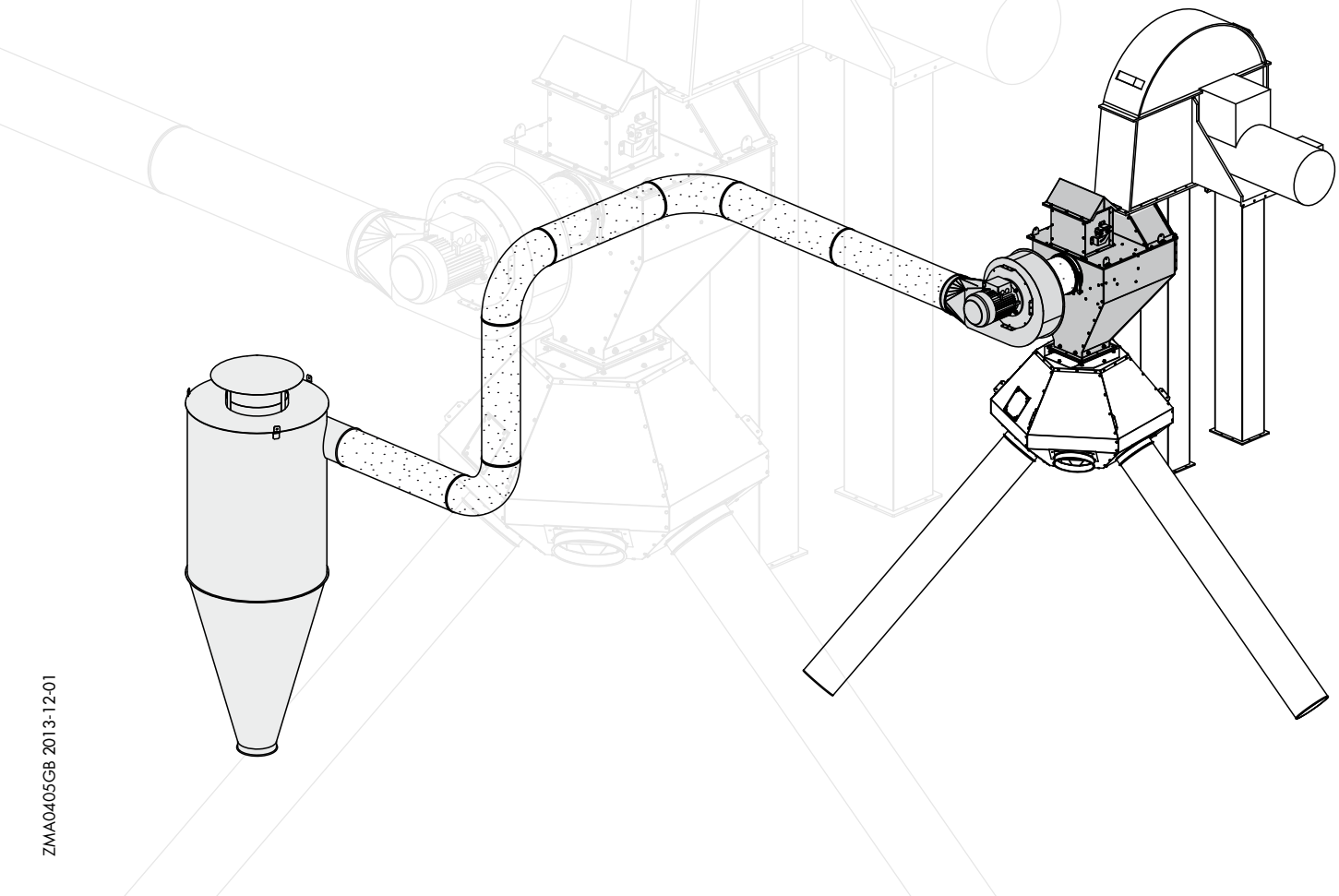
SKANDIA ELEVATOR

ASSEMBLY & MAINTENANCE INSTRUCTIONS
L- & I-line

Dust & chaff extractor



ZMA0405GB 2013-12-01

Goods inspection

Check that the number of packages agrees with the delivery note and that the packing and goods are not damaged. Make a note of any damage and missing materials on the consignment note and report it to the carrier and to us. Make sure the delivery is complete after unpacking the goods. Any materials that are found to be incorrect must not be assembled.

