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Using these installation instructions

This manual deals with fitting the round stock silo with the low bottom cone. The ventilated inner cones have air scales in the segment plates.

Important to remember - READ FIRST

The special low cone is only available for the D5.3m diameter silo.

The low cone is not available with ventilated bottom.

In the low cone, the screw conveyor is installed above the cone.

- See how to attach the console to the jacket on page 4. However, in the low cone, the console shall be positioned vertically as shown on page 7.
- See how to fix the sealing strips on pages 6 and 7.

NOTE! Important measures to be observed while assembling the cone

Observe the following before completing the assembly of the silo jacket, and attaching it to the foundation:

- leave out one wall panel from the lowermost row to enable the parts to be taken inside the cone.

It pays to install the support console of the cone A77114 in connection with making of the jacket in order to avoid the need to undo the bolts repeatedly (*see pages 4 and 7*).

The silo must not be attached to the concrete foundation until the assembly of the cone is completed. Staying in position of the silo, which has not yet been attached to the concrete foundation, should be ensured by tying the jacket down at appropriate intervals to e.g weights of concrete, using load-binding straps.

Pay particular attention to the round shape of the jacket, when assembling the silo jacket. The assembly of the conical part will be more difficult, if the shape of the jacket is oval.

NOTE!

Tighten all the screws firmly to their prescribed tightness. The fastest way to tighten the bolts is to use a pneumatic turn-screw or a cordless drill.

M10 8.8 50 Nm

M10 10.9 65 Nm

M12 8.8 80 Nm

Weight and dimensions of the silos

D5,3M	4 th row	5 th row	6 th row	7 th row	8 th row	9 th row	10 th row	11 th row
Weight (kg) (without cone)	1667	1958	2249	2488	2812	3102	3324	3748
Height of wall jacket from foundation cast (mm)	4484	5605	6726	7847	8968	10089	11210	12332
Height of ready-assembled silo from foundation cast (mm)	5726	6847	7968	9089	10210	11331	12452	13574
Volume (with cone)	90	114	139	164	188	213	237	262
Weight of the cone (kg)	1170							

Foundation

The foundation of the silo with inner cone must be flat-bottomed. The foundation must not be elevated at its centre. **The foundation must be plane and smooth**(The deviation from level must not exceed ± 3 mm). The thickness of the foundation grouting is determined by the size of the silo, and the characteristics of the soil at the building site. At a low-lying site, where presence of groundwater is likely to cause problems, we recommend raising the height of foundation by laying a sand bed, and concreting the foundation to as high as possible. The foundation of the silo must always be provided with ground frost insulation and subsoil drainage. For building permission and meeting other official regulations you need to contact your local building authority.

