Technical Description

for
CONTAINEX CLASSIC LINE

Portable Cabin, Sanitary Cabin and Corridor Cabin

Contents

1 General information

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

Our cabins match the ISO-norm dimensions and have therefore many advantages of that system. They consist of a robust frame construction and interchangeable wall panels.

The design of the CTX standard portable cabin is labelled with [1], the CTX standard sanitary cabin with [2] and the CTX corridor cabin with [3].
All design options which are not labelled with [1] or [2] or [3] are only delivered if they are listed in the written agreement.

1.1 Dimensions (mm) and weights (kg):

Type	External			Internal			Weight (approx. specifications)		
	Length	Width	Height	Length	Width	Height	BM	BU	SU
10’	2,989	2,435	2,591 2,800 2,960	2,795	2,240	2,340 2,540 2,700	1,300 1,350 1,400	1,200 1,250 1,300	1,500 1,550 1,600
16’	4,885	2,435	2,591 2,800 2,960	4,690	2,240	2,340 2,540 2,700	1,750 1,800 1,850	1,600 1,650 1,700	
20’	6,055	2,435	2,591 2,800 2,960	5,860	2,240	2,340 2,540 2,700	2,050 2,100 2,150	1,850 1,900 1,950	2,500 2,550 2,600
24’	7,335	2,435	2,591 2,800 2,960	7,140	2,240	2,340 2,540 2,700	2,350 2,450 2,550	2,150 2,200 2,250	
30’	9,120	2,435	2,591 2,800 2,960	8,925	2,240	2,340 2,540 2,700	2,750 2,850 2,950	2,500 2,550 2,600	

* The mentioned dimensions and weights are valid for standard configurations (see 1.3.) and can vary depending on configuration and specification.

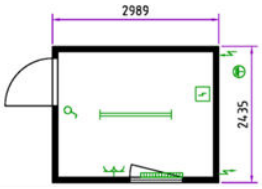
1.2 Abbreviations

The following abbreviations are used in the 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 foam	PU
Rock wool	SW
Internal floor to ceiling height	RIH
External height	CAH
Transpack (BM/BU as a flatpack in a package)	TP
Toughened safety glass	ESG
Laminated safety glass	VSG
Heat-strengthened glass	TVG

1.3 Standard configuration

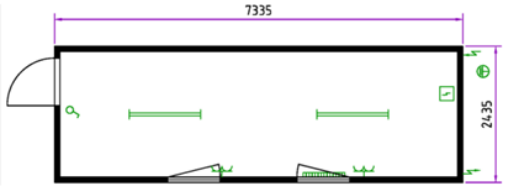
Portable cabin 10‘



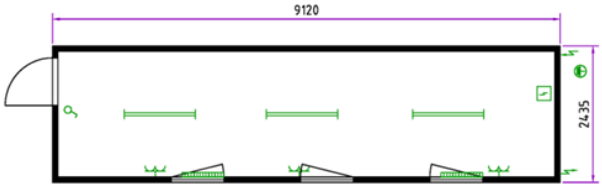
Portable cabin 16‘

Portable cabin 20‘

Portable cabin 24‘

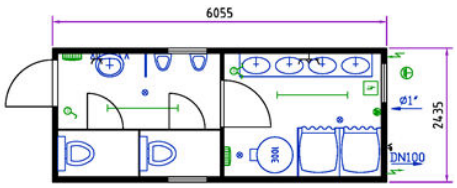


Portable cabin 30‘



Sanitary cabin 10‘

Sanitary cabin 20‘



Standard configuration: [1] Portable cabin, [2] Sanitary cabin [3] Corridor cabin

1.4 Insulation

Component	Insulation material	Thickness (mm)	U_{max} value(W/m²K)*
Roof			
	MW [1/2/3]	100	0.36
	MW	140	0.23
	PU	100	0.20
	PU	140	0.15
Wall element			
	MW [1/3]	60	0.57
	MW	100	0.35
	PU [2]	60	0.40
	SW	60	0.65
	SW	110	0.36
	PIR	110	0.20
Floor			
	MW [1/2/3]	60	0.55
	MW	100	0.36
	PU	100	0.20

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

Window			U-value (W/m²K)*
	Standard insulation double glazing with gas filling [1/2/3]	4/16/4 mm	1.10
	Triple glazing insulation with gas filling	4/8/4/8/4 mm	0.70

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

External door			U-value (W/m²K)*
1000	polystyrene	40 mm	1.70
875	polystyrene	40 mm	1.80

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

Insulation values according to EN ISO 10211 upon request!