Warranty

A 2-year factory warranty from the day of delivery applies to all models of Skandia Elevator AB machinery. A condition of the warranty and any subsequent compensation is that Skandia Elevator AB is contacted and an agreement reached between the customer and Skandia Elevator AB on how any faults should be rectified. The warranty covers all parts that are damaged or break due to faulty design or manufacture. Faults and damage caused by faulty assembly, incorrect use or lack of maintenance will not be covered by the warranty.

CE mark

A CE mark is located on the fan housing and is proof that the machine has been manufactured in accordance with EU machine directives and complies with safety requirements. The CE mark contains information concerning year of manufacture, model designation and order number. Always specify the order number in the event of a claim and on orders for spare parts.

EC Declaration

Skandia Elevator AB
Arentorp
S-53494 Vara
SWEDEN

declare under our sole responsibility that the product:

Dust & chaff extractor

order number:

.....

to which this declaration relates is in conformity with Council Directive of 29 December 2009 on the harmonisation of the member States relating to machinery, 2006/42/EC.

Unless otherwise specified on the CE mark, the product is manufactured in accordance with EU Machinery Directive and is classified as Category II 3D/0D. It is intended for dust and chaff separation from materials that correspond with ATEX Zone 22 and the external environment is unclassified.

Vara 29/12 2009

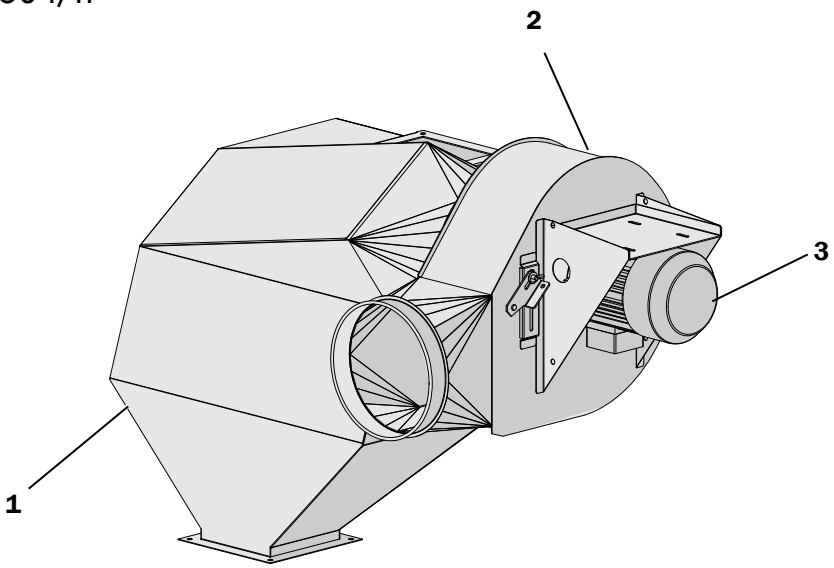
Joakim Larsson, CEO

Thank you for choosing Skandia Elevator!

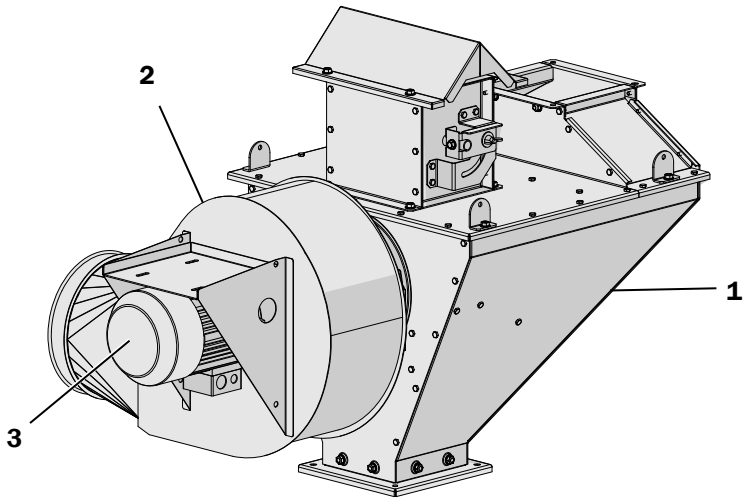
Your conveyor system must be assembled correctly and maintained thoroughly if it is to operate satisfactorily. These assembly instructions and the separate maintenance instructions must be followed for the warranty to apply.

We hope you will be pleased with your Skandia conveyor equipment for a long time.