Erecting the stock silo

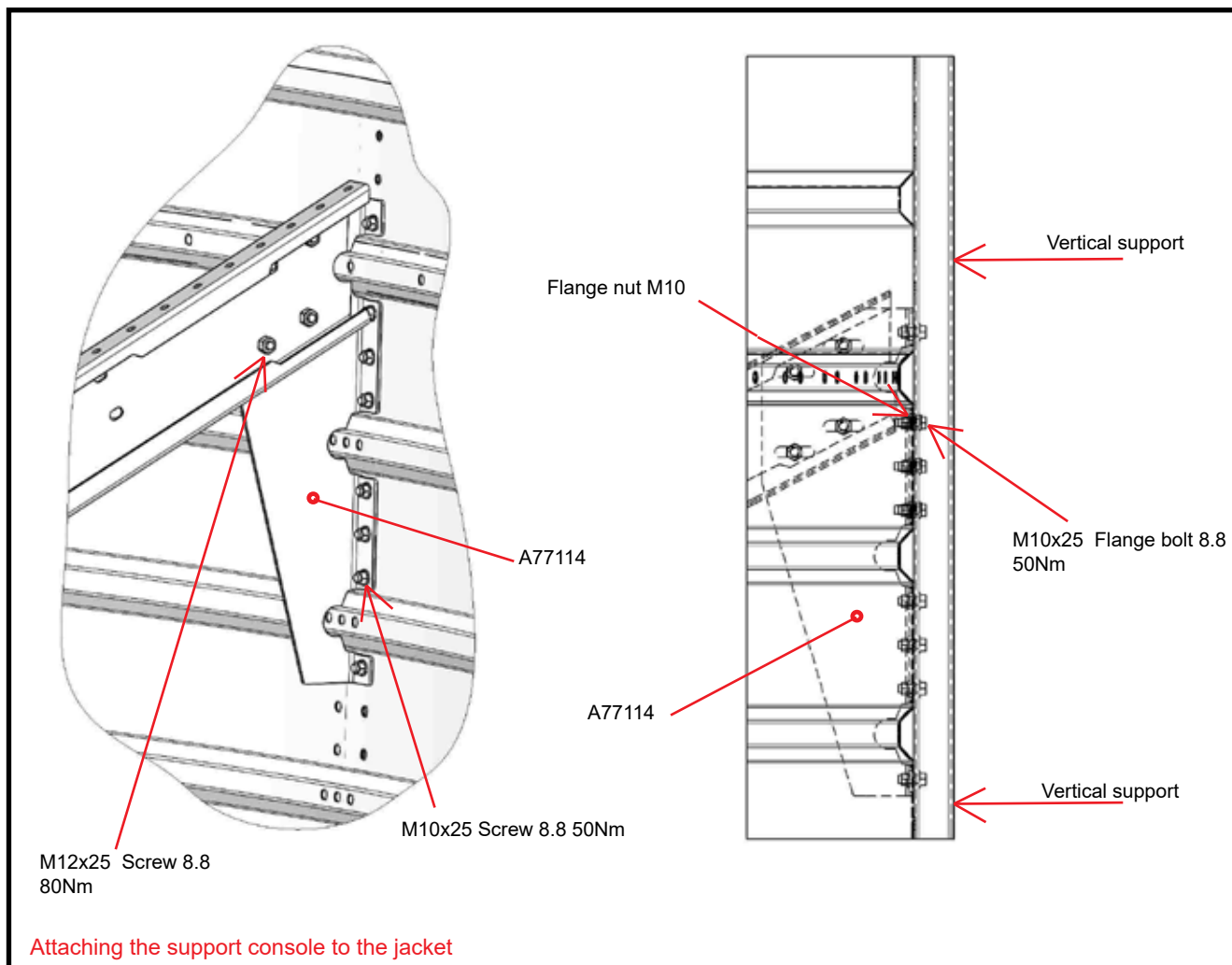
Check the contents of the delivery and compare it with the packing list immediately after taking delivery, and before starting the assembly. Advise the factory of any missing items.

The factory is responsible for correcting any defective/incomplete delivery, but it is not obliged to compensate any other costs incurred.

