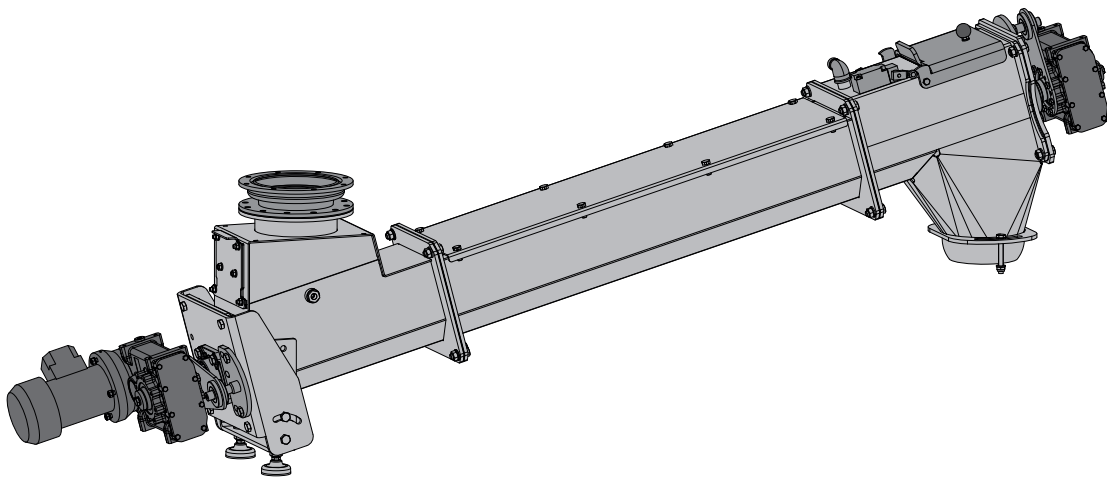


## Installation and operating instructions **Feeding screw 110 - 250**



Translation of original German version of installation and operating instructions for technicians and operators.

Read and follow all instructions and safety instructions.  
All errors and omissions excepted.

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# 1 General

Thank you for choosing a quality product from Froling. The product features a state-of-the-art design and conforms to all currently applicable standards and testing guidelines.

Please read and observe the documentation provided and always keep it close to the system for reference. Observing the requirements and safety information in the documentation makes a significant contribution to safe, appropriate, environmentally friendly and economical operation of the system.

The constant further development of our products means that there may be minor differences from the pictures and content. If you discover any errors, please let us know: [doku@froeling.com](mailto:doku@froeling.com).

Subject to technical change.

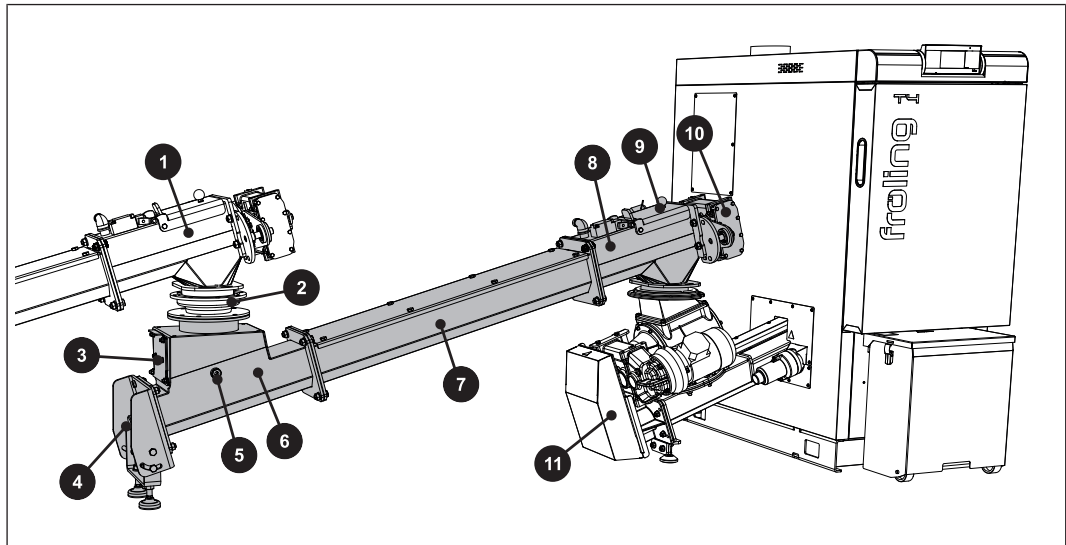
*Issuing a delivery  
certificate*

This is an incomplete machine as defined by the Machinery Directive. The incomplete machine must only be started up when it has been confirmed that the machine, in which the incomplete machine has been installed, conforms to the provisions of Directive 2006/42/EC.

Compliance with the open provisions and verification of the correct installation must be confirmed in the delivery certificate of the declaration of installation (included in documentation).

## 1.1 Functional description

The Froling “Feed screw 110-250” discharge system consists of:



- |    |   |
|----|---|
| 1  | Top part of discharge gravity shaft (e.g. FBR, TGR, etc.)   |
| 2  | Transfer beaker (only for top part of gravity shaft with ball connection)                                       |
| 3  | Inspection cover  |
| 4  | Support with feed screw bearing<br><b>or</b><br>support with second feed screw drive                            |
| 5  | Light barrier to monitor fill level   |
| 6  | Bottom part of gravity shaft  |
| 7  | Closed trough   |
| 8  | Top part of gravity shaft with ball connection<br><b>or</b><br>top part of gravity shaft with flange connection |
| 9  | Gravity shaft cover with safety limit switch  |
| 10 | Drive of feed screw   |
| 11 | Boiler stoker   |

Using a feed screw can compensate for level differences and long distances between the discharge and boiler.

If fuel is requested via the boiler controller, the discharge starts feeding the wood chips to the feed screw. This feeds the material via the closed trough to the transfer position, where it falls through to another feed screw or through the boiler's burn back protection system (burn back flap / rotary valve) into the stoker screw below.

## 2 Safety

### 2.1 Hazard levels of warnings

This documentation uses warnings with the following hazard levels to indicate direct hazards and important safety instructions:

#### **DANGER**

*The dangerous situation is imminent and if measures are not observed it will lead to serious injury or death. You must follow the instructions!*

#### **WARNING**

*The dangerous situation may occur and if measures are not observed it will lead to serious injury or death. Work with extreme care.*

#### **CAUTION**

*The dangerous situation may occur and if measures are not observed it will lead to minor injuries.*

#### **NOTICE**

*The dangerous situation may occur and if measures are not observed it will lead to damage to property or pollution.*

## 2.2 Permitted uses

The Fröling "Feed screws 110 - 250" discharge system is solely designed for discharging fuels from dedicated stores. Only use fuels specified in the "Permitted fuels" section.

The unit should only be operated when it is in full working order. It must be operated in accordance with the instructions, observing safety precautions, and you should ensure you are aware of the potential hazards. The inspection and cleaning intervals in the operating instructions must be observed. Ensure that any faults which might impair safety are rectified immediately.

The manufacturer or supplier is not liable for any damage resulting from non-permitted uses.

Only original spare parts or specific alternative spare parts authorised by the manufacturer may be used. Any kind of change or modification made to the product will invalidate its manufacturer's CE conformity. In such cases, the product will need to undergo new hazard evaluation procedures by the operator. The operator will then be fully responsible for the declaration of conformity according to the valid guideline(s) for the product and will need to attach the new CE label to the device. This person will then assume all of the rights and responsibilities of a manufacturer.