L-line 30 & 60 t/h

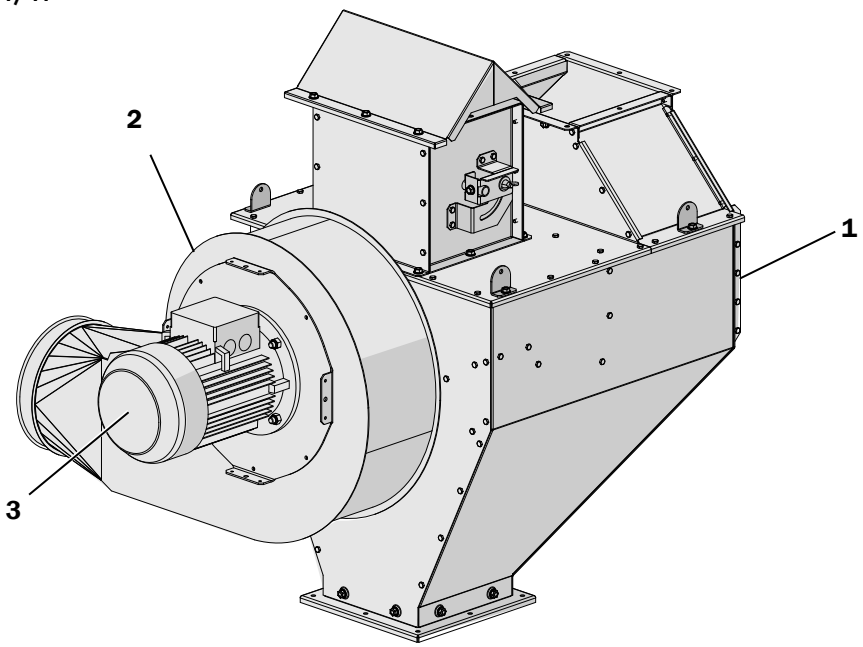


I-line 40/60 t/h

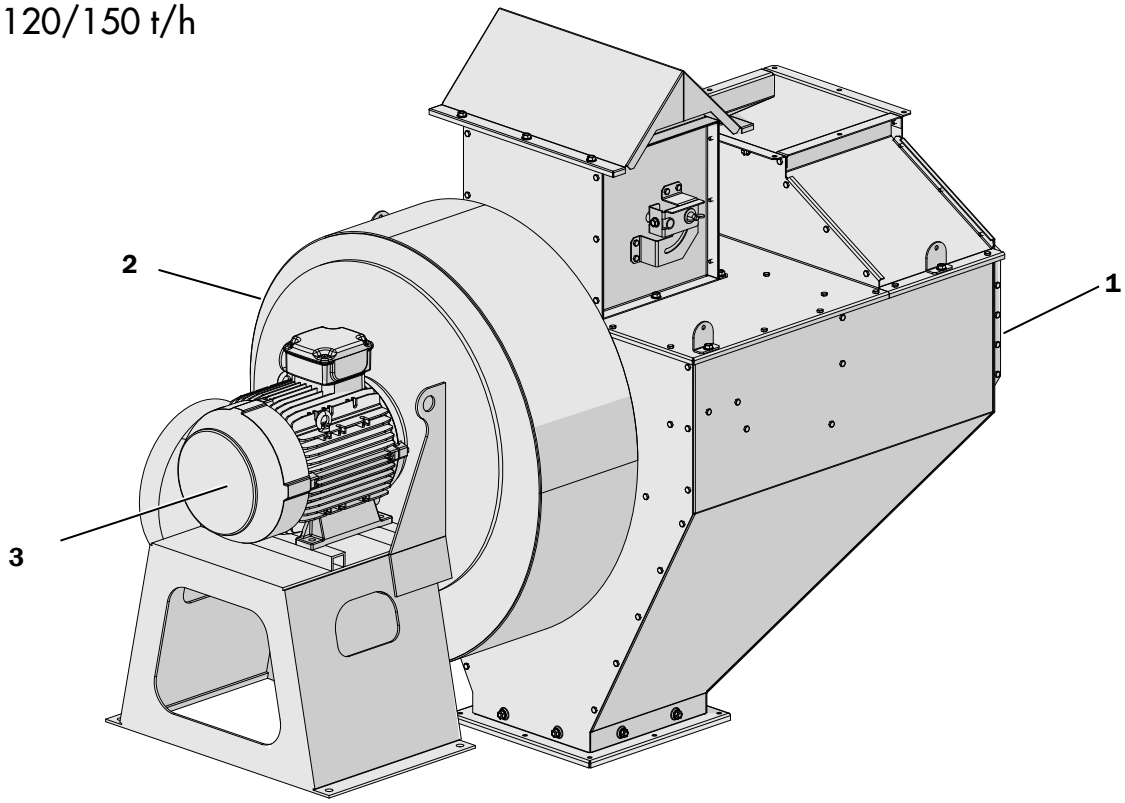


Parts	Pos.
Cleaning unit	1
Fan unit	2
Foot mounted motor/Flange motor	3

I-line 80/100 t/h



I-line 120/150 t/h



Parts	Pos.
Cleaning unit	1
Fan unit	2
Foot mounted motor/Flange motor	3

The owner of the transport equipment is responsible for these assembly and maintenance instructions always being available to the fitters, electricians, maintenance technicians and engineering technicians concerned.

Incorrect assembly and/or operation may lead to personal injury or damage to the conveyor equipment and/or other equipment. It can also cause malfunctions or a reduction in capacity.

Read the assembly instructions carefully before assembly, electrical connection, maintenance or operation commences. If any part of these instructions should be difficult to comprehend, please get in touch with your reseller for assistance.

The safety information is presented and interpreted as follows:

⚠ **WARNING!**
Disregarding instructions given in warnings can cause serious personal injury or death.

⚠ **IMPORTANT!**
Ignoring the instructions given in important texts may cause damage to the conveyor equipment and/or other equipment. It can also cause malfunctions or a reduction in capacity.

NB! indicates that the text contains information that will simplify the assembly process.

General

⚠ **WARNING!**

- Ensure that everyone responsible for assembly, electrical connection, maintenance and operation of the conveyor equipment has read and understood the instructions and safety information.
- Use protective gloves, helmet, steel-toed boots, ear defenders, protective goggles and high-vis vest when carrying out assembly, electrical connection, maintenance and operation of conveyor equipment.

⚠ WARNING!

- Stop the machinery and turn off electric power before attempting any type of assembly, electrical connection or maintenance work.
- Do not start the machinery without the lid, hatches, covers, guards and connections fitted in such a way they can only be opened with tools.
