

Support frame for sat antennas

About these instructions

This document is part of the product. These instructions describe how to install and connect the ZSO 181 support frame.

- Do not install and use the device until you have read and understood this document.
- Keep this document for reference throughout the life of the device. Pass this document on to any subsequent owners and users.

The latest version of these instructions for use can be found on our website: www.kathrein-ds.com

Intended use

The ZSO 181 support frame is intended **exclusively for securing a sat antenna (such as the CAS 180) to the ground.**

Any use other than this will invalidate the warranty or guarantee.

Securing the support frame

There are two main ways in which the support frame can be secured. These require on the one hand the installation of IPB 200 beams (see Fig. 2) and on the other hand the laying of a flat concrete slab (see Fig. 3).

Slab, IPB 200 and clamping plates

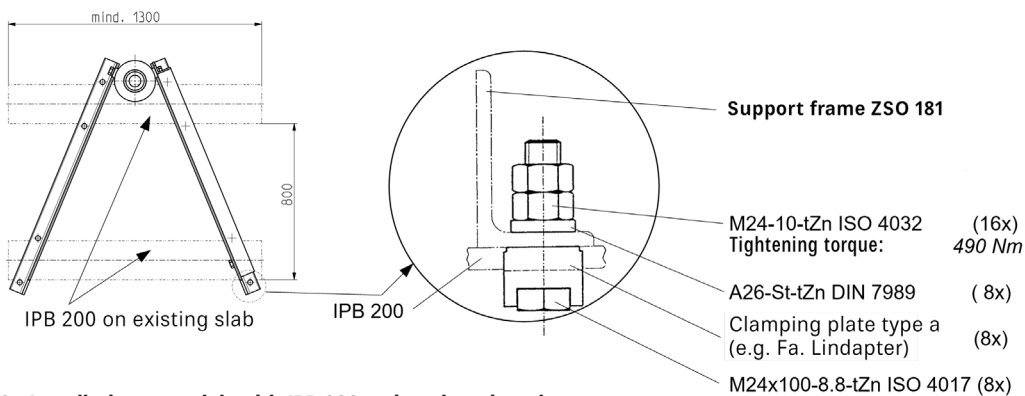
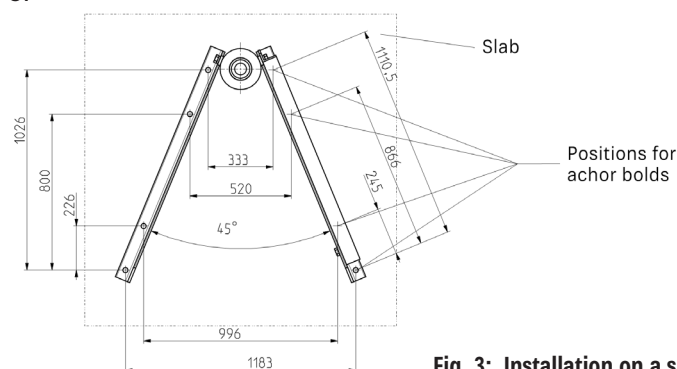


Fig. 2: Installation on a slab with IPB 200, using clamping plates

Slab and anchor bolts with anchor rod (M24)

When setting up the ZSO 181 support frame on concrete using anchor bolts and an anchor rod¹⁾, we recommend you use the support frame as a template to drill the necessary eight anchor holes. The theoretical dimensions are shown in Fig. 3.



¹⁾ anchor bolts Upat UKA 3 - M24:
Please comply with the current "General building approval conditions"

