Installation manual





FleXILO storage tank

ENGLISH - USA

PE274 USA 2.2

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Contents

1	Dear Customer	. 4
2	Intended use	. 5
3	Types of safety warning sign	6
4 4.1	Preconditions for FleXILO storage tanks The installation room	7 7
4.2 4.3		. 12 . 13
5 5.1 5.2 5.3	Assembly – FleXILO H	. 14 . 16
6	Assembly in small rooms	. 22
7 7.1 7.2		. 26
8	Assembly of the filling system	. 38
9	Final inspection	43
10	Filling of the storage tank	. 44

1 Dear Customer

We are specialist in pellet heating, licensed by ÖkoFEN

Expertise, innovation and quality from a single source. It is based on our tradition that we take on future challenges. We are delighted that also you have decided to purchase our product.

- This instruction manual is intended to help you operate the product safely, properly and economically.
- Please read this instruction manual right through and take note of the safety warnings.
- Keep all documentation supplied with this unit in a safe place for future reference. Please pass on the documentation to the new user if you decide to part with the unit at a later date.
- During installation and/or first start up the service engineer must carry out the following work.
- The installation has to be performed by a qualified installer.
- Please contact your authorised dealer if you have any questions.

We place great importance on the development of new products. Our R&D department continues to question accepted solutions and works continually on new improvements. That is how we maintain our technological lead. We have already received several awards for our products in Austria and abroad.

Our products fulfil European and USA requirements regarding quality, efficiency and emissions.



2 Intended use

The FleXILO storage tank is designed for the storage of pellets for heating systems in detached and semi-detached houses or commercial buildings. Use of the FleXILO storage tank for other purposes is not permitted. No reasonably foreseeable forms of misuse of the FleXILO storage tank are known.

The following Austrian standards, guidelines and specifications have been applied:

Standards	Designation
ÖNORM M7137	Wood pellets - Requirements for pellet storage at retail

3 Types of safety warning sign

The warning signs use the following symbols and text.

Types of safety warning sign

- 1. Risk of injury
- 2. Consequences of risk
- 3. Avoiding risk
- 1. Risk of injury:

 Damage to property
 2

 Heating only with pellets complying with the standard.
 3

Danger - indicates a situation that could lead to death or life-threatning injury.

Warning - indicates a situation that could lead life-threatning or serious injury.

Caution - indicates a situation that could lead to injury.



DANGER



NOTICE

Note - indicates a situation that could lead to property damage.

2. Consequences of risk

Effects and consequences resulting from incorrect operation.

3. Avoiding risk

Observing safety instructions ensures that the heating system is operated safely.

4 Preconditions for FleXILO storage tanks

The following conditions must be observed for the installation of a FleXILO storage tank.

4.1 The installation room

- 1. Room size
- 2. Room characteristics
- 3. Room ventilation
- 4. Fire protection

4.1.1 Room size

The necessary room size differs, depending on the type and size of the FleXILO storage tank. Add the following installation dimensions of the storage tank type and thus calculate the minimum size of your installation room.

	FleXILO und FleXILO PLUS Installation dimensions	
Length /width	On the filling system side: FleXILO Plus + 12in On the sides without filling system: FleXILO Plus + 3in	
Height	FleXILO H Minimum room height = 7.1ft Room height for the maximum filling volume = 7.9ft FleXILO Plus N Minimum room height = 6ft Room height for the maximum filling volume = 6.9ft	
	FleXILO COMPACT Installation dimensions	
Length /width	On the side of the dispensing and filling system: FleXILO Compact +18in Filling system opposite the dispensing system: FleXILO Compact + 30in On the sides with the springs: FleXILO Compact + 3in	
Height	FleXILO COMPACT Minimum room height =7.1ft Room height for the maximum filling volume = 7.9ft FleXILO COMPACT N Minimum room height =6.6ft Room height for the maximum filling volume = 7.1ft Note: Check the actual room dimensions again (particularly after plastering work) before installing the tank.	

These dimensions apply for internal filler couplings. For individual solutions with reduced space requirements, please contact your ÖkoFEN dealer.

The size of the different storage tank types can be found in the following table.

Storage tank type	Length	Width	Height	Filling capacity
FleXILO	ft	ft	ft	tn.sh.
S110 H	3.61	3.61	4.43	0.5
S160 H	5.58	5.58	6.5	2.2 —2.8
S190 H	6.69	6.69	6.5	3.1 — 3.5
S220 H	7.55	7.55	6.5	3.4 — 4
S260 H	8.46	8.46	6.5	4.4 — 5.1
S2216 H	5.58	7.55	6.5	3.0 — 3.4
S2219 H	6.69	7.55	6.5	3.3 — 3.7
S2619 H	6.69	8.46	6.5	3.0 — 4.0
S2622 H	7.55	8.46	6.5	4.0 — 4.6
FleXILO COMPACT	ft	ft	ft	tn.sh.
KGT1814	6.04	4.72	6.5	3.0 — 3.6
KGT2614	8.46	4.72	6.5	4.4 — 5.2
KGT2618	8.46	6.04	6.5	5.5 — 6.8
KGT2620	8.46	6.69	6.5	6.1 — 7.7
KGT2626	8.46	8.46	6.5	8.3 — 9.9
FIeXILO COMPACT N	ft	ft	ft	tn.sh.
KGT1814 N	6.04	4.72	6.5	2.0 — 2.4
KGT2614 N	8.46	4.72	6.5	3.1 — 3.6
KGT2618 N	8.46	6.04	6.5	4.1 — 4.7
KGT2620 N	8.46	6.69	6.5	4.6 — 5.5
KGT2626 N	8.46	8.46	6.5	6.1 — 7.2

The filling capacity depends on the room height and the burn density, at max. filling capacity a min. room height of 7.9 ft is required for H and Compact tanks:

Note:

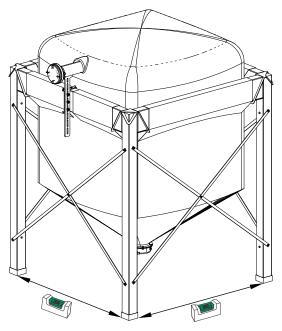
special sizes of FleXILOs on request

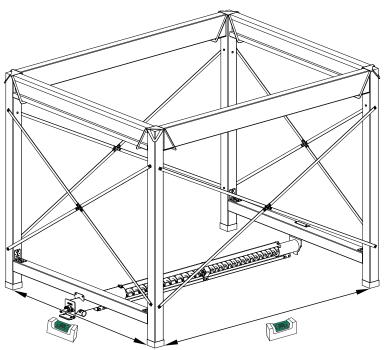
4.1.2 Room characteristics

- The installation room must have a level floor. Minor differences in height can be compensated with underlay material (e.g. wooden or metal plates).
- The floor carrying capacity must correspond to a point load of 4409 lbs.
- Damp cellar walls do not represent an obstacle to the installation of the storage tank. The fabric of the tank must not, however, touch the walls observe the minimum clearances.
- The installation room must protect the storage tank from direct sunlight.
- The installation room must not have any sharp or pointed objects or installations that could damage the fabric of the storage tank.

FleXILO

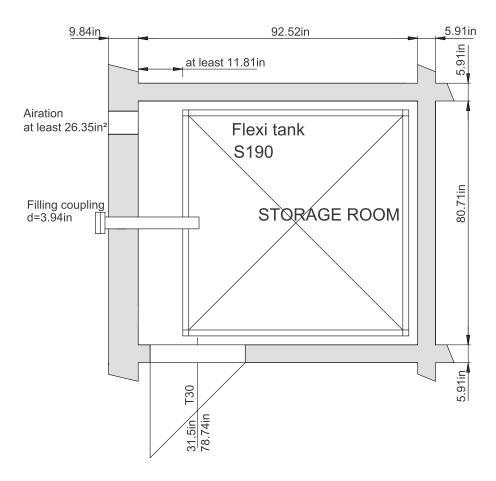
FIeXILO COMPACT





4.1.3 Room ventilation

The room in which a storage tank is installed (= installation room) must always have a ventilation opening to the outside of at least 170 cm². The air blown in during filling must be able to escape freely to the atmosphere so that no pressure is built up in the installation room.

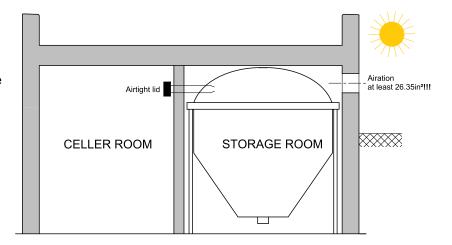


FITTING OF THE FILLER COUPLING - EXAMPLES:

Filler coupling in the next room:

Only closed filler couplings WITHOUT ventilation opening may be used.