- Connections to, from and between machinery must be permanently mounted and fully enclosed. If the design of the installation does not allow this at an outlet, finish off with a 1 m pipe.

⚠ IMPORTANT!

- The machine is not designed to stand or walk on.
- If a short circuit should occur, ensure that the electrical equipment is in working order before continuing operation.
- Ensure that the electrical equipment is kept free from dirt, dust, moisture and electrostatic charge.

Electrical connection

Incorrect electrical connection may lead to personal injury or damage to the conveyor equipment and/or other equipment. It can also cause malfunctions or a reduction in capacity.

⚠ WARNING!

- All electrical equipment is to be connected by a qualified electrician. See separate connecting directions for electronics.
- The power switch must be permanently mounted and located to allow easy access when carrying out maintenance work.

⚠ IMPORTANT!

- Ensure the motor protection is set to the correct ampere setting for the motor.
- Ensure the motor is connected with the correct direction of rotation so that the fan draws air from the cleaning housing, see the arrow on the fan housing.

Maintenance

Inadequate maintenance may lead to personal injury or damage to the conveyor equipment and/or other equipment. It can also cause malfunctions or a reduction in capacity.

Read the maintenance chapter carefully before maintenance or operation commences. If any of these instructions should be difficult to comprehend, please get in touch with your reseller for assistance.

30 & 60 t/h

⚠ **WARNING!**
Brace each machine part and pipe length directly as they are assembled as instructed below.

⚠ **IMPORTANT!**
Make connection, brace machine/pipe details, route ducting and make adjustments as instructed below.

Connection

- Assemble the cleaning unit (A) horizontal to the elevator/conveyor outlet.
- Assemble the fan unit (B) vertical to the cleaning unit (A). Direct the fan unit outlet (C) to an optional angle.
- Ensure all connections are fully tight.

