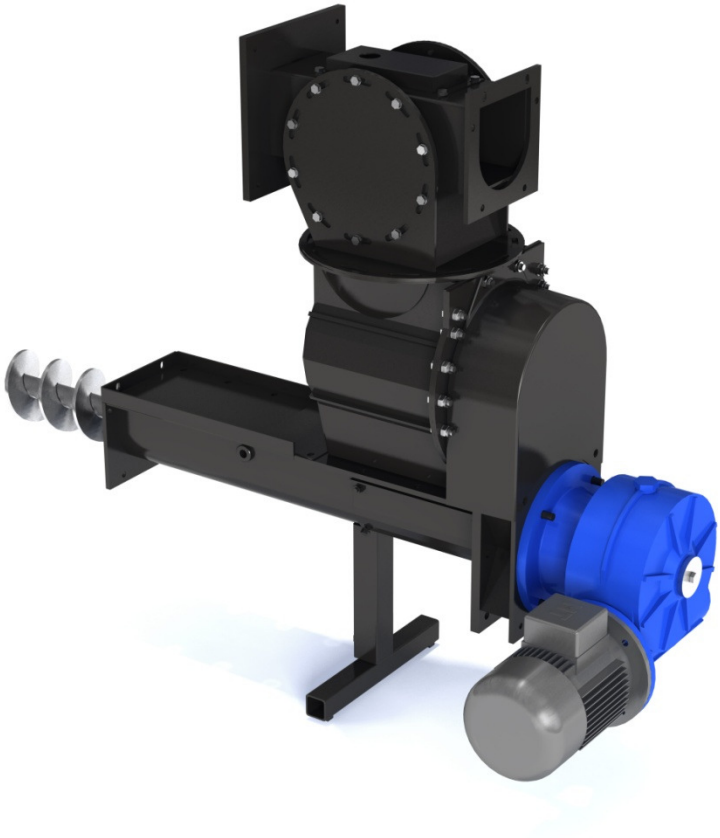
RFD20150218EN2.0

Rotary Feeder



Data Sheet

Retailer:

Keep this manual.

Contents

1. Introduction

This manual is for using the rotary feeder. To gain the best possible benefit of the device, read this manual before installing or using the device. If all the instructions are followed, the device provides a long-lasting, economic, and faultless performance. Only use this manual with the device it was delivered with.

⚠ DANGER Improper use of the product can result in serious injury. To avoid injury, read and carefully follow all instructions provided in this manual before installing, operating, or servicing the device.

⚠ WARNING The instructions provided in this manual are recommendations. Laws and regulations of local authorities override our recommendations.

1.1. Contact information

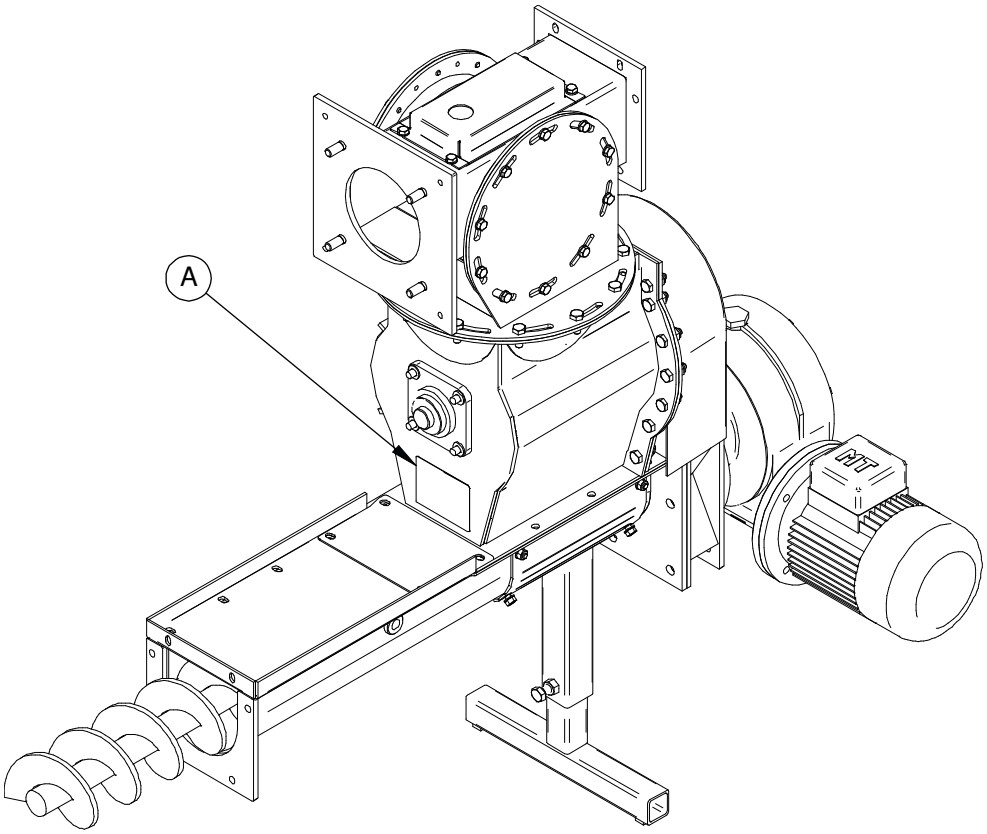
1.2. Type plate and delivery information

Write down the information from the type plate for easy reference. You need the information when, for example, ordering spare parts or claiming warranty.

Table 1 Type plate and delivery information

Type	
Manufacturing year	
Serial number	
Delivery date	

Figure 1 Type plate location



A Type plate

1.3. Warranty

The manufacturer Veljekset Ala-Talkkari Oy grants a warranty for the products that it manufactures and markets. The user is liable for damage resulting from use of the equipment for any purpose other than that for which it was designed.

The warranty period is one year from the date of delivery (EU countries: The device has a warranty that complies with the legislation in the country of use).

The warranty for parts changed under the warranty continues until the end of the original warranty period.

The prerequisite for warranty is observation of the installation, use, service and safety instructions for the device.

Continuation of the warranty for the device requires the use of original spare parts or those approved by the manufacturer. Service and any repairs performed during the warranty period must be assigned to a service company approved by the manufacturer.