The next room must have a separate ventilation opening to the outside.



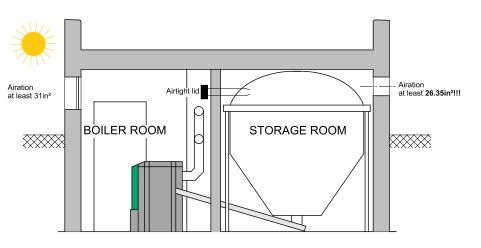
Preconditions for FleXILO storage tanks

Filler coupling in the heating room:

The fitting of caps with ventilation function is forbidden.

CAUTION: For fire protection reasons, approved fire plugs with aluminium blind cover must be used. In such cases, plastic caps are not admissible.

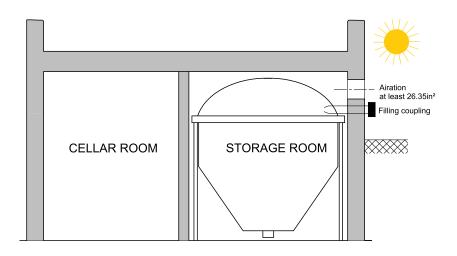
A separate ventilation opening to the outside is necessary.



Filler coupling outdoors storage tank in the tank room:

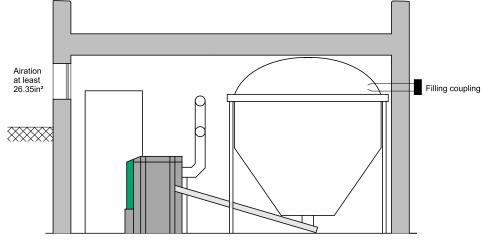
The tank room must have a separate ventilation opening to the outside of at least 26.35in².

Even if the filler coupling is located outdoors, there must be an additional ventilation opening to the outside of at least 26.35in² so that no pressure is built up in the tank room.



Filler coupling outdoors storage tank in the heating room: If the storage tank is installed together with the boiler in the heating room, ventilation is already assured by the ventilation opening

of the heating room required by law.



4.1.4 Fire protection

The fire protection requirements for the installation room of a FleXILO storage tank are country-specific. The latest applicable regulations in the respective country must always be observed. The construction work must conform to the respective fire protection guidelines before the start of commissioning.

4.2 Outdoor installation – FleXILO storage tank

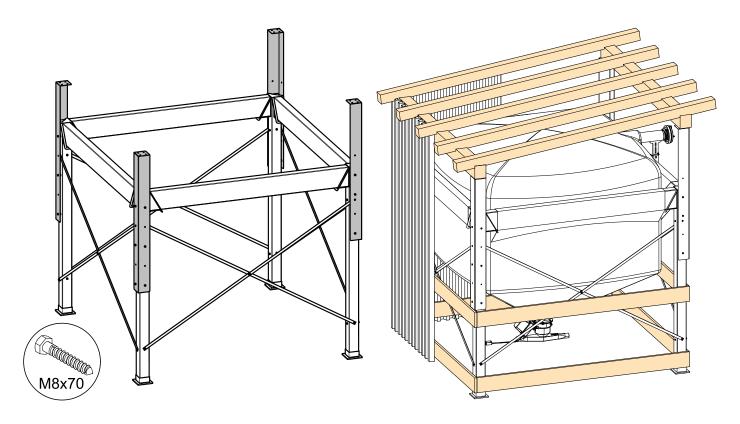
Storage tanks can also be installed outdoors. In this case the storage tank has to be protected from rain and direct sunlight. A roof and a housing therefore have to be built. Furthermore, concrete foundations to spread the load are necessary with outdoor installation.

Foundation

An individual 50 cm x 50 cm frostproof foundation per upright is required to spread the load. The uprights must be anchored to the concrete foundation to withstand wind loads.

Roof beam construction and housing

ÖkoFEN offers an upright extension for attachment of the roof construction. It serves as the base for a lean-to roof. The supporting system of the storage tank serves at the same time as substructure for the housing. All other construction timbers and boardings must be provided on site.



No.	Part	Quantity	Illustration	Article No.
1	Upright extension	4		S 140
2	Frame bolt M8x70	24		121067
3	Washers M8	24		121038
4	Spacer Screw 0.8in	24		160221

4.3 Storage material – pellets

The FleXILO storage tank is suitable exclusively for the storage of wood pellets. Wood pellets are small rolls made from natural wood (dry wood shavings or sawdust) compacted under high pressure with extremely little moisture and very high calorific value.

4.3.1 Specification for high quality pellets as PFI (Pellet Fuel Institut)

Calorific value	min. 7200 BTU/lbs
Bulk density	min. 40 Lb/cft
Water content	max. 10%
Ash content	max. 1.0%
Ash melting point	at least 2192°F
Length	max. 1.5 inch / 40 mm
Diameter	1/4" – 5/16" / 6 – 8mm
Fine material	max. 0.5 %
Contents	100% untreated natural wood

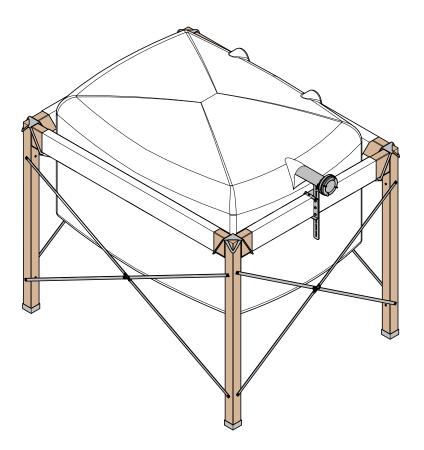
NOTICE

The pellet boiler is suitable only for pellets of natural wood that comply with PFI premium specifications. Using non-pelletised fuels or pellets that are not manufactured from natural wood will lead to the warranty becoming void and will cause damage to the pellet boiler and the chimney. For more information on fuels, please visit our website at:

www.meco-pelletheating.com

5 Assembly of FleXILO H storage tank

The FleXILO H storage tank is the simplest and least expensive form of storage tank. The tank is made from high-quality polyester fabric, is dust-tight but permeable to air, is permanently anti-static and easy to install. FleXILO H is available in a wide variety of special sizes. ÖkoFEN storage tanks are only available in conjunction with a boiler installation.



5.1 Parts list – FleXILO H storage tank

Note:

Before starting assembly, check that the delivery is complete against the parts list.

No.	Part	Quantity	Illustration	Article No.
1	Storage tank	1		SP160H — SP 280H
2	Assembly film	1		S110
3	Upright	4		S100H
4	Damp room shoes	4		S101

No.	Part	Quantity	Illustration	Article No.			
5	Transverse member	4		GT160HV2 KT200 GT220HV2 KT260 GT280HV2			
6	Struts	16 (8 for S160)	*	SR160HV2 KSR200 SR220HV2 KSR260 SR280HV2			
7	Transverse member bracket	4		K121			
8	Filling unit with hose clamp 3.54in – 4.33in	1 – 2 depending on size and arrangement		S106HK			
9	Filling instructions	1		PE489			
10	Dispensing unit	1		S104			
11	Bolt set	1		S103HV2			
Tank	Tank with auger delivery system						
12	Delivery auger	1	0	ST 178 ST 220 ST 260 ST 300G ST330G			
Tank with vacuum suction system							
13	Suction switch	1		SWS-M			

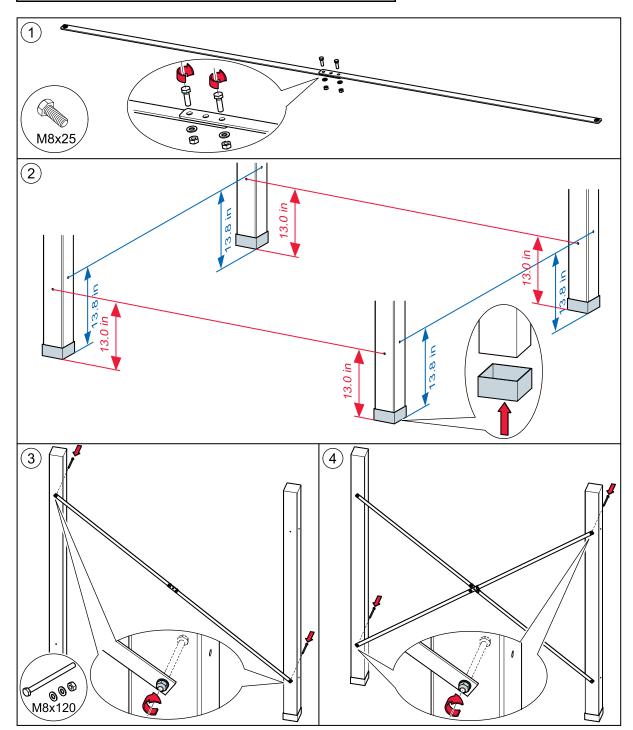
5.2 Assembly – FleXILO H

Assembly of the storage tank frame

NOTICE

Damage to the fabric

Valid for all bolted connectionsThe bolt head must be on the inside, the nut with washer on the outside of the storage tank frame.

