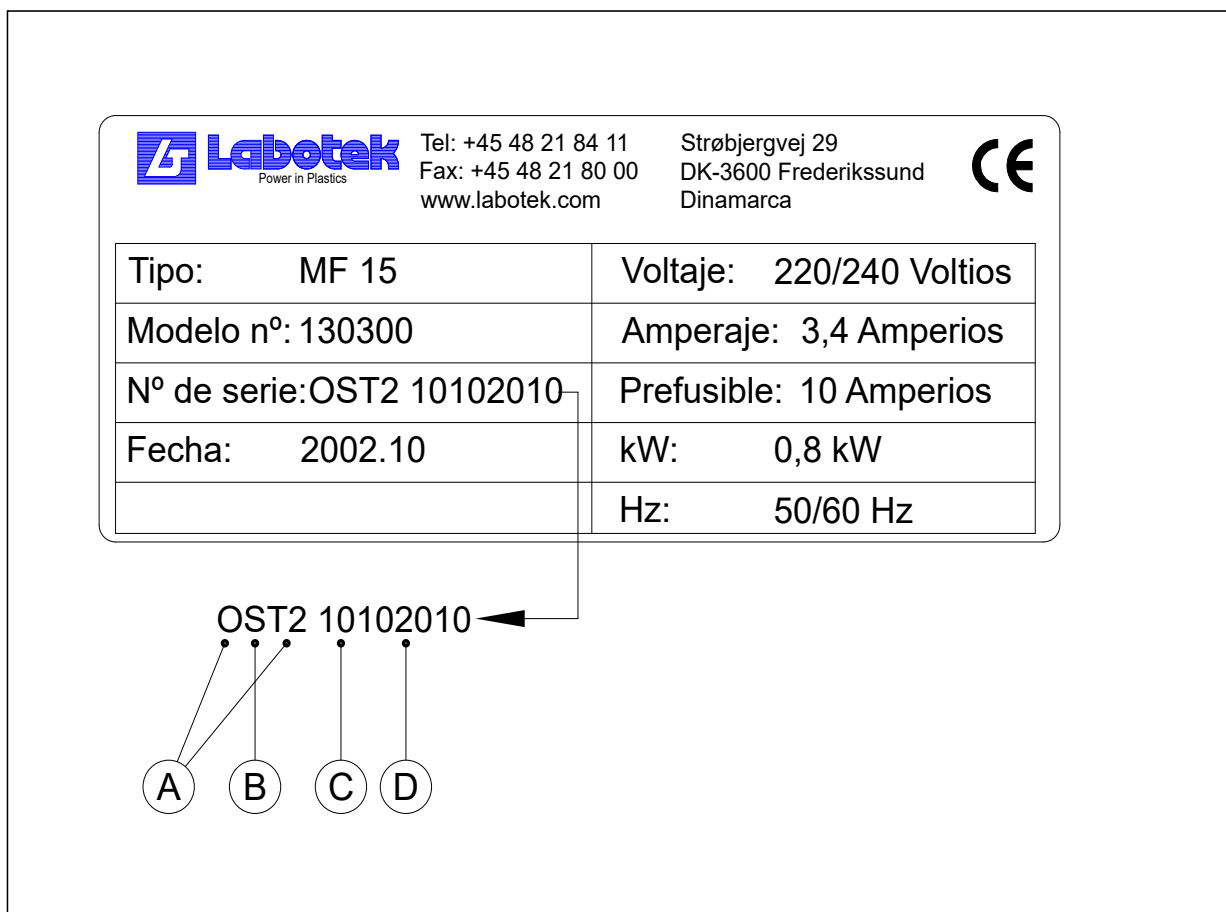


Figure: 3.1 Type plate - R2296_R01

3.2 Dimension

The dimensions of the MF are shown below.

We reserve the right to make changes to the dimension without notice.

Description	MF15	MF30	MF60	MF 120BL
A	451 mm	492 mm	588 mm	600 mm
B	218 mm	259 mm	355 mm	355 mm
C	172 mm	213 mm	308 mm	308 mm

Measurements in mm.