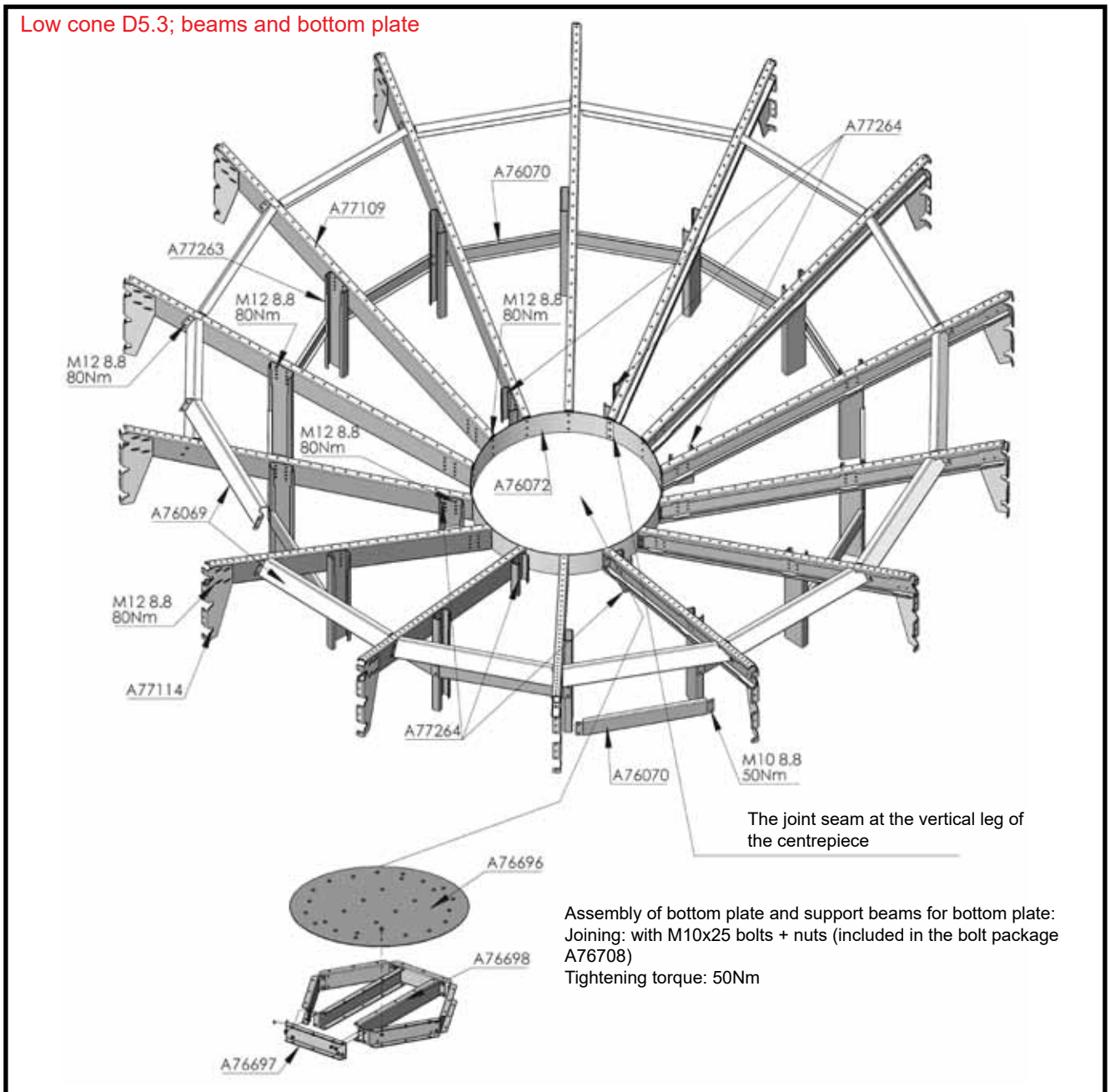
Note!

Read the instructions several times before starting the erection in order to memorize the names of the components and the assembly order. To avoid problems, carry out the assembly in stages as described below.

Low cone; assembly



Install the support console A77114 in the same position with the vertical support for the silo jacket. Determine the correct installation height of the console by checking the distance between the rolls in the drawings. (See page 7). Attach the support console to the silo jacket using M10x25 flange bolts: 8 pcs/bracket. **Join the support console, silo jacket and the vertical support together using bolts.**