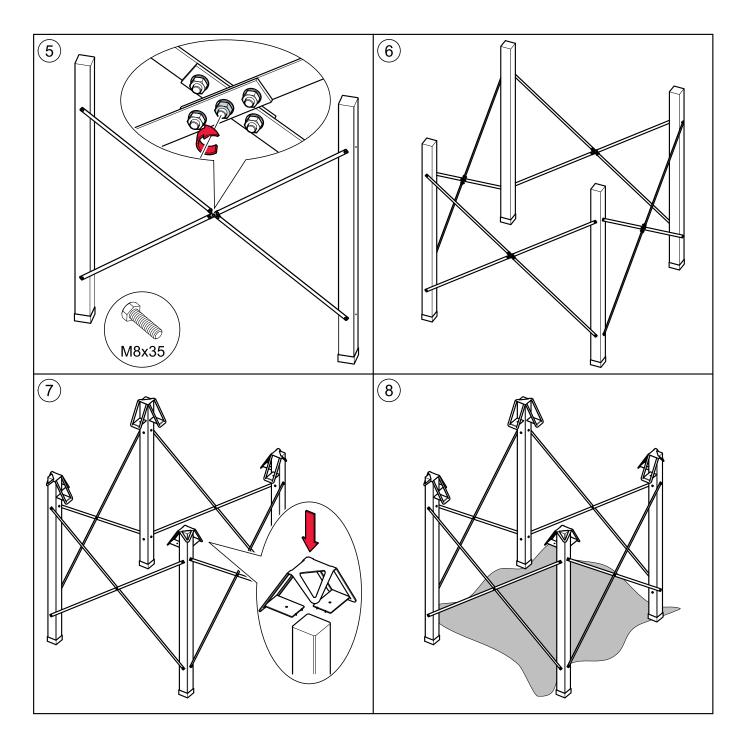


Picture 1: not required for S160

Note:

Use the self-locking nuts for the through bolts.

Assembly of FleXILO H storage tank



Note:

The transverse member bracket must be fastened to the outside of the uprights.

Spread out the assembly film before you place the storage tank on the floor. It protects the fabric from soiling and damage.



Preparation of the storage tank

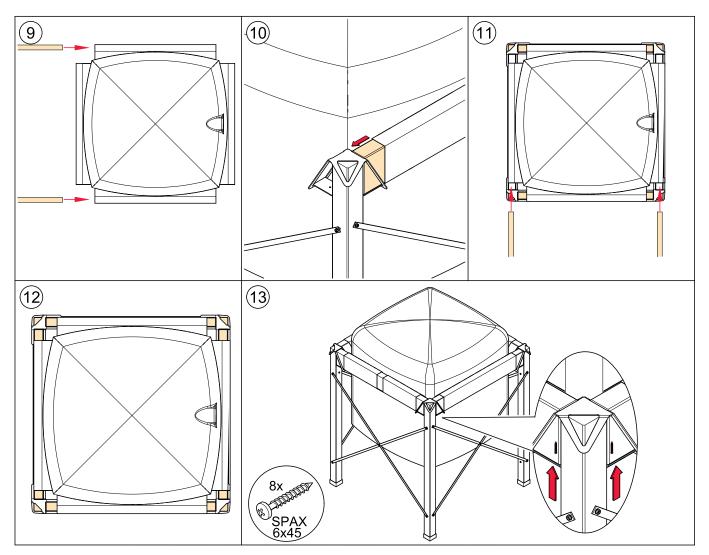
The sack (= fabric) of the storage tank is packed in a cardboard box. The box also includes an assembly film.



packaging.

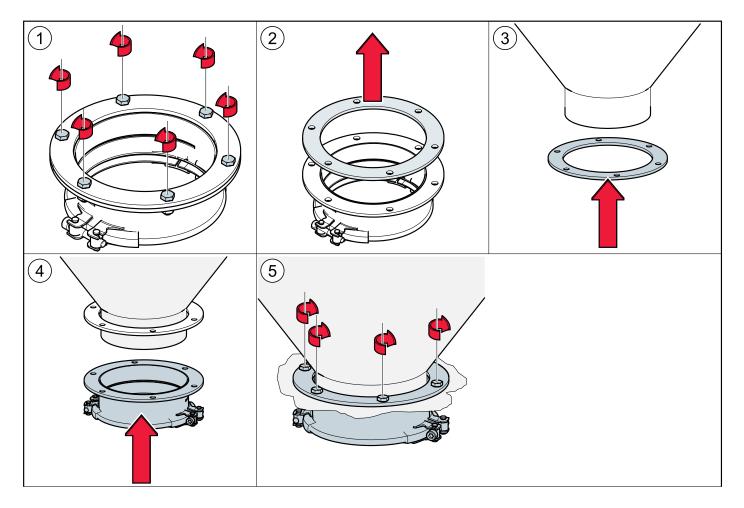
- 1. Spread out the assembly film in the middle of the installation room. The assembly film helps to keep the fabric clean. Do not walk on the assembly film with shoes.
- 2. Position the storage tank in the middle of the tank frame. Unpack the tank and spread it out.
- 3. Turn the storage tank until the lifting straps are at the top and the delivery opening (= large central opening) is on the underside.
- 4. Turn the storage tank until the filler openings are pointing towards where the filling system is to be installed.

Threading in the transverse members and hooking in the storage tank.



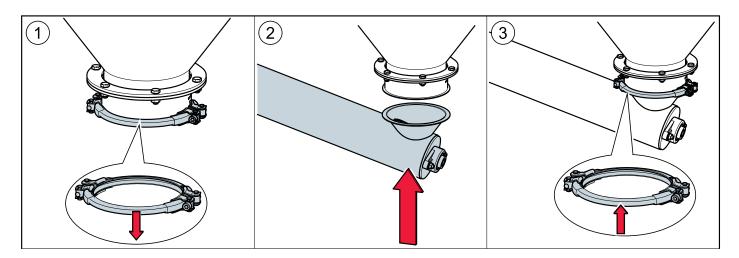
5.3 Installation of the dispensing unit

The dispensing unit on the FleXILO H storage tank consists of the connector with retaining ring and an emergency slide valve. Install the dispensing unit on the delivery funnel of the storage tank.



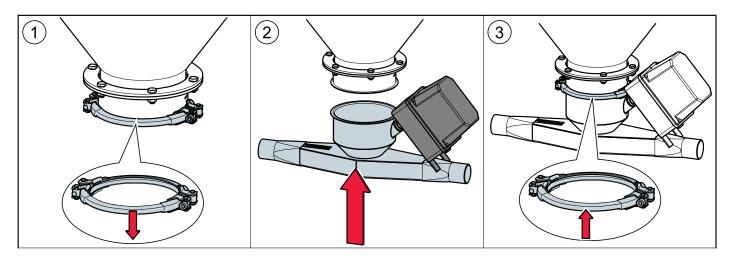
5.3.1 Connection to the auger delivery system

The auger delivery system is connected to the dispensing unit by means of a pipe clamp.