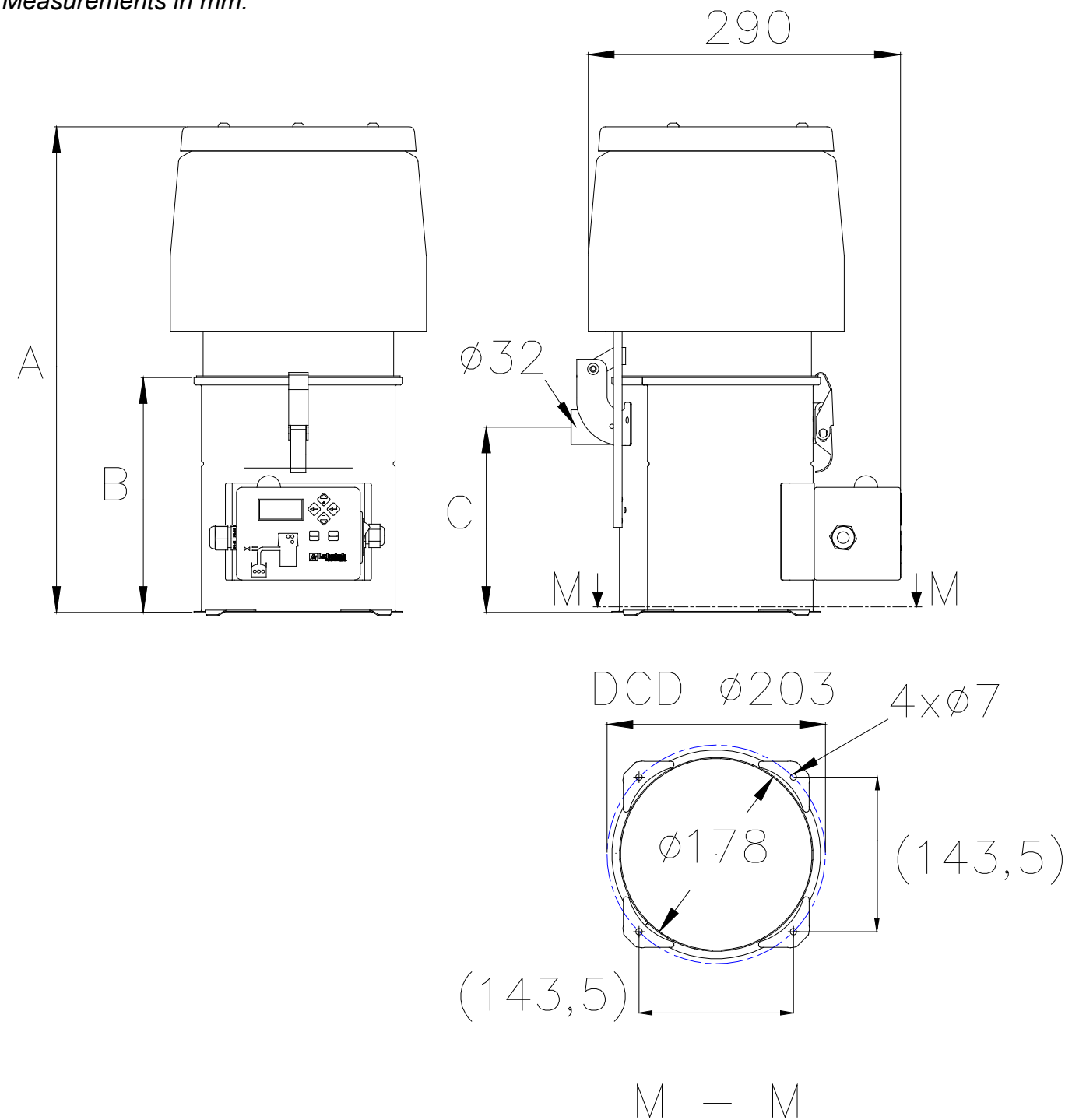


Figure: 3.2 MF dimensions - R2297_R01

4.0 Installation

The material hopper intended for mounting the Mini-Feed must have the following mounting holes. (Figure 3.3)

4.1 Assembly of MF

1. Mount the Mini-Feed on the material hopper
2. Mount the material hose between suction pipe and the suction pipe branch.
3. Connect the conventional power (according to type plate and diagrams).