Compensation for service during warranty period can also be claimed if:

- The service visit is unnecessary (the reason is not covered by the warranty).
- The manufacturer’s instructions concerning installation, use and care have not been observed.
- Corrective measures were not taken immediately upon observation of the fault.

The warranty covers:

- Manufacturing and raw material defects in products manufactured by Veljekset Ala-Talkkari Oy.

The warranty does not cover:

- Defects or damage caused by:
    - Natural wear (spring agitator springs, feeding screw, grates, blades, feet, etc.)
    - Misuse of the product or use in violation of the instructions
    - Neglect of service in accordance with the instruction manual
    - Change work or repairs made without the manufacturer's consent
    - Other manufacturers’ control devices or programs
    - Safety equipment that deviates from that delivered or is installed contrary to the instructions
    - External factors
- Breakage of parts preventing overloading
- Indirect costs or down time, or the resulting financial losses
- Work or travel costs unless separately agreed in advance with the manufacturer

1.3.1. Deficiencies in delivery and return of warranty parts

- Deficiencies in delivery must be reported within seven (7) days of the delivery.
- Broken warranty parts must be returned to the plant for a warranty inspection (include a warranty report).
- A part to replace the broken part can be delivered prior to warranty processing.
- An invoice for returned warranty parts that do not meet the terms of the warranty can be sent after warranty processing.
- The client can be charged for parts that are not returned upon request.

1.3.2. Processing of warranty matters

- The retailer is the primary contact channel in warranty matters and problem situations.
- The retailer handles processing of the matters with the manufacturer.
- The retailer must be provided with the following information: brand, model and purchasing date for the device and the serial number of the device from the type plate.
- Warranty compensation is subject to determination of the cause of the damage and agreement with the manufacturer concerning the repair prior to initiating any repair work.

1.4. Product markings

NOTICE Pay attention to the warning and information stickers: they help you to avoid risks.

Figure 2 Product marking locations

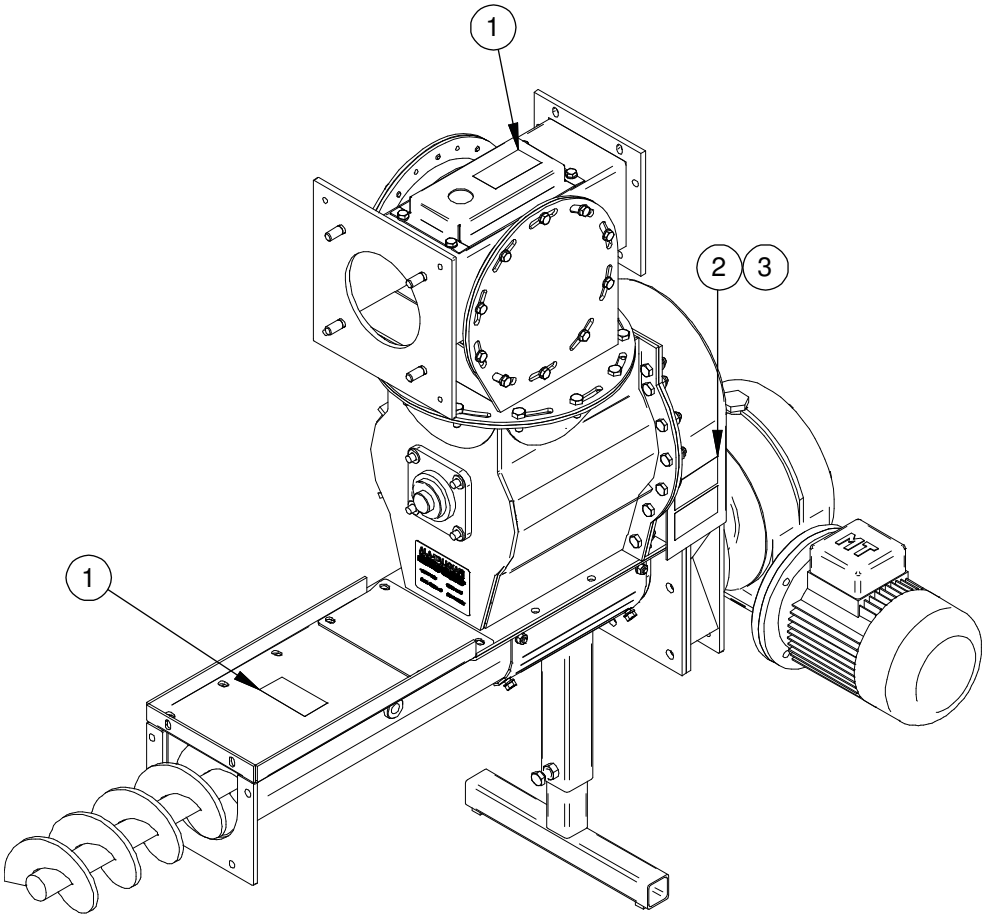
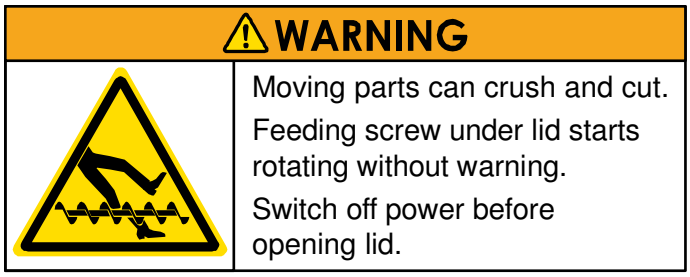
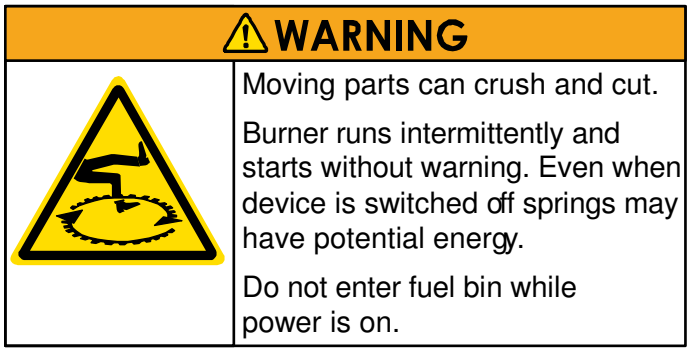
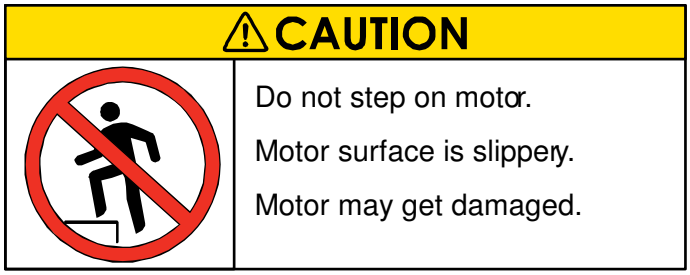