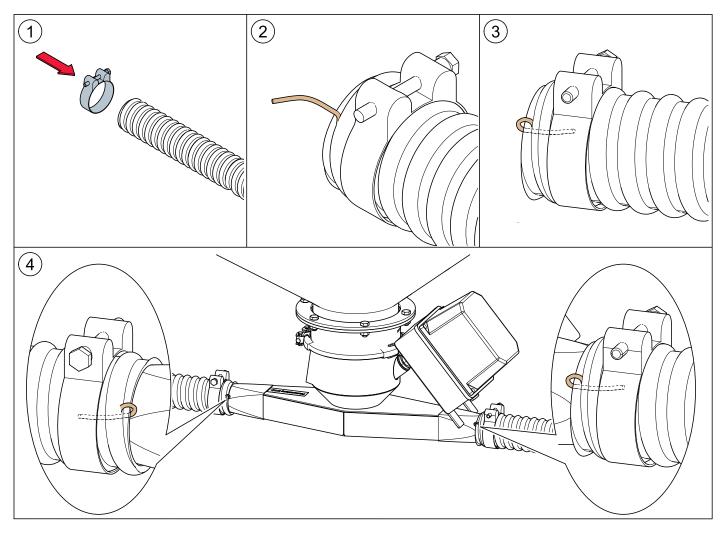


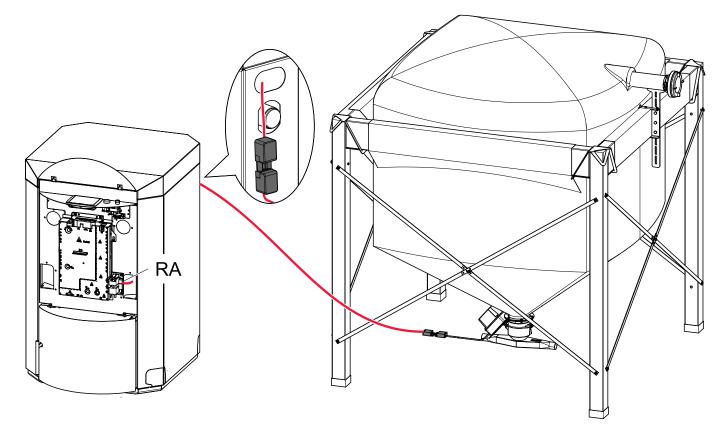
5.3.2 Connection to the vacuum suction system

Connection of the suction switch to the dispensing unit using a pipe clamp.



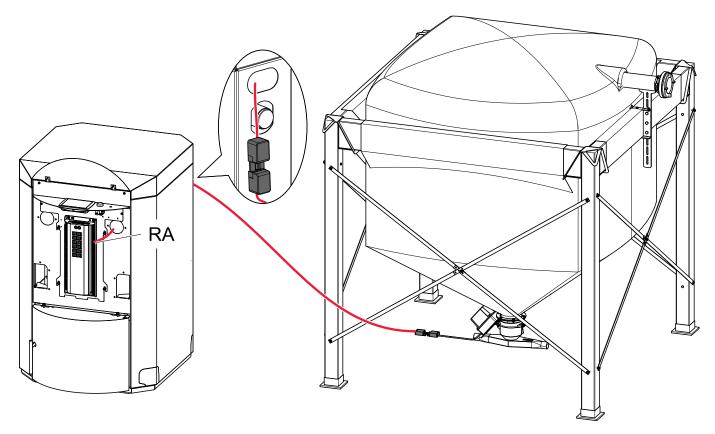
Connection and earthing of the pellet and air line to the suction switch.





Connection of the room delivery motor to the CMP boiler controller at slot RA

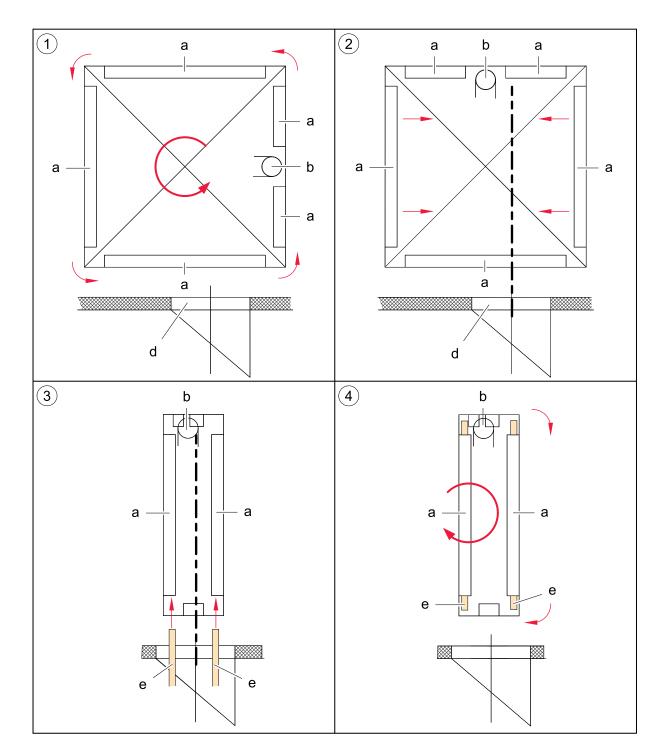
Connection of the room delivery motor to the boiler controller at slot RA



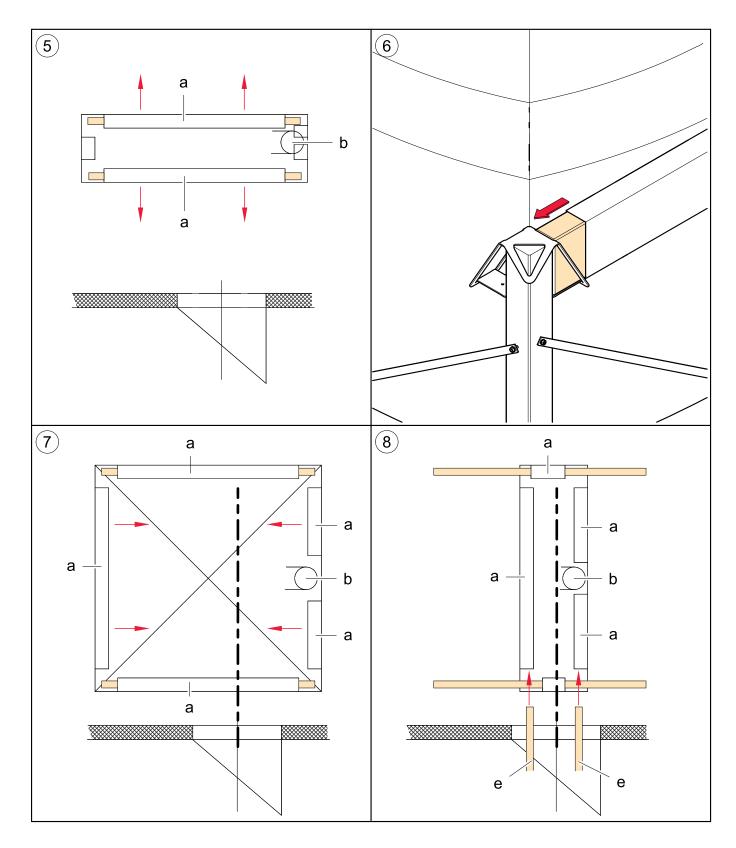
6 Assembly in small rooms

The storage tank frame (uprights with damp room shoes and rubber underlays, struts and transverse member brackets) is assembled in the installation room. After assembly, move the frame into the correct position in the installation room. Pay attention to the correct position of the filler opening.

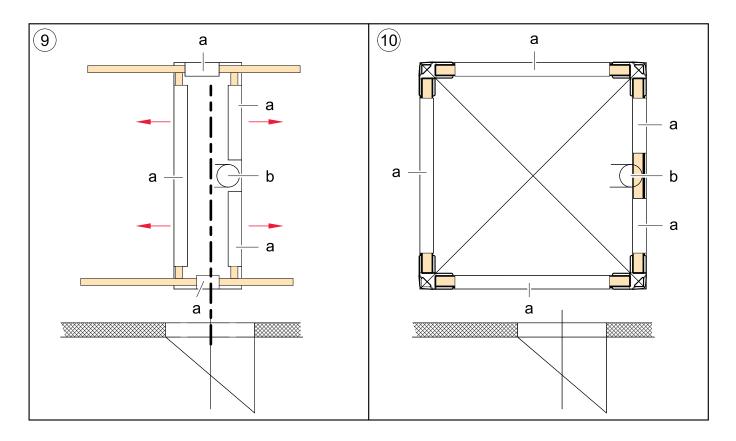
- 1. Turn the storage tank from the initial position 90° to the left.
- 2. Pull the storage tank together to the minimum width of the door opening.
- 3. Push the transverse members into the carrying loops.
- 4. Turn the storage tank with the transverse members back into the initial position.



- 5. Pull the storage tank with the transverse members apart.
- 6. Hook the two transverse members into the transverse member bracket.
- 7. Pull the storage tank together along the transverse members to the width of the door opening.
- 8. Push the transverse members into the opposite carrying loops.