Fig. 3: Installation on a slab with anchor bolts and an anchor rod

Minimum slab dimensions for various maximum wind speeds

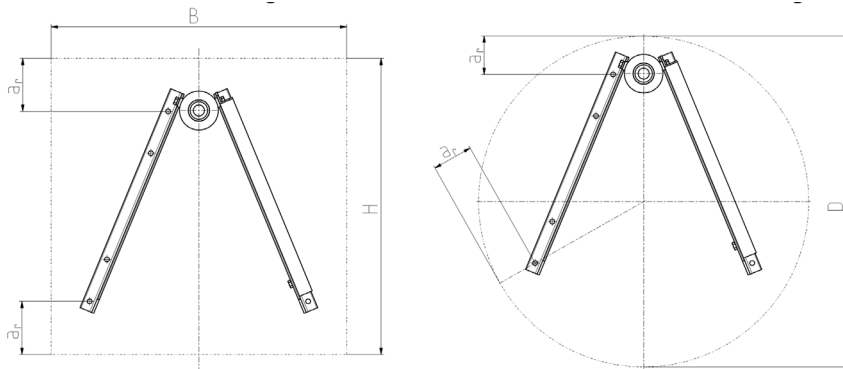


Fig. 4: Slabs with rectangular and circular layouts

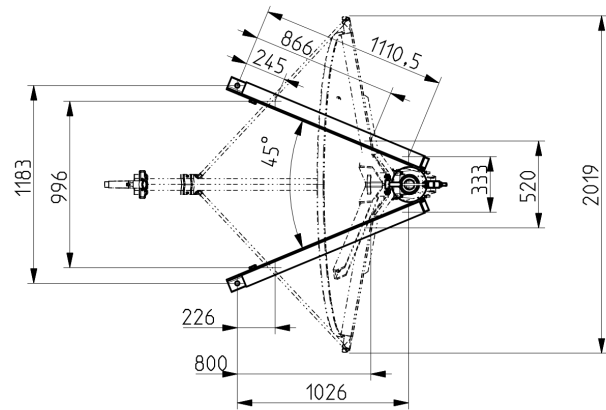
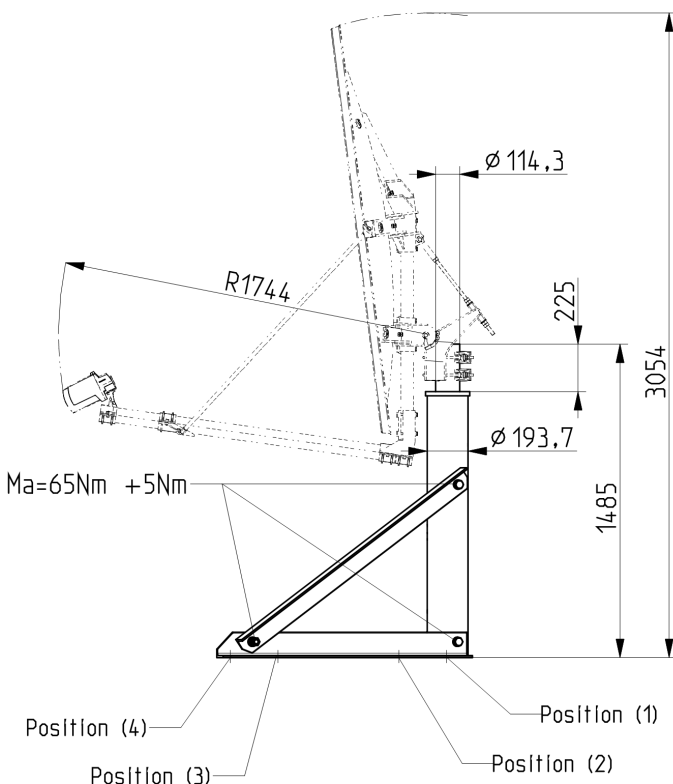
The fastening points near the edge should be spaced equally at a distance a_r .

Recommended minimum dimensions of slabs

$V_{\max}$ in km/h	anchor bolts/anchor rod ²⁾		Clamping plates on IPB 200
	W x H in m	Ø in m	W x H in m
200	1.60 x 1.60	1.80	1.30 x 1.30
180	1.50 x 1.50	1.80	1.30 x 1.30
160	1.50 x 1.50	1.70	1.30 x 1.30

²⁾ The distances from the edge must be in accordance with the "General building approval conditions" for concrete of quality B25

Leading dimensions - forces exerted at the attachment points - weight



Flow resistance of CAS 180:

Wind surface area: 2.83 m²

Drag coefficient c_w to flow inclination: 1,4

Forces at the fastening points:

Wind speed	200 km/h				180 km/h				160 km/h			
Dynamic pressure	1.90 kN/m ²				1.60 kN/m ²				1.25 kN/m ²			
Windload of the antenna	7.53 kN				6.34 kN				4.95 kN			
Torsional moment of the antenna to flow indication	1.62 kNm				1.36 kNm				1.07 kNm			
Position	1	2	3	4	1	2	3	4	1	2	3	4
Tension in kN	10.4	2.3	5.7	9.5	8.8	1.9	4.8	8.0	6.9	1.5	3.8	6.3
Tension in kN (Resulting from tensile and transverse load)	13.1	8.8	7.6	12.1	11.1	7.4	6.4	10.2	8.6	5.8	5.0	8.0
Compression in kN	16.2	2.4	6.7	10.0	13.7	2.0	5.7	8.4	10.7	1.6	4.4	6.6
Compression in kN (Resulting from tensile and transverse load)	18.8	8.2	7.3	12.9	15.9	6.9	6.2	10.9	12.4	5.4	4.8	8.5
Transverse load in kN	9.6	8.8	6.3	8.1	8.1	7.4	5.3	6.8	6.3	5.8	4.2	5.3

* the load data of the different load types result from partly different, the respective critical load cases.

Weight:

Support frame: approx. 137 kg

CAS 180: approx. 60 kg