Table 2 Product markings on the device

Item	Product marking
1	
2	
3	

1.5. Product documentation

Table 3 Related product documentation

Manual name	Identification
Boilers	
Veto Stoker Boiler 30, 60, 75, 80, 100, 120, 150, 220 kW	VSB20150218EU2.0
Veto Stoker Boiler 300, 400, 500, 700, 990 kW	TH300-700kW_11.11.2009
Control unit	
A•T Log-1 and A•T Log-2 Control Unit User Manual	ATL20150218EU2.0
Lambda 5S Control Unit	039 028 06_LAMBDA 5S GB_v8
Burners	
Veto 6 User Manual	V6T20150218EU2.0
Veto 8 User Manual	V8T20150218EU2.0
Veto Spring Agitator User Manual	VBR20150218EU2.0
Other	
Veto Burner Head 160, 240, 360, 480, 640, 800, 990 kW User Manual	SBT20121221US1.0
Boiler Transport and Storage	SBT20121221US1.0
Veto Burner Head 160, 240, 360, 480, 640, 800, 990 kW Transport and Storage	VBT20121221US1.0
Veto 6 Transport and Storage	V6T20130328US2.0
Veto 8 Transport and Storage	V8T20130328US2.0
Veto Spring Agitator Transport and Storage	VST20121221US1.0
Other manufacturers' documentation	
BVTS User Manual	IC.PI.500.E4.72-520B4081

1.6. Version history

Table 4 Document version history

Version	Date	Changes
EN1.0	28.03.2013	First version
EN2.0	18.02.2015	Second version

1.7. Document conventions

1.7.1. Symbols

Table 5 Symbols used in this document

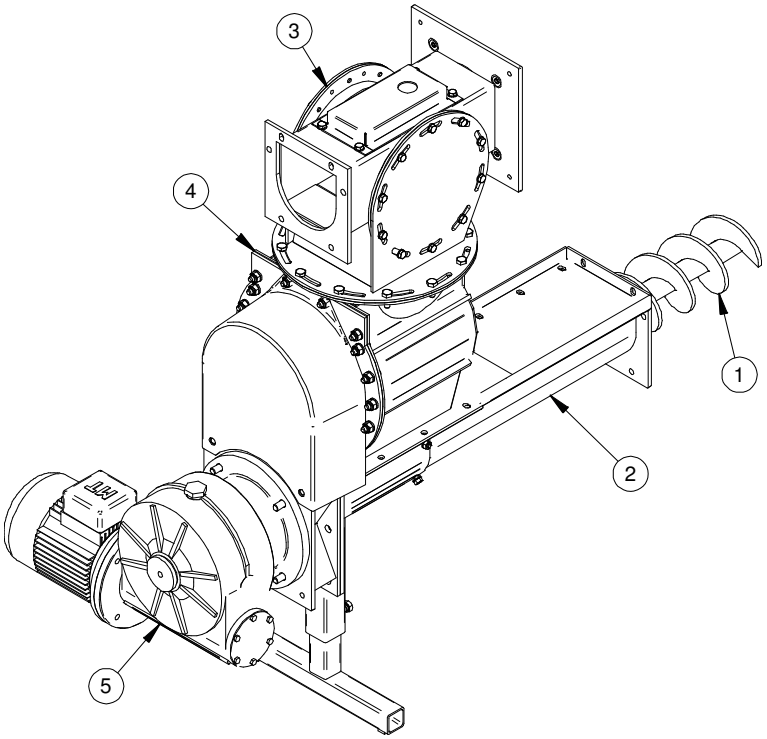
Symbol	Explanation
	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
	Indicates special information to the reader, but not related to personal injury.

2. Product description

The rotary feeder delivery includes:

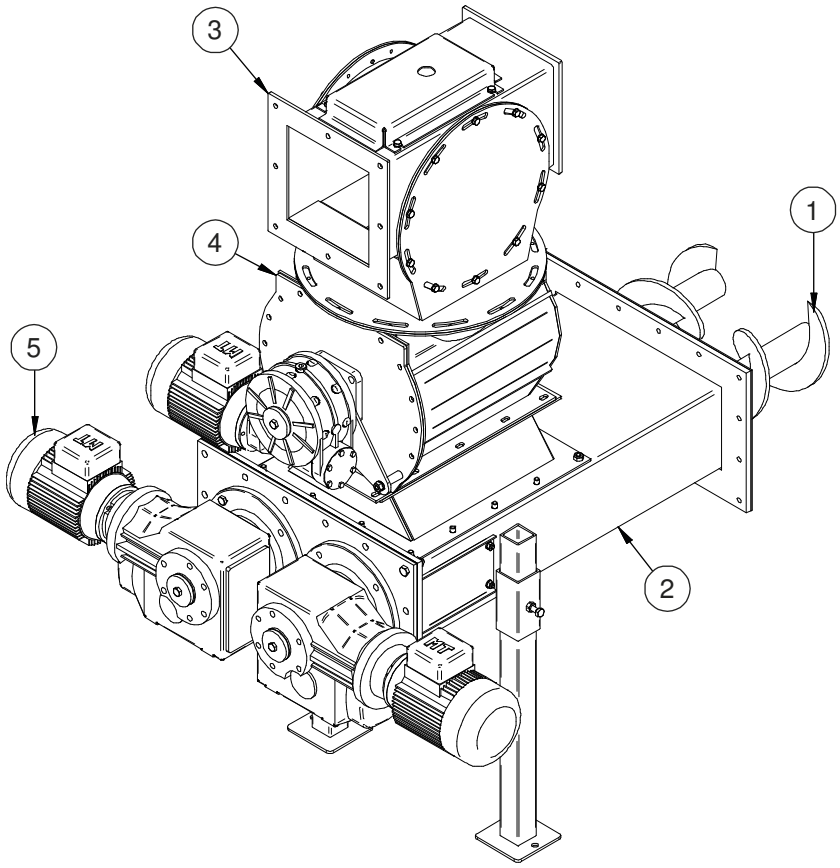
- Rotary feeder
- Burner head feeding screw
- Lid
- Gasket
- Electric motor
- Bolts and nuts needed for installation