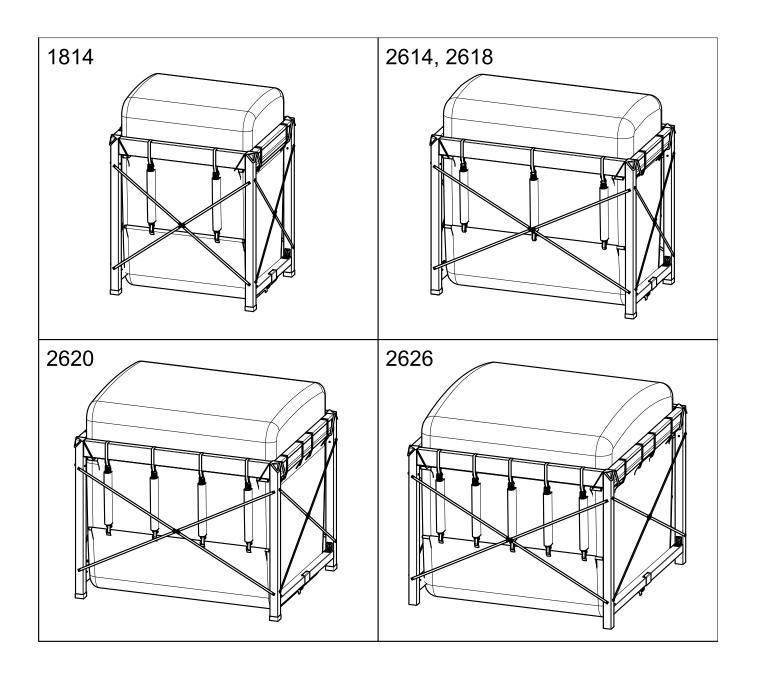


- 9. Pull the storage tank with the transverse members apart.
- 10. Hook the two transverse members into the transverse member bracket.



7 Assembly of FleXILO Compact storage tank

The FleXILO Compact storage tank with tension springs allows maximum use to be made of the space available. The tank is made from high-quality polyester fabric, is dust-tight but permeable to air, is permanently anti-static and easy to install. The fabric lies on the bottom of the tank. An auger delivery system serves as dispensing unit. The lateral suspension from springs allows the tank to be emptied completely. ÖkoFEN storage tanks are only available in conjunction with a boiler installation.



PE274 USA 2.2

7.1 Parts list – FleXILO Compact storage tank

Note:

Before starting assembly, check that the delivery is complete against the parts list.

No.	Part	Quantity	Illustration	Article No.
1	Storage tank	1		KS1814 KS2614 KS2618 KS2620 KS2626
2	Upright	4		S100H
3	Damp room shoes	4		S101 in K116 integr.
4	Transverse meber filling side	2 (1 for N)		KT140H20 KT180H20 KT200H20 KT260H20
4	Transverse member filling side Execution N	1 (only for N)		KT140H20B KT180H20B KT200H20B KT260H20B
5	Transverse member spring side	2		KT 180 KT260
6	Beam filling side (bottom)	2		KT140U KT180U KT200U KT260U
7	Struts	16		KSR140V2 KSR180V2 KSR200V2 KSR260V2
8	Transverse member bracket	4		K121
9	Filling unit with hose clamp 3.54in–4.33in	1		S106HK
9	Filling unit execution N	1		S106HKN
10	Filling instructions	1		PE489

No.	Part	Quantity	Illustration	Article No.
11	Connecting flange, rear	1		K122
12	Pressure relief fitting	1 not with KGT1814		K104
13	Pressure relief bracket	1		K107 K108
14	Spring tube	6		K131 K132 K133 K134
15	Tension springs	4 — 1814 6 — 2614, 2618 8 — 2620 10 — 2626		K113
16	Caps for tension springs	2 per tension spring	0	K119
17	Retainer belt	8 — 1814 10 — 2614, 2618 16 — 2620 18 — 2626	A	K114
18	Spring belt	4 — 1814 6 — 2614, 2618 8 — 2620 10 — 2626		K115
19	Small parts Compact storage tank	1		K116V2
20	T-piece	1		K125
21	Delivery auger	2 (1 for 1814)	-COLORIGEORGEOGOGOGOGOGOGOGOGOGOGOGOGOGOGOGOGOG	FSV140M + FS100 (FS160M)
22	Tube Auger guide	1		K126 K129
23	Motor unit	1		K118

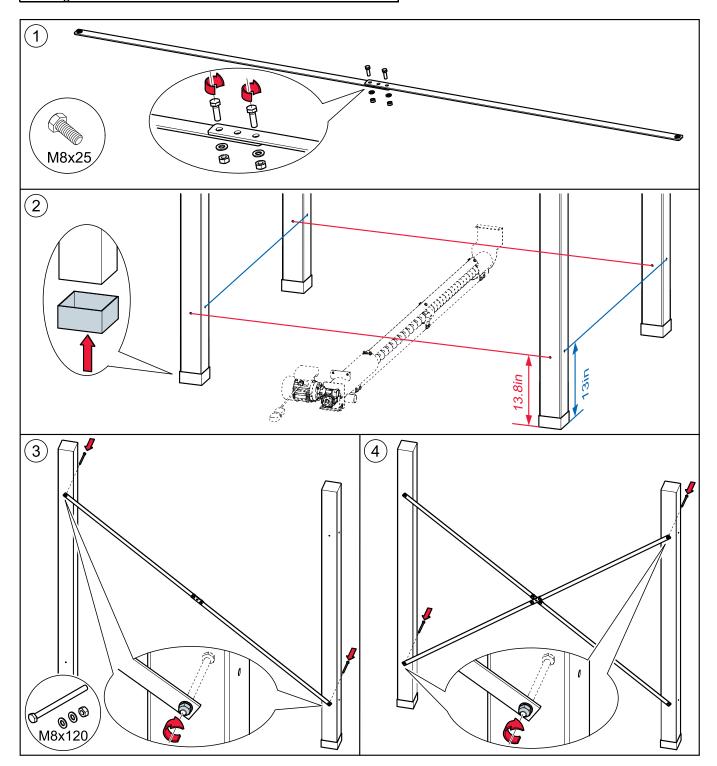
7.2 Assembly – FleXILO Compact

Assembly of the storage tank frame



Damage to the fabric

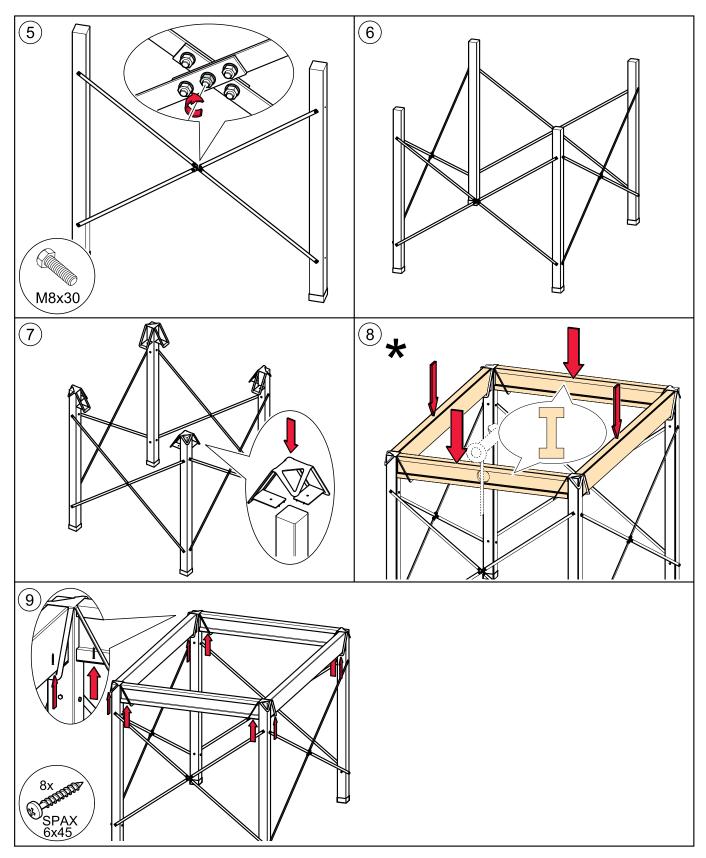
Valid for all bolted connections The bolt head must be fitted on the inside, the nut with washer on the outside of the storage tank frame.



Note:

Use the self-locking nuts for the through bolts.