### DANGER



If the device is used incorrectly:

***Incorrect use of the system can cause severe injury and damage.***

When operating the system:

- ☐ Observe the instructions and information in the manuals
- ☐ Observe the details on procedures for operation, maintenance and cleaning, as well as troubleshooting in the respective manuals.
- ☐ Any work above and beyond this (e.g. servicing) must be carried out by a heating engineer approved by Fröling Heizkessel- und Behälterbau GesmbH or by Fröling customer services

## 2.2.1 Permitted fuels

### Wood pellets

Wood pellets made from natural wood with a diameter of 6 mm

*Note on standards*

EU:	Fuel acc. to EN ISO 17225 - Part 2: Wood pellets class A1 / D06
and/or:	ENplus / DINplus certification scheme

#### General note:

Before refilling the store, check for pellet dust and clean if necessary.

### Wood chips

Criterion	Designation as per		Description acc. to ÖNORM M 7133
	ÖNORM M 7133	EN ISO 17225	
Water content	<b>W20</b>	<b>M20</b>	air-dried
	<b>W30</b>	<b>M30</b>	suitable for storage
	<b>W35</b>	<b>M35</b>	limited suitability for storage
Size	<b>G30</b>	<b>P16S</b>	Fine wood chip
	<b>G50</b>	<b>P31S</b>	Medium-sized wood chip

*Note on standards*

EU:	Fuel acc. to EN ISO 17225 - Part 4: Wood chips class A1 / P16S-P31S
Additional for Germany:	Fuel class 4 (§3 of the First Federal Emissions Protection Ordinance (BimSchV) - applicable version)

## 2.3 Qualification of staff

### 2.3.1 Qualification of assembly staff

#### CAUTION



Assembly and installation by unqualified persons:

#### **Risk of personal injury and damage to property**

During assembly and installation:

- ☐ Observe the instructions and information in the manuals
- ☐ Only allow appropriately qualified personnel to work on the system

Assembly, installation, initial startup and servicing must always be carried out by qualified personnel:

- Heating technician / building technician
- Electrical installation technician
- Froling customer services

The assembly staff must have read and understood the instructions in the documentation.

### 2.3.2 Personal protective equipment for assembly staff

You must ensure that staff have the protective equipment specified by accident prevention regulations.



- For transportation, setup and assembly:
  - suitable work wear
  - protective gloves
  - sturdy shoes (min. protection class S1P)

### 2.3.3 Qualification of operating staff

#### CAUTION



If unauthorised persons enter the installation room / boiler room:

#### ***Risk of personal injury and damage to property***

- ☐ The operator is responsible for keeping unauthorised persons, in particular children, away from the system.

Only trained operators are permitted to operate the unit. The operator must also have read and understood the instructions in the documentation.

### 2.3.4 Protective equipment for operating staff

You must ensure that staff have the protective equipment specified by accident prevention regulations.



- For operation, inspection and cleaning:
  - suitable work wear
  - protective gloves
  - sturdy shoes

## 2.4 Design information

Carrying out modifications to the system and changing or disabling safety equipment is prohibited.

Always comply with all fire, building and electrical regulations when installing and operating the system, in addition to following the assembly and operating instructions and mandatory regulations that apply in the country of use.

### 2.4.1 Standards

The system must be installed and commissioned in accordance with the local fire and building regulations. The following standards and regulations should be observed in any case:

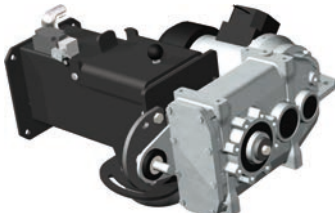

ÖNORM / DIN EN 60204	Safety of machines; Electrical equipment of machines, Part 1: General requirements
TRVB H 118	Technical directives for fire protection/prevention (Austria)
ÖNORM H 5170	Construction and fire protection requirements (Austria)
ÖNORM H 5190	Heating systems - Acoustic insulation
EN ISO 13857	Safety of machines; Safety distances for maintaining a safe distance from hazardous areas



## 2.4.2 Requirements at the installation site

- The floor must be even, clean and dry and have an adequate load-bearing capacity  
     ➔ "Weight" [► 16]
- Always install control cabinet indoors
- If installing outdoors, protect electrical components (e.g. geared motors) from the effects of weather
- Covers provided by the customer must be designed in such a way that maintenance areas remain freely accessible
- Low temperatures in conjunction with wet wood chips can cause system components to freeze. Protect the system from frost!
- Protective structures must be designed in accordance with the applicable standards and regulations

## 2.5 Safety devices

Safety equipment	Safety function
Limit switch for top of gravity shaft: 	Protection against access to the danger area of the feed/discharge screw when the system is switched on <input type="checkbox"/> If the inspection cover is opened, the system is switched off via the limit switch ➔ The power supply remains switched on
Water Sprinkler System: 	Self-activating extinguisher system to limit burn back around the top of the gravity shaft. If the temperature in the top of the gravity shaft rises above 95°C, the valve of the sprinkler system opens, water flows out and prevents the fire from spreading to the fuel store.

## 2.6 Residual risks

The discharge system has been designed and built to comply with the relevant safety directives. Nevertheless by the nature of its operation and function, there are residual risks which cannot be eliminated completely.

### **DANGER**



When working on the unit with a live power supply:

***Serious injury possible due to automatic startup!***

When working on the system or in the store, it is essential that the five safety directives are followed:



- ☐ Disconnect all poles on all sides
- ☐ Secure so that it cannot be switched on again
- ☐ Check that there is no power
- ☐ Earth and short circuit
- ☐ Cover any adjacent live parts and limit area of risk

### **CAUTION**

If unauthorised fuel types are used:

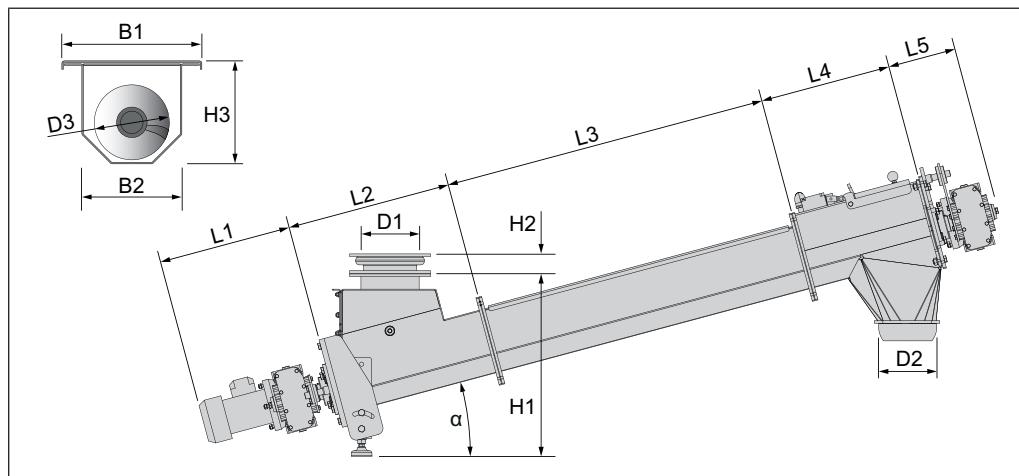
***Non-standard fuels can cause stiffness and block the system, resulting in the failure/breakage of components.***

***Therefore:***

- ☐ Only use fuels specified in the "Permitted uses" section of these operating instructions.