Figure 3 Rotary feeder



1 Burner head feeding screw
2 Burner head feeding chute
3 Upper end of the rotary feeder
4 Rotary feeder
5 Gearbox and electric motor

Figure 4 Rotary feeder (2 x Ø160 mm)



1 Burner head feeding screw
2 Burner head feeding chute
3 Upper end of the rotary feeder
4 Rotary feeder
5 Gearbox and electric motor

2.1. Operation principle

The purpose of a rotary feeder is to prevent backfire in the system. The rotary feeder does not prevent the backfire by itself. It is important that the system is serviced regularly and the boiler is correctly adjusted. If a backfire breaks out regardless of the preventive measures, the rotary feeder prevents the fire from spreading. In the middle section of the rotary feeder there are airtight sealing lamellas. Also, there is a connection to the water tank on the burner head feeding chute included in the delivery. (800 and 990 kW burner head deliveries do not include a water tank.)

The silo feeding screw moves the fuel from the silo to the upper part of the rotary feeder from where the fuel drops down to the sealing lamellas of the rotary feeder. The lamellas and the feeding screws rotate simultaneously. The fuel moves from the lamellas plates to the burner head feeding screw and to the burner head where it burns.

2.2. Product variants

Feeding screw

- Ø125 mm
- Ø160 mm
- Ø200 mm
- 2 x Ø160 mm

Burner head feeding chute

- 800 mm
- 1000 mm
- 1500 mm

3. Installation

⚠ DANGER

Before starting any maintenance work, switch off the current with the main switch and wait for 15 minutes. Although the control unit is dead, there still is a normal supply voltage coming from the frequency converter.

⚠ WARNING

Only an authorized electrician should perform the electrical installation which must comply with the wiring diagrams inside the control unit.

Mount the control unit so that it does not, even during a fault, cause a fire hazard to the mounting base or the attaching structure of the unit.

⚠ CAUTION

The metal parts of the exit gas temperature sensor and the feeding screw thermostat in the feeding tube can be extremely hot.

3.1. Preparations for installation

3.1.1. Inspecting and preparing installation site

Do not use the boiler room for general storage due to fire hazard.

- Install the device indoors. The device must have an own confined space.
- Drain the installation site.
- Minimum safety distances in the installation site should be according to the regulations.
- Plan where to place the water tank of the backfire prevention system. For connecting the backfire prevention system to the burner, get enough plastic hose with an inner diameter of 13 mm.

The bottom of the water tank must be at least 50 cm higher than the feeding chute.

- Close tightly all boiler hatches

3.1.2. Inspecting chimney and venting system

For chimney and venting requirements, see the Veto stoker boiler manual.

3.1.3. Inspecting combustion air supply

For combustion air supply requirements, see the Veto stoker boiler manual.

3.1.4. Installing main switch

Install the main switch close to the boiler room door so that in case of emergency the switch is easy to access without entering the boiler room.

3.1.5. Required tools for installation

- 13 mm wrench
- 17 mm wrench
- 19 mm wrench
- Level
- Trolley jack

NOTICE

The burner delivery includes the bolts and nuts needed in burner installation.

You need two set wrenches of each size.

Table 6 Screw torque when installing spring agitator

Diameter mm	Strength class 8.8	Strength class 10.9
8	24 Nm	34 Nm
10	48 Nm	67 Nm
12	83 Nm	117 Nm
16	115 Nm	200 Nm

3.2. Checking the device

Table 7 Contents of the delivery Ø125 mm

Quantity	Item	Product number
1	Rotary feeder Ø125, 800 mm	37000
	Rotary feeder Ø125, 1000 mm	37001
	Rotary feeder Ø125, 1500 mm	37002
1	Burner head feeding screw Ø125: feeding chute 800 mm	37006
	Burner head feeding screw Ø125: feeding chute 1000 mm	37007
	Burner head feeding screw Ø125: feeding chute 1500 mm	37008
2	Lid	43452
2	Gasket	40534
1	Electric motor	

Table 8 Contents of the delivery Ø160 mm

Quantity	Item	Product number
1	Rotary feeder Ø160, 800 mm	37003
	Rotary feeder Ø160, 1000 mm	37004
	Rotary feeder Ø160, 1500 mm	37005
1	Burner head feeding screw Ø160: feeding chute 800 mm	37009
	Burner head feeding screw Ø160: feeding chute 1000 mm	37010
	Burner head feeding screw Ø160: feeding chute 1500 mm	37011
2	Lid	45384
2	Gasket	40534
1	Electric motor	

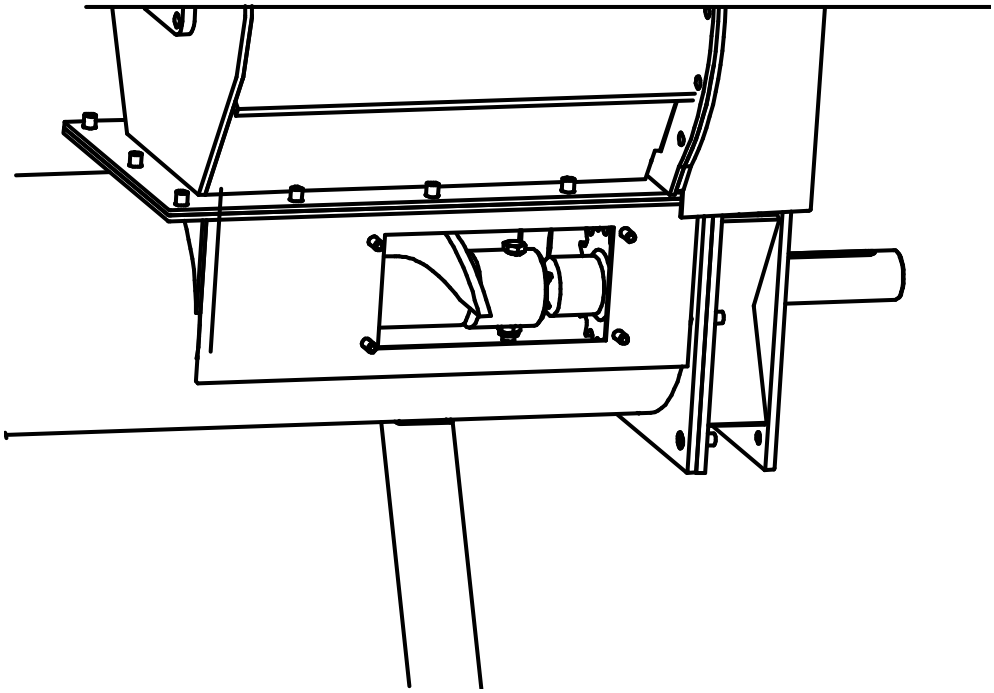
Table 9 Contents of the delivery Ø200 mm

