

3

DESCRIPTION AND TECHNICAL DATA

3 Description and Technical Data

WARNING

The technical data shown in this chapter refers to a machine with standard equipment. Any changes and/or amendments to this data because of the presence of optional equipment and/or accessories are documented in Chapter 15.

3.1 General description of the machine

The **ZED 20.4 HN** elevating work platform consists of a frame bolted to the chassis of the vehicle. The upper part of the frame consists of a slip resistant aluminium platform. There are 4 stabilizers fastened to the chassis on fixed beams. They are positioned on the ground hydraulically and are equipped with ground-contact and stabiliser-closed sensors.

The stabilisers are moved using a manually operated hydraulic control valve. The rotating turret is fixed to a turntable that is mounted on the chassis. Turret rotation, $\pm 310^\circ$, is limited by a mechanical stop that prevents the continuous rotation of the elevating work platform by limiting it to $\pm 310^\circ$. It only allows it to return to its starting point.

The boom unit, fixed to the turret, is composed of two articulated booms actuated by a hydraulic cylinder that allows them to be moved simultaneously by means of connecting rods. A telescopic boom, formed by 2 elements (one fixed and one extensible) is fixed to the articulated boom. The telescopic boom is moved by a hydraulic cylinder. The lowering of the telescopic boom is stopped when it is:

- in the way of the vehicle cab, only allowing it to be moved away from the area.
- in correspondence with the stabilisers, only allowing it to be moved away from the area.

The work platform, made of aluminium, is anchored to the telescopic boom. It is also equipped with a hydraulic cylinder operated rotation device 60° 60° .

The machine is moved by proportional electro-hydraulic controls.

The control station is located on the work platform.

The vehicle's thermal engine powers the hydraulic devices by means of a hydraulic pump activated by power take-off.

The electrical power for the controls is supplied by the vehicle's battery.

The controls, the mode of operation and the devices installed on the machine are described in the following pages.

3.1.1 Classification

This machine has been designed to lift and move people and equipment within the platform's (AWP) maximum permissible load to positions located within the working envelope.

The platform should only be accessed on the ground via the gate.

the limitations on use are described in the manual Any mode or condition of use that does not fall within the limitations of use described in this manual and not intended by the manufacturer is forbidden.

The machine has been designed for an expected 100,000 work cycles and a heavy work regime (e.g. 10 years, 50 weeks a year, 40 hours a week, 5 cycles an hour).

The machine should be fully serviced and inspected by the manufacturer within the set number of work cycles. In the event of particularly heavy use, the machine should be serviced sooner.

The machine should be inspected every 1,000 hours and serviced every 5,000 hours.

3.2 Direction

No.	DESCRIPTION
A	Upper
B	Right-hand side
C	Rear

No.	DESCRIPTION
D	Bottom
E	Left-hand side
F	Front

The following diagrams illustrate the references and the convention used to identify the machine's stabilisers.

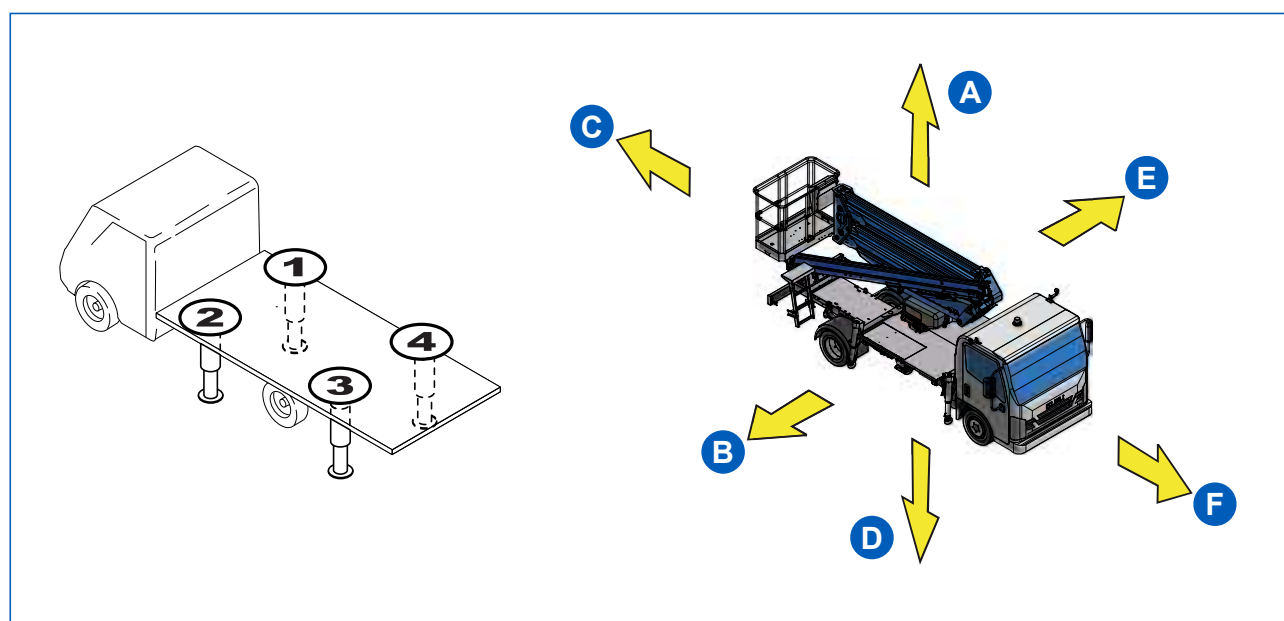


Fig. 3.1

3.3 Identification information and CE marking

Machine:	Mobile elevating work platform (MEWP)
Model:	ZED
Type:	20.4 HN
Year of construction:	indicated on the CE plate
Manufacturer:	CTE S.p.a. Via Caproni 7, Z.I. - 38068 ROVERETO (TN) - Italy
Serial plate:	The serial plate illustrated below is riveted to the machine's turret.
Punched markings:	The fabrication number specified on the serial plate is also punched onto the turret.

WARNING

The vehicle also has a manufacturer's chassis number. Refer to the vehicle's manual in order to locate it.