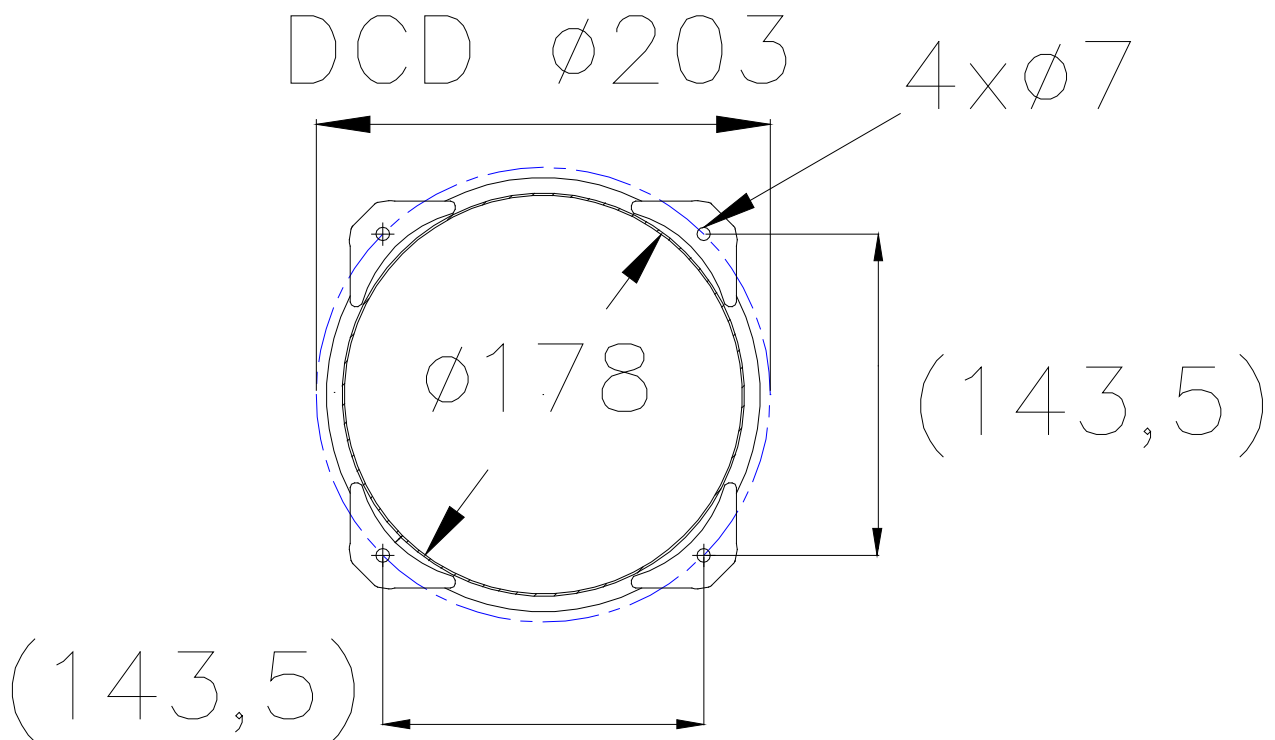


Figure: 3.3 MF mounting holes - R2297_R01

4.2 Adjustment of Suction Pipe

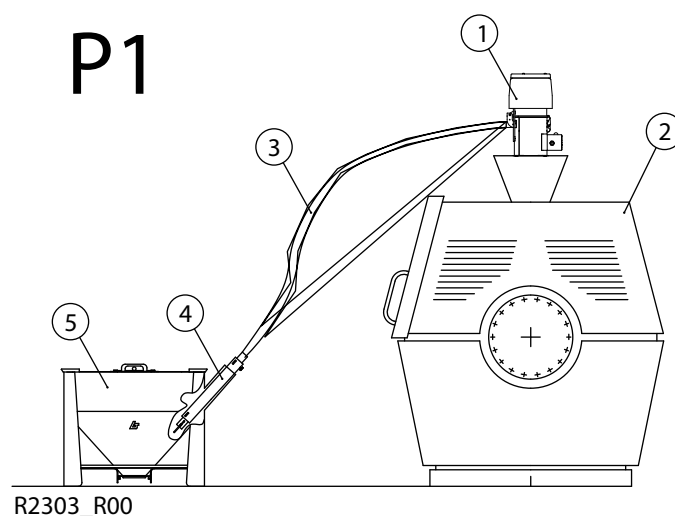
In order to obtain maximum conveyance it is important that the suction pipe is adjusted correctly so that a regular conveyance is achieved.

1. Press the suction pipe down in the granules.
2. Release the suction pipe so that the 4 fresh air holes are exposed.
3. Mini-Feed is started on the main switch. Suction hose and suction pipe is dis-located in comparison to each other until a regular material stream is achieved.
4. Fasten hose clip so that suction hose is fastened on the suction pipe.

4.2 Setup of P1, P2 & P3

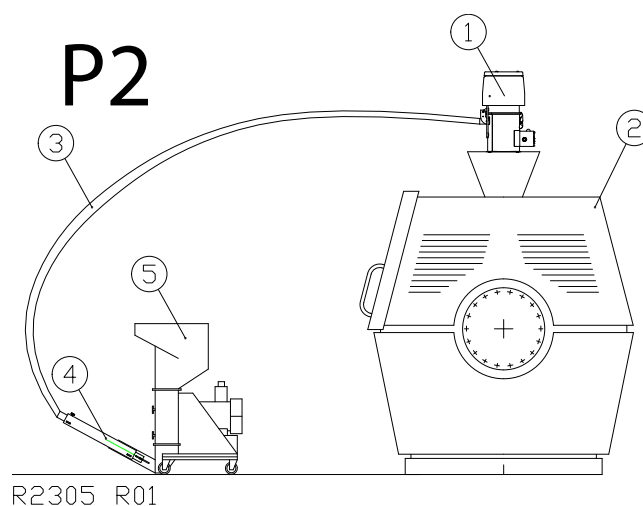
P1 - Standard Conveying

Pos.	Item No.
1	Mini-Feed
2	Production device
3	Conveying pipe/hose
4	Suction pipe
5	Material container