Assembly of FleXILO Compact storage tank



* Execution N see next page

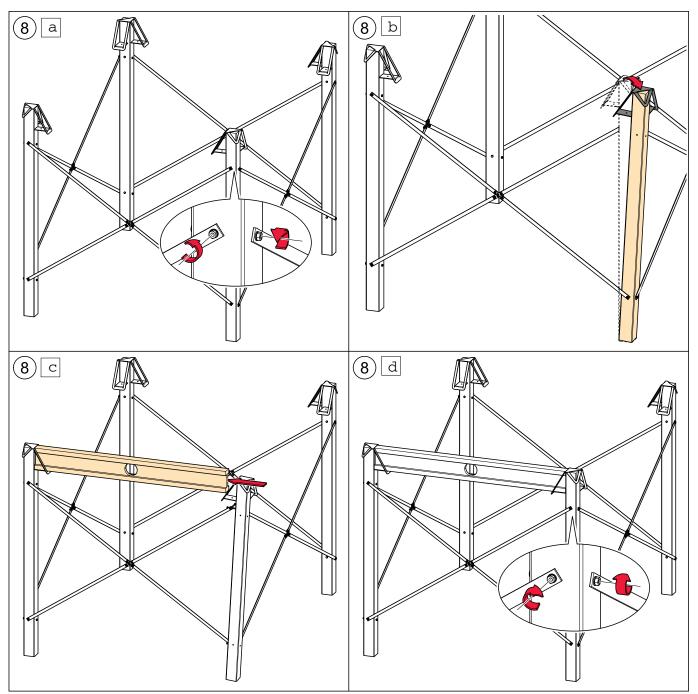


DANGER

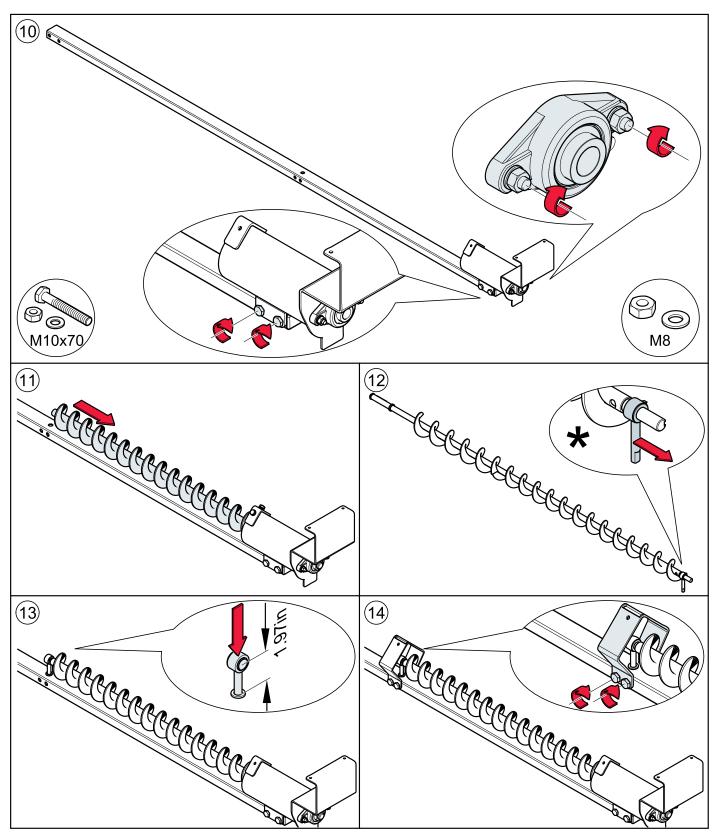
Crushing

Faulty or incomplete installation of the struts can cause the storage tank to collapse.

Execution N

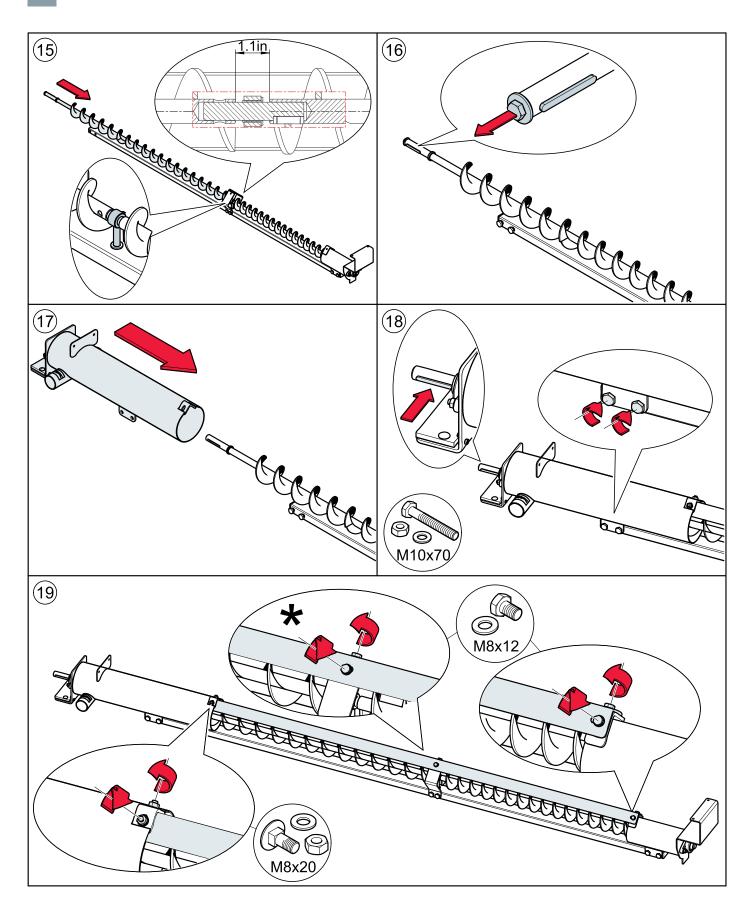


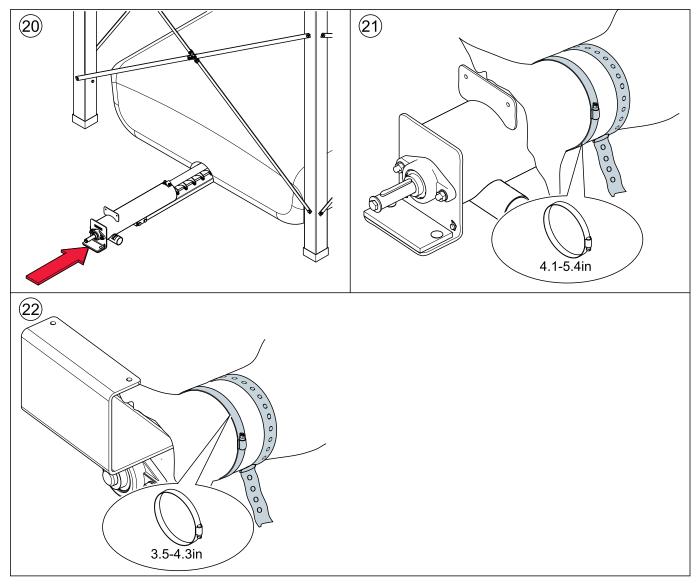
Assembly of the delivery system



*Figure 12-14: Not required with KGT 1814

Assembly of FleXILO Compact storage tank





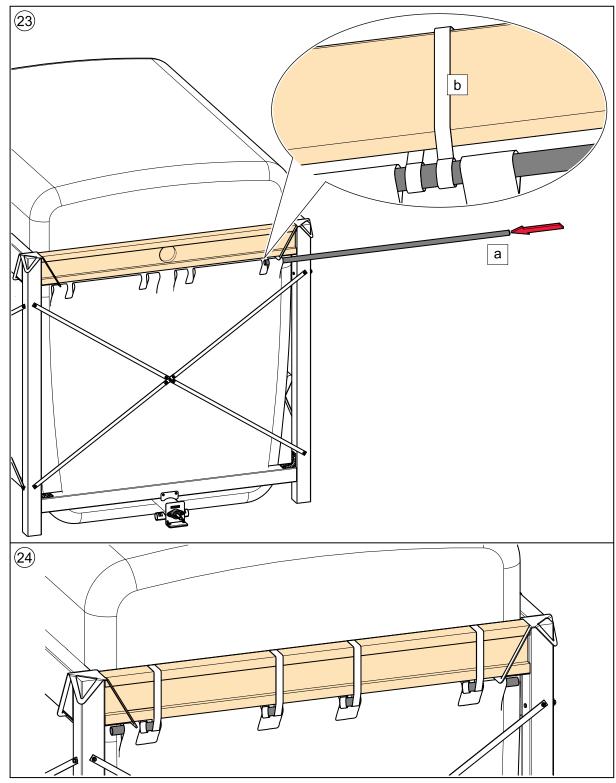
Insertion of the delivery system into the storage tank

picture 21/22 Close off the storage tank opening for the delivery auger

- Pull the storage tank opening over the connecting flange.
- Fasten the storage tank to the connecting flange using straps.
- Close off the storage tank at the connecting flange using a pipe clamp.