Bracing

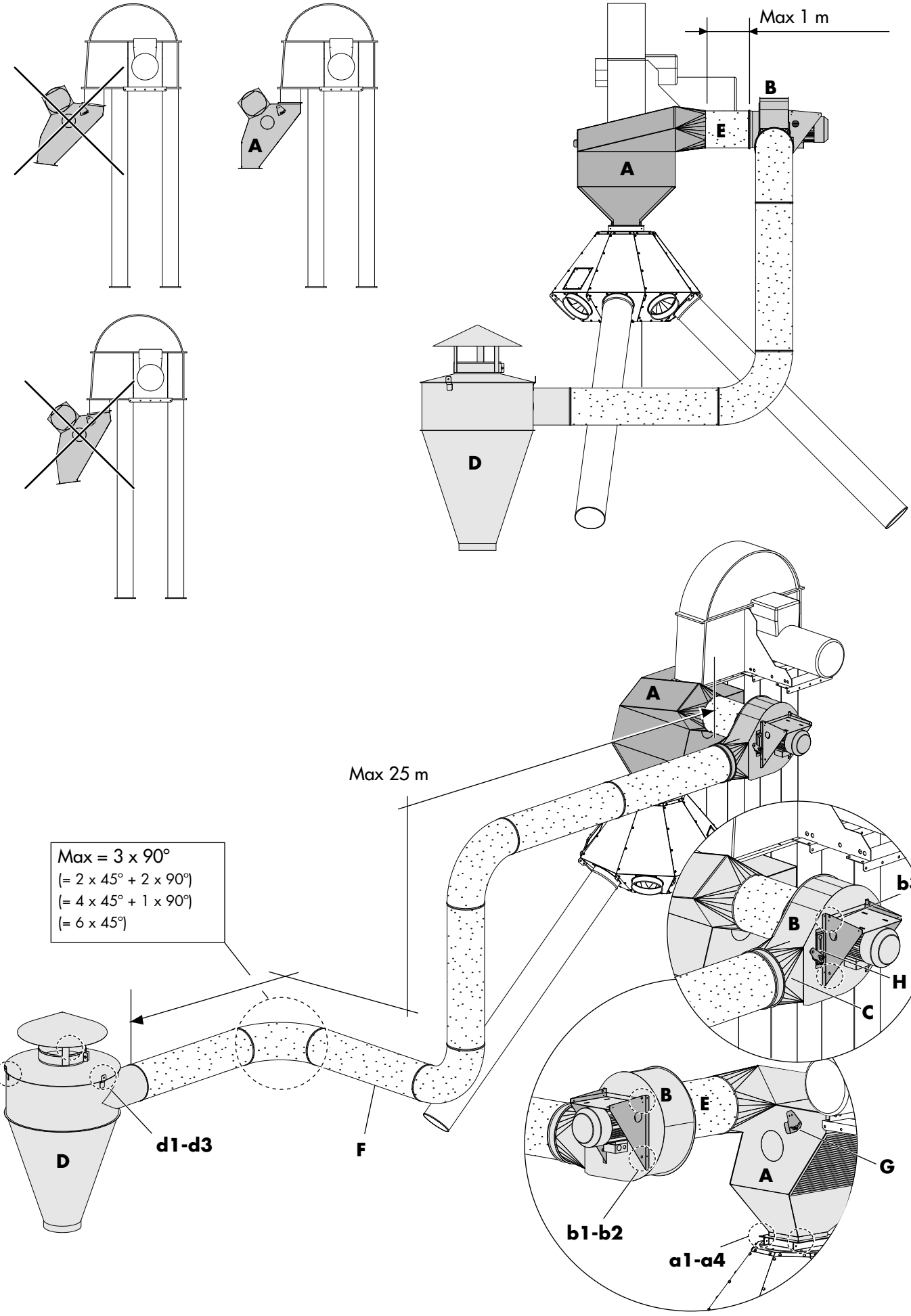
- Brace the cleaning unit (A) to the outlet frame so that the weight is evenly distributed over at least 2 of 4 bracing points (a1-a4).
- Brace the fan unit (B) so that the weight is evenly distributed over at least 2 of 4 bracing points (b1-b4).
- Brace the cyclone (D) so that the weight is distributed over all 3 bracing brackets (d1-d3).
- Brace pipes every second metre.

Piping

- Ensure ducting has at least the same diameter as the inlet/outlet.
- Maximum 1 m horizontal ducting (E) can be routed between the cleaning unit and the fan unit.
- Route the ducting (F) between the fan unit and the cyclone for a maximum of 25 m with no more than 3x 90° bends or equivalent with other angles. Avoid locating bends closer than 2 m from outlet/inlet.
- Ensure the dust and chaff outlet is free from filtering or blocking devices.