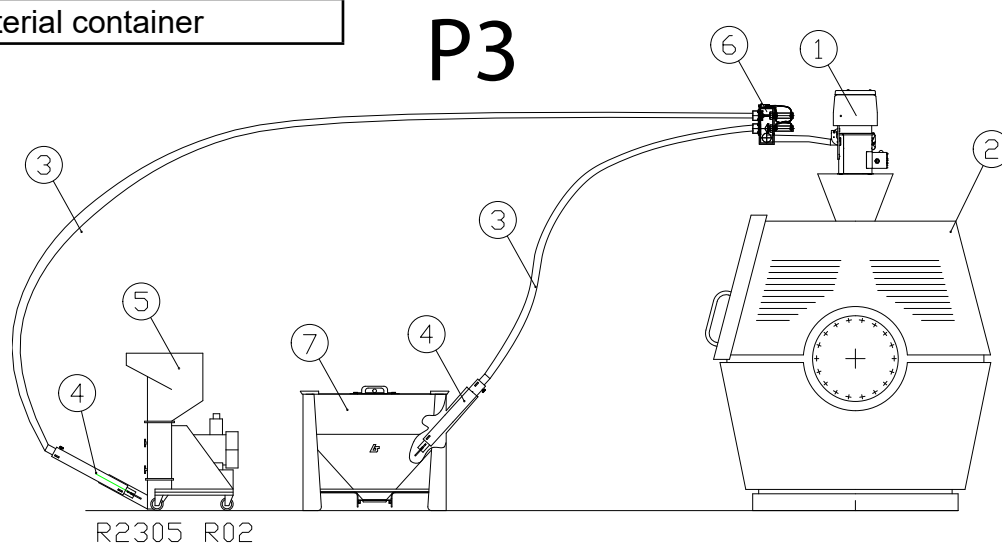
P2 - Conveying from Grinder

Pos.	Item No.
1	Mini-Feed
2	Production device
3	Conveying pipe/hose
4	Suction pipe
5	Grinder



P3 - Conveying with Ratio-Selector

Pos.	Item No.
1	Mini-Feed
2	Production device
3	Conveying pipe/hose
4	Suction pipe
5	Grinder
6	Ratio-Selector
7	Material container



5.0 Operation

The Mini-Feed control has 3 basic standard conveying programs are free of choice.

- P1 Standard conveyance
- P2 Conveyance from grinder
- P3 Conveying with mixing valve

Upon delivery the device is equipped with standard set-up for P1 and a suction time of 10

Programme Choice:

Program is selected on the DIP-switch on the back of the control front plate, as follows:

1. Discharge the conventional power to the device.
2. Dismantle the front plate / cover from control.
3. Select on the DIP switch on of the following possibilities:
 - Standard conveyance (Program P1)
 - Conveyance from grinder (Program P2)
 - Conveying with mixing valve (Program P3)
4. Attach font plate /cover and connect the conventional power.
5. CONTROL: Switch on the device. The display will show for 3 seconds which program is chosen, and thereafter the status of the device.