Quantity	Item	Product number
1	Rotary feeder Ø200, 800 mm	37018
	Rotary feeder Ø200, 1000 mm	37019
	Rotary feeder Ø200, 1500 mm	37020
1	Burner head feeding screw Ø160 feeding chute 800 mm	37021
	Burner head feeding screw Ø160 feeding chute 1000 mm	37022
	Burner head feeding screw Ø160 feeding chute 1500 mm	37023
2	Lid	45384
2	Gasket	40534
1	Electric motor	

3.3. Installing the rotary feeder

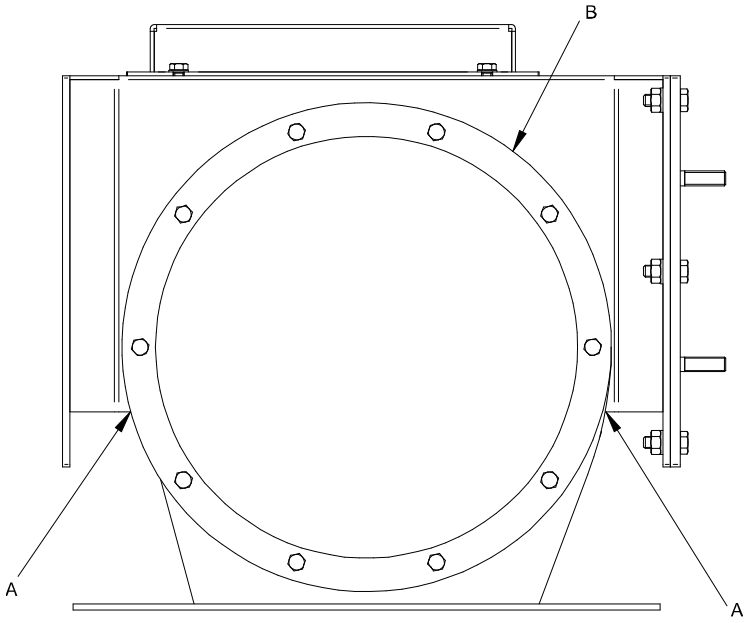
1. Install the feeding screw to the burner head feeding chute.
   Fasten the screw through the hatch. Rotate the gearbox motor connection to a suitable position to mount the feeding screw and the shaft with an M10x80 screw and a Nyloc nut.

Figure 5 Fastening the screw



2. Install the rotary feeder to the burner.
3. Smear the shaft of the electric motor with vaseline.
4. Install the electric motor to its place
5. Apply sealant under the rotary feeder's upper chutes (to both sides). Open bolt holes are sealed with a gasket which is bolted to the upper end of the rotary feeder.

Figure 6 Sealing the upper end of the rotary feeder



A Sealant
B Gasket

4. Device components and spare parts

In order to obtain spare parts corresponding to your needs, you are required to give the information provided on the machine plate of the device to the dealer or the person servicing the device.

