



Technical description

CONTAINEX CLASSIC Line

Standard frame

Portable, sanitary and corridor cabins

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1 General

The following description refers to the design and specification of new portable, sanitary and corridor cabins.

The external dimensions of our cabins are adapted to the ISO-standard and therefore have many advantages of that system. They consist of a robust frame construction and have interchangeable wall elements.

The standard version of the CTX portable cabin is labelled ¹, the CTX sanitary cabin ² and the CTX corridor cabin ³.

All design options which are not labelled with ¹ or ² or ³ are only delivered if they are listed in a written agreement.

1.1 Dimensions [mm] and weights [kg]

Dimensions and weights per external cabin height										
	Type	External dimensions [mm]			Internal dimensions [mm]			Weight [kg]		
		Length	Width	Height	Length	Width	Height	BM	BU	SU
CAH 2591	10'	2,989	2,435	2,591	2,795	2,240	2,340	1,300	1,200	1,500
	16'	4,885	2,435	2,591	4,690	2,240	2,340	1,750	1,600	
	20'	6,055	2,435	2,591	5,860	2,240	2,340	2,050	1,850	2,500
	24'	7,335	2,435	2,591	7,140	2,240	2,340	2,350	2,150	
CAH 2800	10'	2,989	2,435	2,800	2,795	2,240	2,540	1,350	1,250	1,550
	16'	4,885	2,435	2,800	4,690	2,240	2,540	1,800	1,650	
	20'	6,055	2,435	2,800	5,860	2,240	2,540	2,100	1,900	2,550
	24'	7,335	2,435	2,800	7,140	2,240	2,540	2,450	2,200	
CAH 2960	10'	2,989	2,435	2,960	2,795	2,240	2,700	1,400	1,300	1,600
	16'	4,885	2,435	2,960	4,690	2,240	2,700	1,850	1,700	
	20'	6,055	2,435	2,960	5,860	2,240	2,700	2,150	1,950	2,600
	24'	7,335	2,435	2,960	7,140	2,240	2,700	2,550	2,250	

NOTE: The stated dimensions and weights (approximate information) refer to the standard versions (see 1.3) and may vary depending on the specification and equipment.

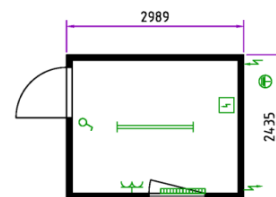
1.2 Abbreviations

The following abbreviations are used in this document:

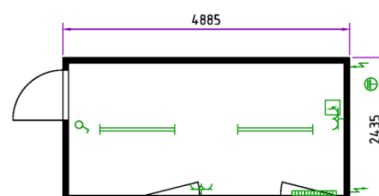
Portable cabin with mineral wool wall insulation	BM
Portable cabin with PU foam wall insulation	BU
Sanitary cabin with mineral wool wall insulation	SA
Sanitary cabin with PU foam wall insulation	SU
Corridor cabin	VC
Mineral wool	MW
Polyisocyanurate	PIR
Polyurethane	PU
Rock wool	SW
Internal floor to ceiling height	RIH
External height	CAH
Finished floor level	FOK
Transpack (flatpack cabins)	TP
Toughened safety glass	ESG
Laminated safety glass	VSG

1.3 Standard versions

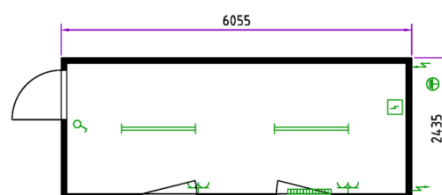
Portable cabin 10'



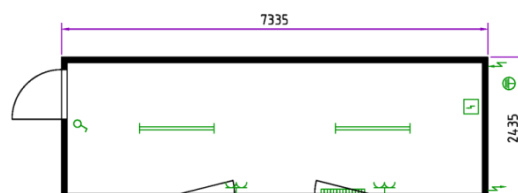
Portable cabin 16'



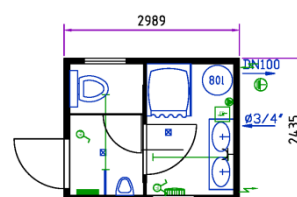
Portable cabin 20'



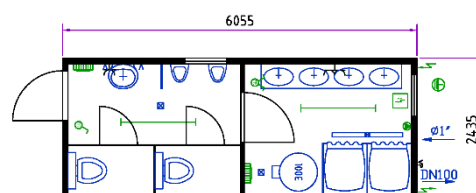
Portable cabin 24'



Sanitary cabin 10'



Sanitary cabin 20'



1.4 Thermal insulation

Roof		
Insulation material	Thickness [mm]	U _{max} value [W/m²K] *
MW ^{1/2/3}	100	0.36 / 0.30 **
MW	140	0.23
PU	100	0.20
PU	140	0.15

Wall		
Insulation material	Thickness [mm]	U _{max} value [W/m²K] *
MW ^{1/3}	60	0.57
MW	100	0.35
PU ²	60	0.40
SW	60	0.65
SW	110	0.35
PIR	110	0.20

Floor		
Insulation material	Thickness [mm]	U _{max} value [W/m²K] *
MW ^{1/2/3}	60	0.55
MW	100	0.36 / 0.30 **
PU	100	0.20

* The U_{max} values refer to the specified insulation thicknesses in the cavities based on λi.

** The U_{max} value of 0.30 W/m²K refers exclusively to cabin versions for the French market.

Window		
Insulation material	Construction [mm]	U _g value [W/m²K] *
Standard insulation double glazing with gas filling ^{1/2/3}	4/16/4	1.10
Triple glazing insulation with gas filling	3/10/4/10/3	0.8

* The U-values relate to the U_g value (U-value of the glass) of the specified glazing.

Doors			
Width [mm]	Thickness [mm]	Insulation material	U _d value [W/m²K] *
2000	40 mm	polystyrene	1.70
1000	40 mm	polystyrene	1.70
875	40 mm	polystyrene	1.80

* The U-values relate to the U_d-value (U-value of the doors) of the specified construction width.

NOTE: Insulation values according to EN ISO 10211 upon request!

1.5 Floor, snow and wind loads

1.5.1 Basic principles of the structural calculations

Exposed side

EN 1990 (Eurocode 0; basics of structural engineering)

EN 1991-1-1 (Eurocode 1; tare weights and payloads)

EN 1991-1-3 (Eurocode 1; snow loads)

EN 1991-1-4 (Eurocode 1; wind loads)

Non-exposed side

EN 1993-1-1 (Eurocode 3; steel construction – general rules for building construction)

EN 1995-1-1 (Eurocode 5; timber construction – general rules for building construction)

National application documents and other special load events (e.g. earthquake effects, impact loads, etc.) were not taken into account!

1.5.2 Floor, snow and wind loads

Standard frame		
Floor loads on the ground floor		
Standard version		
Maximum permissible distributed load	$q_k = 2.0 \text{ kN/m}^2$ (200 kg/m²)	
Maximum permissible point load	$Q_k = 2.0 \text{ kN}$ (200 kg)	
Double amount of floor cross members		
Maximum permissible distributed load	$q_k = 4.0 \text{ kN/m}^2$ (400 kg/m²)	
Maximum permissible point load	$Q_k = 2.0 \text{ kN}$ (200 kg)	
Double amount of floor cross members with extra longitudinal beams, strip foundation and plywood panel		
Maximum permissible distributed load	$q_k = 8.0 \text{ kN/m}^2$ (800 kg/m²)	
Maximum permissible point load	$Q_k = 3.0 \text{ kN}$ (300 kg)	
Floor loads on upper floors		
Standard version		
Maximum permissible distributed load	$q_k = 1.5 \text{ kN/m}^2$ (150 kg/m²)	
Maximum permissible point load	$Q_k = 2.0 \text{ kN}$ (200 kg)	
Snow load s_k		
10', 16', 20' cabin		
Ground floor and 2-storey arrangement		
Characteristic snow load on the ground	$s_k = 1.50 \text{ kN/m}^2$ (150 kg/m ²)	
Shape parameters for a flat roof: $\mu = 0.8$ (effective snow load on the roof = 120 kg/m ²)		
3-storey arrangement		
Characteristic snow load on the ground	$s_k = 1.25 \text{ kN/m}^2$ (125 kg/m ²)	
Shape parameters for a flat roof: $\mu = 0.8$ (effective snow load on the roof = 100 kg/m ²)		
Wind load $v_{b,0}$		
Ground floor and 2-storey arrangement		
Wind load	$v_{b,0} = 27 \text{ m/s}$, terrain category III (equates to 97.2 km/h)	
3-storey arrangement		
Wind load	$v_{b,0} = 25 \text{ m/s}$, terrain category III (equates to 90 km/h)	

Further details can be found in the arrangement options in the appendix.