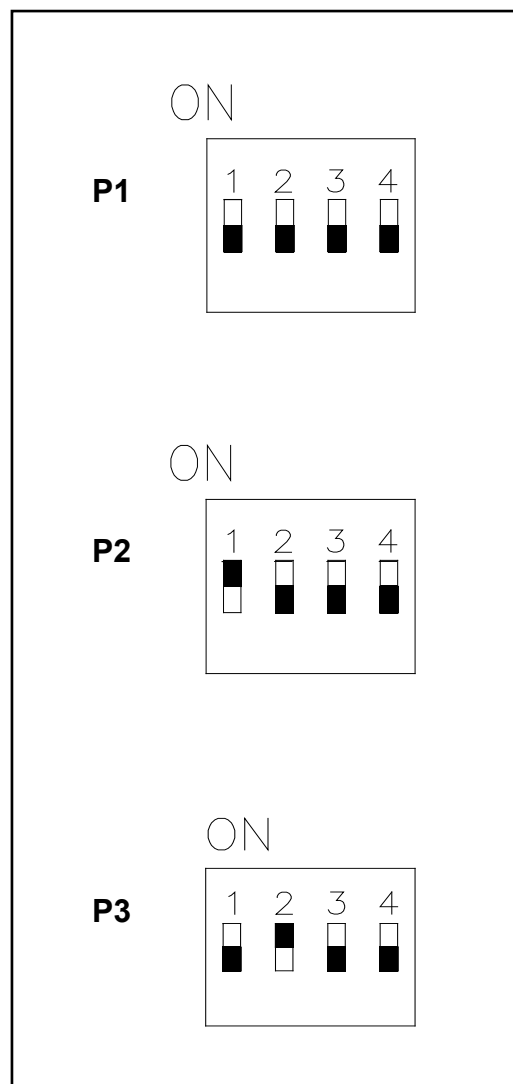


Figure: 5.0 MF P1, P2 & P3

5.1 Operator Panel

1. Main switch
2. Function buttons
3. Programming buttons
4. Numerical display
5. Schematic overview with function diodes
6. Alarm/communication lamp

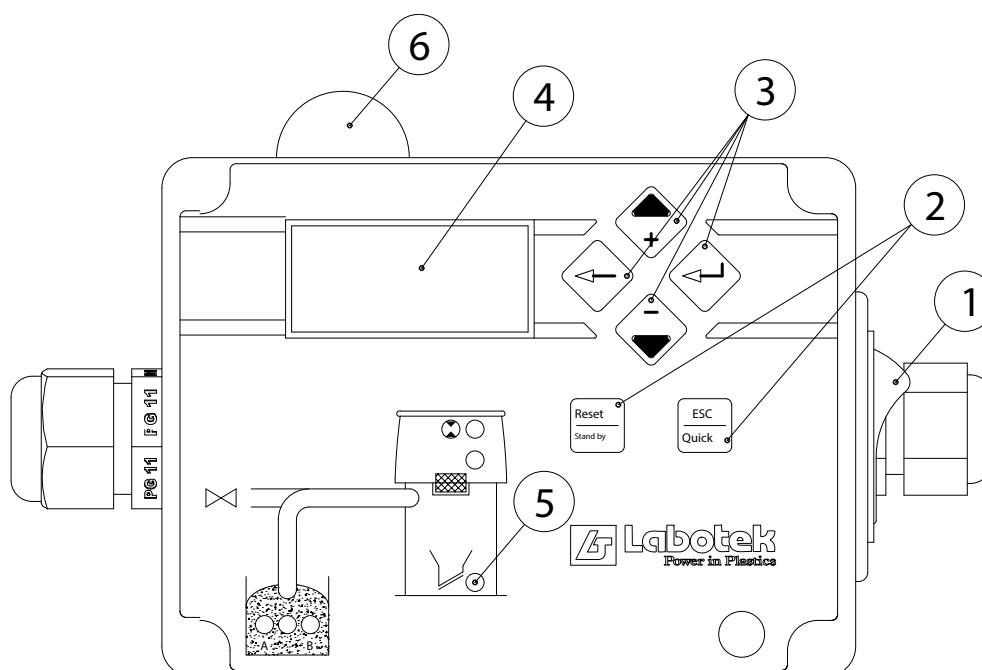
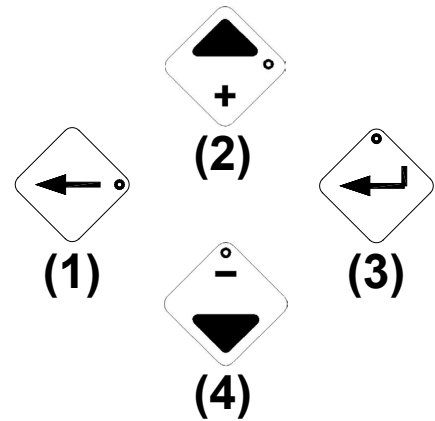


Figure: 5.1 MF Operator Panel

5.2 P1 - Standard Conveyance

Conveying Time Setting:

1. Press button (1) once. The conveyor indicator will flash, displaying the current conveying time in seconds.
2. Adjust the conveying time (in seconds) using buttons (2) and (4).
3. Once the desired time is set, press button (4). The light indicator will flash three times to confirm the new time setting.



Line Clearing Valve Time Setting:

1. Press button (1) twice. The conveyor indicator will flash horizontally, displaying the current Line Clearing Valve time in seconds.
2. Adjust the time (in seconds) using buttons (2) and (4).
3. Once the desired time is set, press button (4). The light indicator will flash three times to confirm the new time setting.

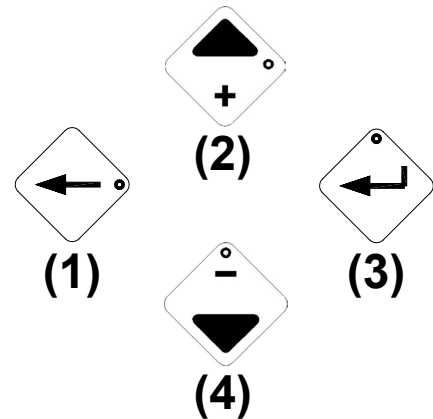
Note:

If the Line Clearing Valve is not used, set the time to "000" to optimize the total conveying capacity.