1.5 Load bearing capacity

1.5.1. Standard load bearing capacity [1 / 2 / 3]

Floor load:

Ground floor: Maximum permissible surface load q_k = 2,0 kN/m² (200 kg/m²)
Maximum permissible point load Q_k = 2,0 kN (200 kg)

When using twice the number of floor cross beams, a maximum permissible surface load q_k of 4.0 kN/m² (400 kg/m²) is achieved on the ground floor.

When using twice the number of floor cross beams including additional longitudinal beams, plywood floor boards and a strip foundation, a maximum permissible surface load q_k of 8.0 kN/m² (800 kg/m²) is achieved on the ground floor. *

Top floors: Maximum permissible surface load q_k = 1,5 kN/m² (150 kg/m²)
Maximum permissible point load Q_k = 2,0 kN (200 kg)

Snow load s_k: With max. 2-storey installation *:
Characteristic snow load on the floor s_k= 1,50 kN/m² (150 kg/m²)
Shape parameters $\mu = 0{,}8$ *(*$s = \mu_1 * s_k = 1{,}2$ *kN/m² (120 kg/m²))*
With 3-storey installation:
Characteristic snow load on the floor sk = 1,25 kN/m² (125 kg/m²)
Shape parameters $\mu = 0{,}8$ *(*$s = \mu_1 * s_k = 1{,}0$ *kN/m² (100 kg/m²))*

Wind load $v_{b,0}$: With max. 2-storey installation *:
$v_{b,0}$ = 27 m/s, [97,2 km/h] terrain category III
With 3-storey installation:
$v_{b,0}$ = 25 m/s, [90 km/h] terrain category III

* except 24' and 30' portable and sanitary cabins

1.5.2. Optional load bearing capacity (except external cabin height 2.591m and 30' cabins)

Floor load:

Ground floor: Maximum permissible surface load q_k = 4,0 kN/m² (400 kg/m²)
Maximum permissible point load Q_k = 2,0 kN (200 kg)

When using twice the number of floor cross beams including additional longitudinal beams, plywood floor boards and a strip foundation, a maximum permissible surface load q_k of 8.0 kN/m² (800 kg/m²) is achieved on the ground floor. *

Top floors: Maximum permissible surface load q_k = 3,0 kN/m² (300 kg/m²)
Maximum permissible point load Q_k = 2,0 kN (200 kg)

Snow load s_k: Characteristic snow load on the floor s_k = 2,5 kN/m² (250 kg/m²)
Shape parameters $\mu = 0{,}8$ *(*$s = \mu_1 * s_k = 2{,}0$ *kN/m² (200 kg/m²))*

Wind load $v_{b,0}$: $v_{b,0}$ = 25 m/s, [90 km/h] terrain category III

* except 24' and 30' portable and sanitary cabins

1.5.3. Optional payloads corridor cabin (excluding external cabin height 2.591m)

Floor load:

Ground floor: Maximum permissible surface load q_k = 5,0 kN/m² (500 kg/m²)
Maximum permissible point load Q_k = 2,0 kN (200 kg)

When using twice the number of floor cross beams including additional longitudinal beams, plywood floor boards and a strip foundation, a maximum permissible surface load q_k of 8.0 kN/m² (800 kg/m²) is achieved on the ground floor. *

Top floors: Maximum permissible surface load q_k = 5,0 kN/m² (500 kg/m²)
Maximum permissible point load Q_k = 2,0 kN (200 kg)

Snow load s_k: Characteristic snow load on the floor s_k = 2,5 kN/m² (250 kg/m²)

Shape parameters $\mu = 0{,}8$ ($s = \mu_1 * s_k = 2{,}0$ *kN/m² (200 kg/m²)*)

Wind load $v_{b,0}$: $v_{b,0}$ = 25 m/s, [90 km/h] terrain category III

* excluding 24' corridor cabin

For wind speeds over 90 km/h [25 m/s], additional safeguards must be put in place for the cabins (bracing, bolting, etc.). These measures must be assessed by authorised professionals while taking into consideration the local norms and conditions.

Payloads are only valid according to the cabin arrangement options (Appendix 9.1. to 9.3.).