1.6 Sound insulation

Sound insulation values on request

2 Cabin design

2.1 Frame construction

Standard frame	
Design of floor frame	
Frame consisting of cold-rolled, welded steel profiles; 4 corners welded	
Longitudinal floor beam	3 mm
Short end floor beam	3 mm
Floor cross beam (Ω profiles)	2.5 mm
Fork lift pockets	forklift pocket centre to centre distance 2,050 mm, 1,660 mm ^a , 950 mm ^b clear opening of fork lift pockets: 352 x 85 mm
Design of corner posts	
Made of cold-rolled, welded steel profiles bolted to floor and roof frame	
Thickness of corner posts	4 mm
Design of roof frame	
Made of cold-rolled, welded steel profiles, 4 corners welded	
Longitudinal roof beam	3 mm
Short end roof beam	3 mm
Roof cross members made of timber	depending on the roof specification
Cover (galvanised sheet metal)	0.60 mm
Other profiles	
C-pillar for corridor cabins	3 mm

^a up to 24' cabin length and cabins with smaller dimensions

^b up to 20' cabin length and cabins with smaller dimensions

2.2 Floor

2.2.1 Thermal insulation

Insulation material

- MW ^{1/2/3} Fire behaviour A1 (non flammable) according to EN 13501-1
- PU Fire behaviour E according to EN 13501-1

Insulation thickness

- 60 mm ^{1/2/3}
- 100 mm

2.2.2 Underfloor lining

- With mineral wool insulation in the floor, 0.60 mm thick, galvanised sheet metal plates are inserted (RAL tone variations are possible depending on production)
- With PU insulation, the insulation board is designed with aluminium lamination (no additional sheet metal cladding)

2.2.3 Floor

Standard floorboards

- **Wood-cement chipboard panel – thickness 22mm**
According to product standard EN 634-2
E1 according to EN 13986
Fire behaviour B-s1, d0 according to EN 13501-1
- **P5-chipboard - thickness 22 mm**
According to product standard EN 312
E1 according to EN 13986
Fire behaviour D-s2, d0 according to EN 13501-1
- **OSB board - thickness 22 mm**
According to product standard EN 300
E1 according to EN 13986
Fire behaviour D-s2, d0 according to EN 13501-1

Optional floor panel

- **Plywood board - thickness 21 mm**
According to product standard EN 636
E1 according to EN 13986
Fire behaviour D-s2, d0 according to EN 13501-1

Floor cover

- Vinyl floor cover welded in strips; optionally covered up the side walls

Vinyl floor covers						
	Imperial Classic	Surestep	Accord	Eternal	Safestep	Standard
Total thickness	1.5 mm	2.0 mm	2.0 mm	2.0 mm	2.0 mm	EN ISO 24346
Wear layer	homogeneous	0.7 mm	homogeneous	0.7 mm	0.7 mm	EN ISO 24340
Reaction to fire	B _{fl} -s1	B _{fl} -s1	B _{fl} -s1	B _{fl} -s1	B _{fl} -s1	EN 13501-1
Slip resistance	R 9	R 10	R 9	R 10	R 11	DIN 51130
	---	C	---	---	B	DIN 51097
Classification usage class	23 / 31	34 / 43	34 / 43	34 / 43	34 / 43	EN ISO 10874
Electrostatic behaviour	≤ 2 kV	≤ 2 kV	≤ 2 kV	≤ 2 kV	≤ 2 kV	EN 1815

- Floor with aluminium chequer plate (2 + 0.5 mm); optionally covered up the side walls

2.3 Roof

2.3.1 Thermal insulation

Insulation material

- MW ^{1/2/3} Fire behaviour A1 (non flammable) according to EN 13501-1
- PU Fire behaviour E according to EN 13501-1

Insulation thickness

- 100 mm
- 140 mm

2.3.2 Ceiling boards

- Coated chipboard**
According to product standard EN 312
Thickness 10 mm, white
E1 according to EN 13986
Fire behaviour D-s2, d0 according to EN 13501-1
- Plasterboard with coated sheet metal ²**
9.5 mm plasterboard panel + 0.6 mm sheet metal,
Colour: white (similar RAL 9010)
Fire behaviour A2-s1, d0 according to EN 13501-1

CEE connectors

- Externally recessed in the roof frame (short end)

2.4 Wall panels

Wall thicknesses

- 60 mm ²
- 70 mm ^{1/3}
- 110 mm

The wall thicknesses above depend on the insulation material (see table below)

Available panels

- Blank full panel
- Door panel
- Window panel
- A/C panel
- Blank half panel
- Double panel (only for windows or doors)
- Fixed glazing panel
- Blank infill panel

External cladding

- Corrugated, galvanised and coated sheet metal, thickness 0.60 mm
Fire behaviour A1 (non flammable) according to EN 13501-1

Frame for MW (PU, PIR and SW without frame)

- Timber frame, thickness 53 mm with wall thickness 70 mm
Fire behaviour D-s2, d0 according to EN 13501-1
- Timber frame, thickness 93 mm with wall thickness 110mm
Fire behaviour D-s2, d0 according to EN 13501-1

Insulation material

- MW Fire behaviour A1 (non flammable) according to EN 13501-1
(without timber frame)
- PU Fire behaviour B-s3, d0 according to EN 13501-1
(sheet metal composite / sandwich panel)
- PIR Fire behaviour B-s2, d0 according to EN 13501-1
(sheet metal composite / sandwich panel)
- SW Fire behaviour A2-s1, d0 according to EN 13501-1
(sheet metal composite / sandwich panel)

Internal cladding

- **Coated chipboard**
According to product standard EN 312
Thickness 10 mm, internal finish: light oak^{1/3} / white
E1 in accordance with EN 13986
Fire behaviour D-s2, d0 according to EN 13501-1

- **Plasterboard with coated sheet metal**
9.5 mm plasterboard panel + 0.6 mm sheet metal
Colour: white (similar RAL 9010)
Fire behaviour A2-s1, d0 according to EN 13501-1
- **Galvanised and coated sheet metal**
Thickness 0.5 mm, colour: white (similar RAL 9010)
Fire behaviour A1 (non flammable) according to EN 13501-1

Insulation material	Wall thickness [mm]	External cladding	Insulation thickness [mm]	Internal cladding
MW	70 / 110	Sheet metal	60 / 100	Coated chipboard Plasterboard with sheet metal
PU	60		60	Sheet metal
PIR	110		110	Sheet metal
SW	60 / 110		60 / 110	Sheet metal

2.5 Partition walls

Available elements

- Blank panel
- Door element
- Window element

Wooden construction^{1/3}

- Total thickness 60 mm
- Frame: timber frame, thickness 40 mm
Fire behaviour D-s2, d0 according to EN 13501-1
- Insulation material optionally with mineral wool insulation 40 mm
- Cladding on both sides: coated chipboard
According to product standard EN 312
Thickness 10 mm, internal finish: light oak / white
E1 in accordance with EN 13986
Fire behaviour D-s2, d0 according EN 13501-1

Sheet metal design²

- Total thickness 60 mm
- Frame: timber frame, thickness 58.5 mm
Fire behaviour D-s2, d0 according to EN 13501-1
- Insulation material: cardboard honeycomb
- Cladding on both sides: coated sheet metal, thickness 0.60 mm;
Colour: white (similar RAL 9010)