5.3 P2 - Conveyance from Grinder

Conveying Time Setting:

1. Press button (1) once. The conveyor indicator will flash, displaying the current conveying time in seconds.
2. Adjust the conveying time (in seconds) using buttons (2) and (4).
3. Once the desired time is set, press button (4). The light indicator will flash three times to confirm the new time setting.



For addition Break time between conveying:

1. Press button (1) three times. The conveyor indicator will flash, displaying the current conveying time in seconds.
2. Adjust the conveying time (in seconds) using buttons (2) and (4).
3. Once the desired time is set, press button (4). The light indicator will flash three times to confirm the new time setting.

5.4 P3 = Conveying of Two Materials via Ratio-Selector

Conveying Time Setting:

The conveying time setting follows the same instructions as for P1 and P2.

Ratio-Selector Setting:

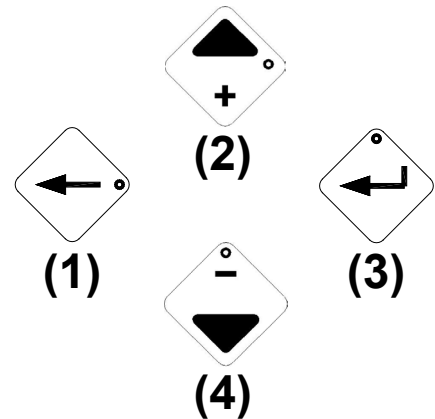
1. Press button (1) three times to display the percent/ratio (%) setting.
2. Adjust the percent (%) using buttons (2) and (4).
3. Once the desired percent rate is set, press button (4). The light indicator will flash three times to confirm the new setting.

Note:

Line cleaning cannot be used in program P3.

5.5 Filter Cleaning Setting

1. Disconnect the voltage coupling and remove the front plate/cover from the control panel.
2. Set DIP-Switch 4 to the "ON" position (refer to the sketch).
3. Reassemble the front plate/cover and reconnect the conventional power supply. The display will show the current filter cleaning time.
4. Adjust the time (in seconds) using buttons (2) and (4).
5. Once the desired time is set, press button (4). The light indicator will flash three times to confirm the new setting.
6. Disconnect the conventional power supply and remove the front plate/cover again.
7. Set DIP-Switch 4 back to the "OFF" position.



Note:

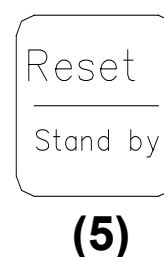
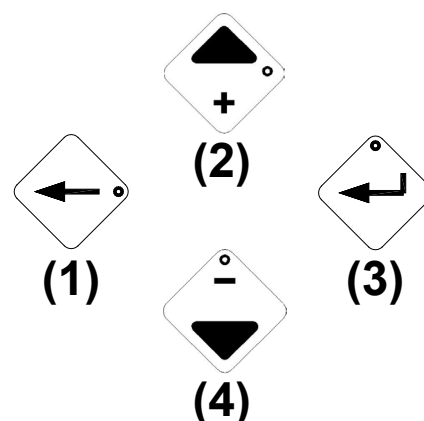
This programming process applies to all three operating programs.

5.6 Service Options

Note:

Unit must be in 'P1 - Standard Conveyance'

1. Press both buttons (5) and (1) twice to set/adjust the time for the alarm pause.
(Default is 10 minutes).
2. Press both buttons (5) and (1) twice to set/adjust the number of cycles before the alarm triggers.
(Default is 3 cycles).
3. Press both buttons (5) and (1) twice to set/adjust the offset time for quick setting.
(Default is 4 seconds).
4. Press both buttons (5) and (1) twice to set/adjust the time for filter cleaning.
(Default is 1 second).



5.7 Alarms

The Mini-Feed is equipped with three alarms to ensure safe and efficient operation:

1. E1: Excess Motor Temperature ($> 65^{\circ}\text{C}$)
 - Alarm is indicated on the display and alarm lamp.
 - The machine will stop automatically.
2. E2: Motor Error (e.g., brush wear, cable connection issues)
 - Alarm is displayed and indicated on the alarm lamp.
 - The machine will stop automatically.
3. Conveyance Alarm
 - Triggered if the machine completes three consecutive conveyance cycles without additional material.
 - Alarm lamp flashes, and the Mini-Feed enters a compulsory 10-minute pause before attempting renewed conveyance.