		FABBRICANTE/MANUFACTURER: CTE S.p.A. Via Caproni, 7 - 38068 Rovereto (TN) - ITALY Tel +39 0464 485050 - Fax +39 0464 485099			
PIATTAFORMA DI LAVORO MOBILE ELEVABILE / MOBILE ELEVATING WORK PLATFORM					
MODELLO: MODEL:		TIPO: TYPE:			
NUMERO DI FABBRICA FABRICATION NUMBER		ANNO DI COSTRUZIONE YEAR OF CONSTRUCTION			
PORTATA MASSIMA RATED LOAD: kg		COMPRESO N. INCLUDING N.		PERSONE E kg PERSONS AND kg	
MASSIMA ALTEZZA DAL SUOLO MAXIMUM HEIGHT FROM THE GROUND		m		AL PIANO CALPESTIO PIATTAFORMA AT WORK PLATFORM FLOOR	
SBRACCIO MASSIMO MAXIMUM OUTREACH		m		PARAPETTO PIATTAFORMA GUARD-RAILS WORK PLATFORM	
SOLLECITAZIONE MANUALE MASSIMA CONSENTITA MAXIMUM ALLOWABLE MANUAL FORCE		N			
MASSIMA VELOCITA' DEL VENTO CONSENTITA MAXIMUM ALLOWABLE WIND SPEED		m/s			
PRESSIONE MASSIMA IMPIANTO IDRAULICO MAXIMUM PRESSURE HYDRAULIC EQUIPMENT		bar			
MASSA A VUOTO COMPRESO VEICOLO NON LOADED MASS WITH VEHICLE		kg			
INCLINAZIONE MASSIMA AMMISSIBILE DEL TELAIO: MAXIMUM ALLOWABLE INCLINATION OF CHASSIS:		15°		30°	
ALIMENTAZIONE ELETTRICA ESTERNA EXTERNAL ELECTRIC POWER		V		Hz	
○		CODE ○			

Fig. 3.2

3.4 Description of main units

No.	DESCRIPTION
1	Cab panel
2	Front stabiliser
3	Turret
4	Telescopic boom
5	220V outlet
6	Stabiliser control levers
7	Ground electrical panel
8	Turntable
9	Rear stabiliser
10	Telescopic extension

No.	DESCRIPTION
11	Basket support plate
12	Platform rotation cylinder
13	Elevating work platform
14	Control board on work platform
15	Articulated boom
16	Articulated lifting cylinder
17	Emergency controls distributor
18	Boom lifting cylinder
19	Power take-off button

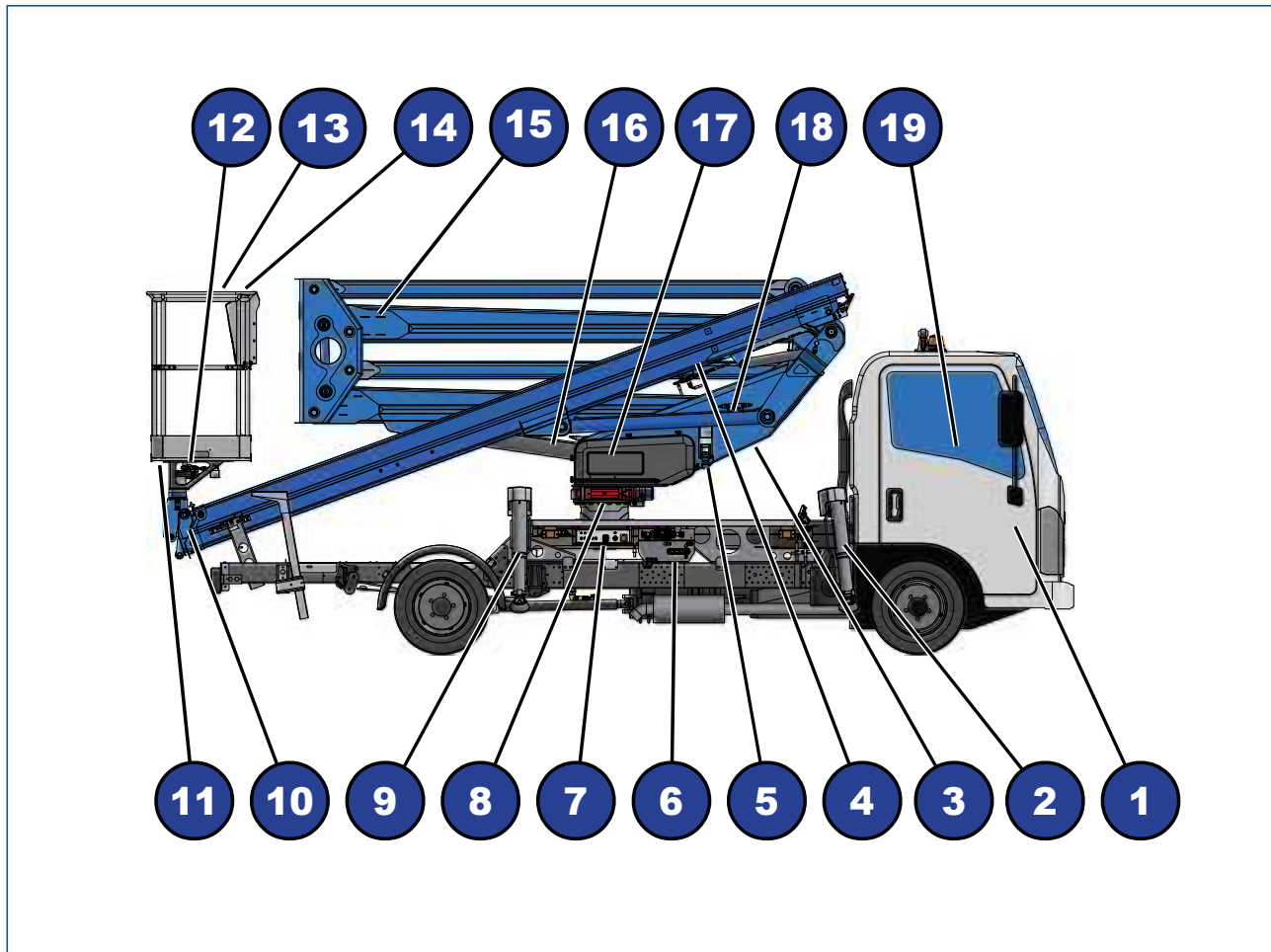


Fig. 3.3

WARNING

The picture shows one possible configuration of the machine, which may vary.

3.5 Main adhesive labels

ATTENZIONE:
È vietato collegare utensili di tensione diversa dai 230V e potenza superiore ai 1,5 KW. Prima di collegare gli utensili è necessario effettuare il controllo del corretto funzionamento del differenziale: il controllo si effettua tramite il tasto di prova "T". Il differenziale deve scattare. Ripristinare il dispositivo collegando le leve dell'interruttore generale. Se ciò non avviene non utilizzare la presa elettrica e rivolgersi ad un Centro Assistenza CTE per la riparazione.