Other optional load bearings or site-specific earthquake safety measures are available on request.

1.6 Basic principles of 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 cases (as e.g. seismic safety) are not considered explicitly and must be requested separately!

1.7 Sound insulation

Sound insulation values on request.

2 Cabin design

2.1 Frame construction

	BM/SA/VC[1/2/3] (standard load bearing capacities acc. to 1.5.1.)	BM/SA (optional load bearing capacities acc. to 1.5.2.)	VC (optional load bearing capacities acc. to 1.5.3.)
Floor frame	from cold rolled, welded steel profiles, four cabin corners welded		
Longitudinal floor frame	3 mm	4 mm	
Short end floor frame	3 mm		
Floor cross beam	made of Omega profiles, s = 2.5 mm		
	standard amount	double amount	
Fork lift pockets	two fork lift pockets on the long side (except type 30‘ cabins)		
	inside clearance of fork lift pockets: 352 x 85 mm		
	fork lift pocket distance in centre: 2.055 mm [1/2/3] optional: 1,660 mm* / 950 mm* / without fork lift pockets		
Corner posts	made from cold-rolled, welded steel profiles bolted to a floor and roof frame		
	4 mm	5 mm	
C column [3]	3 mm	--	3 mm
Roof frame	from cold rolled, welded steel profiles, four cabin corners welded		
Longitudinal roof frame	3 mm	4 mm	
Short end roof frame	3 mm		
Roof cross members made of timber	dimension depending on the roof design		
Cover	galvanised sheet metal with double fold, thickness 0.6 mm		

* except 24' containers

2.2 Floor

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

Floor underside: **MW** [1/2/3]
0.6 mm thick, galvanised sheet metal
(different sheet metal / RAL tones possible depending on production)

PU
Aluminium cover

Floor:

Standard floorboards: **Wood cement chipboard** - thickness 22 mm
According to product standard EN 634-2
E1 according to EN 13986:2004,
Fire behaviour B-s1, d0 according to EN 13501-1

P5-chipboard - thickness 22 mm
According to product standard EN 312
E1 in accordance with EN 13986
Fire behaviour D-s2, d0 according to EN 13501-1

OSB board - thickness 22 mm
According to product standard EN 300
E1 in accordance with EN 13986
Fire behaviour D-s2, d0 according to EN 13501-1

Optional floorboards: **Plywood** - thickness 21 mm
According to product standard EN 636
E1 according to EN 636:2012
Fire behaviour D-s2, d0 or Dfl-s1 according to EN 13501-1

Floor cover:	Vinyl floor cover welded in sheets in sanitary areas[2] pulled up the bottom of the wall on request					according to Standard …	Aluminium chequer plate
	Imperial Classic [1 / 3]	Surestep[2]	Accord	Eternal	Safestep		
Total thickness	1.5 mm	2.0 mm	2.0 mm	2.0 mm	2.0 mm	EN ISO 24346	2 + 0.5 mm
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	---

2.3 Roof

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[1 / 2 / 3] / 140 mm

Ceiling boards:

Coated chipboard [1 / 3]
According to product standard EN 312
10 mm thick, white,
E1 according to EN 312,
Flame behaviour D-s2, d0 according to EN 13501-1

Plasterboard coated with sheet metal [2]
9.5 mm plasterboard + 0.6 mm sheet metal, colour: white (similar RAL 9010)
Fire behaviour A2-s1,d0 according to EN 13501-1

CEE connectors: Externally recessed into short end cabin frame

2.4 Wall panels

Wall thickness 60 [2] / 70 [1 / 3] / 110 mm (depending on insulation material)

Available items:
- blank full panel
- door panel
- window panel
- climate panel
- blank half panel
- double panel (only for window or door)
- fixed glazing panel
- blank rest panel

External cladding: Corrugated, galvanised and coated sheet metal, thickness 0.6 mm
Fire behaviour A1 (not flammable) according to EN 13501-1

Frame with mineral wool: Wooden frame, thickness 53 mm with wall thickness 70 mm
Wooden frame, thickness 93 mm with wall thickness 110 mm
Fire behaviour D-s2, d0 according to EN 13501-1

Insulation material:

MW [1 / 3]
Fire behaviour A1 (not flammable) according to EN 13501-1

PU [2]
Fire behaviour B-s3, d0 according to EN 13501-1

PIR
Fire behaviour B-s2, d0 according to EN 13501-1

SW
Fire behaviour A2-s1, d0 according to EN 13501-1

Insulation thickness: 60 mm [1 / 2 / 3] / 100 mm / 110 mm

Internal cladding:

Coated chipboard [1 / 3]
According to product standard EN 312
Thickness 10 mm, light oak [1 / 3] / white.
E1 according to EN 13986
Fire behaviour D-s2, d0 respectively Dfl-s1 according to EN13 501-1

Plasterboard with coated sheet metal
9.5 mm plasterboard + 0.6 mm sheet metal, colour: white (similar RAL 9010)
Fire behaviour A2-s1,d0 s1 according to EN 13501-1

Galvanised and coated sheet metal[2]
Thickness 0.5 mm, finish: white similar to RAL 9010
Fire behaviour A1 (not flammable) according to EN 13501-1

Wall panels - design combinations:

insulation material	panel thickness	external cladding	insulation thickness	internal cladding
MW	70 / 110	sheet metal	60 / 100	- coated chipboard - plasterboard with coated sheet metal
PU	60		60	- sheet metal
PIR	110		110	
SW	60 / 110		60 / 110	

2.5 Partition walls

Available items:
- blank full panel
- door panel
- window panel

Wooden construction [1 / 3]: Total thickness 60 mm

Frame: Wooden frame, thickness 40 mm
Fire behaviour D-s2, d0 according to EN 13501-1

Cladding on both sides: Double-sided coated chipboard
According to product standard EN 312
10 mm thick, light oak / white
E1 according to EN 13986
Fire behaviour D-s2, d0 Dfl-s1 according to EN13 501-1

Sheet metal design [2]: Total thickness 60 mm

Frame: Wooden frame, thickness 58.5 mm
Fire behaviour D-s2, d0 according to EN 13501-1

Insulation material: Cardboard honeycomb

Cladding on both sides: Laminated sheet metal, thickness 0.6 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 blade with galvanised sheet metal on both sides

Dimensions:	nominal dimension	clear opening
	625 x 2,000 mm (only as internal and/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 frame joint	1,936 x 2,065 mm

Optional:
- emergency exit lock according to EN 179 (internal/external): handle/handle or handle/knob
- panic lock according to EN 1125 (internal/external): emergency push bar/handle or emergency push bar/knob
- door grille with security fittings (for modular dimensions 875 x 2.125 mm)
- door closer
- insulated glazing:
  border frame: plastic white
  width x height = 238 x 1,108 mm (ESG)
  550 x 1,108 mm (ESG)
  550 x 450 mm (ESG)

2.7 Windows

Design:
- pvc frame with insulated glazing and integrated pvc roller shutters; colour: white
- roller shutter housing with belt take-up reel and vents: housing height 145 mm, slat colour light grey
- one hand tilt & turn mechanism
- incl. gas filling

ATTENTION: The built-in insulation glass is only suitable for use at altitudes up to 1,100 m above sea level. Above 1,100 m sea level windows with a pressure compensating valve need to be used.

	window options:	*external dimension*
standard window:	office window [1]	945 x 1,200 mm
	sanitary window [2] (with privacy glass)	652 x 714 mm
optional windows:	fixed glazing (ESG)	945 x 1,345 mm
	fixed glazing (ESG) *	945 x 2,040 mm (CAH 2,591 mm)
	fixed glazing (ESG) *	945 x 2,250 mm (CAH 2,800 mm und 2,960 mm)
	fixed glazing (ESG)	1,970 x 1,345 mm
	fixed glazing with sliding part (ESG)	945 x 1,200 mm
	windows with speaking and handing through hatch	945 x 1,200 mm
	Office window XL	1,970 x 1,200 mm
	Double window	1,970 x 1,200 mm
	double sliding window	1,970 x 1,200 mm
	nursery window (VSG)	945 x 1,555 mm
	IP glazing (ESG)	various

Window parapet:
(vertical distance between floor level and the upper edge of the lower profile of the window frame)

office window (CAH 2,591 mm)	870 mm[1]
office window (CAH 2,800 mm, 2,960 mm)	1,030 mm [1]
optional for CAH 2,800 and 2,960 mm	870 mm

sanitary window	1,525 mm [2]
nursery window	624 mm

Optional:
- window grille
  (for sanitary and standard office windows as well as XL office windows)
- ventilation slider inside roller shutter housing
- aluminium roller shutters PU-foamed with shutter catch protection and metal covered roller shutter rails
- glass type toughened safety glass / laminated safety glass / tempered safety glass, available depending on the window type