## 3 Technical information

### 3.1 Dimensions



Item	Description	Unit	Feed screw			
			110	150	200	250
L1	Length, second drive	mm	-	420	470	260
L2	Length, bottom part of gravity shaft		510	500	650	700
L3	Length of closed trough		see installation diagram			
L4	Length, top part of gravity shaft		410	420	510	620
L5	Length, drive (top)		200	200	260	260
H1	Height, top part of gravity shaft		see installation diagram			
H2	Height, transfer beaker		60		-	
H3	Height, closed trough		146	206	251	301
D1	Diameter, ball connection		158 / 180		-	
D2	Diameter, ball connection		158 / 180	180	-	
	Diameter, flange connection		-	180	220	250
D3	Diameter, screw		110	150	190	250
B1	Width, cover of closed trough		220	280	330	380
W2	Width, closed trough		140	200	246	296
α	Inclination	°	0 – 45			

## 3.2 Technical specifications

	Gear type	Electrical output [kW]	Speed [rpm]	Weight [kg]
Geared motor Feed screw 110	Offset gears	0.25	4.45	24.5
		0.37	10.5	27.0
Geared motor Feed screw 150		0.25	4.45	24.5
		0.55	10.5	28.5
		0.75	14.1	28.0
Geared motor Feed screw 200		0.55	10.8	26.5
		0.75	14.3	28
	Bevel gears	0.55	10.7	59.5
		1.1	14.0	59.5
Geared motor Feed screw 250	Offset gears	0.55	10.8	26.5
		0.75	14.3	28
	Bevel gears	0.55	10.7	59.5
		1.1	14.0	59.5

	Electricity supply
Geared motor Feed screw 110-250	400 VAC / 50 Hz
Safety limit switch	24 VDC

## 4 Assembly

### NOTICE



*The assistance of a second person is required due to the size and weight of various components included in delivery.*

### 4.1 Transport and handling

The discharge system is part-assembled and comes packed on a pallet.

- ☐ Follow the transport instructions on the packaging!

A door or a ceiling opening should be provided in the store for bringing in the unit

To prevent damage:

- ☐ Transport components with care, particularly drive components

### NOTICE



Possibility of damage to components if handled incorrectly

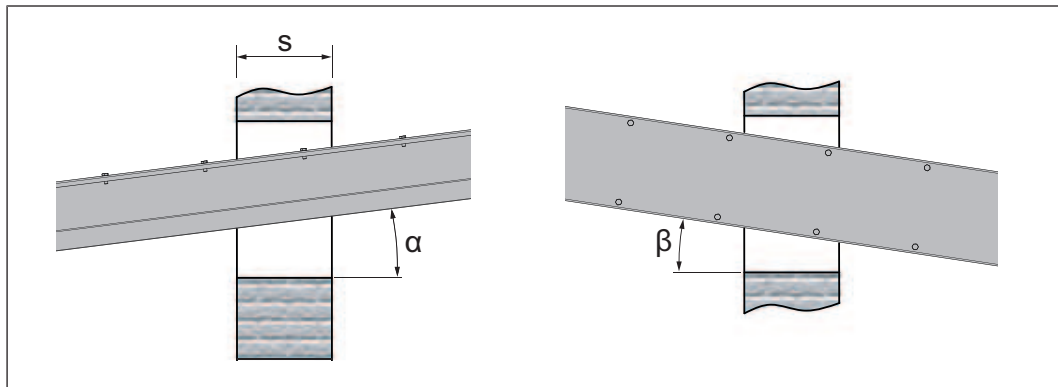
- ☐ Follow the transport instructions on the packaging
- ☐ Transport components with care to avoid damage
- ☐ Protect components against damp
- ☐ Pay attention to the pallet's centre of gravity when lifting

#### 4.1.1 Temporary storage

If the system is not going to be assembled immediately:

- ☐ Store components at a protected location, which is dry and free from dust
  - ↳ Damp can lead to damage to individual parts, particularly in the motor!

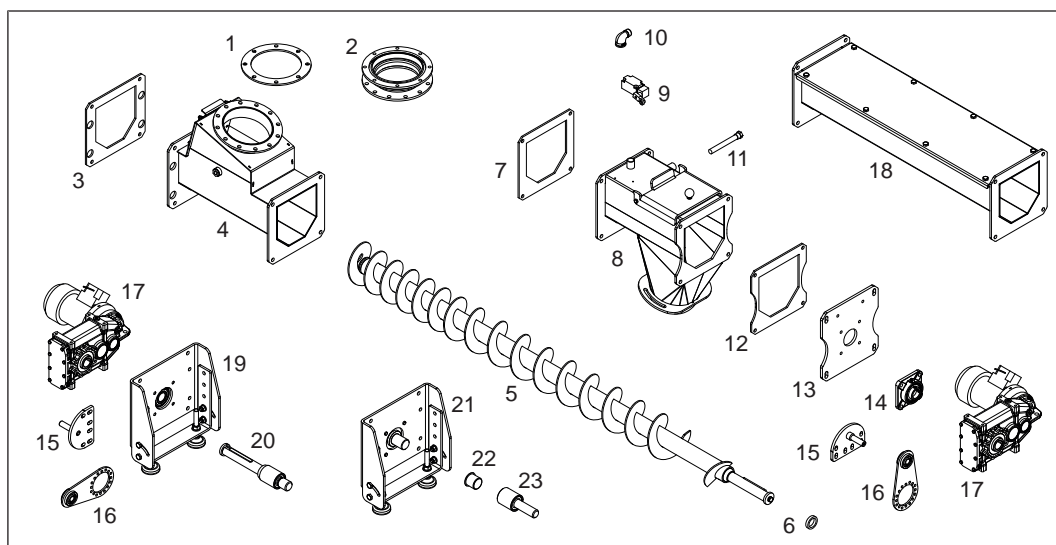
## 4.2 Wall opening



If there is a gap between the transfer point of the discharge and the boiler, an opening must be made in the wall for the trough before installation. The dimensions of the opening are calculated from the wall thickness ( $S$ ) and the angle of the trough to the wall ( $\beta$ ) or the angle of inclination ( $\alpha$ ) of the entire system. You should also note that the trough must not be connected to the wall, and that it should be cladded in elastic at the end.

➡ "Closing the wall penetration" [► 24]

## 4.3 Materials supplied



<b>1</b>	Ceramic fibre seal (only with ball connection)	<b>10</b>	Elbow 3/4"
<b>2</b>	Transfer beaker (only with ball connection)	<b>11</b>	Thermal discharge safety device
<b>3</b>	Ceramic fibre seal for support	<b>12</b>	Ceramic fibre seal for flange plate
<b>4</b>	Bottom part of gravity shaft	<b>13</b>	Flange plate
<b>5</b>	Screw	<b>14</b>	Flange bearing
<b>6</b>	Spacer ring	<b>15</b>	Torque support with pin
<b>7</b>	Ceramic fibre seal for trough	<b>16</b>	Torque support with bearing
<b>8</b>	Top part of gravity shaft (ball / flange)	<b>17</b>	Geared motor
<b>9</b>	Safety limit switch	<b>18</b>	Closed trough