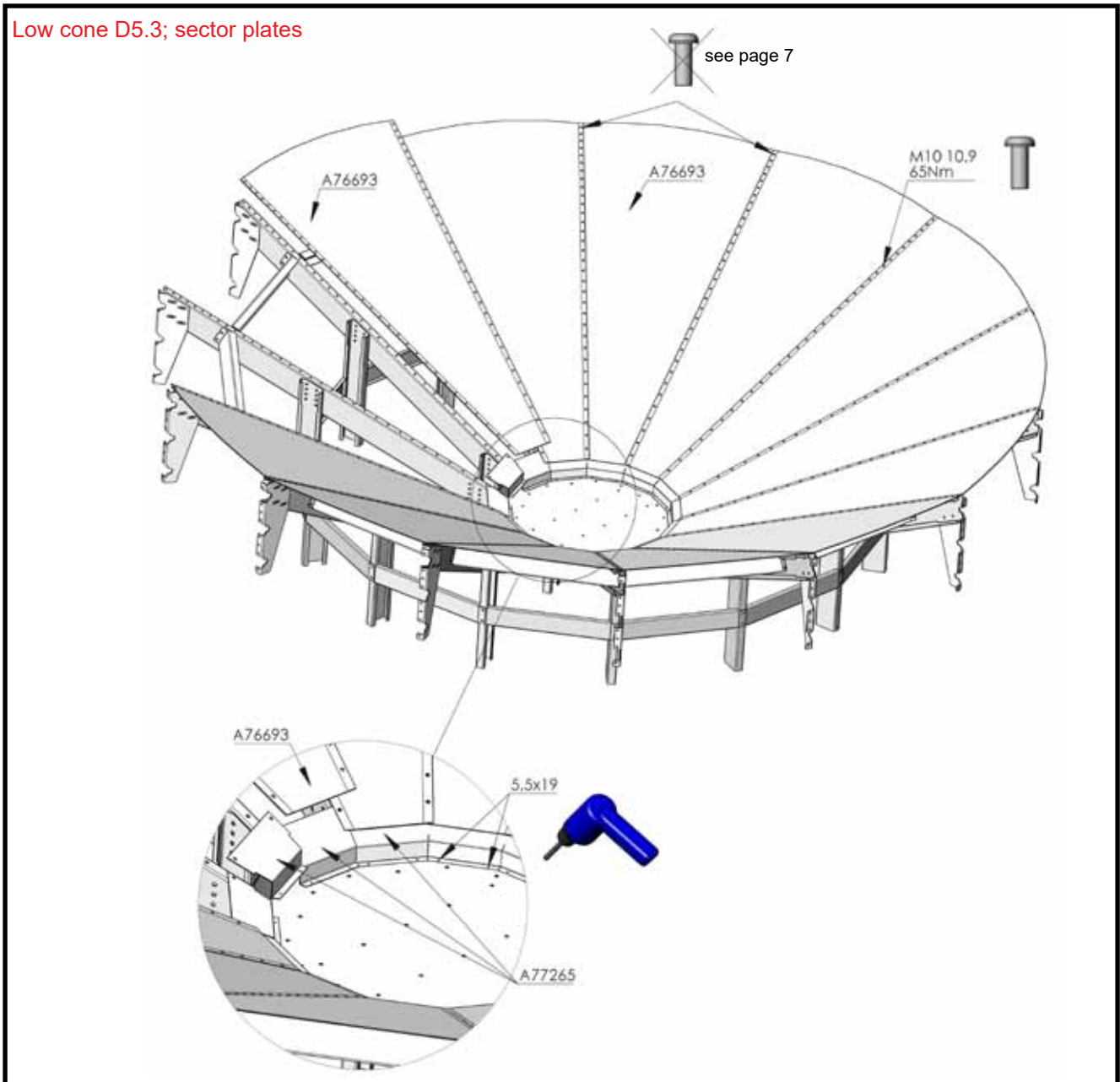
There are in total 6 inner legs A77264, so each horizontal beam will not be provided with an inner leg. The mutual distance of the inner legs A77264 shall be as illustrated in the drawing. The joining seam of the centrepiece (A76072) must be positioned at one of the vertical legs.

No sealing mastic is required for the assembly.

The support consoles A77114, the sector beam, the legs and the centre attachment shall be installed first.

Fix the sector beams to the centrepiece and to the legs using M12 bolts. Do not tighten the bolts yet at this stage. Assemble the parts proceeding clockwise.