2.6 Doors

- Design according to DIN standards
- Right or left hand hinged
- Inward or outward opening
- Steel frame with triangular wrap-around seal
- Door leaf made of galvanised and coated sheet metal on both sides

Dimensions

Standard dimension	Clear opening
625 x 2,000 mm (only as internal or WC door)	561 x 1,940 mm
875 x 2,125 mm ^{1/2}	811 x 2,065 mm
1,000 x 2,125 mm	936 x 2,065 mm
2,000 x 2,125 mm (inactive leaf with concealed bolts)	1,936 x 2,065 mm

Options

- Emergency exit lock according to EN 179 (internal/external):
handle/handle or handle/knob
- Emergency lock according to EN 1125 (internal/external):
emergency push bar/handle or emergency push bar/knob
- Door grille with lock box (for standard dimension 875 x 2,125 mm)
- Door closer
- Insulated glazing with plastic white border frame (W x H):
 - 238 x 1,108 mm (ESG)
 - 550 x 1,108 mm (ESG)
 - 550 x 450 mm (ESG)

2.7 Windows

Specification office window

- Plastic frame with integrated PVC roller shutters, colour: white
- Insulated double glazing with gas filling
- Roller shutter box with pull cord reel and vents:
box height 145 mm, slat colour: light grey
- One hand tilt & turn mechanism

Specification sanitary window

- Plastic frame, white colour
- Insulated double glazing with gas filling
- One-hand tilt mechanism

ATTENTION: The built-in insulated glazing is suitable for altitudes up to 1,100 m above sea level. From 1,100 m above sea level upwards, windows with a pressure equalisation valve are required.

Window options		External dimension
Standard window	Office window ¹ (float)	945 x 1,200 mm
	Sanitary window ² (privacy glazing, float)	652 x 714 mm
Optional windows	Fixed glazing (ESG)	945 x 1,345 mm
	Fixed glazing (ESG) *	945 x 2,040 mm
	Fixed glazing (ESG) **	945 x 2,250 mm
	Fixed glazing (ESG)	1,970 x 1,345 mm
	Fixed glazing with sliding part (ESG)	945 x 1,200 mm
	Window with speak-through and hand-through hatch (float)	945 x 1,200 mm
	Office window XL (VSG)	1,970 x 1,200 mm
	Double window (float)	1,970 x 1,200 mm
	Double sliding window (float)	1,970 x 1,200 mm
	Nursery window (VSG)	945 x 1,555 mm
	IP glazing (ESG / VSG)**	Various

* only for external height 2,591 mm

** only for external height 2,800 mm and 2,960 mm

Window parapet heights

(vertical distance between FOK and upper edge of the lower window profile)

- | | |
|--|----------|
| • Office window (CAH 2,591 mm) | 870 mm |
| • Office window (CAH 2,800 and 2,960 mm) | 1,030 mm |
| • Optional (CAH 2,800 and 2,960 mm) | 870 mm |
| • Sanitary window | 1,525 mm |
| • Nursery window, frame profile fixed part | 650 mm |
| • Frame profile window part | 1,330 mm |

Options

- Window grille for office window, sanitary window and office window XL
- Ventilation slider integrated in roller shutter box
- Aluminium roller shutters PU-foamed with shutter catch protection and metal covered roller shutter rails
- Aluminium roller shutters PU-foamed with insulated roller shutter box
- Glass type toughened safety glass / laminated safety glass available depending on the window type

3 Electrical installation

- Specification: concealed cabling
- Protection rating: IP20 ^{1/3} / IP44 ²
- Socket inserts according to national standards
- Country specific designs / variations possible

3.1 Technical data

	Basis VDE (=ÖVE, CH, SKAN, N, CZ/SK, IT, DK), GB, IE ^a , ES ^b		FR	NL
Connection:	Recessed CEE external plug and socket connections			
Voltage:	230 V / 3-pin / 4-pin ^c / 32 A ^{1/2/3} (3x6 mm ²) 400 V / 5-pin / 32 A ^{1/2/3} (5x6 mm ²)			
Frequency:	50 Hz			
Protection:	RCD 40 A / 0.03 A ^{1/2/3} , 4-pin (400 V) Type A X ^d			
	RCD 40 A / 0.03 A ^{1/2/3} , 2-pin (230 V) Type A X ^d Country-specific with 63 A / 0.03 A, 2-pin (230 V) Type A			
Distribution box:	Distribution box, surface mounted type, single/twin/triple row ^{1/3e} Distribution box, surface mounted type, single/twin/triple row, wet room ^{2f}			
Cabling ^g :	NYM-J / H05 VV-F		RO2V	H05 VV-F
	H07RN-F			H07RN-F
Electrical circuits:	Light:	MCB C10A, 2-pin ^{1/2/3}		RCBO B10A
		3x1.5 mm ² ^{1/2/3}		
	Heating:	MCB C13A, 2-pin ^{1/2}		RCBO B16A
		3x1.5 mm ² respectively 3x2.5 mm ² ^{1/2} Cable- and country-specific		
	Socket:	MCB C13A, 2-pin ^{1/2} Device- and country-specific with C10A & C16A		RCBO B16A
		3x1.5 mm ² respectively 3x2.5 mm ² ^{1/2} Device-/ cable- and country-specific		
Socket:	Single and double sockets According to cabin configuration			
Lighting:	Light switch ^{1/2}			
	Surface-mounted LED-lights			

^a IE version with cable type H07ZZ-F & H07Z1-K (1x6mm²), distribution box fitted to the panel or supplied loose

^b ES version with cable type H07ZZ-Fg & H07Z1-K (1x6 mm²) ^h, lockable distribution box, main switch included

^c only with NO electrics

^d thermally protected with fuse at the same rated current

^e fitted to ceiling (fitting height = RIH)

^f fitted to the wall or ceiling (fitting height = internal height)

^g fire behaviour E_{ca} according to EN 13501-6

^h fire behaviour C_{ca} according to EN 13501-6

Options

- LED category 2 light fitting
- LED glass light
- Spur

Compliance with the following CENELEC regulations regarding protection against electric shock and protection against surge and short circuit:

- HD 60364-1:2008
- HD 60364-4-41:2017
- HD 60364-7-717:2010
- HD 60364-7-701:2007
- HD 384.4.482 S1:1997
- HD 384.7.711 S1:2003

3.2 Earthing

Earthing by means of a universally usable earthing clamp. A drill hole with a diameter of 9.4 mm is prepared on both short ends in the floor beam of each corner for fitting the earthing clamp.

The earthing clamp is fixed by using an M10 screw with self-tapping thread (torque 25-30 Nm). The position of the screw is determined in the factory at a designated point on the cabin.

An earthing clamp is delivered with the cabin and must be installed on site by the customer.

- The protective earthing of the cabin must be carried out by the customer at the installation site.
- The effectiveness of the cabin's earthing connection and the measurement of the earthing resistance or the loop resistance must be verified by a qualified electrician on site, during the course of the electrical inspection, prior to commissioning.

3.3 Lightning and surge protection

Any measures required with regards to internal and external lightning protection (earthing, surge protection devices) due to the installation site and the sensitivity of devices used in the cabin must be observed and carried out if necessary.

3.4 Wiring

Fixed cabling depending on the panel/partition configuration and the consumers ^{1/2/3}

- Flexible cable system with plug connectors and cables in full length

3.5 Safety information

The PE rail of the distribution box is electrically connected to an earthing bolt with a PE cable 1x6mm² inside the roof frame (centre short end) and must not be removed (torque 10-15 Nm).

The cabins can be linked electrically at the external CEE plugs and sockets. When deciding how many units to connect electrically the expected constant current and voltage drop in the link circuits must be considered. The commissioning has to be carried out by an approved electrician. The CEE sockets in the roof frame are used exclusively to supply and discharge the power feed of the individual modules. Use as a freely available socket is strictly prohibited by us.