*Support with second drive*

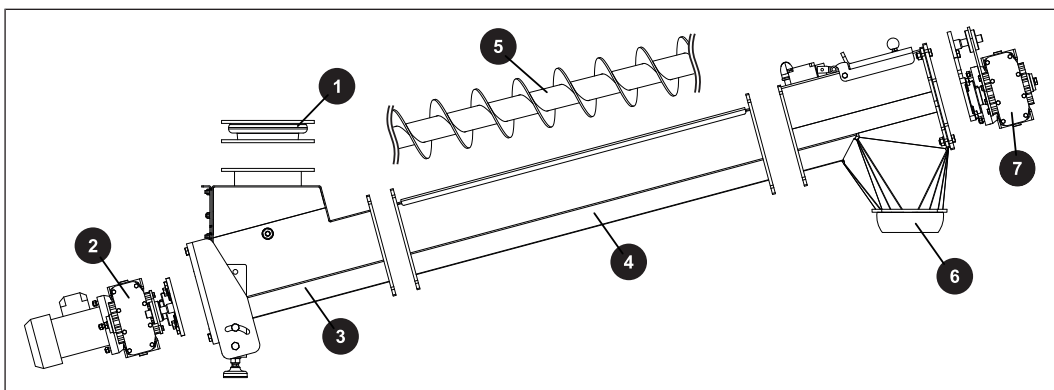
<b>19</b>	Support for second drive	<b>20</b>	Screw end, screwed
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*Support with bearing*

<b>21</b>	Support for bearing	<b>23</b>	Screw bearing, screwed
<b>22</b>	Friction bearing		

## 4.4 Weight

The total weight will depend on the design of the feed screw. This must be taken into account for transportation and assembly.

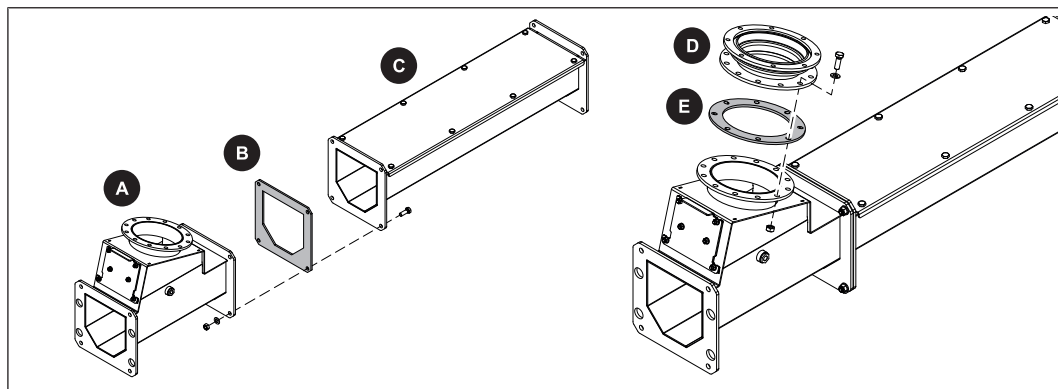


Item	Description		Weight [kg]
1	Transfer beaker (diameter)	Ø 158 Ø 180	4.5 4.0
2	Second drive without support	➔ "Technical specifications" ► 12]	
3	Bottom part of gravity shaft with support	110 150 200 250	approx. 27.0 approx. 36.0 approx. 48.0 approx. 58.0
4	Closed trough without screw (indicated in kg/m)	110 150 200 250	19.5 26.5 32.0 37.5
5	Screw (indicated in kg/m)	110 150 200 250	8.5 12.5 19.0 25.5
6	Top of gravity shaft without drive	110 150 200 250	approx. 17.0 approx. 20.0 approx. 29.0 approx. 38.0
7	Drive of feed screw	➔ "Technical specifications" ► 12]	



## 4.5 Fitting the troughs

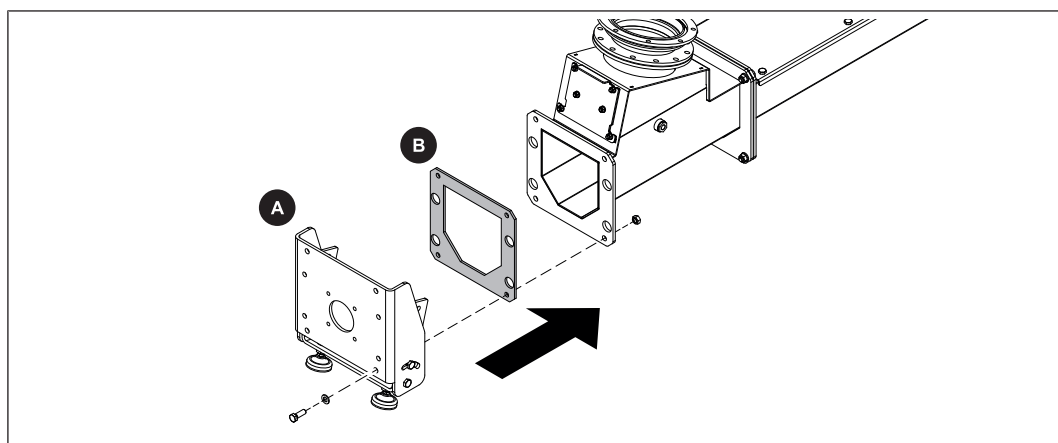
**NOTICE!** The number of closed troughs (C) depends on the total length of the feed screw



- ☐ Secure bottom part of gravity shaft (A) with ceramic fibre seal (B) to the closed trough (C) (opposite inspection cover)
  - 4 hexagonal screws M12x35
  - 4 hexagonal nuts M12
  - 4 spacer washers M12
- ☐ Connect all closed troughs (C) to each other
  - ↳ For each flange connection:
    - 1 ceramic fibre seal (B)
    - 4 hexagonal screws M12x35
    - 4 hexagonal nuts M12
    - 4 spacer washers M12

*Only for ball connection:*

- ☐ Secure transfer beaker (D) with ceramic fibre seal (E) to round flange of bottom part of gravity shaft
  - 4 hexagonal screws M10x35
  - 4 hexagonal nuts M10
  - 4 spacer washers M10

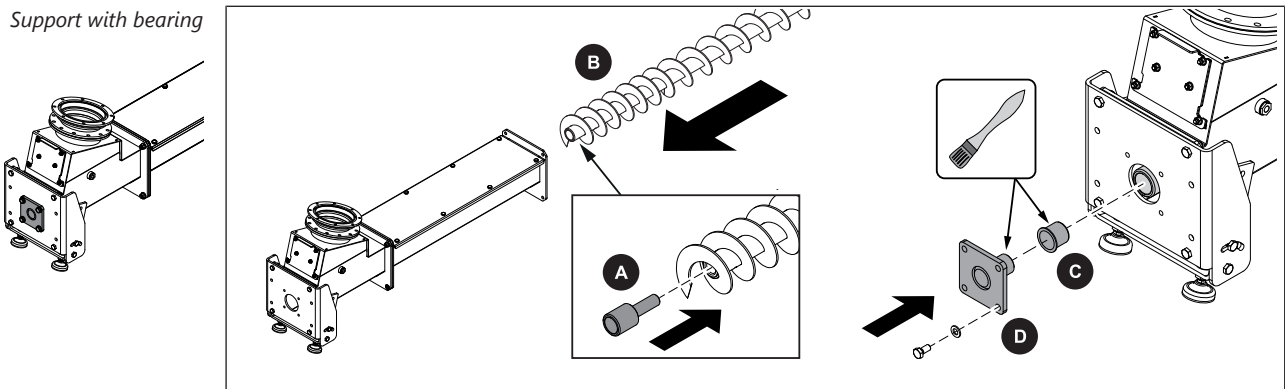


- ☐ Secure support (A) with ceramic fibre seal (B) to bottom part of gravity shaft
  - 4 hexagonal screws M12x35
  - 4 hexagonal nuts M12
  - 4 spacer washers M12