Figure 7 Rotary feeder Ø125 mm components

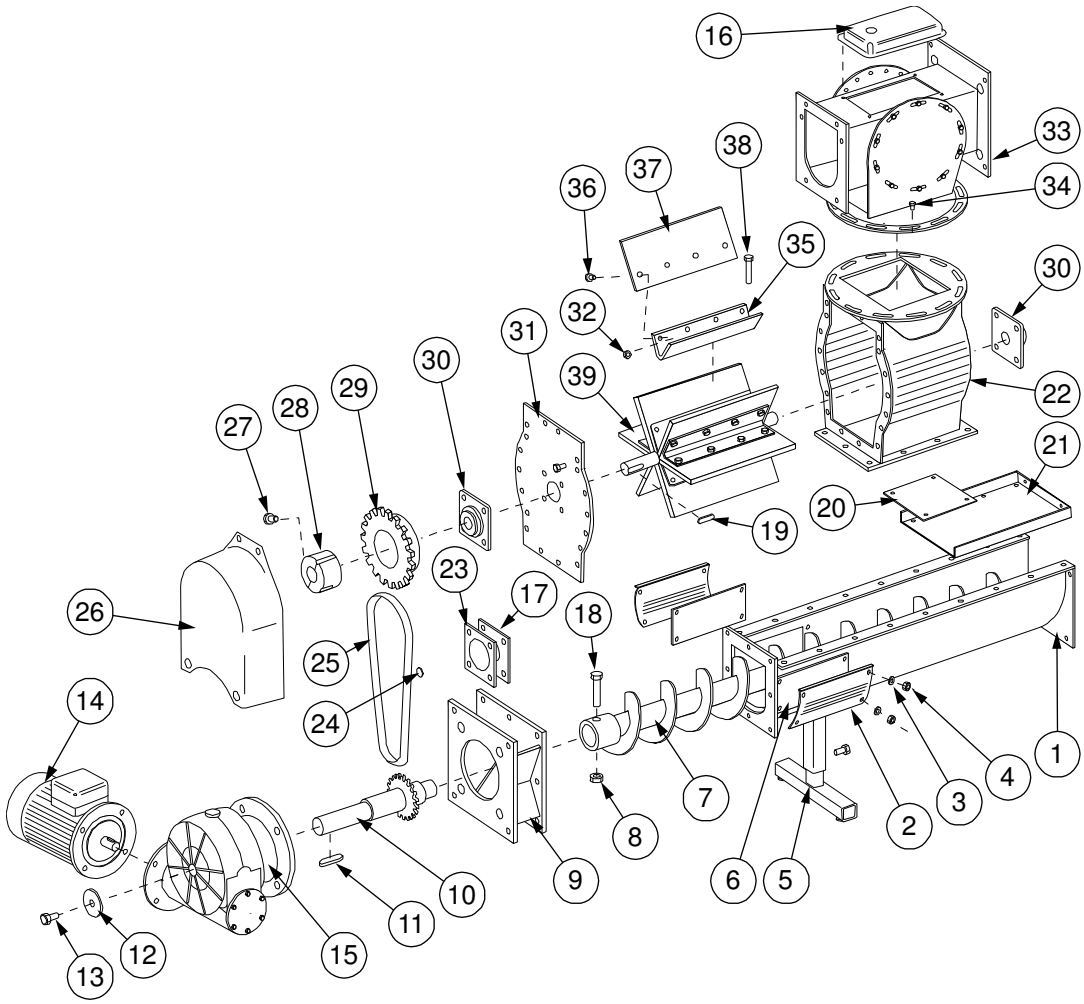


Table 10 Rotary feeder Ø125 mm components

No.	Name	Item
1	Burner head feeding chute 800 mm	32286
	Burner head feeding chute 1000 mm	
	Burner head feeding chute 1500 mm	
2	Lid	43452
3	Washer M8	73104
4	Nut M8	73308
5	Foot, rotary feeder	42799
6	Gasket	40534
7	Feeding screw: feeding chute 800 mm	11119
	Feeding screw: feeding chute1000 mm	
	Feeding screw: feeding chute 1500 mm	
8	Nyloc nut M10	72322
9	Coupling flange	30324
10	Shaft	30323
11	Key 12x8x60 mm	74084
12	Washer	43463
13	Screw M10x30	72151
14	Electric motor 1,5 kW	620303
15	Gearbox RMI 110	62007
16	Service lid	43386
17	Rubber gasket	41608
18	Screw M10x80	72159
19	Key 8x7x40 mm	74056
20	Lid	43474
21	Cover: feeding chute 800 mm	43451
	Cover: feeding chute 1000 mm	
	Cover: feeding chute 1500 mm	
22	Rotary feeder	41445
23	Gasket holder	42389
24	Chain lock 3/4"	610961
25	Chain 3/4"	61096
26	Chain cover	30326
27	Screw M12x20	9131220
28	Taper lock bushing	62309
29	Chain sprocket	62308
30	Bearing UCF 206	61006
31	Gable	30291
32	Nut M6	73306
33	Upper end of the rotary feeder	41456
34	Screw M10x20	721481
35	Lamella holder	32255
36	Lock screw M6x20	83250
37	Lamella	40504
38	Socket cap screw M8x70	71902
39	Rotor	11149