The manual for the installation, commissioning, use and maintenance of the electrical installations is delivered in the fuse box and must be followed!

Before connecting the cabin to the supplying low voltage grid all appliances (consumer loads) need to be switched off and earthing needs to be established (earthing feed cable and earthing connecting lines between cabins need to be checked with regards to potential equity and low Ohm level).

ATTENTION: The supply- and connection cables are made for max. operating current of 32 Ampere. These are not protected with a surge protection device. The connection of the cabins to the external electrical power supply may only be undertaken by a certified specialist company.

Before the cabin (modular building) is put into service for the first time, the effectiveness of the protective measures for fault protection must be verified by an authorised specialist in the form of an initial electrical test.

ATTENTION: The commissioning of boilers and/or under sink water heaters is only permitted if they are filled with water!

Cleaning with a high-pressure cleaner is FORBIDDEN. The electrical equipment of the cabin must not be cleaned by a direct water jet under any circumstances.

If the cabins are used in areas with increased lightning activity technical measures for external and internal lightning protection must be provided for a cabin (or an arrangement of several cabins) at the installation site due to national regulations or other special requirements; a lightning protection specialist must be contracted.

When cabins are placed near the ocean it is necessary to consider the special atmospheric conditions (salt content and humidity of the air) when the intervals for the periodic inspections by the operator are determined.

When using machines or appliances with high inrush current peaks or smooth DC fault currents and AC fault currents of various frequencies as well as mixed frequencies (according to the manual of the respective appliances) adequate RCDs and MCBs must be used.

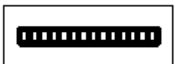
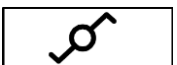
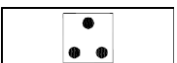
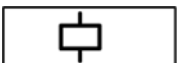
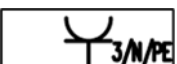
The electrical fittings in the cabins are designed for minimal vibration exposure. If the exposure is higher, appropriate measures (and plug/screw contact checks) must be taken depending on the national technical regulations.

If the cabins are used in areas with earthquake risks, the national regulations must be applied and the equipment must be adapted accordingly.

The choice of the external linking cables of the cabins has to suit the country's national technical regulations.

Cabins must be protected against thermal overload with a gL or gG type fuse with a maximum rated current of $I_N=32A$.

3.6 Labelling of electrics (symbols)

	General light		Extractor fan
	Single socket		Spur
	Double socket		Single light switch
	Heater, general		Serial switch
	Boiler, general		2way switch
	Mini kitchen		Relay, contactor
	High-voltage power socket		Spare

3.7 Heating and air conditioning

Individual heating and/or air conditioning using equipment is possible according to the equipment options below. Mechanical ventilation options by means of electrical extractor fans or on request also window air conditioning units. Regular ventilation of rooms must be provided. A relative humidity of 60% should not be exceeded in order to avoid condensation!

Design options

- Extractor fan / hygrostatic extractor fan
- Air conditioning
- Convector heater / fan heater
- Monoblock air conditioner heat/cool

The safety distances and instructions specified by the manufacturer must be observed for all devices! The appropriate manuals and instructions are sent with the cabins.

4 Water installation

Supply

- Supply using ½", ¾" or 1" pipe
- Supply sideways through the cabin wall or prepared for the connection through the floor
- Protective cover for ex-works delivery

Pipework internal

- PP-R pipes (according to EN ISO 15874)
- Distribution without circulation pipe
- Pipework, surface mounted

Water heating

- Decentralised, by using electric boilers, size depending on the cabin type (5, 15, 80, 150 or 300 litre)

Operating pressure

- Max. permitted operating / connection pressure 4 bar

Waste pipework

- Waste water is collected via plastic pipes DN 50, DN 110 and DN 125 (external diameter 50, 110 and 125mm) inside the cabin, and passes through the cabin wall sideways.
- Optionally, it is possible to connect them within a modular building between floors.
- Pipework, surface mounted
- Protective cover for ex-works delivery

NOTE: For the connection and use of water installations, the customer must observe and comply with the local regulations and special requirements of the local water network operator.

NOTE: Should the cabin not be used at temperatures below +3°C, the entire pipework system including the electric boiler must be emptied (risk of frost!). If residual water is left over (eg. toilet drain, siphon, etc.) an anti-freeze agent must be added to prevent damage from water freezing. The shut-off valve at the water supply point must always stay open.

5 **Equipment options**

General equipment

- External and internal staircases
- Fascia
- Motion and occupancy detector (PIR sensor)
- Fire protection components 30 / 60 min according to EN 13501-2
- Data socket RJ45 cat. 6A STP
- Insect screen for office/sanitary window and office window XL
- Hole for cable/wiring in the panel / in the roof frame
- Cable trunking on panel
- Ventilation unit VL-100
- Telephone duct in the panel
- Canopy roof large / small
- Hot water radiator

Sanitary fittings

- Stainless steel cleaner's sink including folding grate
- Accessible sanitary fittings
- Floor drain with odour trap
- Boiler: 15 l / 80 l / 150 l / 300 l
- Pressure reduction valve
- Instant water heater for hand wash basins
- Shower cubicle with curtain
- Fibre glass hand wash trough with 2 individual basins l = 1,200 mm
- Fibre glass hand wash trough with 4 individual basins l = 2,400mm
- Wet room electrics
- Ceramic hand wash basin
- Electrical hand dryer
- Metal mirror
- Mini kitchen
- Stainless steel wash trough with 2 single basins l=1,200 mm
- Stainless steel wash trough with 3 single basins l=1,800 mm
- Stainless steel wash trough with 4 single basins l=2,400 mm
- Paper towel dispenser
- Sanitary connection recessed into wall panel
- Sanitary connection through floor
- Sanitary preparations
- Privacy screen
- Soap dispenser
- Stop & Go fitting for shower
- Stop & Go fitting for wash hand basin
- Under sink water heater 5 l
- Urinal
- Washing machine connection
- Water installations (water inlet and outlet)
- WC cubicle

6 Paint

Paint system with high weather and aging durability, suitable for city and industry atmosphere.

Wall panels

25 µm coating thickness

Frame

75-120 µm coating thickness

The above-mentioned parts are painted by different production methods. Thus, tones similar to RAL are achieved. We accept no liability for colour variations in comparison with RAL tones.

7 Certification

CE mark, EN 1090 EXC 2 (Execution Class 2) *

GostR certification **

*. for cabin numbers starting with 01, 02, 09, 15, 17, 18, 21

** for cabin numbers starting with 20

8 Miscellaneous

8.1 Transport

Cabins must be transported on suitable trucks. Local regulations for load securing must be observed.

Cabins are not suitable for rail transport. Cabins must be transported empty.

Cabins can also be delivered as flatpacks (Transpack). Standard flatpack height 648 mm. Four cabins stacked on top of each other have the same external dimensions as a fully assembled cabin.

TP package heights (depending on specification and cabin size)

- 864 mm - standard with CAH 2,800 mm and 2,960 mm
- 648 mm - standard with CAH 2,591 mm
- 520 mm - depending on layout

8.2 Handling

The following handling instructions for 10', 16', 20', 24' and 30' cabins (assembled or flatpacked) must be observed:

- 10', 16', 20' and 24' cabins and/or flatpacks can be lifted by fork lift (minimum length of forks 2450 mm, minimum width 200 mm) or by crane. Slings must be fastened to the upper corners of the cabin (10', 16', 20') or the eyebolts/crane eyes (24') The angle between the slings/chains and the horizontal line must be a minimum of 60° (Fig. 1 or Fig. 3). The required sling/chain length for a 20' cabin is at least 6.5 m.
 - Due to the construction and design, handling with a spreader is not possible!
 - Cabins must not be handled when loaded.
 - Only single cabins or flatpacks may be lifted.
 - Between each flatpack, 4 "stacking cones" (in the corners of each cabin) for 10', 16' and 20' and 2 support wedges for 16' and 20' (1 on each side of the top side rail - fig. 2) or 4 support wedges for 24' (2 on each side of the top side rail - fig.4) must be used.
 - No extra weight must be put onto the top flatpack!
 - You must only stack max. 5 flatpacks on top of each other.
- Possible flatpack heights see 8.1.