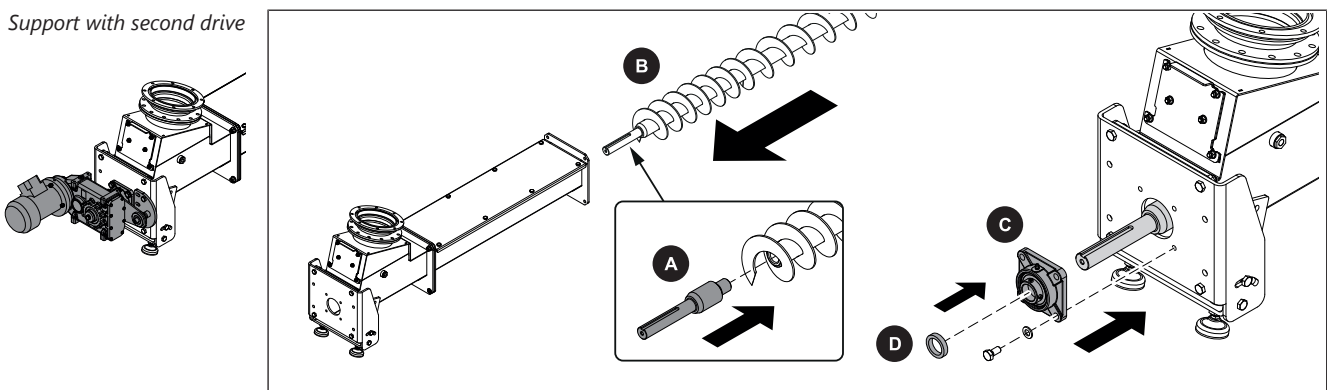
**NOTICE!** Adjust feet of support to the inclination and height of the feed screw before assembly.

**In the case of a support with second drive:**

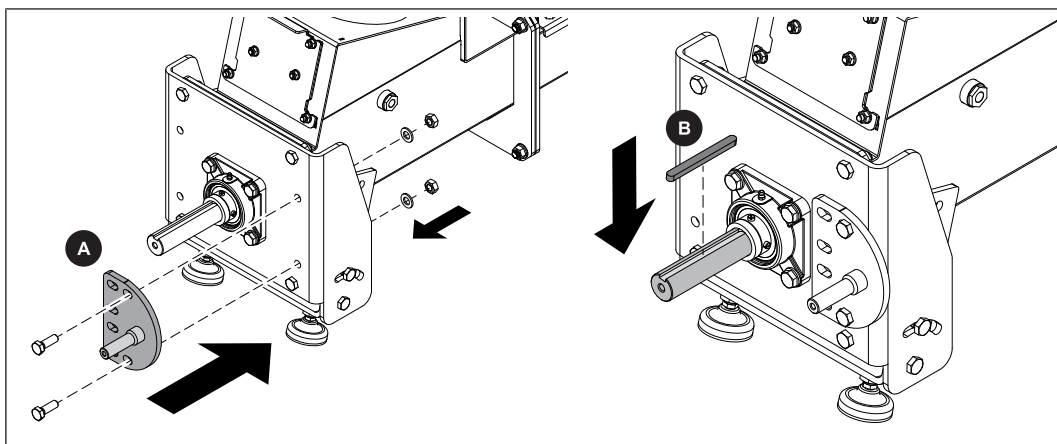
- ☐ Adjust the height of the feet in such a way that the geared motor can be removed and taken off the screw end at any time

*Support with bearing*

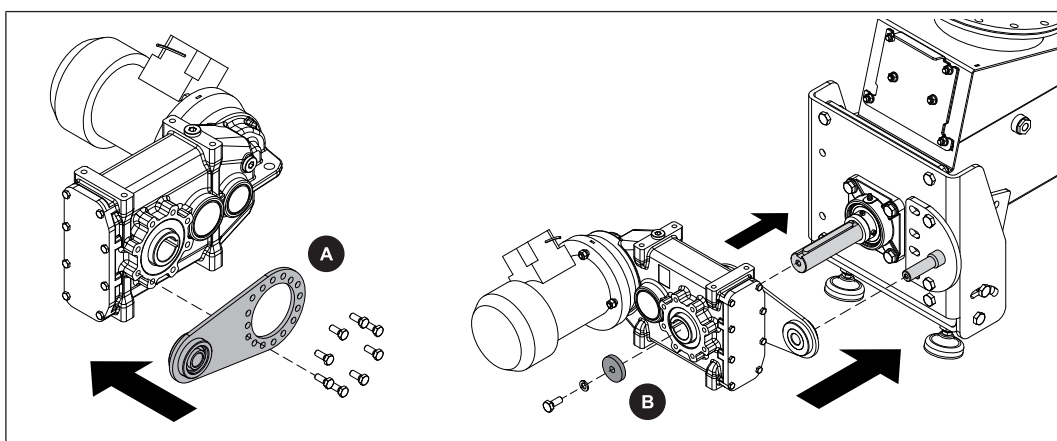
- ☐ Screw screw bearing (A) into screw (B) and insert in troughs
- ☐ Apply grease to pin of the bearing bracket (D)
  - ↳ Recommendation: Molykote BR2 Plus (Fröling item no.: 55633)
- ☐ Push friction bearing (C) onto bearing bracket (D)
- ☐ Apply grease to the surface of the friction bearing (C)
  - ↳ Recommendation: Molykote BR2 Plus (Fröling item no.: 55633)
- ☐ Insert bearing bracket (D) in screw bearing and secure to support
  - 4 hexagonal screws M12x25
  - 4 spacer washers M12

*Support with second drive*

- ☐ Screw screw end (A) into screw (B)
- ☐ Insert screw (B) in troughs
- ☐ Lubricate screw end with copper paste
- ☐ Push flange bearing (C) onto shaft stub (A) and secure to support
  - 4 hexagonal screws M12x25
  - 4 spacer washers M12
- ☐ Push the spacer ring (D) onto the shaft stub



- Secure torque support with pin (A) to support
  - 2 hexagonal screws M12x35
  - 2 hexagonal nuts M12
  - 2 spacer washers M12
- ↪ The pin and screw end must be at the same height
- ↪ Centre distance of pin and screw end: 150 mm
- Insert key (B) into groove on screw end



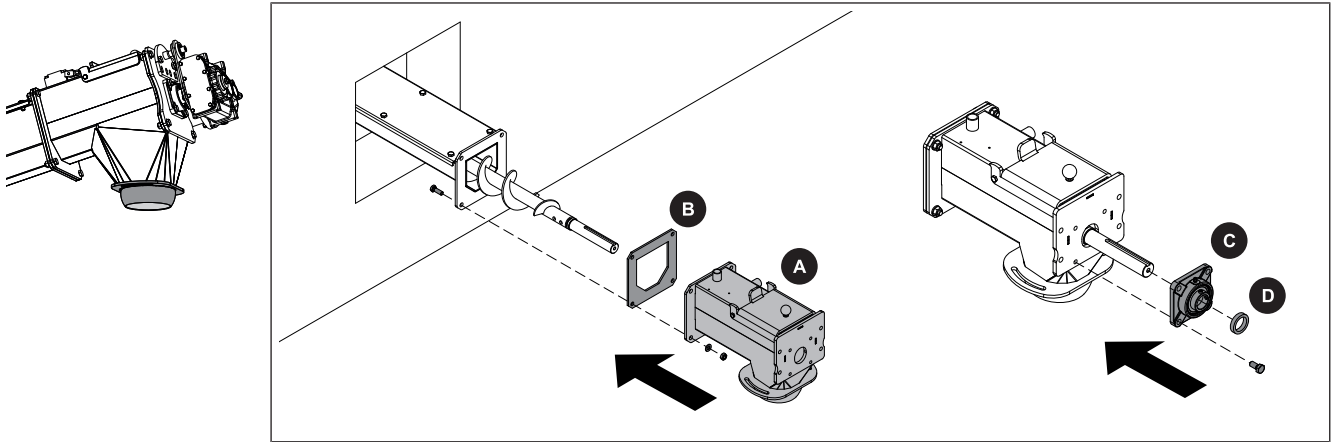
- Secure torque support with bearing (A) to the geared motor as illustrated
  - 8 hexagonal screws M8x20
- Grease hub of geared motor with copper paste
- Push the geared motor onto the screw end
- Secure locking washer (B) with hexagonal screw and spring lock washer
  - 1 hexagonal screw M10x25
  - 1 spring lock washer M10