Figure 8 Rotary feeder Ø160 mm and Ø200 components

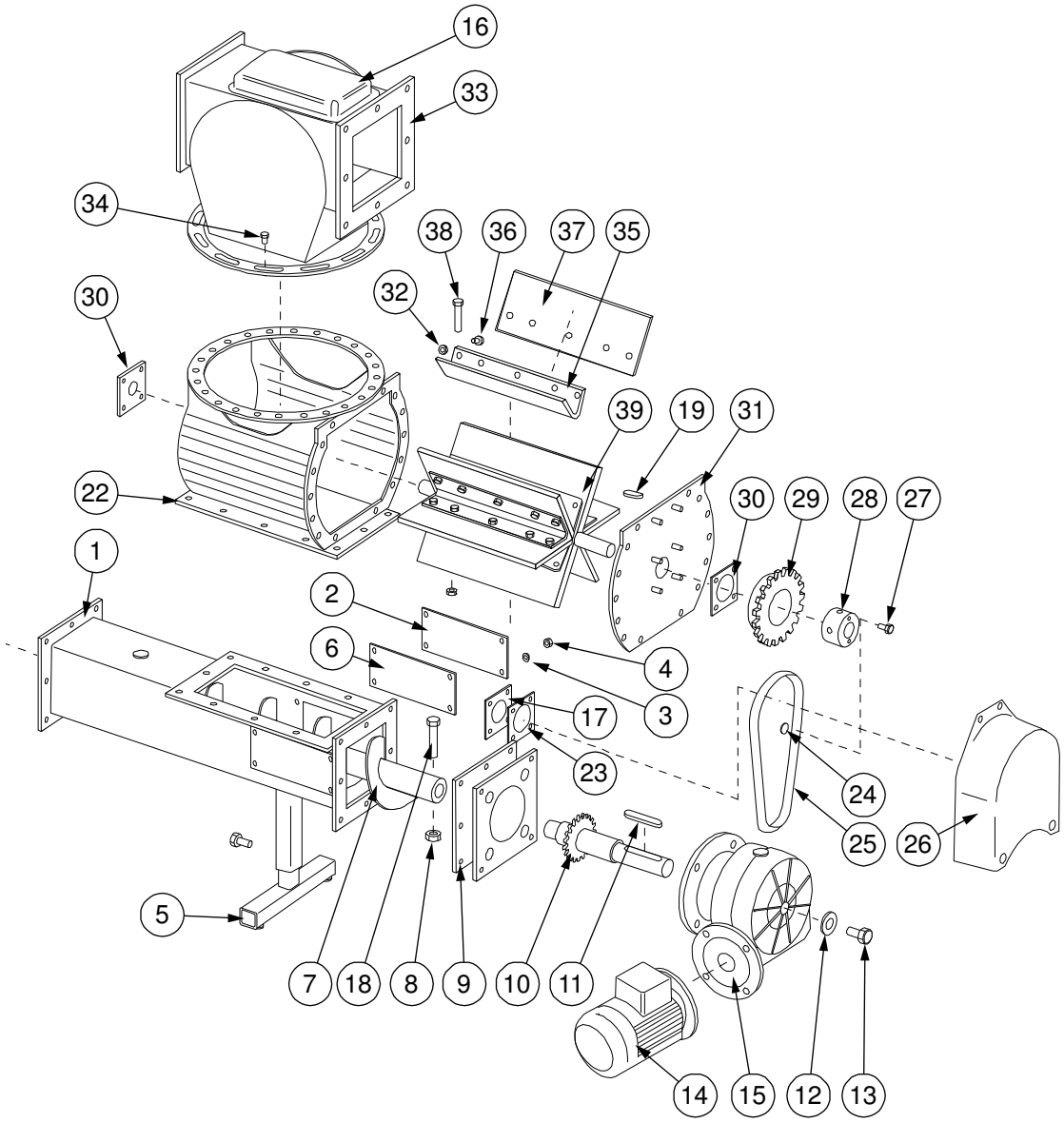


Table 11 Rotary feeder Ø160 mm and Ø200 components

No.	Name	Item
1	Burner head feeding chute 800 mm, Ø160	32280-1
	Burner head feeding chute 1000 mm, Ø160	32280-2
	Burner head feeding chute 1500 mm, Ø160	32280-3
	Burner head feeding chute 800 mm, Ø200	32279-1
	Burner head feeding chute 1000 mm, Ø200	32279-2
	Burner head feeding chute 1500 mm, Ø200	32279-3
2	Lid	45384
3	Washer M8	73104
4	Nut M8	73308
5	Feet, rotary feeder	42799
6	Gasket	40534
7	Feeding screw Ø160: feeding chute 800 mm, Ø160	11121-1
	Feeding screw Ø160: feeding chute1000 mm, Ø160	11121-2
	Feeding screw Ø160: feeding chute 1500 mm, Ø160	11121-3
	Feeding screw Ø160: feeding chute 800 mm, Ø200	11123-1
	Feeding screw Ø160: feeding chute1000 mm, Ø200	11123-2
	Feeding screw Ø160: feeding chute 1500 mm, Ø200	11123-3
8	Nyloc nut M10	72322
9	Coupling flange	30324
10	Shaft	30323
11	Key 12x8x60 mm	74084
12	Washer	43463
13	Screw M10x30	72151
14	Electric motor 1,5 kW	620303
15	Gearbox RMI 110	62007
16	Service lid	410693
17	Rubber gasket	41608
18	Screw M10x80	72159
19	Key 8x7x40 mm	74056
22	Rotary feeder	32231
23	Gasket holder	42389
24	Chain lock 3/4"	610961
25	Chain 3/4"	61096
26	Chain cover Ø160	30326-1
	Chain cover Ø200	30326-2
27	Screw M12x20	9131220
28	Taper lock bushing	62309
29	Chain sprocket	62308
30	Bearing UCF 206	61006
31	Gable	410705
32	Nut M6	73306
33	Upper end of the rotary feeder	49621
34	Screw M10x20	721481
35	Lamella holder	32255
36	Lock screw M6x20	83250
37	Lamella	40504
38	Socket cap screw M8x70	71902
39	Rotor	11149-1

Figure 9 Rotary feeder spare parts

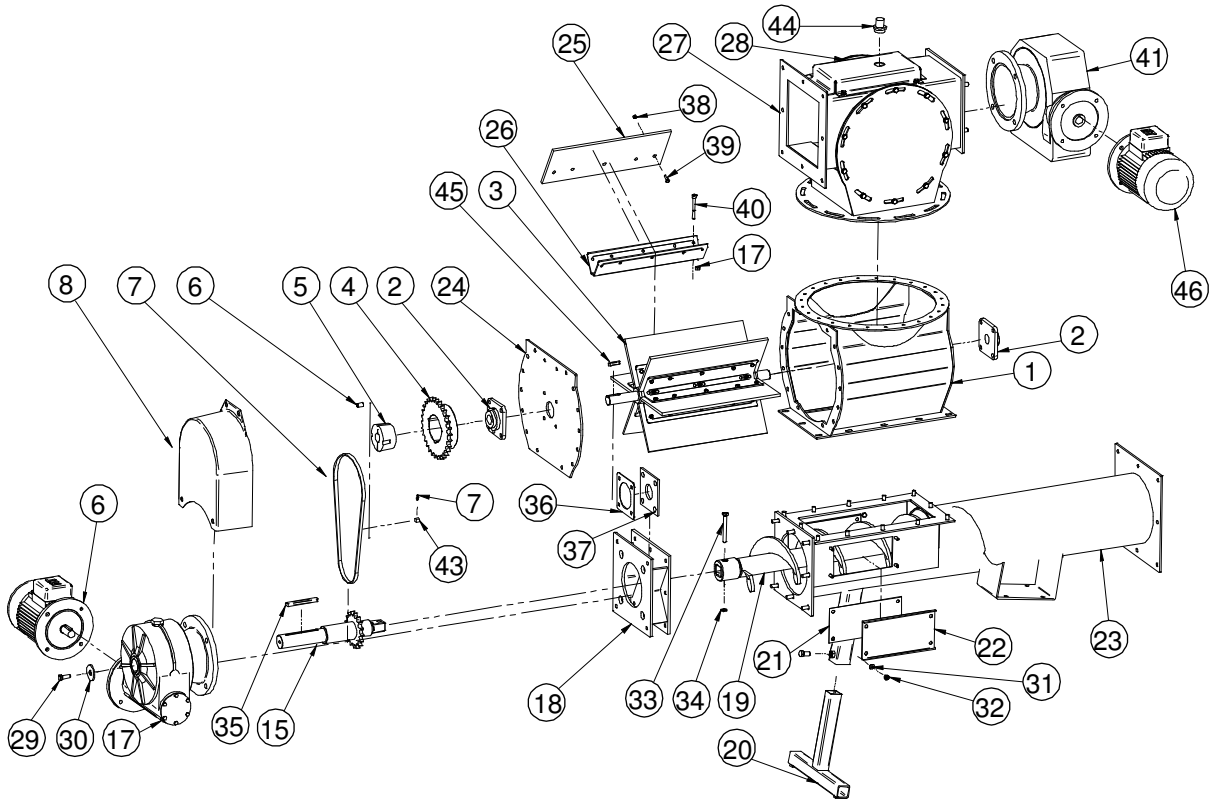


Table 12 Rotary feeder spare parts

No.	Name	Item
1	Rotary feeder	32232
2	Bearing UCF 206	61006
3	Rotor	11149-1
4	Chain lock 3/4"	62308
5	Taper lock bushing	62309
6	Screw M12x20 DIN 913	9131220
7	Chain 3/4"	61096
8	Chain cover 160	303261
16	Electric motor 1,1 kW	62026
17	Gearbox RMI 110	62007
18	Coupling flange	30324
19	Feeding screw	42007
20	Foot, rotary feeder	42742
21	Gasket	40534
22	Lid	45384
23	Burner head feeding chute Ø160	32280
24	Gable	410705
25	Lamella	41678
26	Lamella holder	30297
27	Upper end of the rotary feeder	49621
28	Service lid	42762
29	Screw M10x30	72151