Attaching the storage tank on the filling side and opposite side

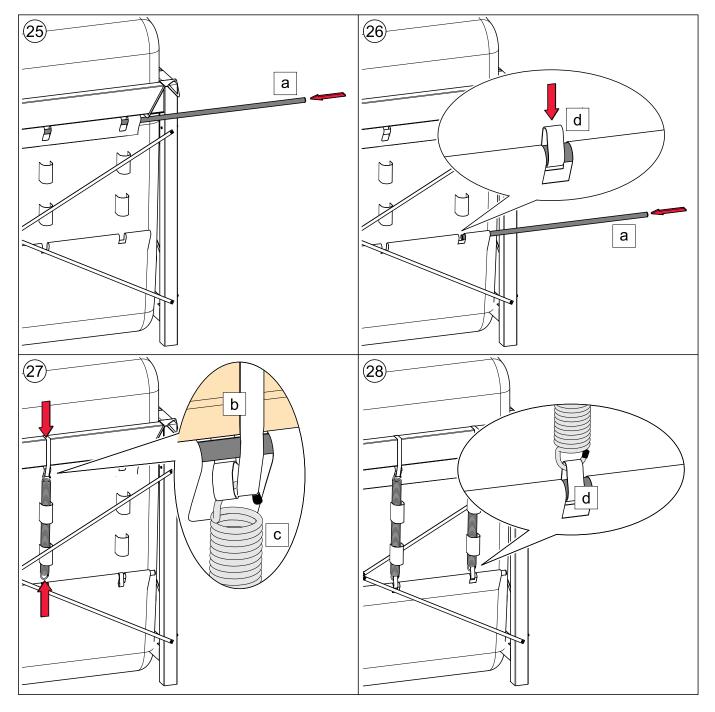
- Hook 2–5 (depending on the size) retainer belts over the transverse members on the filling side.
- Pull the storage tank to the required height on the filling side.
- Thread a spring tube (a) alternately through the lifting straps of the storage tank and the loops of the retainer belts (b).
- Repeat the whole procedure on the opposite side.



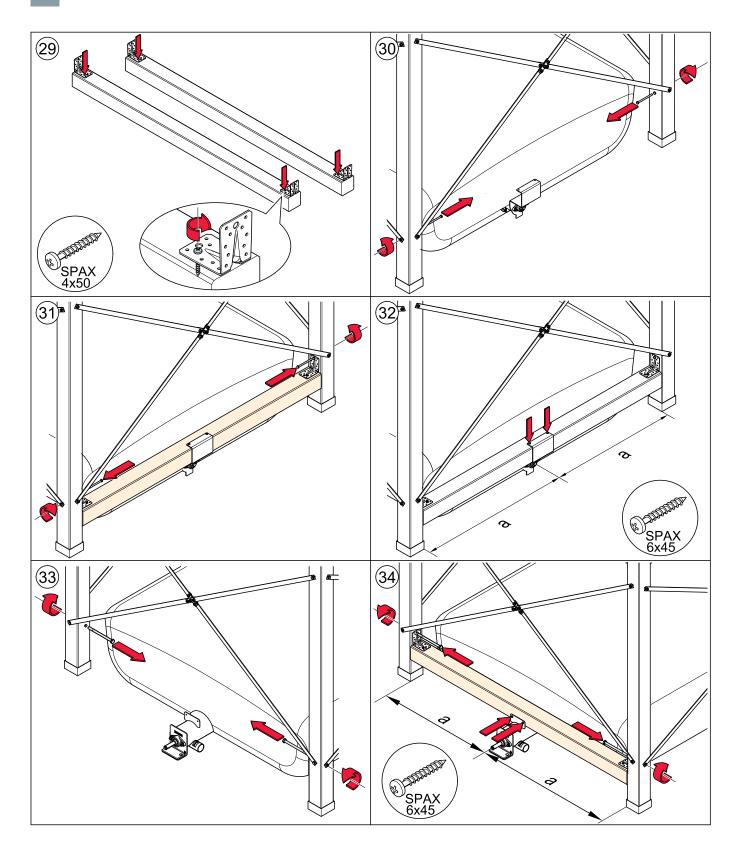
Attaching the lateral spring tubes with the springs

- Hook 2–5 (depending on the size) retainer belts (b) over the lateral transverse members.
- Pull the storage tank to the required height on the filling side.
- Thread a spring tube (a) alternately through the lifting straps of the storage tank and the loops of the retainer belts (b).
- Thread 2–5 tension springs (c) into the spring pockets and hook the springs to the loops of the retainer belts (b).
- Thread the spring tube (a) alternately through the lifting straps of the storage tank and the loops of the spring belts (d).
- Hook the tension springs (c) into the spring belts (d).

Repeat the whole procedure on the opposite side.

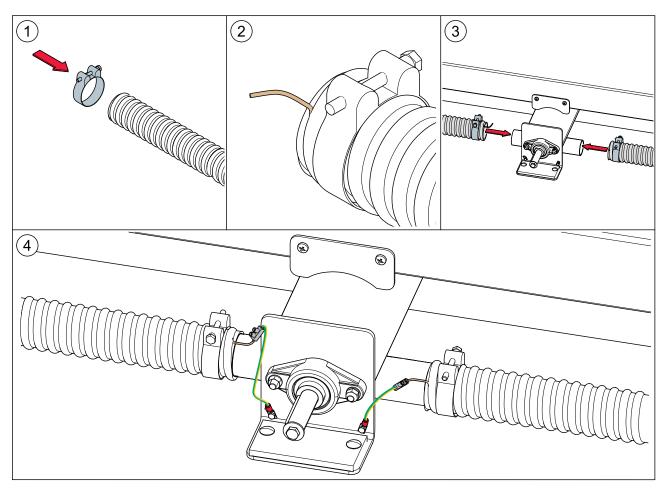


Assembly of FleXILO Compact storage tank



Installation of the drive unit

Connection and earthing of the pellet and air line to the T-piece

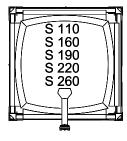


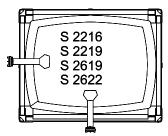
8 Assembly of the filling system

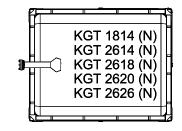
The filling system is the same on all storage tank types. It consists of filling nozzle with bracket and coupling with blind cover.

Installation of the filling nozzle

Depending on the storage tank type and position of the filling connection, one or two filling nozzles are installed.







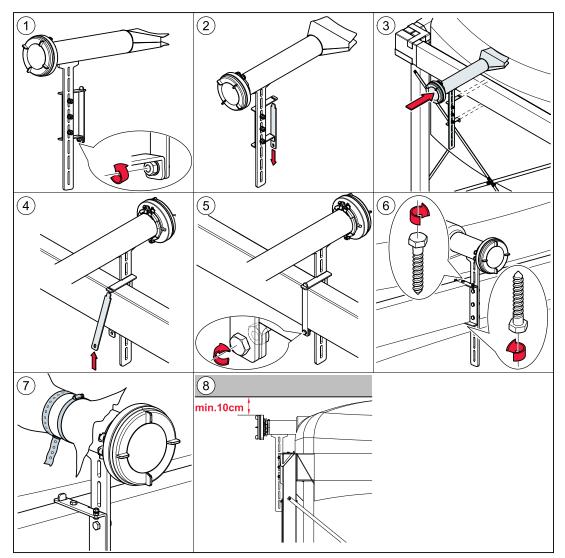
The height of the filling nozzle provides an optimum filling level of the storage tank. Lift the filling nozzle to approx. 5 cm from the underside of the ceiling of the installation room. The bracket of the filling nozzle, however, must not be lifted to higher than the underside of the storage tank transverse member.

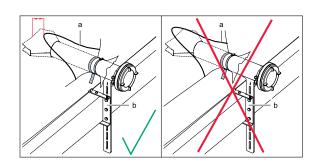


Damage to the fabric

Valid for all bolted connections The bolt head must be on the inside, the nut with washer on the outside of the storage tank frame.