If the geared motor cannot be installed as shown above for reasons of space, it is possible to turn the drive unit:

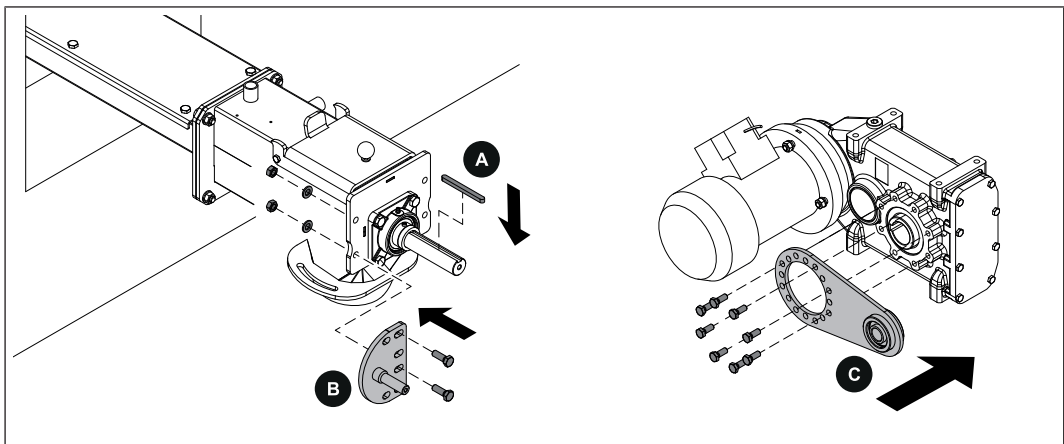
- Fit the torque support with pin on the opposite side
- Turn the geared motor and torque support 180° and fit to the screw end and torque support as explained above

## 4.6 Fitting the top part of gravity shaft and drive unit

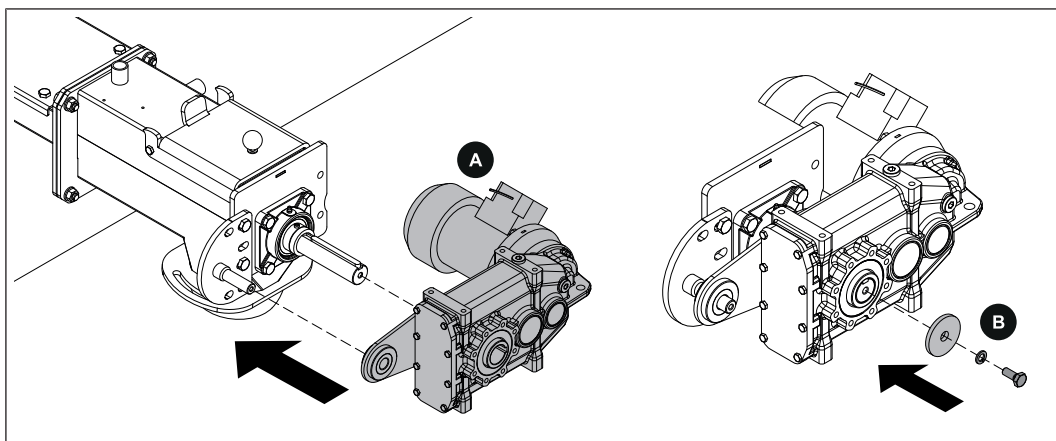
### 4.6.1 Top part of gravity shaft with ball



- ☐ Secure top part of gravity shaft (A) with ceramic fibre seal (B) to the closed trough on the boiler room side:
  - 4 hexagonal screws M12x35
  - 4 hexagonal nuts M12
  - 4 spacer washers M12
- ☐ Push the flange bearing (C) over the screw end and secure to top part of gravity shaft
  - 4 hexagonal screws M12x25
- ☐ Push the spacer ring (D) onto the screw end



- ☐ Insert key (A) into groove on screw end
- ☐ Secure torque support with pin (B) to top part of gravity shaft
  - 2 hexagonal screws M12x35
  - 2 hexagonal nuts M12
  - 2 spacer washers M12
  - ↳ The pin and screw end must be at the same height
  - ↳ Centre distance of pin and screw end: 150 mm
- ☐ Secure torque support with bearing (C) to the geared motor as illustrated
  - 8 hexagonal screws M8x20

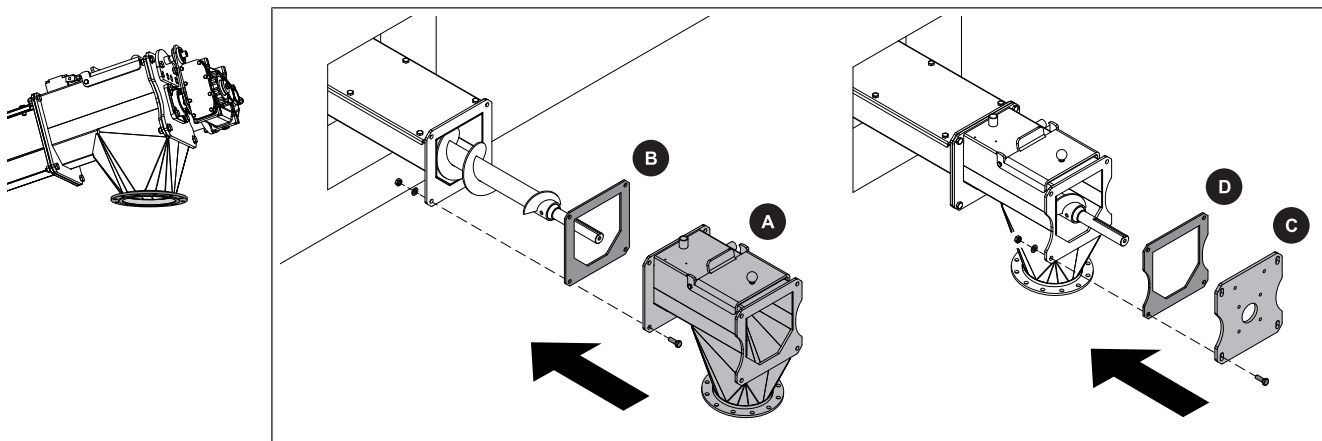


- ❑ Push the geared motor (A) onto the screw end
- ❑ Secure locking washer (B) with hexagonal screw and washer
  - 1 hexagonal screw M10x25
  - 1 spring lock washer M10