ATTENZIONE:
PER UNA CORRETTA CHIUSURA DELLA PIATTAFORMA, INSERIRE SINIL COMANDO FINO ALLO SPEGNIMENTO DEL CICALINO

3.6 Technical specifications

3.6.1 Technical data sheet

ISUZU 3.5t

Maximum load on platform (ALU)	200 kg (2 people and 40 kg of equipment)
Maximum load on platform (ALU with load cell - optional)	280 kg (2 people and 120 kg of equipment)
Maximum load on platform (FBR with load cell - optional)	230 kg (2 people and 70 kg of equipment)
Maximum platform height	17,80 m
Maximum working height	19,80 m
Maximum extension, up to secondary guarding	7,60 m
Maximum working extension	8,10 m
Maximum permitted inclination of the ground	3,7°
Maximum permitted inclination of chassis	0°
Maximum tolerated wind speed	12.5 m/sec
Turret rotation	310° +/-
Levelling the work platform	Hydraulic parallelogram
Rotation of work platform	60° right + 60° left
Dimensions of work platform	1400 x 700 x 1100 mm
Maximum permitted lateral manual force	40 daN
Electrical system voltage	12 V
Controls	Proportional electro-hydraulic
Hydraulic oil reservoir capacity	40 l
Hydraulic system oil - ISO VG	50 l
Grease for turret gearbox	NIPLEX EP1
Pivot grease	NIPLEX EP1
Grease for telescopic elements	50% NLGI 2 - 50% ISO VG
Chain grease	NIPLEX EP1
Maximum working pressure	220 bar
Guaranteed sound level	97 dB
Overall weight	3.5 t
Maximum pressure of stabiliser on ground	2800 daN
Centre distance between stabiliser plate pins (max)	2288 ± 20 mm
Stabilisers' longitudinal centre distance from the plate pins (max)	2384 ± 20 mm

WARNING

For any other data, please refer to the “technical features for the MEWP and inspection logbook” booklet supplied and which is an integral part of the machine.

IVECO 3.5t

Maximum load on platform (ALU with load cell)	250 kg (2 people and 90 kg of equipment)
Maximum load on platform (FBR with load cell - optional)	220 kg (2 people and 60 kg of equipment)
Maximum platform height	17,50 m
Maximum working height	19,50 m
Maximum extension, up to secondary guarding	7,70 m
Maximum working extension	8,20 m
Maximum permitted inclination of the ground	3,7°
Maximum permitted inclination of chassis	0°
Maximum tolerated wind speed	12.5 m/sec
Turret rotation	115° +/-
Levelling the work platform	Hydraulic parallelogram
Rotation of work platform	60° right + 60° left
Dimensions of work platform	1400 x 700 x 1100 mm
Maximum permitted lateral manual force	40 daN
Electrical system voltage	12 V
Controls	Proportional electro-hydraulic
Hydraulic oil reservoir capacity	40 l
Hydraulic system oil - ISO VG	50 l
Grease for turret gearbox	NIPLEX EP1
Pivot grease	NIPLEX EP1
Grease for telescopic elements	50% NLGI 2 - 50% ISO VG
Chain grease	NIPLEX EP1
Maximum working pressure	220 bar
Guaranteed sound level	95 dB
Overall weight	3.5 t
Maximum pressure of stabiliser on ground	2800 daN
Centre distance between stabiliser plate pins (max)	2239 ± 20 mm
Stabilisers' longitudinal centre distance from the plate pins (max)	2949 ± 20 mm

WARNING

For any other data, please refer to the “technical features for the MEWP and inspection logbook” booklet supplied and which is an integral part of the machine.

3.7 Dimensions

WARNING

The overall dimensions vary according to the vehicle in which the MEWP is installed. For further information, please refer to the “technical features for MEWP and the inspection logbook” booklet supplied and which is an integral part of the machine.

ISUZU 3.5t

Dimensions in running order (data refers to the vehicle illustrated)

Length in running order	6508 mm
Width in running order	2209 mm
Height in running order	2688 mm

Dimensions of the stabilised vehicle (data refers to the vehicle illustrated)