6.0 Troubleshooting

Error / Alarm Type	Action
The device does not function, but the control indicates function (E2 may be displayed)	- Inspect the cable and branch connections to the motor. - Verify the condition of the brushes and the circuit-changing switch. - Ensure proper tension on the terminal strip [X1 pin 3 + 4].
The device does not function, and the control indicates no function:	- Confirm that conventional power supply is correct. - Check the fuse [4F1] on the print board. - Inspect the ribbon cable from the button print to the front plate.
Insufficient conveyance:	- Verify vacuum pressure at the material entrance (minimum 1700 mmVS). - Ensure the suction hose and clamp are functioning correctly. - Adjust the suction pipe as needed. - Clean or replace the filter.
E1 Indicates Thermal Cutout Activated:	- Ensure sufficient cooling air is available. - Verify that the hose from the motor to the cover is intact. - Confirm that the surrounding temperature does not exceed 40°C. - Check motor voltage: 230Vac, max. 3.8A 15Vac, max. 4.2A

If none of the above steps resolve the issue:

Contact your Labotek distributor / agent,
or for further support reach out to us via
our [Labotek Support Center](#).

7.0 Maintenance

7.1 Maintenance of Filter

The filter, placed between the motor and hopper, should be checked and cleaned regularly by blowing out with compressed air, at least every 24 operational hours.

Immediate Replacement:

- If the filter is damaged, it must be replaced immediately.

Cleaning/Replacement Procedure:

1. Open the snap lock above the control.
2. Tilt the motor frame into the open position to access the filter.
3. Clean or replace the filter as needed.

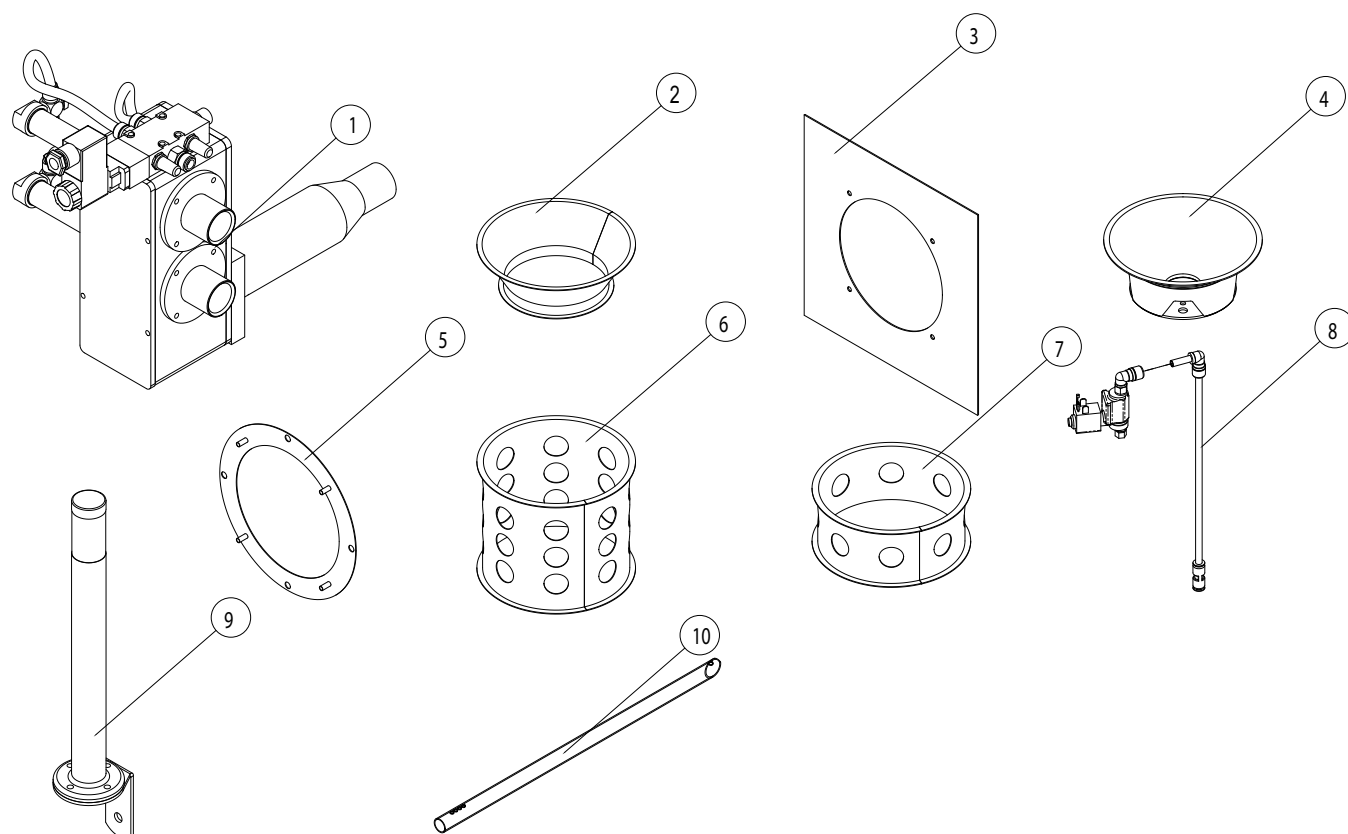
NOTE:

If granules or dust reach the blower, there is a risk of burn-through. To prevent this, the top plate of the blower can be removed for cleaning the motor.