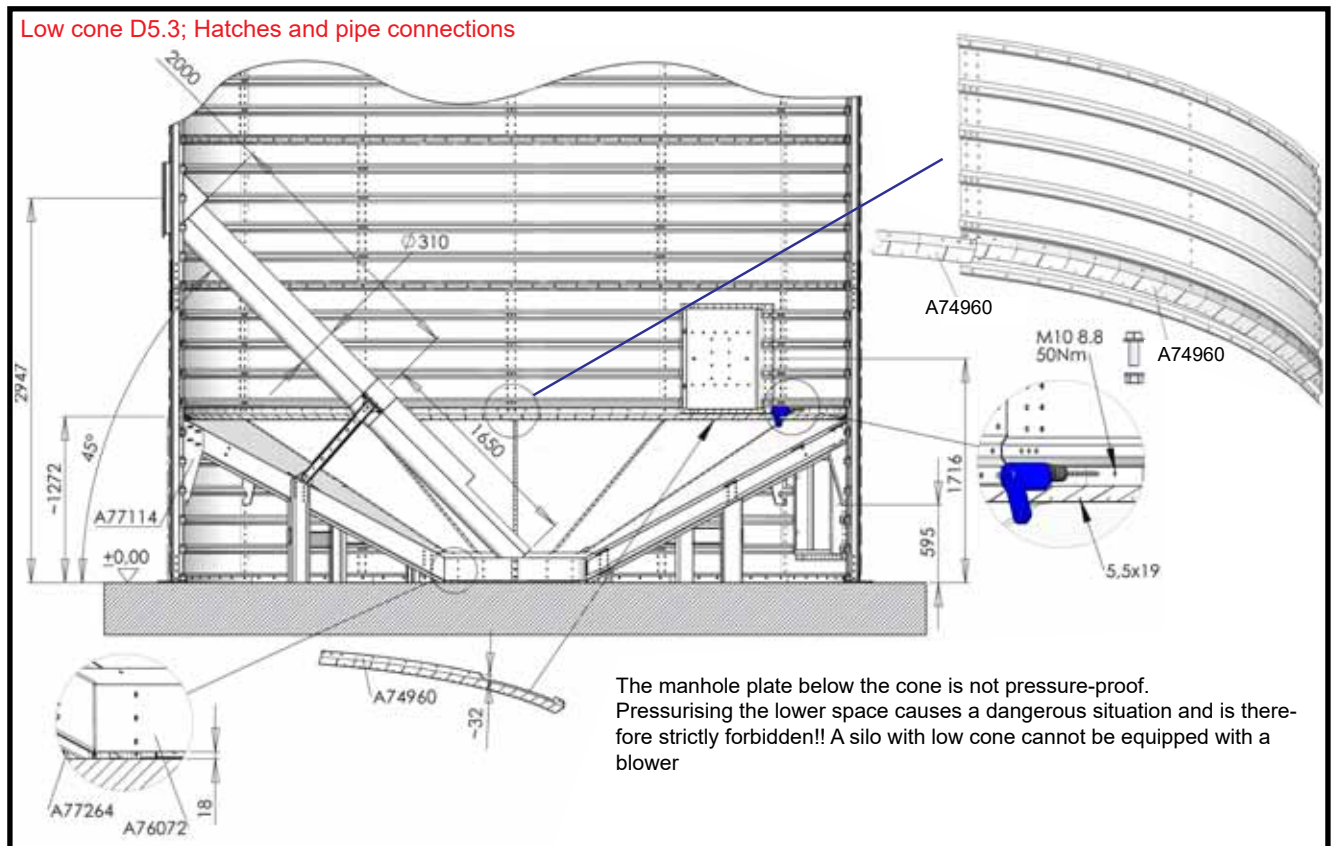
Low cone D5.3; sector plates



Install the sector plates on top of the sector beams. Do not yet install the uppermost and the lowermost bolts for the sector plates at this stage. Use cup-headed screws for fixing the sector plates. Do not tighten the bolts until all the legs and the sector plates are in place. Before completing the assembly of the cone, lift the remaining parts inside, and install the last wall panel for the silo.

The places for the uppermost holes in the sector plates shall be drilled in the edge framework, and fix the plates using M10 cup-headed screws. Be careful not to press the segment plate of the cone too firmly down at the centre when installing the skirt strip, as the deformation may bounce back during filling of the silo, and damage the attachment of the skirt strip.

Low cone D5.3; Hatches and pipe connections



The manholes is mounted on a wall element with a manhole opening.
The material strength of the gaped element is 1.5mm.

Note: The manhole must not be fitted in a wall element that is thinner than 1.5mm.