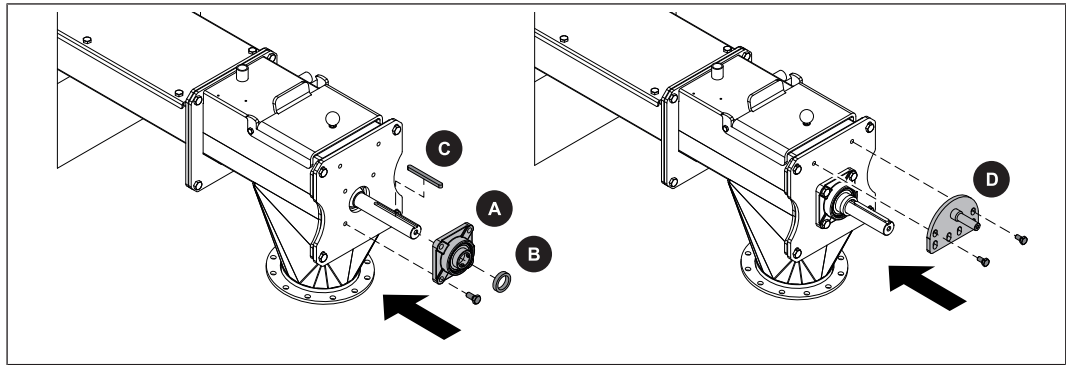
If the geared motor cannot be installed as shown above for reasons of space, it is possible to turn the drive unit:

- ❑ Fit the torque support with pin on the opposite side
- ❑ Turn the geared motor and torque support 180° and fit to the screw end and torque support as explained above

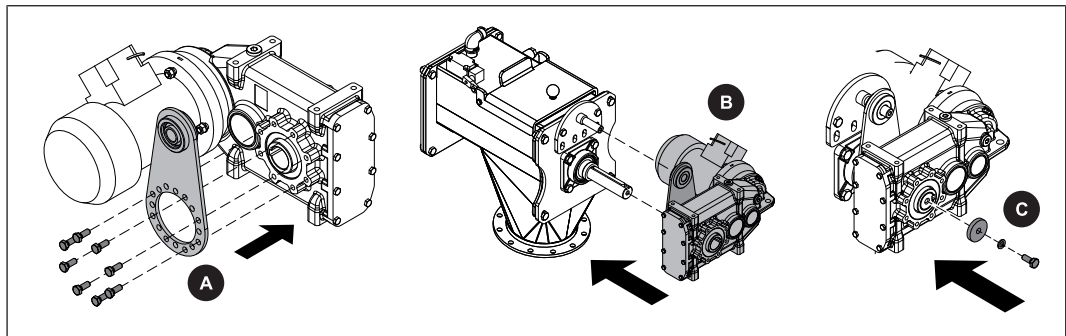
#### 4.6.2 Top part of gravity shaft with flange



- ❑ Secure top part of gravity shaft (A) with seal (B) to the closed trough on the boiler room side:
  - 4 hexagonal screws M12x35
  - 4 hexagonal nuts M12
  - 4 spacer washers M12
- ❑ Secure flange plate (C) with seal (D) to top part of gravity shaft
  - 4 hexagonal screws M12x35
  - 4 hexagonal nuts M12
  - 4 spacer washers M12



- ☐ Push the flange bearing (A) onto the screw end and secure to top part of gravity shaft
  - 4 hexagonal screws M12x25
- ☐ Push the space ring (B) onto the screw end
- ☐ Insert key (C) into groove on screw end
- ☐ Secure torque support with pin (D) to top part of gravity shaft
  - 2 hexagonal screws M10x20
- ↪ Centre distance of pin and screw end: 150 mm

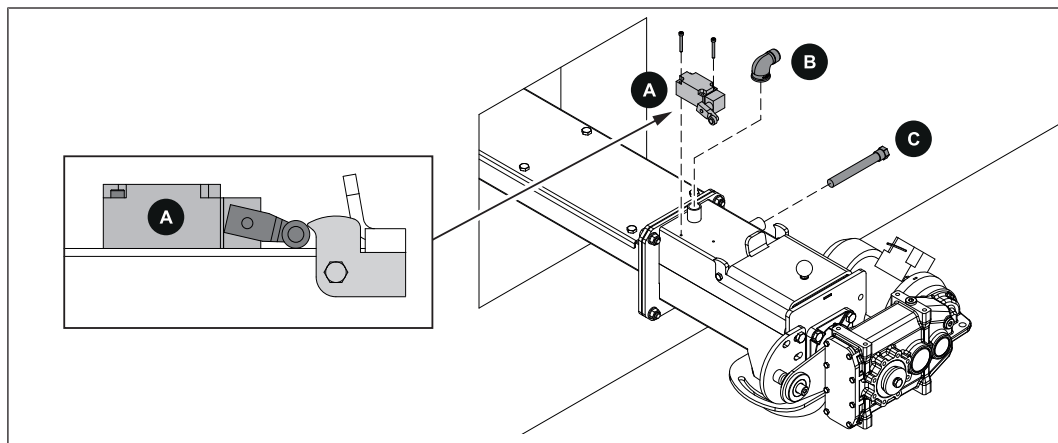


- ☐ Secure torque support with bearing (A) to the geared motor as illustrated
  - 8 hexagonal screws M8x20
- ☐ Push the geared motor (B) onto the screw end
- ☐ Secure locking washer (C) with hexagonal screw and washer
  - 1 hexagonal screw M10x25

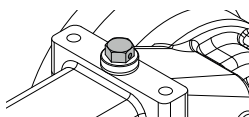
If the geared motor cannot be installed as shown above for reasons of space, it is possible to turn the drive unit:

- ☐ Turn the torque support with bearing 180° and secure to geared motor
- ☐ Turn the geared motor and torque support 180° and fit to the screw end and torque support as explained above

## 4.7 Fitting attachments



- ☐ Secure limit switch (A) to upper part of gravity shaft  
- 2 cylinder head screws M5x40  
↳ The reel of the safety limit switch (A) must be positioned as illustrated
- ☐ Fit the elbow (B) of the water sprinkler system to the upper sleeve on the upper part of gravity shaft
- ☐ Fit the immersion sleeve (C) of the water sprinkler system to the side sleeve

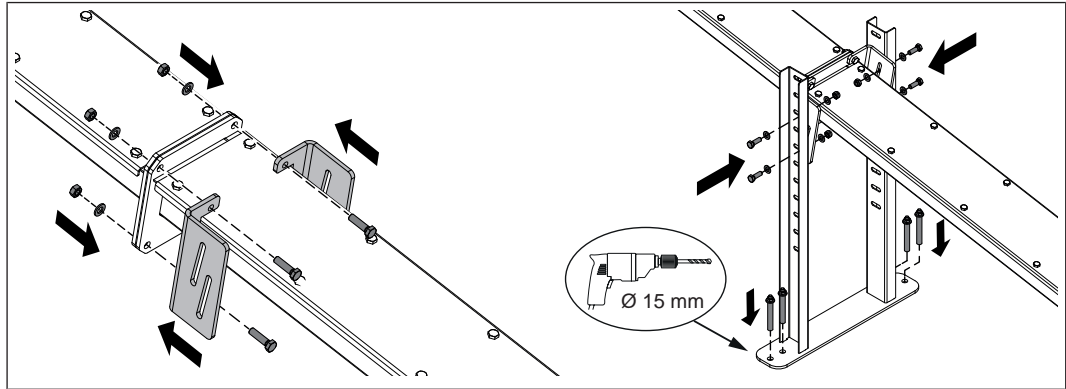


Prepare the geared motor:

- ☐ Remove the transport lock
- ☐ Fit the vent screw (supplied) to the highest point

## 4.8 Fitting adjustable feet in boiler room (optional)

If the closed duct in the boiler room exceeds 2m, an additional support is recommended:



- ☐ Remove the brackets from the supporting post
- ☐ Remove the screws of the trough flange at the relevant position
- ☐ Secure the brackets to the trough flange with the previously removed screws
- ☐ Position the supporting post at the bracket and screw together

### Screwing the adjustable feet to the floor:

- ☐ Make two holes each in the floor on the left and right for the adjustable feet
- ☐ Drill the holes marked
  - Drill diameter 15 mm
  - Min. drill depth 105 mm
- ☐ Insert the heavy load anchors into the bore holes and tighten with a spanner (AF 17 mm)

## 4.9 Closing the wall penetration

- ☐ Pack the space in the wall penetration with a non-flammable insulating material
  - ↳ The partition must be insulated to conform with ÖNORM B 3836 or DIN 4102-11!
- ☐ Close the wall penetration on the store side and the boiler room side with a non-flammable covering

### NOTICE

Do not connect the transfer channel to the brickwork (with concrete), as this will transfer sound through all the brickwork.