7.2 Maintenance of Motor for Blower

The motor carbon brushes should be inspected after 500 hours of operation. If necessary, they should be replaced.

8.0 Options

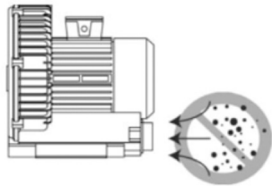
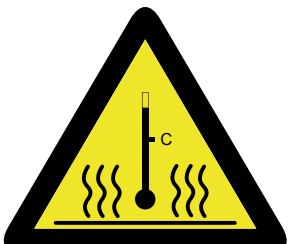


Pos.	Item No.	Name of Product
1	101250	Ratio-Selector , RS2000 , f. MF 15-30-60
2	400045	Intermediate connecting flange for Mini-Feed Ø194/127mm
3	411012	Flange, universal flange Ø178mm
4	205962	Buffer hopper with sight glass, Ø194/Ø45mm
5	200029	Flange, SVR/Mini-Feed
6	201919	Transparent buffer, 4 liter, for Mini-Feed 15-60
7	201756	Transparent buffer, 2 liter, for Mini-Feed 15-60
8	203950	Compressed air filter cleaning incl. base filter, kit for Mini-Feed
9	207783	Alarm lamp , Flash Orange (Sound)
9	207776	Alarm lamp, Flash & Sound (Wall Mount model)
10	405938	Suction pipe, Ø32 mm , stainless steel
10	405942	Suction pipe, Ø38 mm , stainless steel

9.0 Appendix

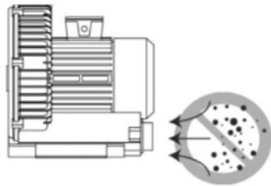
9.1 Warnings for Blower (GB)

**While in operation the following parts of the machine may cause serious injury:
READ ALL OPERATING INSTRUCTIONS**

Blower application: Use this motor only in original and/or the nameplate application. Improper installation of motor may result in fire, explosion, electric short or injury.	
Turning off power before connecting or servicing: Ground the floor frame with grounding cord, green ground screw or wire. Insulate any unused lead wires individually. Terminal cover must be in place during operation of the motor. Failure to comply may result in serious injury.	
Power source / Voltage specification: Before connecting the motor to a power source! Be sure the voltage supplied is the same as that specified on the nameplate of the blower. Using a power source with voltage more or less than the nameplate rating is harmful to the motor.	
Blower in hazardous locations: MOTOR CONTAINS NO EXPLOSIVE PROTECTION If the motor is used in hazardous or explosive locations, it will result in serious injury to the user as well as damage to the motor.	
Blower filter: Intake filter is required to prevent material from entering the blower.	
Blower high temperature: Do not touch the blower; high surface temperature. Risk of burn.	

9.2 Varningar för Fläkt (SE)

Under drift kan följande delar av maskinen orsaka allvarliga skador:
LÄS ALLA DRIFTINSTRUKTIONER!

Fläktanvändning: Använd denna motor endast i dess ursprungliga och/eller namnskyltens applikation. Felaktig installation av motorn kan orsaka brand, explosion, kortslutning eller personskada.	
Stäng av strömmen innan anslutning eller service: Jorda golvramen med jordningskabel, grön jordskruv eller jordtråd. Isolera alla oanvända ledningar individuellt. Terminalskyddet måste vara på plats under motorens drift. Underlåtenhet att följa detta kan leda till allvarliga skador.	
Strömkälla / Spänningsspecifikation: Innan du ansluter motorn till en strömkälla! Se till att den levererade spänningen är densamma som den som anges på fläktens namnskylt. Att använda en strömkälla med högre eller lägre spänning än den som anges på namnskylten kan skada motorn.	
Fläkt i farliga områden: MOTORN HAR INGET EXPLOSIONSSKYDD Om motorn används i farliga eller explosiva områden kan det leda till allvarliga skador på användaren samt skador på motorn.	
Fläktfilter: Inloppsfilter krävs för att förhindra att material kommer in i fläkten.	
Fläkt hög temperatur: Tänk på att inte röra vid fläkten; hög ytemperatur. Risk för brännskada.	