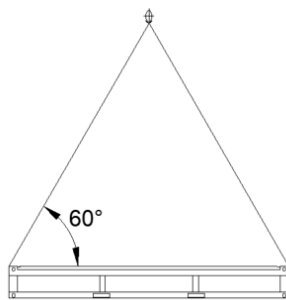


Fig. 1

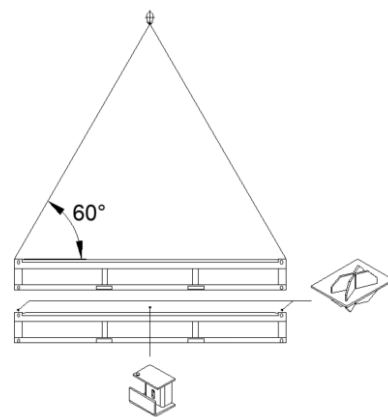


Fig. 2

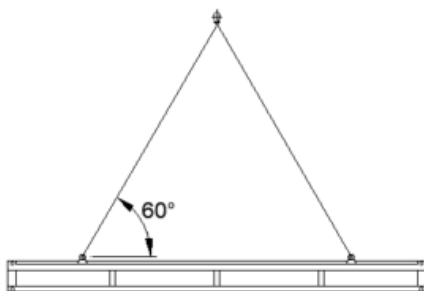


Fig. 3

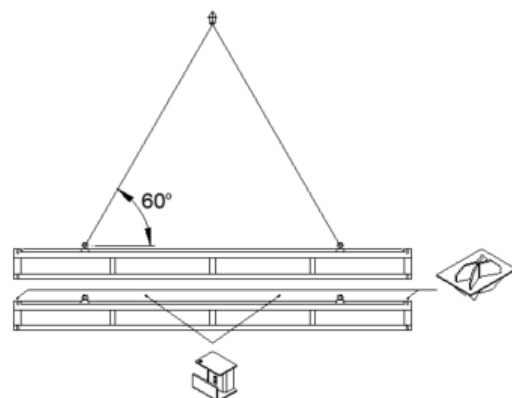


Fig. 4

8.3 Installation / Assembly / Structural / Maintenance

General

Each individual cabin must be placed onto foundations provided on site with at least 4 support points for 10' cabins, 6 support points for 16' and 20' cabins and at least 8 support points for 24' cabins. The dimensions of the foundations have to be designed to local circumstances, norms and frost depths, taking into consideration local ground conditions and maximum possible loads. The levelness of the foundations is a pre-requisite for a smooth assembly and a fault-free standing of the entire construction. If the support points are not level, the full width of the beam profile must be supported. The design of the foundations must ensure a free drainage of rain water and sufficient ventilation underneath. Burying or covering the floor frame is not permitted!

When setting up or arranging the cabin (modular building), the payload and the regional conditions (e.g. snow load, wind load) must be taken into account. After removing the transport covers, the holes in the floor beam must be sealed with silicone. Packaging and transport covers must be disposed of by the customer.

Possible combinations of several cabins

Individual cabins can be placed side by side, end to end or on top of each other, while following installation instructions and taking into account max. permitted loads. The arrangement options for cabins must be observed in accordance with the appendix.

In the event that the cabins are put together in a different arrangement to the ones listed in the appendix, no information can be provided about the maximum permissible floor, snow and wind loads. We categorically recommend refraining from such a practice or carrying out additional anchorings (bracing, boltings, supports etc.) and/or strengthening with the approval of authorised experts.

The cabins must be stacked exactly on top of each other. You must use the special CTX stacking cones and support wedges provided.

The cabin roof is not suitable for storage of any kind.

The CONTAINEX assembly and maintenance instructions must be adhered to and can be sent upon request. Operating manuals can be found inside the cabin and must be adhered to.

Before starting work, a risk assessment must be carried out in accordance with local requirements and applicable regulations. Required measures must be carried out by the assembly staff. Particularly when working on the cabin roof, safeguards must be put in place to stop anyone from falling.

Sanitary fittings

After connecting to the water supply the entire water circulation should be checked once more for water tightness (possible loosening during transport). Water pipes must be flushed when commissioning and after long periods of inactivity.

CONTAINEX refuses any warranty for damages resulting from improper installation. Liability for consequential damages is fundamentally excluded.

Further technical information upon request.

Regulatory and legal requirements regarding storage, installation and use of cabins must be observed by the customer.

The suitability of the cabin (modular building) and any supplied accessories (e.g. stairs, air conditioning etc.) for the planned application must be checked by the customer.

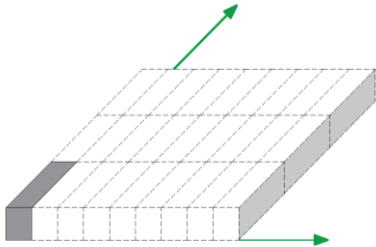
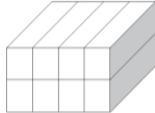
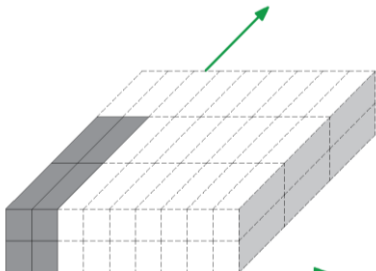
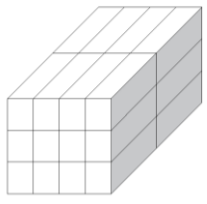
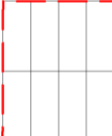
Technical changes, printing errors, typographical errors, and mistakes reserved.

This document is a translation of the German version and is subject to translation and spelling errors. If in doubt, the German version must be consulted.

9 Appendix

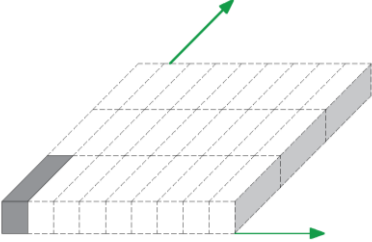
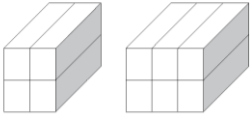
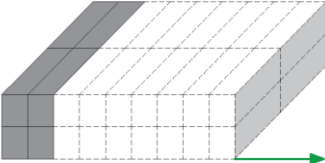
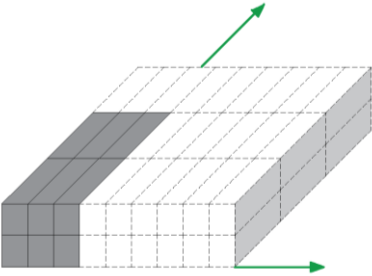
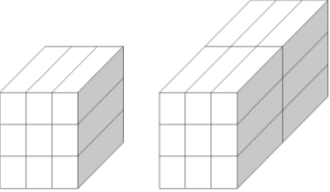
9.1 Arrangement options for modular buildings consisting of BM/SA 10', 16', 20'; max. CAH 2.96 m

Number of cabins (SxLxH); Short side (S) x Long side (L) x Height (H)

1- storey		Cabins can be positioned individually or linked without restrictions Rooms of any sizes can be created.
2- storey	Single row modular buildings (number of long sides = 1)    2x1x2 3x1x2 4x1x2	The illustrated two-storey modular buildings can be positioned individually or linked without restrictions. The bracing walls must not be removed (maximum room size therefore 4x1 cabins). Position of the required bracing walls Bracing walls shown as dashed lines. Rooms within open plan    2x1 3x1 4x1
	Multiple row modular buildings (number of long sides ≥ 2) 	From a minimum size of 2x2x2 cabins an extension of the building in all directions is possible. Rooms of any sizes can be created.
	  3x1x3 4x2x3	The illustrated three-storey modular buildings can be positioned individually or linked without restrictions. The bracing walls must not be removed (maximum room size therefore 4x2 cabins). Position of the required bracing walls Bracing walls shown as dashed lines. The panel wall on the upper floors must be placed on top of a panel wall on the floor below.   3x1 4x2