Length	6508 mm
Width of stabilised vehicle (max)	2428 ± 20 mm

ALU BASKET

ALU BASKET WITH LOAD CELL - optional

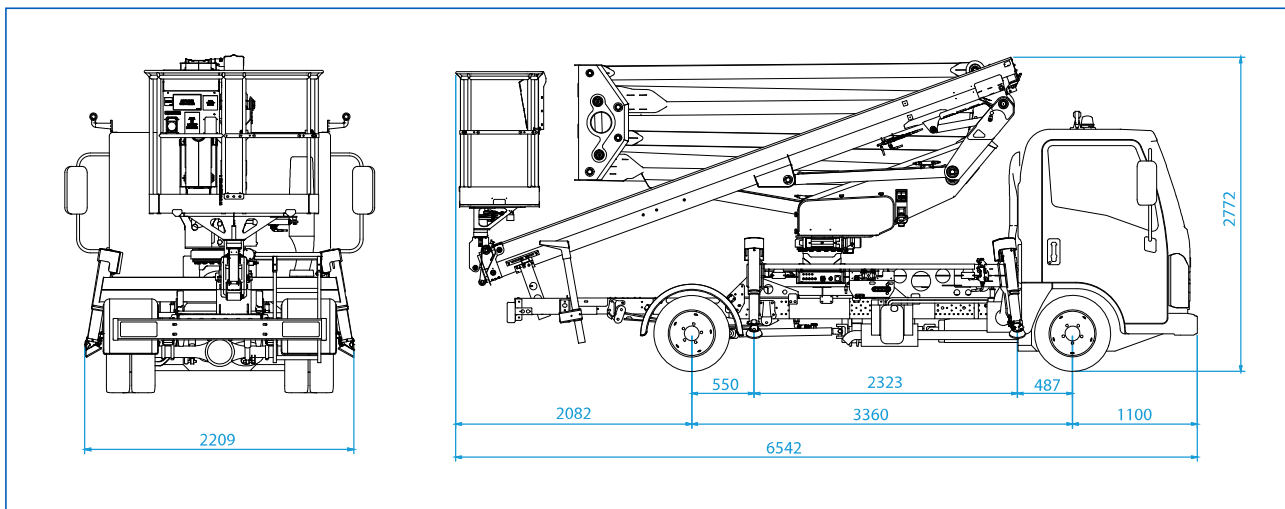


Fig. 3.4

FBR BASKET WITH LOAD CELL - optional

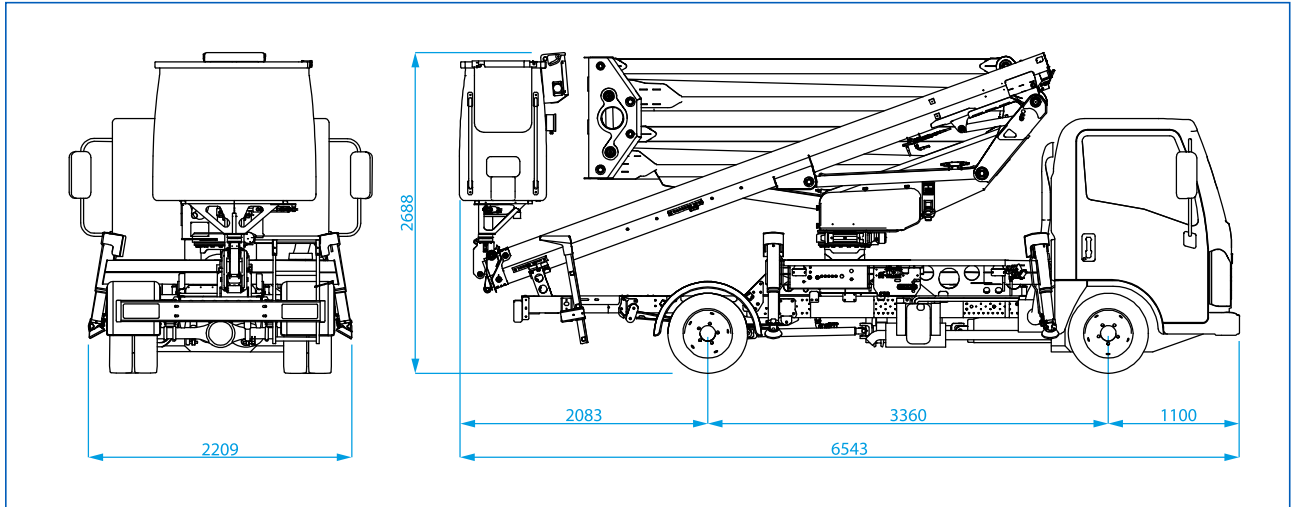


Fig. 3.5

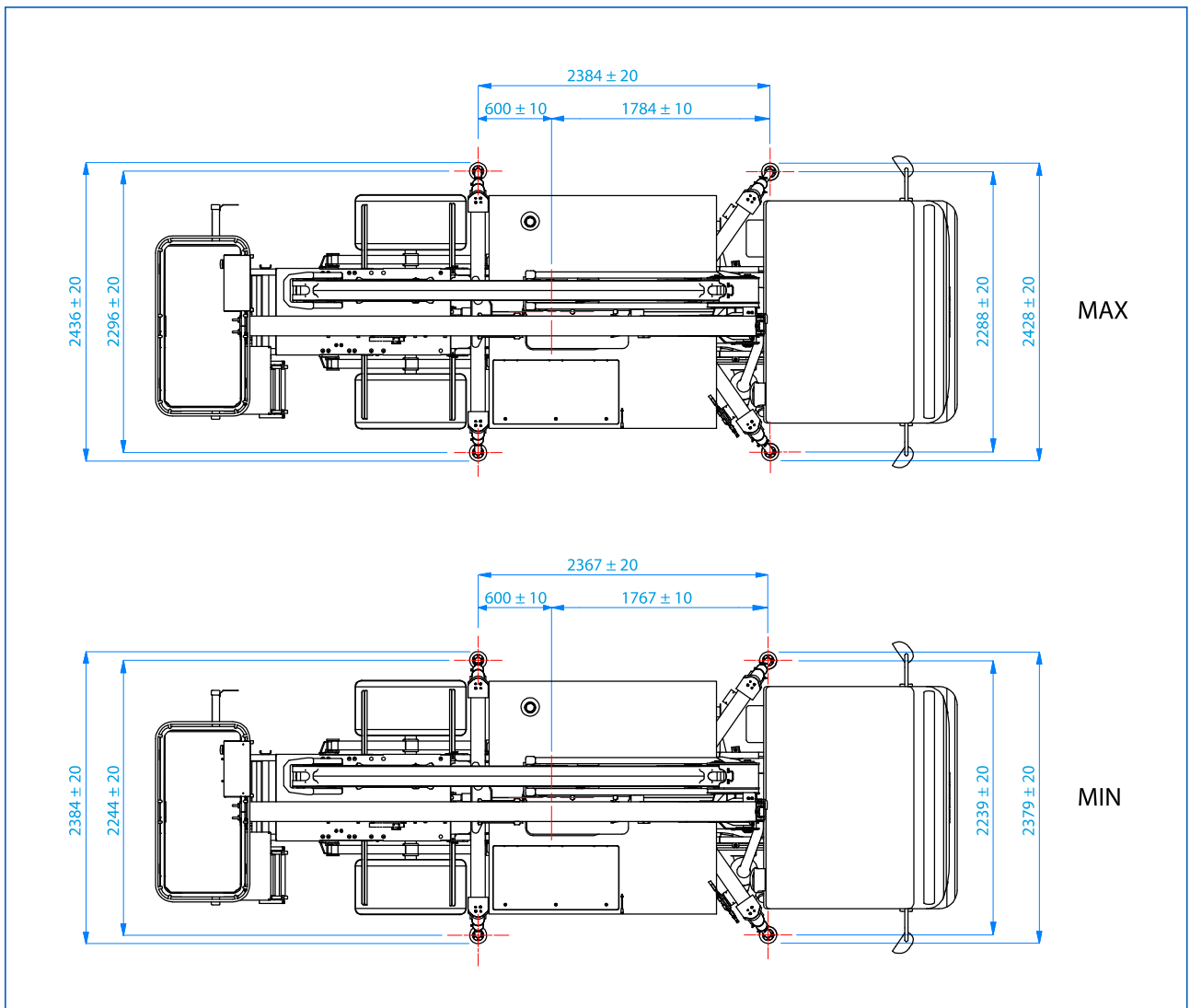


Fig. 3.6

IVECO 3,5t**Dimensions in running order (data refers to the vehicle illustrated)**

Length in running order	7622 mm
Width in running order	2207 mm
Height in running order	2784 mm

Dimensions of the stabilised vehicle (data refers to the vehicle illustrated)