3 Electrical installation

Specification: concealed cabling
Protection class IP20 [1/3]/IP44 [2]
Socket inserts according to national standards (VDE, CH, GB, FR, CZ/SK, DK, IT)
Country specific design / variations possible

3.1 Technical data

	Basis VDE (= OEVE, CH, SKAN, NO, CZ/SK, IT, DK)[1/2/3], GB		FR	NL
Connection:	recessed CEE external plug and socket connections			
Voltage:	230V/3 poles/4 poles*/ 32 A [1/2/3] (3x6 mm²)			
	400V/5 poles/ 32 A [1/2/3] (5x6 mm²)			
Frequency:	50 Hz			
Protection:	RCD 40 A / 0.03 A [1/2/3], 4-poles (400 V) Type A X			
	RCD 40 A / 0.03 A [1/2/3], 2-poles (230 V) Type A X country-specific with 63A / 0.03 A 2-pin (230 V) type A			
Distribution board:	distribution box, surface mounted type, single/twin row [1/3] **			
	distribution box, surface mounted type, single/twin row wet room [2] ***			
Cable****:	(N)YM-J / H05 VV-F		RO2V	H05 VV-F
	H07RN-F			H07RN-F
Electrical circuits:	light	MCB 10 A, 2-poles , 3x1.5 mm² [1/2/3]		RCBO B10A
	heating	MCB 13 A, 2-poles		RCBO B16A
		3 x 1,5 mm [2] resp. 3 x 2,5 mm² [1/2] cable- and country-specific		
	socket	circuit breaker 13 A, 2 poles device- and country-specific with 10A and 16A		RCBO B16A
		3 x 1,5 mm² resp. 3 x 2,5 mm² [1/2] device-/ cable- and country-specific		3x1,5 mm²
Socket:	2 earthed twin wall sockets [1] (portable cabin 20') 3 single sockets [2] (sanitary cabin 20')			
Lighting:	light switch [1/2]			
	2 pcs. surface-mounted LED-lights			

* only with NO electrics
** fitted to ceiling (fitting height = RIH)
*** fitted to wall or ceiling (fitting height = RIH)
**** fire behaviour Eca according to EN 13501-6
LC-release switch characteristic C

Optional:
- LED category 2 light fitting 54 W
- category 2 light fittings 2 x 36 W / 2 x 58 W
- LED glass light 8 W
- spur

Compliance with the following CENELEC regulations regarding protection against electric shock and protection against overload 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

Earthing: Universally usable earthing terminal:
On both short sides in the floor frame of each corner a drill hole with a diameter of 9.4 mm is prepared for the fixture of the earthing terminal.

- The earthing terminal is fitted with an M10 screw with self-cutting thread (tightening torque 25-30 Nm). The position of the screw is carried out in the factory at an appropriate spot on the cabin.
- An earthing terminal 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.

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

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

safety advice: PE rail of the distribution box must be electro-technically connected with a 1x6mm² PE cable on the inside of the roof frame (middle short end) with an earthing pin and may 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 assembly, start up, utilisation and maintenance of the electrical installations is delivered in the fuse box and needs to 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 ensured

(earthing feed cable and earthing connecting lines between the cabins need to be checked on potential equity and low Ohm level).

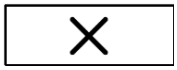
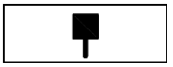
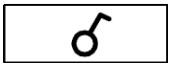
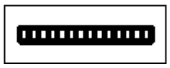
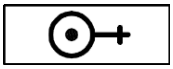
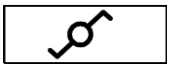
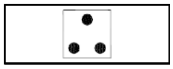
Attention: The supply- and connection cables are made for an operating voltage of max. 32 Ampere. These aren't secured with a overcurrent protection device. The connection of the cabins to the external electrical power supply may only be undertaken by an authorised specialist company.
Before using the cabin (modular building) for the first time the effectiveness of the protection measures for fault protection need to be checked by an authorised specialist company in the form of an initial electrical test.

Attention: The commissioning of the boilers and/or under table units is only permitted when they are filled!
Cleaning with a high-pressure cleaner is FORBIDDEN.