## 4.10 Connecting the system

### 4.10.1 Electrical connection

#### DANGER



When working on electrical components:

#### ***Risk of electrocution!***

When work is carried out on electrical components:

- ☐ Always have work carried out by a qualified electrician
- ☐ Observe the applicable standards and regulations
  - ✦ Work must not be carried out on electrical components by unauthorised persons

- ☐ Lay cables of components to control cabinet
  - ✦ Lay the cables so that nobody will trip over them!
  - ✦ Do not lay the cable over or around sharp edges!

#### **Feed screw in front of boiler stoker:**

- ☐ Lay and connect all cables to the wood chip module of the boiler
  - ✦ **see controller instructions for boiler**

#### **Discharge (e.g. FBR, TGR, etc.) / every other feed screw:**

- ☐ Lay and connect all cables to the feed system module
  - ✦ **see feed system module installation instructions**
- ☐ Wire the connections according to the wiring diagram

### 4.10.2 Connecting the sprinkler system

Connection should only be carried out by authorised technicians.

When connecting the sprinkler system, please also note:

- ☐ Put a stopcock and bolted joint in front of the thermal discharge safety device
  - ✦ Important for easy dismantling in the event of maintenance work!

## 5 Operating the system

### 5.1 Initial startup

#### NOTICE

Efficient operation can only be guaranteed if the system is set by specialist staff and the default factory settings are observed.

Therefore:

- ☐ Initial startup should be carried out with an installer approved by Fröling Heizkessel- und Behälterbau GesmbH or with Fröling customer services

Before commissioning or before the first filling, carry out the following checks:

- ☐ Check the direction of rotation of the screw
- ☐ Check that the safety limit switch on the gravity shaft is working
- ☐ Check that the motor overload for the drive motor is working
- ☐ Check the connection of the sprinkler device
- ☐ Check the shear edge is present in the area of the transition from open to closed trough

When the check is finished:

- ☐ Fill the store with fuel

### 5.2 During operation

The boiler is controlled by the boiler controller. The discharge system switches on and off automatically when material is requested.

When filling, or in the event of a fault, the system is operated in manual mode (H 3200). For the necessary steps, and how to display and alter parameters:

**NOTICE! See operating instructions for boiler controller**

#### NOTICE



When transporting wood chips or pellets using the feed screw, there may be noise, depending on the function.

## 5.3 Decommissioning

### 5.3.1 Disassembly

To disassemble the system, follow the steps for assembly in reverse order.

### 5.3.2 Disposal

- ☐ Disposal should be carried out according to the valid national regulations and guidelines.
- ☐ You can separate and clean recyclable materials and send them to a recycling centre.

## 6 Servicing

### DANGER

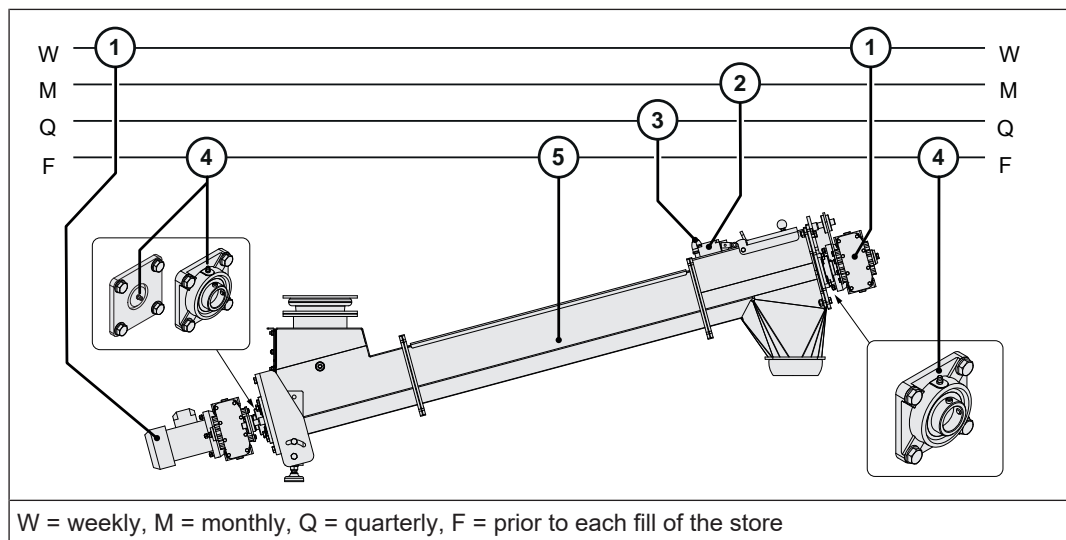
When working on the unit with a live power supply:

**Serious injury possible due to automatic startup!**

When working on the system or in the store, it is essential that the five safety directives are followed:

- ☐ Disconnect all poles on all sides
- ☐ Secure so that it cannot be switched on again
- ☐ Check that there is no power
- ☐ Earth and short circuit
- ☐ Cover any adjacent live parts and limit area of risk

### 6.1 Maintenance schedule



No	Component	Int.	Operation
1	Motor / gears	W	<input type="checkbox"/> Carry out a general visual inspection of the drive motor ↳ No major oil leaks should be visible.
2	Gravity shaft / safety limit switch	M	Function test of the safety limit switch: <input type="checkbox"/> Open the inspection cover of the gravity shaft ↳ The system should switch off immediately. <input type="checkbox"/> Check the inlet area for material build-up and clean where necessary. <input type="checkbox"/> Close gravity shaft cover <input type="checkbox"/> Check fault message on the controller
3	Sprinkler system	Q	Sprinkler system function test: <input type="checkbox"/> Note the manufacturer's specifications
4	Flange bearing / Friction bearing	F	<input type="checkbox"/> Lubricate bearing at lubricating nipple with grease gun
5	Trough / screw		<input type="checkbox"/> Check trough and screw for dirt and damage <input type="checkbox"/> Check the screw blades for wear

## 6.2 Maintenance contract

- ❑ Long service life with a maintenance contract!

Regular maintenance and servicing by a qualified technician will ensure a long, trouble-free service life for the whole system.

For this reason, FROLING offers a maintenance contract, which optimises operating safety. Please see the details in the accompanying guarantee certificate.

Your Froling customer service office will also be happy to advise you.

## 7 Troubleshooting

There are two main types of fault: internal and external to the boiler.

External faults:

- ☐ Heating EMERGENCY OFF switch activated
- ☐ Household fuse (FI circuit breaker) or component fuse blown

Internal faults are shown in the form of error messages on the boiler controller:

Notes

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