Length	7622 mm
Width of stabilised vehicle (max)	2428 mm

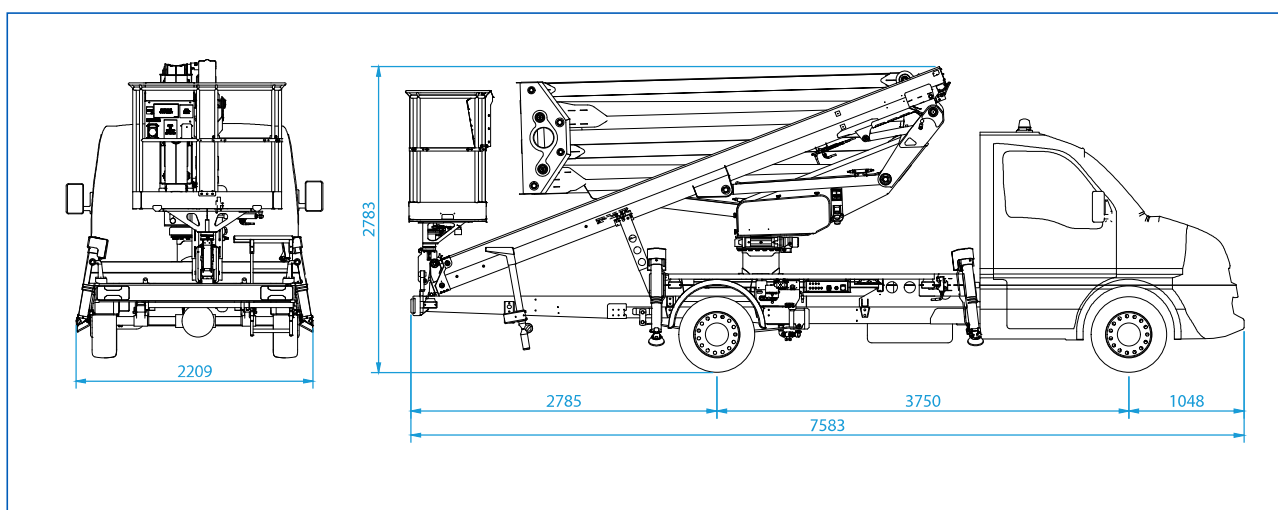
ALU BASKET**ALU BASKET WITH LOAD CELL**

Fig. 3.7

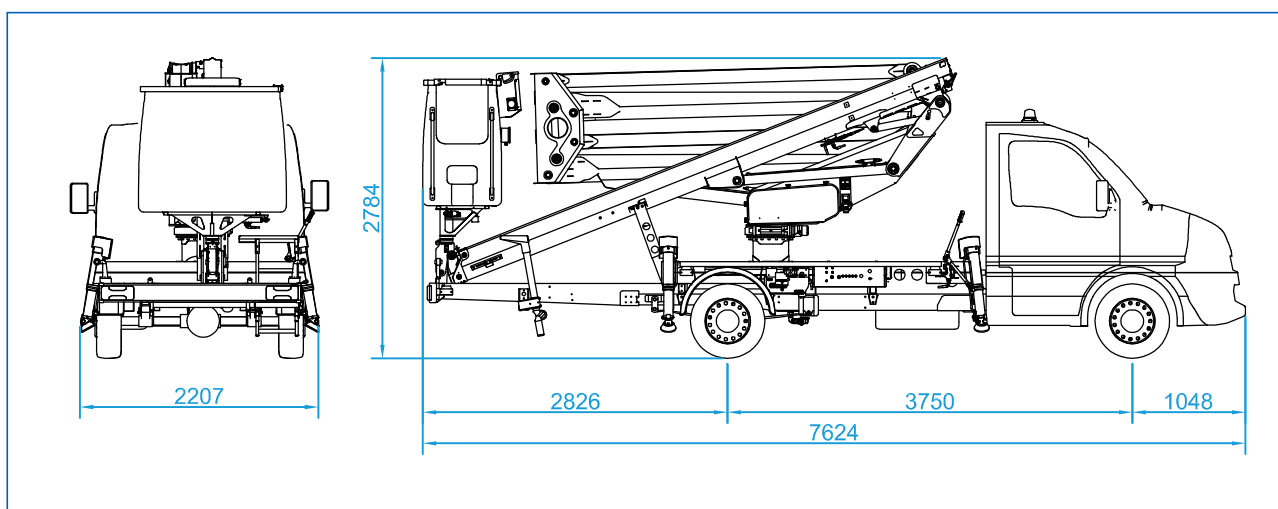
FBR BASKET WITH LOAD CELL

Fig. 3.8

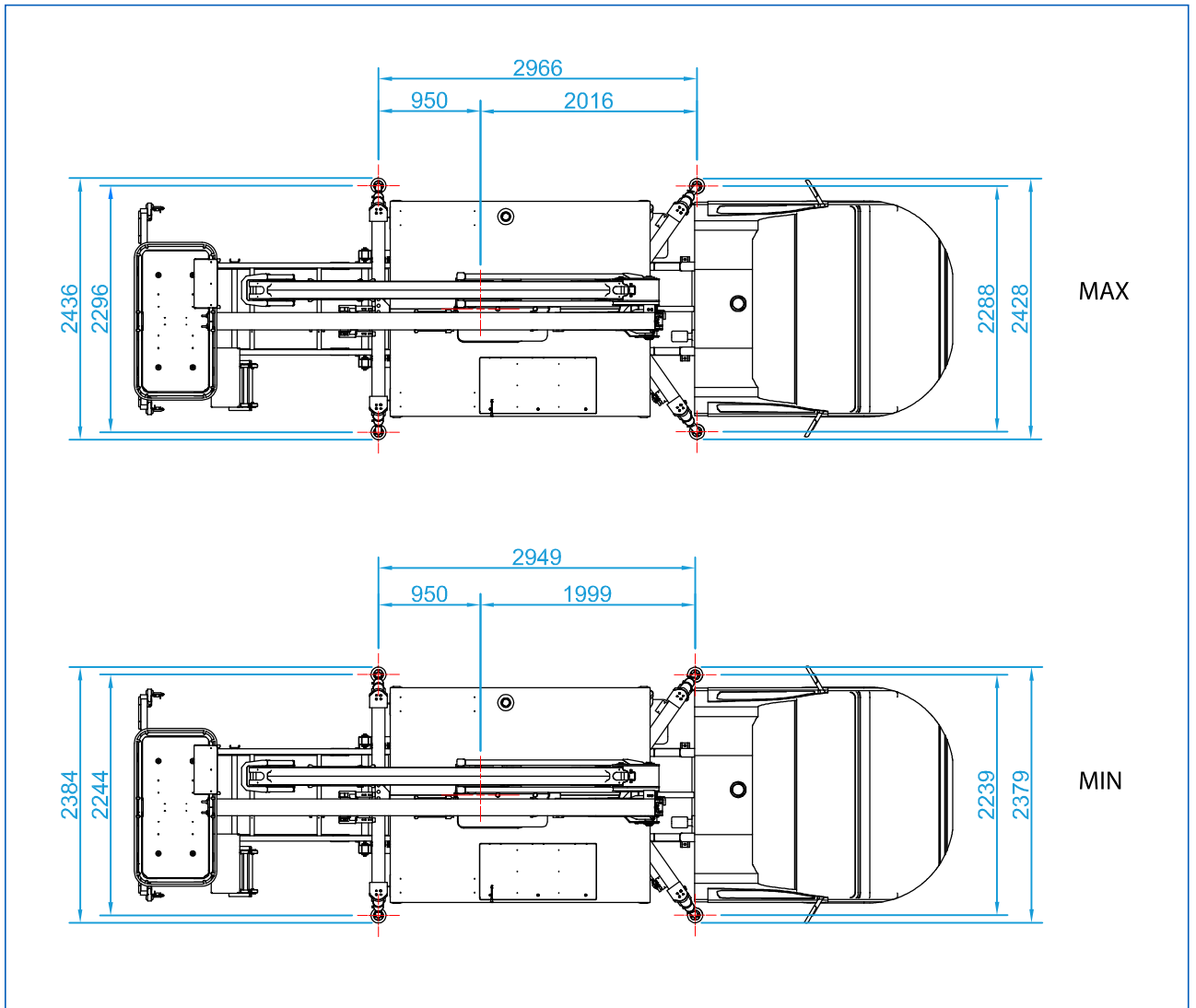


Fig. 3.9

3.8 Working envelope

3.8.1 Work envelopes and load according to the stabilisation

ISUZU 3.5t ALU BASKET

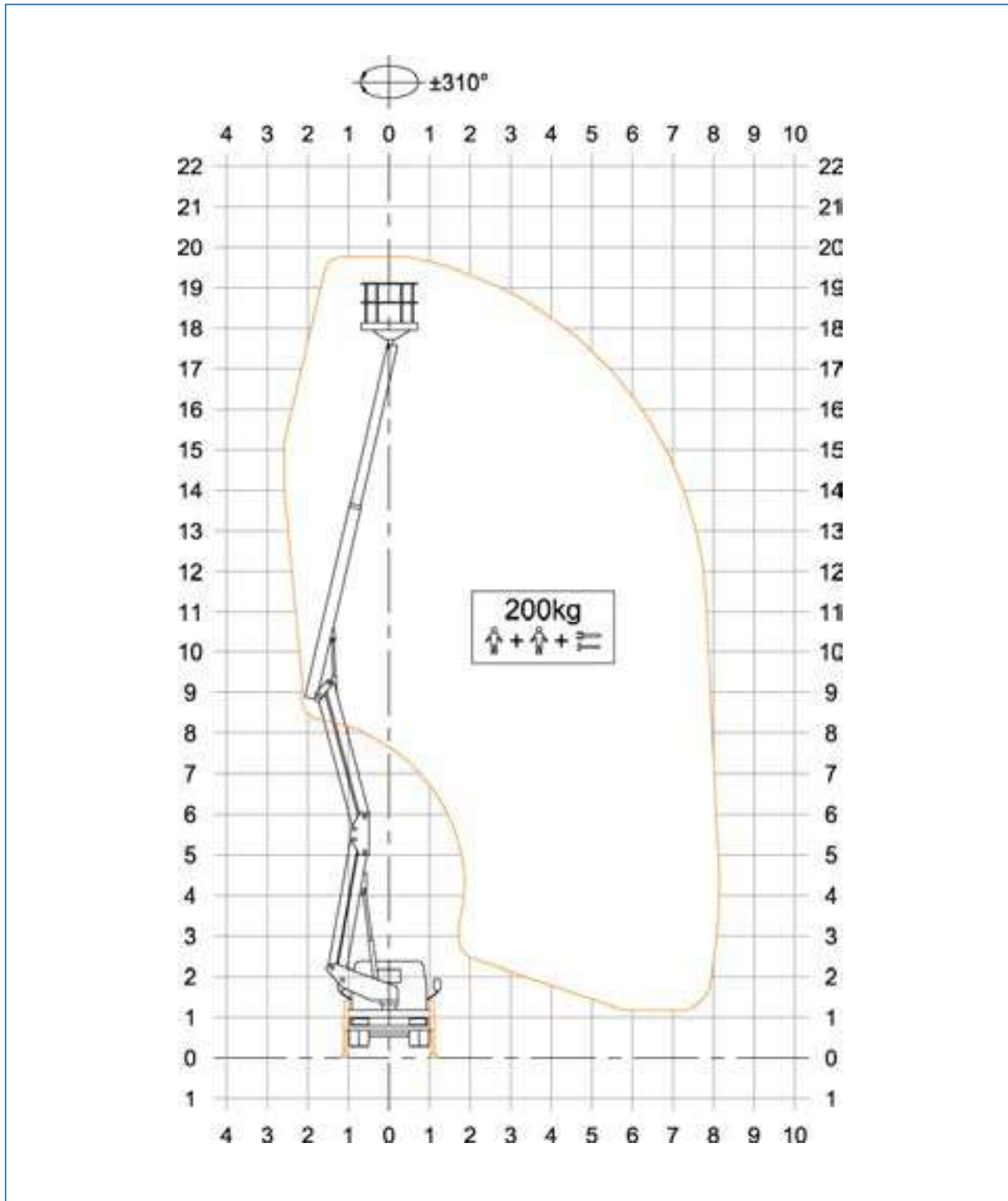


Fig. 3.10

ISUZU 3.5t
ALU BASKET WITH LOAD CELL - optional

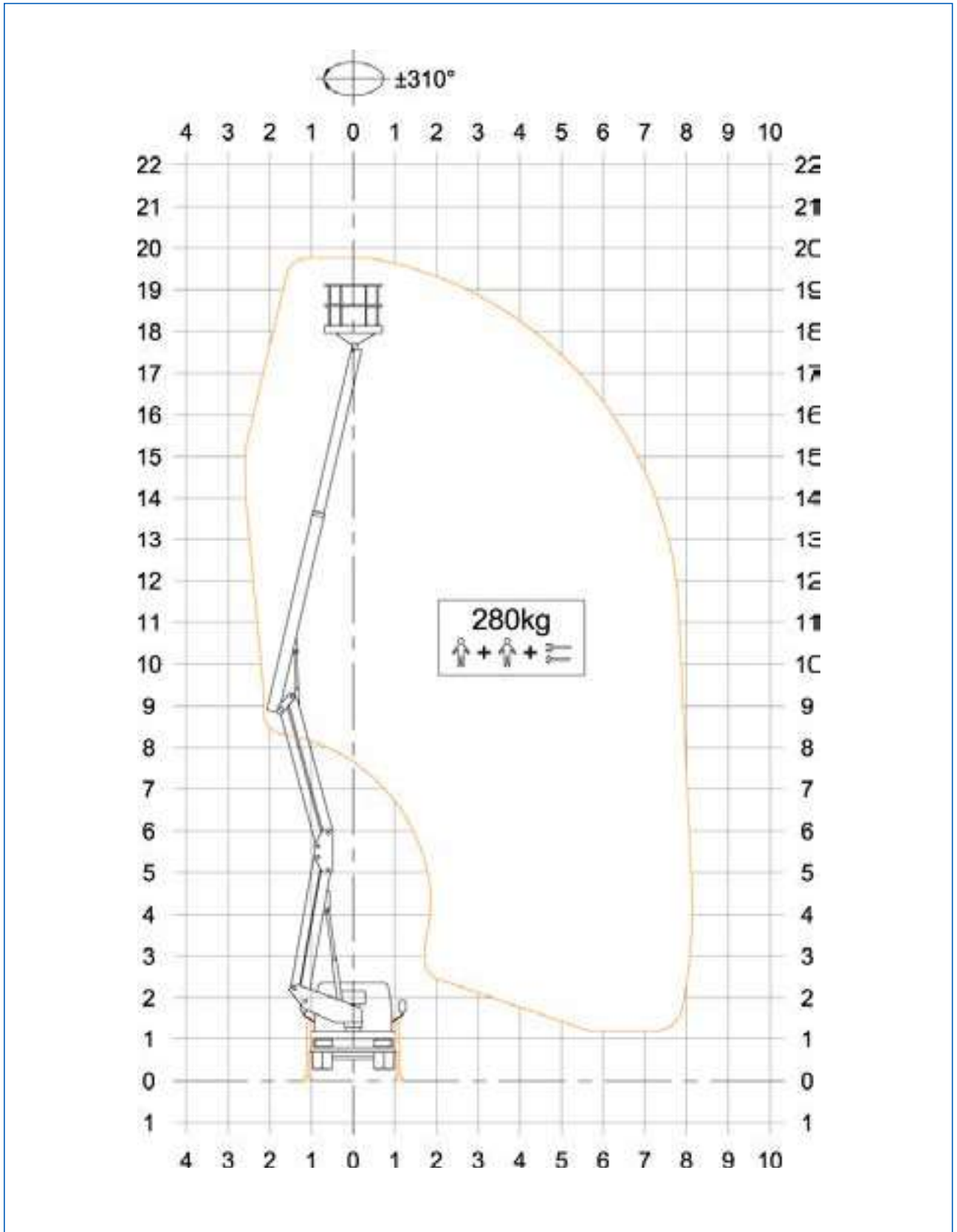


Fig. 3.11

ISUZU 3.5t
FBR BASKET WITH LOAD CELL - optional

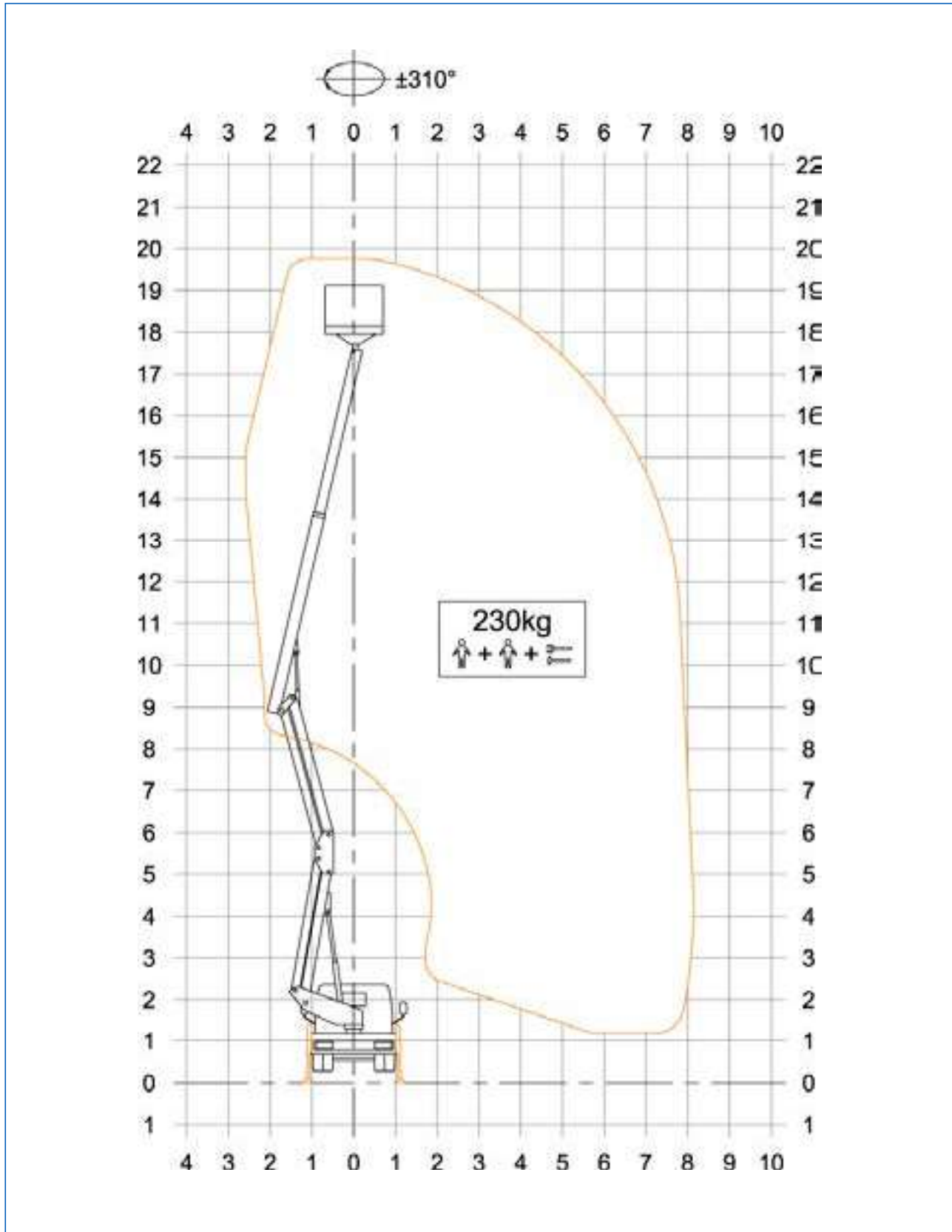