Electrical connection/capacity setting

- Ensure the electrician connects the fan motor with the correct direction of rotation so that it draws air from the cleaning unit see the arrow on the fan unit.
- This step applies to L-line 60 t/h only:
  Adjust the position of the spreader plate with the control (G). Start with the spreader plate fully raised. Check the spread through the inspection window, light corn has less spread. Lower the spreader plate gradually until the corn spreads well.
- Set the cleaning capacity with the air shutter control (H). Start with the air shutter fully open. Check whether the fan is drawing whole corn, listen and observe the dust and chaff outlet. Close the air shutter gradually until the fan stops drawing whole corn.


A
Max 1 m
B
E
A
D
Max 25 m
Max = 3 x 90°
(= 2 x 45° + 2 x 90°)
(= 4 x 45° + 1 x 90°)
(= 6 x 45°)
b3-b4
B
H
C
B
E
G
A
b1-b2
a1-a4
D
d1-d3
F

40/60, 80/100 & 120/150 t/h

⚠ **WARNING!**
Brace each machine part and pipe length directly as they are assembled as instructed below.

⚠ **IMPORTANT!**
Make connection, brace machine/pipe details, route ducting and make adjustments as instructed below.

Connection

- Assemble the cleaning unit (A) horizontal to the elevator/conveyor outlet.
- Assemble the fan unit (B) vertical to the cleaning unit (A). Direct the fan unit outlet (C) to an optional angle.
- Ensure all connections are fully tight.

Bracing

- Brace the cleaning unit (A) so the weight is evenly distributed over all 4 bracing brackets (a1-a4).
- *40/60 t/h* – Brace the fan unit (B) so that the weight is evenly distributed over at least 2 of 4 bracing points (b1-b4).

  80/100 t/h – Brace the fan unit (B) so that the weight is evenly distributed over at least 2 of 4 bracing brackets (b1-b4).

  120/150 t/h – Brace the fan unit (B) so that the weight is evenly distributed over at least 2 of 6 bracing points (b1-b6).
- Brace the cyclone (D) so that the weight is distributed over all 3 bracing brackets (d1-d3).
- Brace pipes every second metre.