Manhole hatch to be installed above the cone (in the grain space)

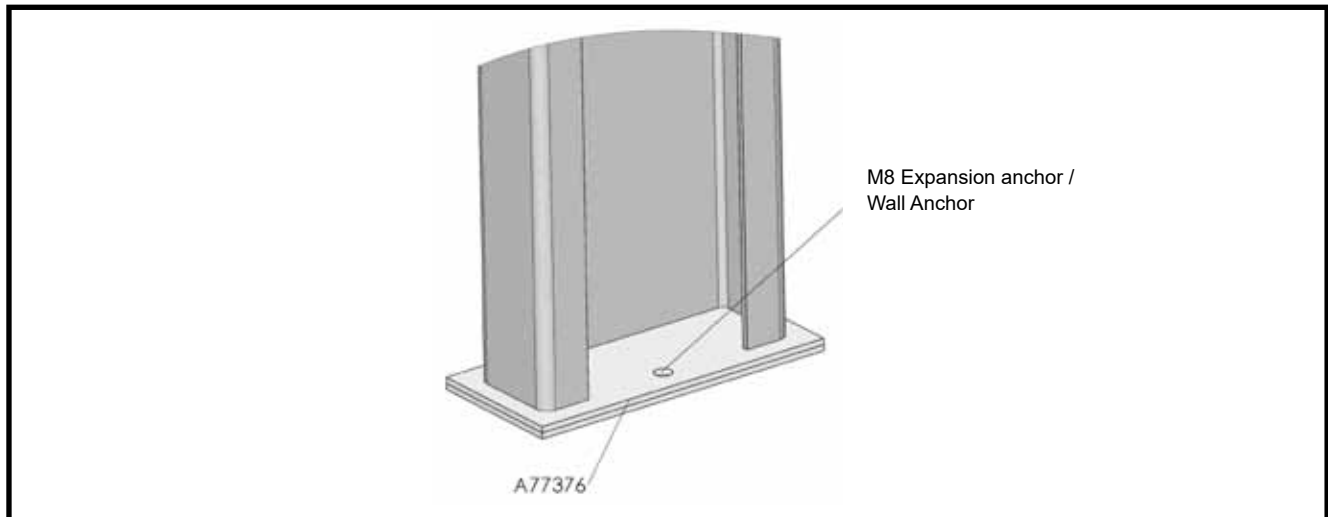
The manhole shall be installed on the inside, to the side of the silo, on the second lowest floor of the silo. The manhole is attached using M10x25 flange bolts. The joint between the silo jacket and the manhole frame shall be sealed with butyl mass, to be applied between the manhole frame and the silo jacket. When planning the work order, note that the inner sealing strip A74960 for the inner cone partly comes between the manhole frame and the silo jacket. If necessary, you can cut off a piece from the upper edge of A74960 to prevent the upper edge from obscuring the manhole bolts. The manhole above the cone shall be attached to its final position at the same time with the installation of the sealing strip.

Installation of the manhole hatch under the cone.

Installation is carried out in the same way as the installation of the upper manhole. The underside hatch is installed in the silo to the lowest floor. There is no cover plate under the cone that opens inside.
(in other words; The manhole plate below the cone is not pressure-proof.)

Note!