Fig. 3.12

IVECO 3.5t
ALU BASKET WITH LOAD CELL

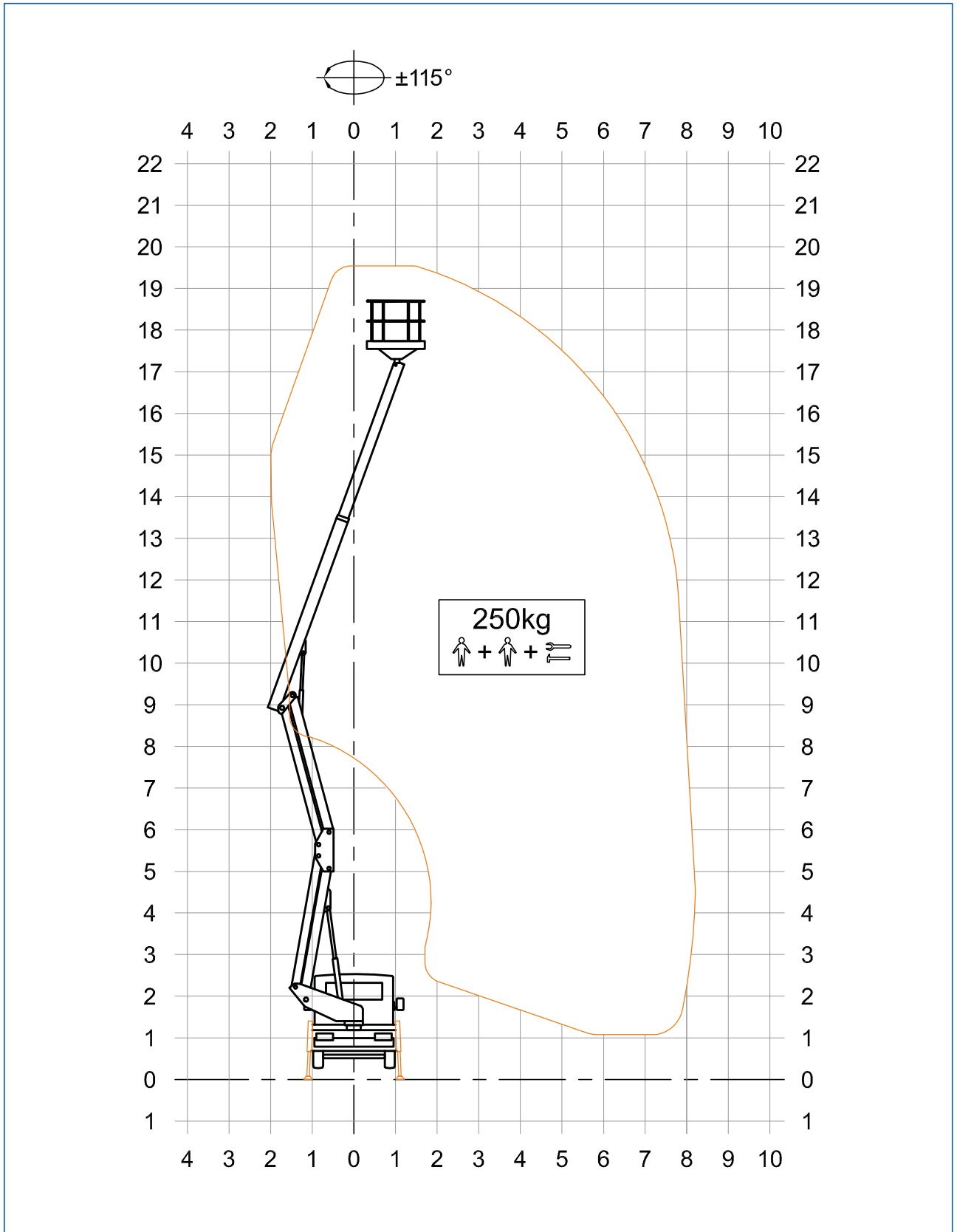


Fig. 3.13

**IVECO 3.5t
FBR BASKET WITH LOAD CELL**

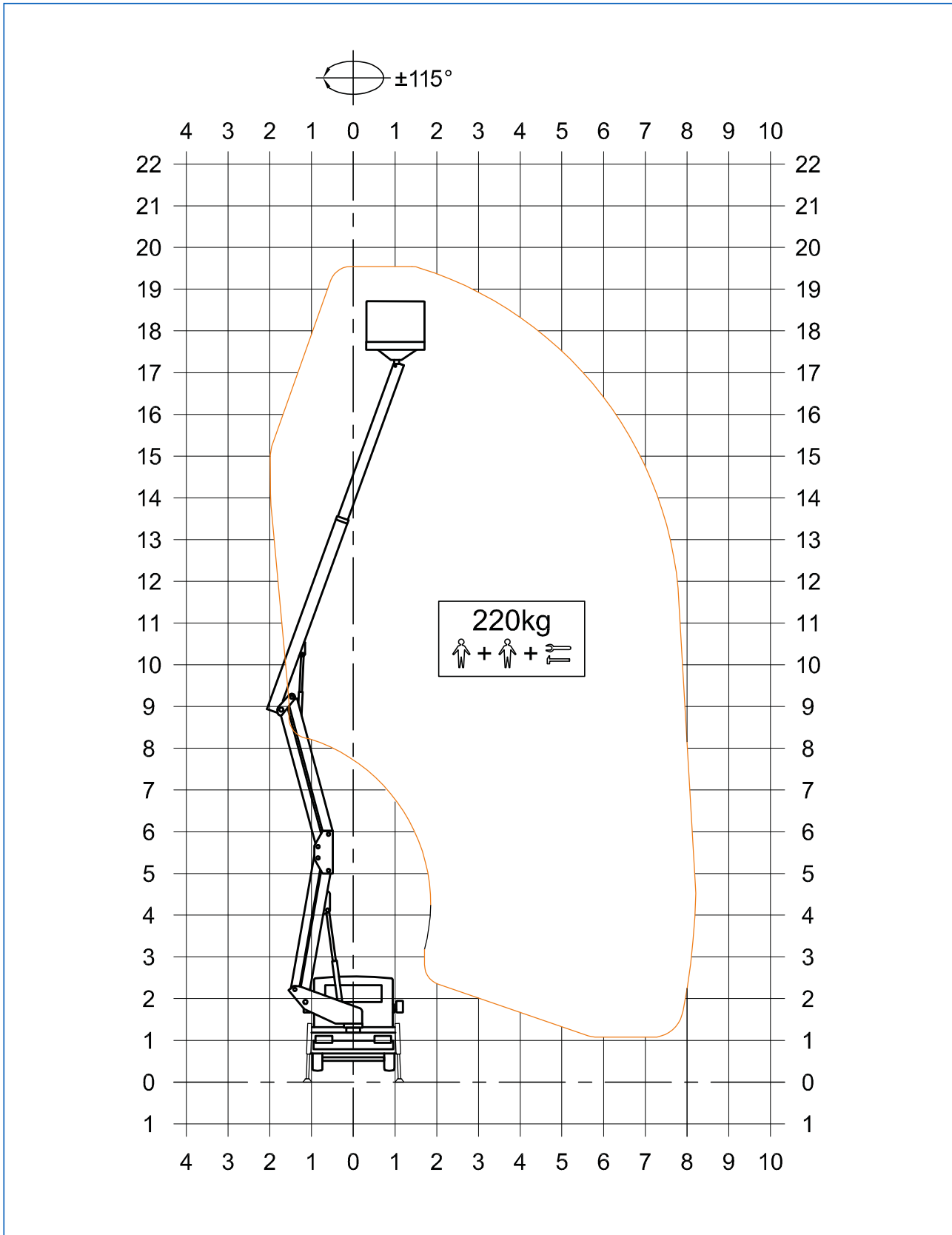


Fig. 3.14

4

CONTROLS

4 Controls

4.1 Control panels

During use, the operator should only control the work platform using the control panel on the platform itself. The operator should only operate the ground control panel when stabilising the machine.

1	Stabilisation controls:	Standing operator position. The stabiliser control devices are installed on this panel.
2	Ground control panel:	Secondary control station. Standing operator position. In general, the ground control panel should be used to lift the platform for stowage purposes or for operational tests. The ground control panel can be used as a control station on the ground and in an emergency in order to rescue someone who is unable to move on the platform. When the ground control panel is active, the controls on the platform are not operational.
3	Control panel on work platform:	Main control station. Standing operator position. The aerial platform movement console is installed in this station. The operator can perform all the operations for the operating cycle of the machine under normal operating conditions. The console is fitted with the warning indicator lights and the emergency machine stop device.
4	Emergency controls:	Standing operator position. The solenoid valves that are used to bring the elevating platform back to the ground and into the transport position in the event of system malfunctions are installed in this station.
5	Manual hydraulic oil circulation pump	Standing operator position. This is where the emergency pump is fitted, which allows the operator to reactivate the circulation of the hydraulic oil for the return of the lifting platform in transport position in the event of a malfunction on the main pump.