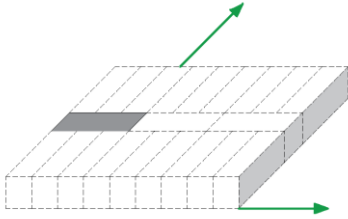
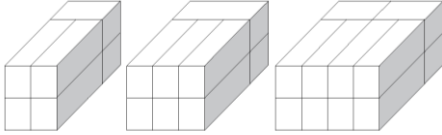
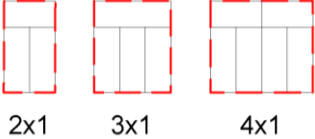
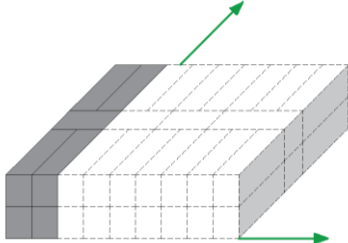
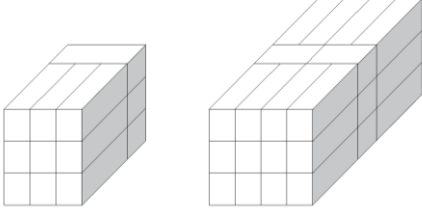
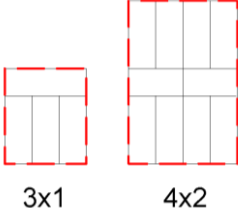
9.2 Arrangement options for modular buildings consisting of BM/SA 24'; max. CAH 2.96 m

Number of cabins (SxLxH); Short side (S) x Long side (L) x Height (H)

1-storey	 Cabins can be positioned individually or linked without restrictions Rooms of any sizes can be created.
2-storey	Single row modular buildings (number of long sides = 1)
	 2x1x2 3x1x2 The illustrated two-storey modular buildings can be positioned individually or linked without restrictions. The bracing walls must not be removed (maximum room size therefore 3x1 cabins). Position of the required bracing walls Bracing walls shown as dashed lines. Rooms within open plan   2x1 3x1
	Multiple row modular buildings (number of long sides ≥ 2)
	 From a minimum size of 2x2x2 cabins an extension of the building in the longitudinal direction only is possible. Rooms of any sizes can be created.  From a minimum size of 3x2x2 cabins an extension of the building in all directions is possible. Rooms of any sizes can be created.
3-storey	 3x1x3 3x2x3 The illustrated three-storey modular buildings can be positioned individually or linked without restrictions. The bracing walls must not be removed (maximum room size therefore 3x2 cabins). Position of the required bracing walls Bracing walls shown as dashed lines. . The panel wall on the upper floors must be placed on top of a panel wall on the floor below.   3x1 3x2

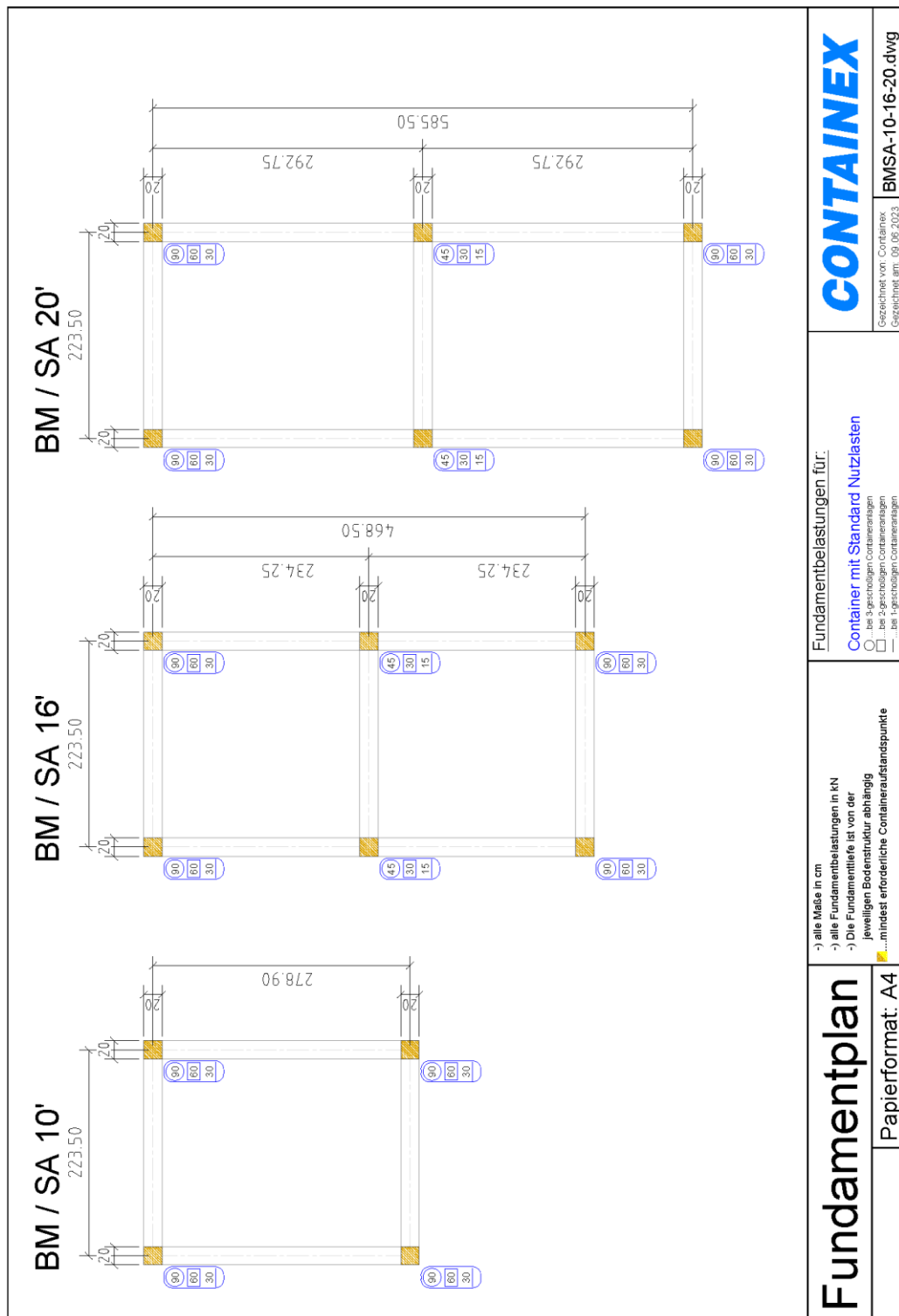
9.3 Arrangement options for modular buildings with corridor cabin 16', 24'; max. CAH 2.96 m