Standard





Seam of the filler opening

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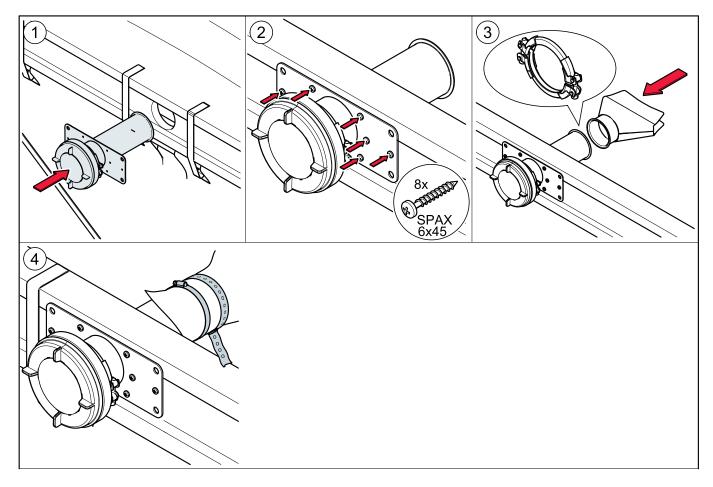
Bracket of the filling nozzle

NOTICE

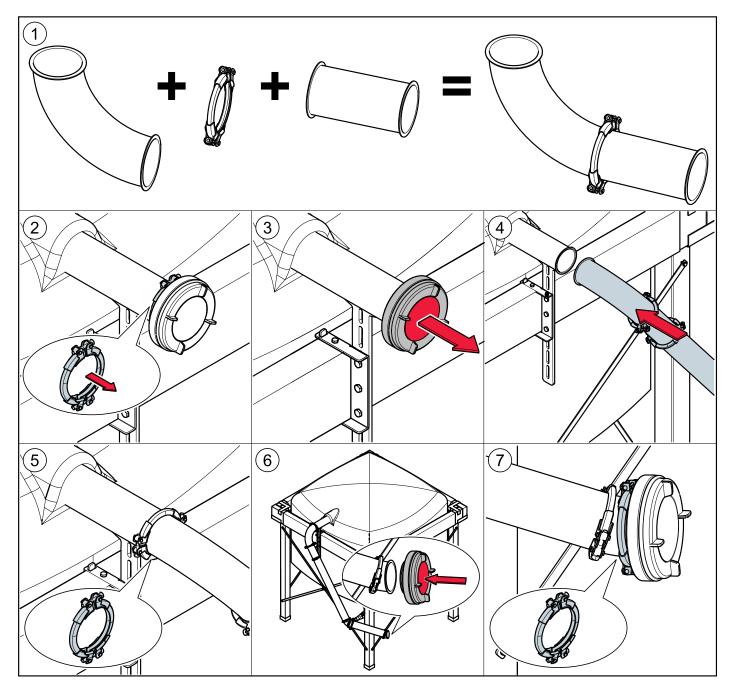
Tearing of the storage tank

The storage tank opening must be fixed as closed as possible to the bracket of the filling nozzle. The seam of the filler opening must not hang over the filling nozzle.

Execution N — low ceiling hight

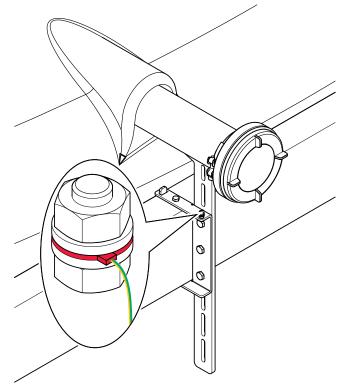


Installation of an extended filling system In cases where the filler coupling is not accessible for filling, further elbows and pipes have to be linked together with connecting clamps until a filler coupling accessible from the outside can be installed.



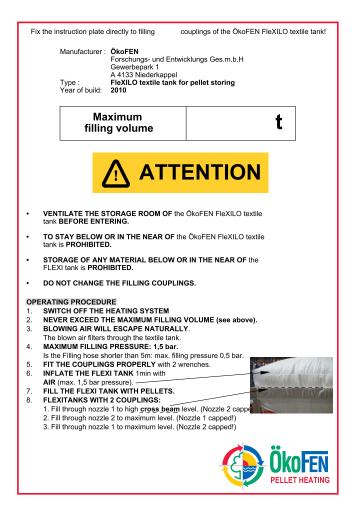
Earthing of the storage tank

The filler coupling must be earthed. The bracket of the filling nozzle has a connection for the earthing.



Installation of the instruction sign

Attach the instruction sign visibly to the filler coupling.



9 Final inspection

NOTICE

Material damage

Before commissioning and the first filling of the storage tank, a detailed inspection of the installation room and the storage tank must be carried out.

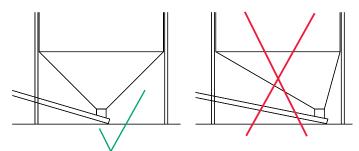
Check:

In the installation room

- · Are the ventilation openings in place?
- · Are the filler couplings open or closed?
- · Have the fire protection regulations been observed?
- · Has the alignment of the uprights and transverse members been checked with a spirit level?

On the storage tank

- · Have the damp room shoes and rubber underlays been installed?
- · Have all the bolts of the storage tank frame been tightened correctly?
- Have all the bolts been inserted with the bolt heads on the inside towards the fabric to prevent damage to the tank fabric?
- · Have all struts been correctly installed and the bolts tightened?
- · Is the whole storage tank frame stable?
- Are the lifting straps of the storage tank in the middle?
- Are the lifting straps of the storage tank straight (without creases) so that there are no point loads on the storage tank? Point loads can cause the fabric to move so that the dust-tightness of the tank can no longer be assured.
- · Are the not used filler openings of the storage tank securely closed?
- · Is the filler nozzle correctly fastened to the filler pipe by means of a hose clamp?
- Is the auger delivery system or suction system correctly fastened to the dispensing unit by means of a hose clamp?
- · Is the dispensing unit correctly positioned in the middle?



• Is the filling instruction sign installed on the filler coupling?

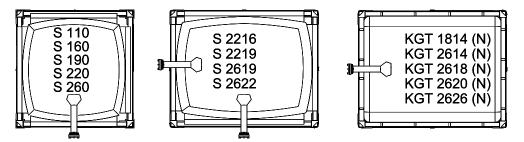
KGT

- · Are the tension springs guided through the flaps and suspended correctly?
- · Are the spring tubes mounted centrally?
- Is the zipper closed completely?

10 Filling of the storage tank

Number of filling nozzles

Depending on the size of the storage tank or on the possibility of positioning the filling unit, 1 or 2 filling units are installed to allow optimum use to be made of the tank volume.



Guidelines and preconditions for filling the storage tank

- Observe the instruction sheet on the storage tank.
- Ventilate the installation room well before entering.
- Inspect the proper condition of the installation room and the storage tank.
 Note:

The storage of any materials under or in the vicinity of the storage tank is forbidden.

- · Check the positions of the openings in the installation room.
- Do not make any modifications to the filling device.
- · Exhausting of the filling air is not necessary.
- · Never stand in the immediate vicinity of the storage tank.
- · Never exceed the maximum gross weight (see below or observe the instruction sign "Filling of the storage tank").
- Maximum filling pressure = 21.7psi. If the filling line is less than 16ft: Maximum filling pressure = 7.2psi.

Filling of the storage tank

- 1. Switch off the pellet heating system.
- 2. Connect the hose coupler correctly with 2 coupler keys.
- 3. Check that all other filler couplings are closed.
- 4. Inflate the storage tank for 1 minutes with max. 21.7psi.
- 5. Fill the storage tank.

With 2 filler couplings, proceed as follows:

Fill the storage tank via coupling 1 up to the level of the transverse members (coupling 2 closed!).

Fill the tank via coupling 2 up to Maximum (coupling 1 closed!).

Fill the tank via coupling 1 up to Maximum (coupling 2 closed!).

6. Disconnect the hose coupler and close the filler coupling.

Storage tank type	Maximum filling volume = Maximum admissible load	Storage tank type	Maximum filling volume = Maximum admissible load
FleXILO	tn.sh.	FIeXILO COMPACT	tn.sh.
S110 H	0.5	KGT1814	3.6
S160 H	2.8	KGT2614	5.2
S190 H	3.5	KGT2618	6.8
S220 H	4	KGT2620	7.7
S260 H	5.1	KGT2626	9.9
S2216 H	3.4	FIeXILO COMPACT N	
S2219 H	3.7	KGT1814 N	2.4
S2619 H	4	KGT2614 N	3.6
S2622 H	4.6	KGT2618 N	4.7
		KGT2620 N	5.5
		KGT2626 N	7.2

Maximum loads of the storage tank

DANGER

Collapsing of the storage tank

Never fill the storage tank to more than the maximum load shown.

Note:

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In view of the different pellet qualities it is possible that although the storage tank is full, the maximum weight has not yet been reached.

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