30	Washer	43463
31	Washer M8	73104
32	Nut M8	73308
33	Screw M10x80	721591
34	Nyloc nut M10	72322
35	Key 12x8x110	74087
36	Gasket holder	42389
37	Rubber gasket	41608
38	Nut M6 Zn	73306
39	Lock screw M6x20	73250
40	Socket cap screw M8x70	71902
41	Gearbox CBF 110 128,8:1 RMI 110 100:1	62010
42	Screw M8x20 Zn	72130
43	Chain lock	610961
44	Capacitive sensor 230 VAC	620472
45	Key 8x7x40 mm	74056
46	Electric motor 1,5 kW	62028

Figure 10 Rotary feeder 2 x Ø160 mm components

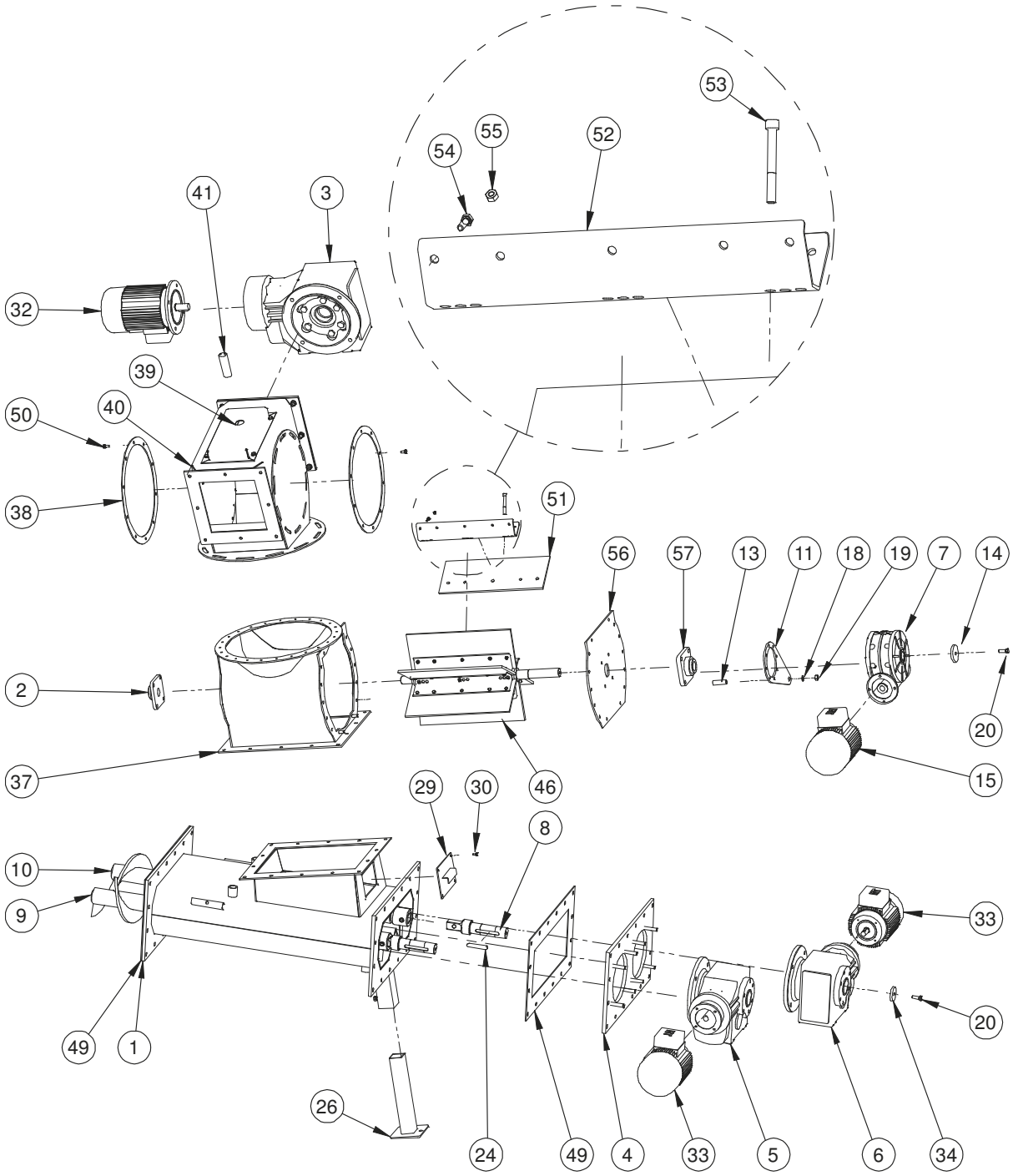


Table 13 Rotary feeder 2 x Ø160 components

No.	Name	Item
1	Feeding chute Ø160 (double screw)	4-9450
2	Bearing UCF 206	61006
3	Gear OMF 112	62002
4	Gear flange Ø160 (double screw)	4-1393-2
5	Gear OMF 90, left	620023
6	Gear OMF 90, right	620022
7	Gear RMI 85	620061
8	Gear shaft OMF 90	4-7095
9	Feeding screw Ø160 left	4-4784
10	Feeding screw Ø160 right	4-4784-2
11	Moment holder	4-4795-1
12		
13	Moment holder tube	4-4798
14	Washer	4-3463
15	Electric motor 0,75 kW	62024
16		
17		
18	Washer M10	73106
19	Screw M10	73310
20	Screw M10x30	72151
21		
22		
23		
24	Key 12x8x80	74086
25		
26	Feet, welded	4-5972
27		
28		
29	Inspection hatch	4-5973-1
30	Screw M6x12	72116
31		
32	Electric motor 2,2 kW	62029
33	Electric motor TN80 0,75 kW	620243
34	Washer OMF 90	4-7096
35		
36		
37	Rotary feeder	4-9441
38	Sealing ring	4-9476
39	Lid	4-2762
40	Upper end of the rotary feeder	4-9620
41	Capacitive sensor	620472
42		
43		
44		
45		
46	Rotor	4-4796
47		
48		
49	Gasket	4-5215

50	Screw M8x16	72129
51	Lamella	4-1678
52	Lamella holder	3-0297
53	Screw M8x70 DIN 912	71902
54	Screw M6x20	H72118
55	Nut M6	73306
56	Gable	4-10705-1
57	Bearing UCF 207	61009