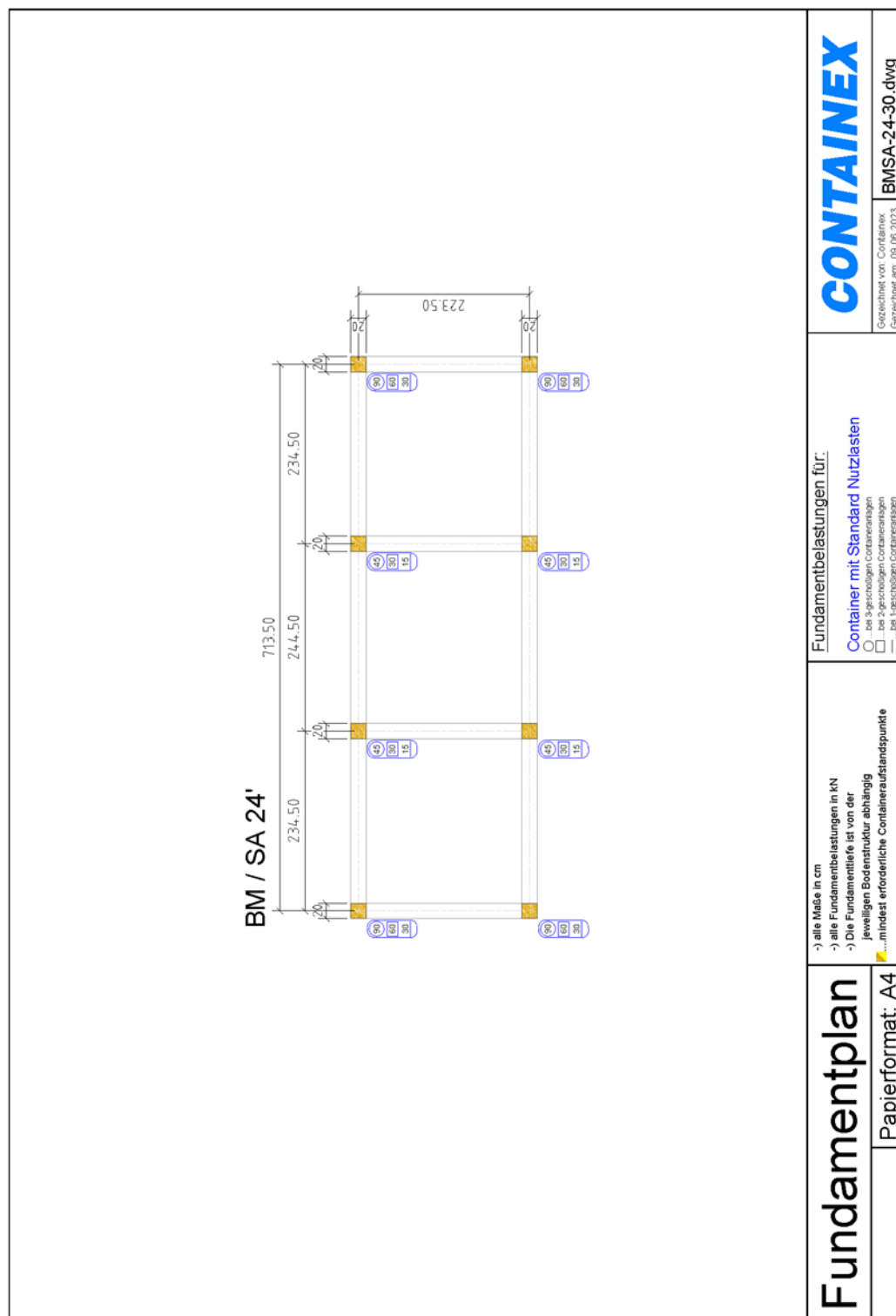
Number of cabins (SxLxH); Short side (S) x Long side (L) x Height (H)

1-storey	 Cabins can be positioned individually or linked without restrictions. Rooms of any sizes can be created.
2-storey	Single row modular buildings (number of long sides = 1)  2x1x2 3x1x2 4x1x2 The illustrated two-storey modular buildings can be positioned individually or linked without restrictions. The bracing walls must not be removed (maximum room size therefore 4x1 cabins). Position of the required bracing walls Bracing walls shown as dashed lines. Rooms within open plan  2x1 3x1 4x1
	Multiple row modular buildings (number of long sides ≥ 2)  From a minimum size of 2x2x2 cabins an extension of the building in all directions is possible. Rooms of any sizes can be created.
3-storey	 3x1x3 4x2x3 The illustrated three-storey modular buildings can be positioned individually or linked without restrictions. The bracing walls must not be removed (maximum room size therefore 4x2 cabins). Position of the required bracing walls Bracing walls shown as dashed lines. The panel wall on the upper floors must be placed on top of a panel wall on the floor below.  3x1 4x2

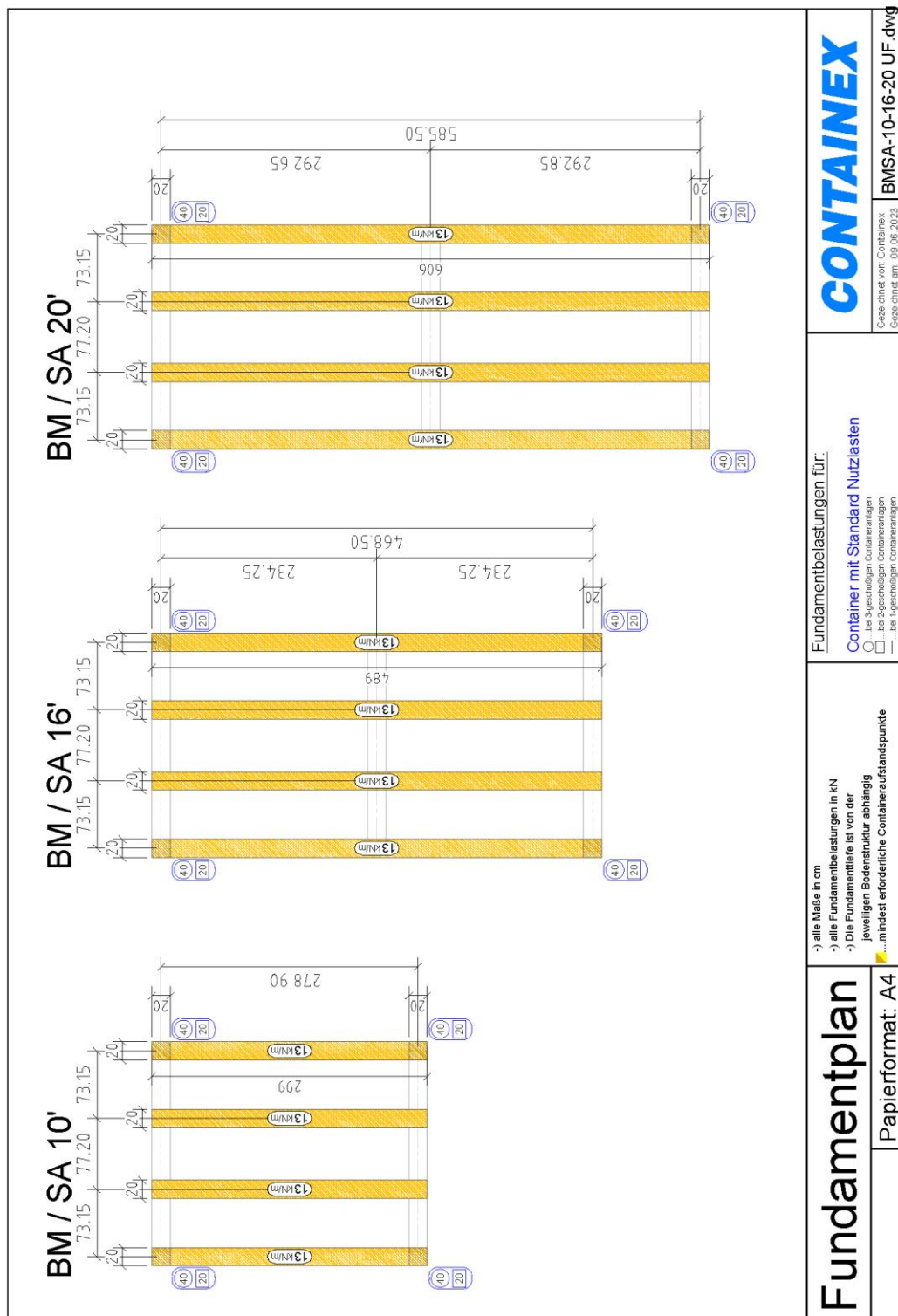
9.4. Generic foundation plan for cabins

Foundations must be designed to local conditions, standards and frost depths , taking into account the nature of the ground and the maximum loads that may occur. The customer must carry out the relevant measures.