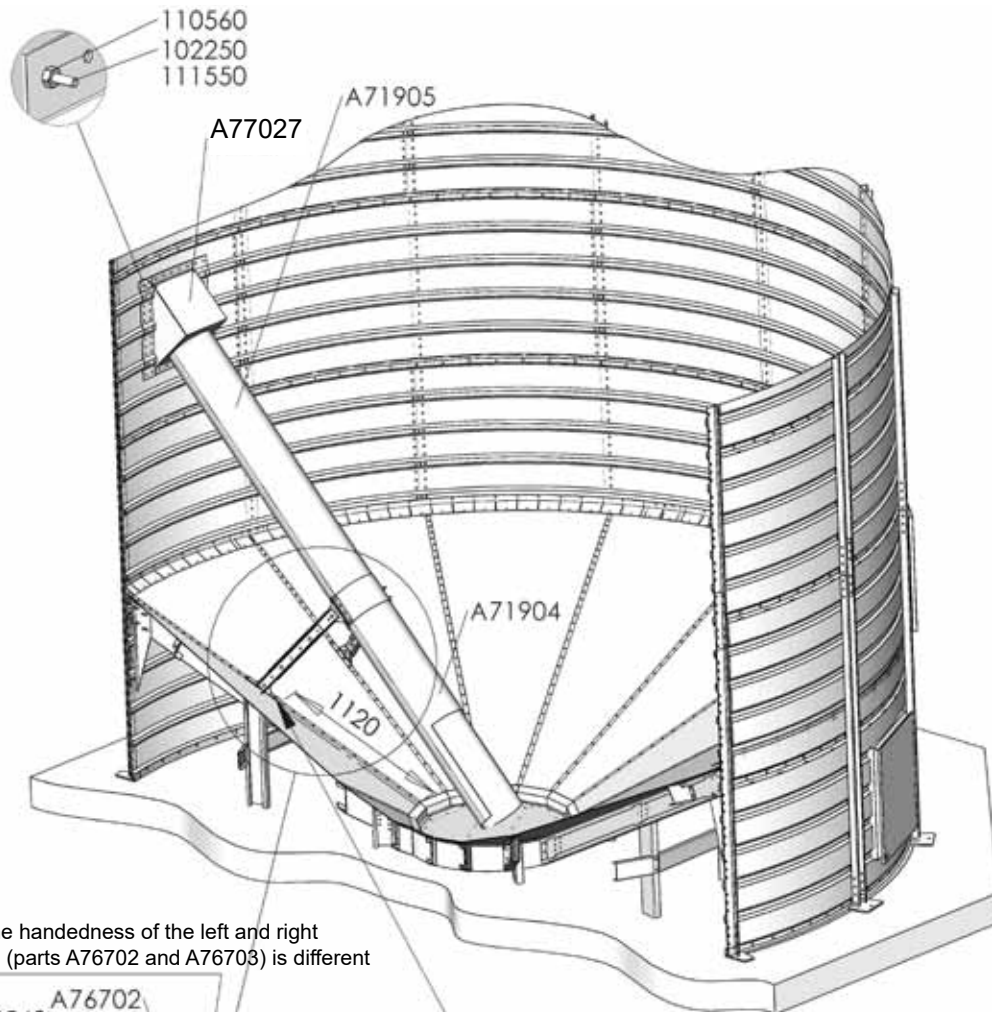
The manhole shall be installed in the lower part of the silo (below the cone) before installing the last wall panel.



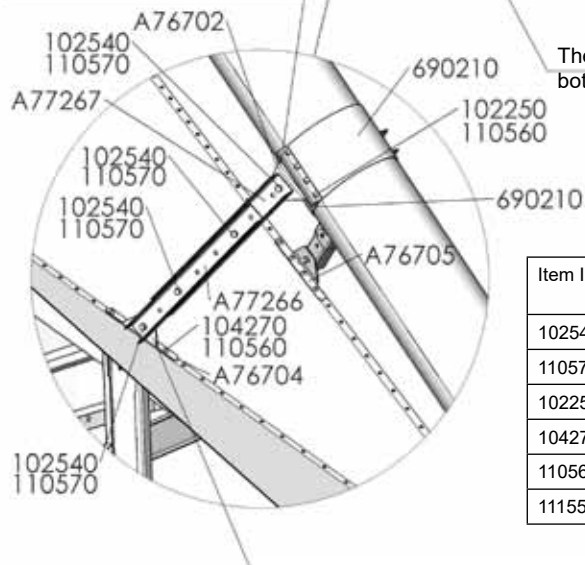
Removal of the cone's support leg clearances when attaching the silo (To be done if necessary)

- There must be no clearance (gap) between the support leg of the cone and the concrete foundation
- If necessary, the clearance is removed by placing the required number of shims under the support leg A77376
- The support leg should be supported over its entire surface area (see picture)
- If the supplied number of shims is not sufficient, you will need to purchase an additional quantity of the same type
- To ensure that the shims are held in place, fix them to the concrete slab with wedge anchors or nailing pins (Not included)

Low cone D5.3; Protective tubes for screw conveyor



Note! The handedness of the left and right brackets (parts A76702 and A76703) is different



Item ID	Item Name	Tightening torque
102540	BOLT HEX ZN 8.8 12X40 AM DIN933	80 Nm
110570	NUT M12 ZN 8 DIN934	
102250	BOLT HEX ZN 8.8 10X40 AM DIN933	50 Nm
104270	COACH SCREW CUP HEAD 10X25 AM ISO 7380 10.9	65 Nm
110560	NUT M10 ZN 8 DIN934	
111550	WASHER ZN M10 DIN 125	

Note! The handedness of the left and right brackets (parts A76704 and A76705) is different

Ready-assembled silo with screw conveyor