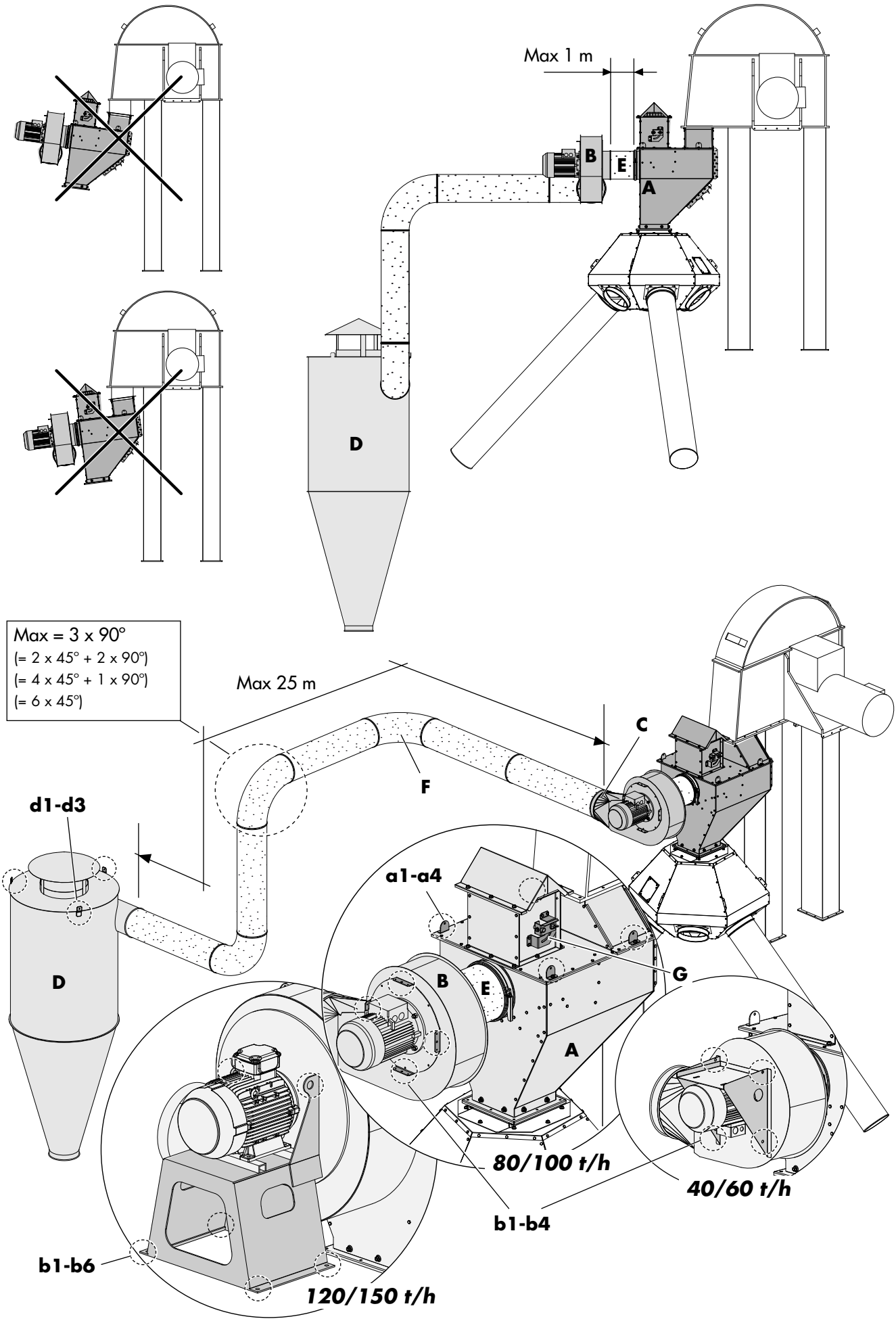
Piping

- Ensure ducting has at least the same diameter as the inlet/outlet.
- Maximum 1 m horizontal ducting (E) can be routed between the cleaning unit and the fan unit.
- Route the ducting (F) between the fan unit and the cyclone for a maximum of 25 m with no more than 3x 90° bends or equivalent with other angles. Avoid locating bends closer than 2 m from outlet/inlet.
- Ensure the dust and chaff outlet is free from filtering or blocking devices.

Electrical connection/capacity setting

- Ensure the electrician connects the fan motor with the correct direction of rotation so that it draws air from the cleaning unit see the arrow on the fan unit.
- Set the cleaning capacity with the air shutter control (G). Start with the air shutter fully closed. Check whether the fan is drawing whole corn, listen and observe the dust and chaff outlet. Open the air shutter gradually until the fan stops drawing whole corn.

  NB! The air shutter found on the fan unit on 40/60 t/h models must always be open!


Max 1 m
B
E
A
D
Max = 3 x 90°
(= 2 x 45° + 2 x 90°)
(= 4 x 45° + 1 x 90°)
(= 6 x 45°)
Max 25 m
C
F
d1-d3
D
a1-a4
G
B
E
A
80/100 t/h
40/60 t/h
b1-b4
b1-b6
120/150 t/h

⚠ WARNING!

- Stop the machinery and turn off electric power before attempting any type of assembly, electrical connection or maintenance work.
- Do not start the machinery without the lid, hatches, covers, guards and connections fitted in such a way they can only be opened with tools.

⚠ IMPORTANT!

- If the machine or part thereof in any way needs moving/dismantling, follow the directions given in the assembly/connection chapter.
- The machine is not designed to stand or walk on.
- If a short circuit should occur, ensure that the electrical equipment is in working order before continuing operation.
- All instructions in this maintenance chapter must be considered as important texts.

General

- Check annually that the bolts are securely in place, that no components are missing and that there is no rust on the machinery. Replace damaged components.
- Ensure that the electrical equipment is kept free from dirt, dust, moisture and electrostatic charge.
- Ensure the fan unit and cleaning unit are free from materials when the machine is used.

Troubleshooting

Poor capacity/stop

Check:

- that capacity demands are realistic for the conditions in question. The capacity changes if the water content in the corn varies.
- that connections are fully tight.
- that the cleaning unit is free from waste.
- that ducting dimensions are sufficient. Refer to the technical specifications in this chapter.

Motor stoppage

NB! The motors are designed for high operating temperatures.