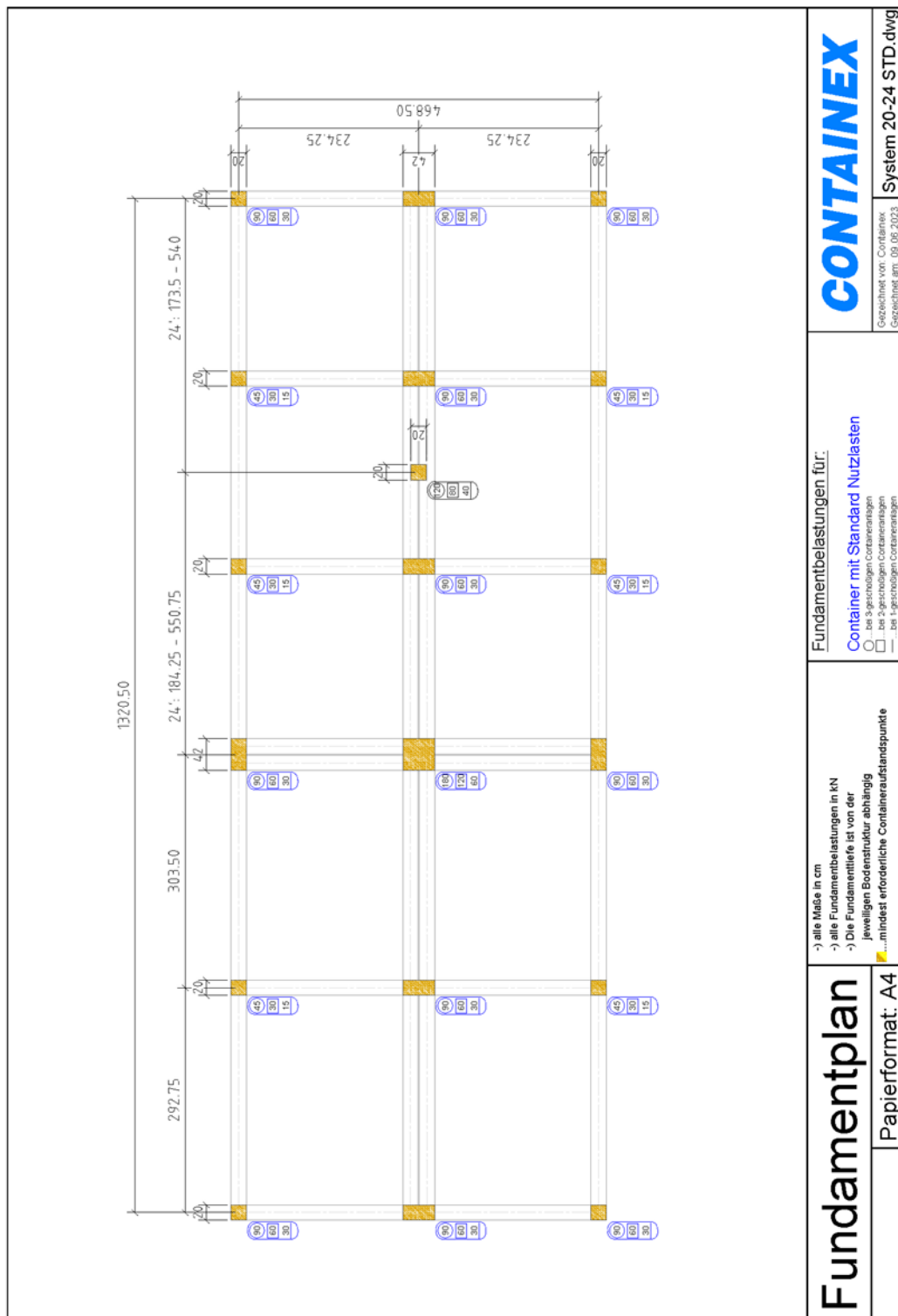


When using double amount of floor cross members including additional longitudinal beams, strip foundations must be created.



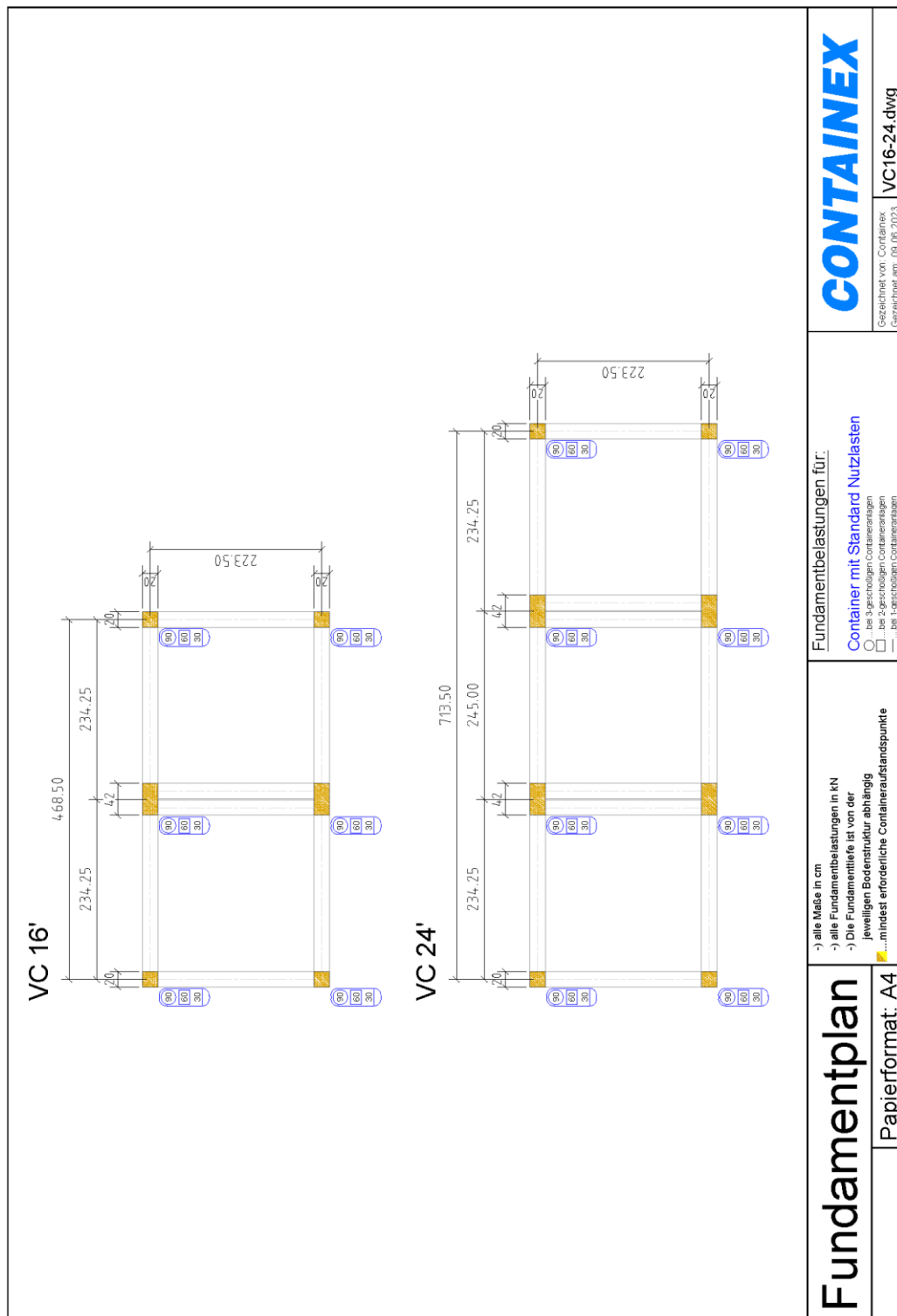
When combining several cabins increased loads at the inner foundation points have to be considered - as illustrated.

Note for 24': The support post must be used at an open long side joint. The support post may be positioned anywhere between the specified values on an additional foundation point.



9.5. Generic foundation plan for corridor cabins

Foundations must be designed to local conditions, standards and frost depths , taking into account the nature of the ground and the maximum loads that may occur. The customer must carry out the relevant measures.



When combining several cabins increased loads at the inner foundation points have to be considered - as illustrated.