If the motor stops:

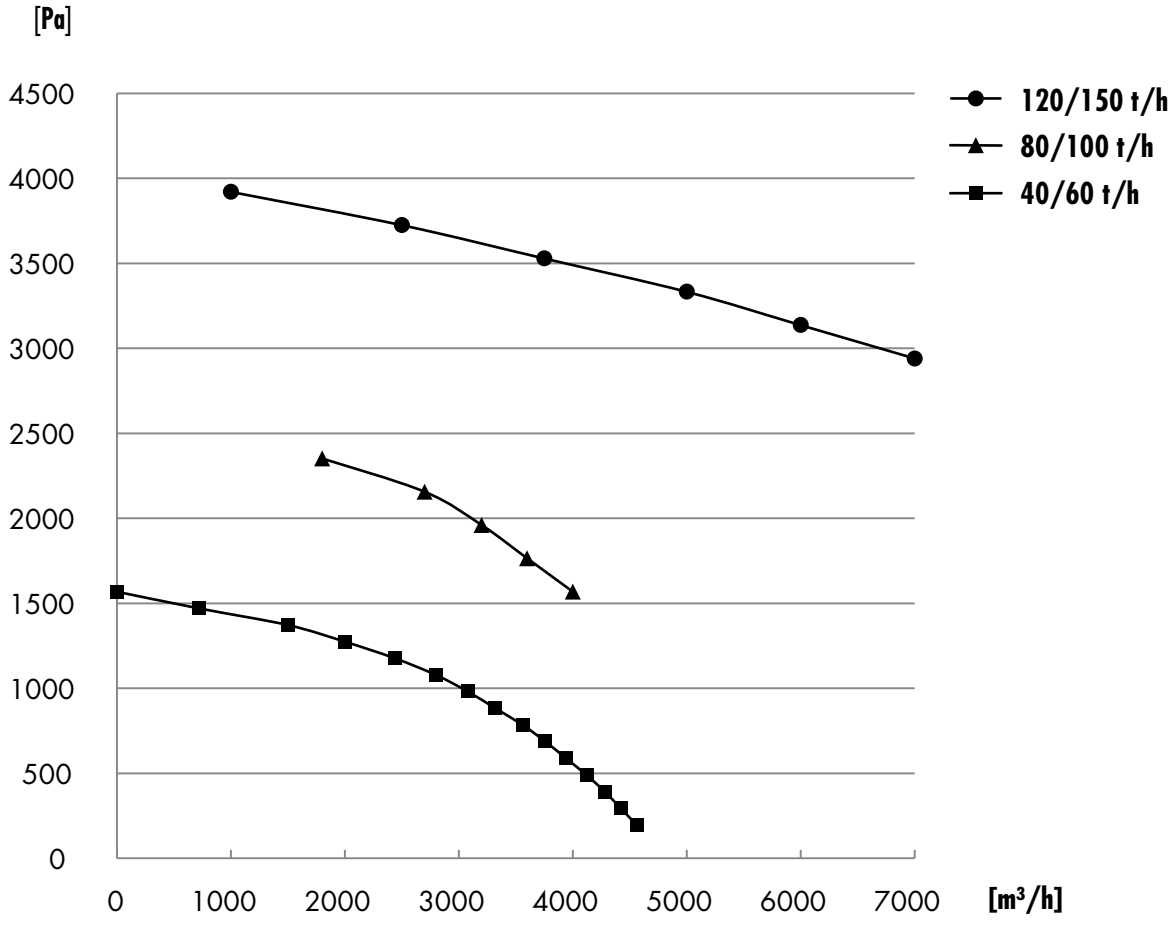
1. check the cause of the stoppage. See the previous troubleshooting directions concerning this.
2. cut the power and clear away any blockages. Do not try to remove a blockage by repeatedly attempting to restart.
3. check with the electrician that the motor has been connected to the correct voltage and that the motor protection is set to the right value.

Technical specifications

Dust & chaff extractor		L-line		I-line		
		30 t/h	60 t/h	40/60 t/h	80/100 t/h	120/150 t/h
Connection dimension inlet/outlet cleaning unit	mm	□140	□180	□180	□250	□300
Pipe system & diameter	mm	RK160	RK250	RK250		Spiro315
Goods thickness, cleaning unit	mm	1,25		2		
Drive system		Foot mounted motor			Flange motor	Foot mounted motor

Airflow for dust and chaff extractor

NB! These are guideline values and are dependent on counter pressure in the ducting. This counterpressure varies with the length of ducting and how many bends are included.



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