The electrical equipment of the cabin may 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 defined.
- In case machines or appliances with high starting current peaks are used (according to the manual of the respective appliances) adequate RCD/MCB must be used.
- The electric fittings of the cabins are designed for minimal vibration exposure. When higher loads are given, appropriate measures must be taken according to the national technical regulations (and/or checks of the plug or screw contacts).
- The cabins are designed for areas with little seismic activity. If the cabins are used in areas with higher seismic activity, the country's national regulations are valid and the equipment needs to be adjusted accordingly
- The choice of the external linking cables of the cabins has to suit the country's national technical regulations.
- The cabins have to be secured against thermal overload with a type gL fuse or gG with max. IN = 32A.

3.2 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		

3.3 Heating and air conditioning

Individual heating through frost heaters, thermostatically controlled electric convectors and/or fan heaters with safety switch for overheating. Mechanical ventilation options with electrical extractor fans or on your request also available with window air conditioning units. Regular ventilation of the rooms must be provided. A relative humidity of 60 % should not be exceeded in order to avoid condensation!

		output:
Description: (quantity depends on cabin type)	extractor fan [2]	170 m³/h
	hygrostatic extractor fan	170 m³/h
	air conditioning	2,5 kW
	convector heater [1]	2 kW
	convector heater	1 kW
	convector heater	0.5 kW
	fan heater [2]	2 kW

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 installations

Supply	Supply using ½", ¾" or 1" [2] pipe Supply[2] sideways through the cabin wall or prepared for the connection through the floor Distribution without circulation line
Internal:	PP-R piping (according to EN ISO 15874)
Operating pressure:	Max. permitted operating / connection pressure - 4 bar
Water heating:	Decentralised, by using electric boilers, size depending on the cabin type (5, 15, 80, 150 or 300 liters [2]) ATTENTION: Boilers with 15/80/150/300 l capacity are suitable for a max. operating pressure of 6 bar. Any higher water pressure is reduced with an appropriate pressure reducing valve!
Discharge:	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 laterally[2] through the cabin wall. Optionally, it is possible to connect them within a modular building between floors. The customer must drain any sewage into an approved sewage network in accordance with local regulations for water and faecal drains.

NOTE: Should the cabin not be used at temperatures below +3°C, the entire piping 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 on the water conduit must always stay open.

5 Design options

General equipment

- external and internal staircase	- ventilation unit VL-100
- fascia	- telephone duct in the panel
- data socket RJ45 cat. 6A STP	- canopy big
- insect screen for office/sanitary window and office window XL	- canopy small
	- hot water radiator upon request
- cable hole in panel	- motion and presence detector upon request
- cable hole in roof frame	- Fire protection components 30 / 60 / 90 min according to EN 13501-2 on request
- cable channel on panel	

Sanitary fixtures

- plastic sink incl. folding grid	- stainless steel wash trough with 2 taps l=1200 mm
- stainless steel sink incl. folding grid	- stainless steel wash trough with 3 taps l=1800 mm
- accessible sanitary fittings	- stainless steel wash trough with 4 taps l=2400 mm
- floor drain with odour trap	- paper towel dispenser
- boiler: 15 l / 80 l / 150 l / 300 l	- sanitary connection recessed into wall panel
- pressure reduction valve	- sanitary connection through floor
- instant water heater for hand wash basins	- privacy screen
- shower cubicle with curtain	- soap dispenser
- fibre glass hand wash trough with 2 individual basins l = 1,200 mm	- Stop & Go fitting for shower
	- Stop & Go fitting for wash hand basin
- fibre glass hand wash trough with 4 individual basins l = 2,400 mm	- under sink water heater 5 litre
	- urinal
- wet room electrics	- washing machine connection
- ceramic hand wash basin	- water installations (water inlet and outlet)
- electrical hand dryer	- WC cubicle
- metal mirror	
- mini kitchen	

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 painting of above mentioned parts is carried out with different types of production. These achieve shades similar to RAL. We do not accept liability for colour variations in comparison with the RAL tones.

7 Certification

CE marking, EN 1090 EXC 2 (Execution Class 2) *
GostR certification **

* for cabin numbers starting with 01, 02, 09, 15, 21
** for cabin numbers starting with 20

8 Miscellaneous

8.1 Transport

Cabins must be transported on suitable trucks. The local laws for load securing must be adhered to.
Cabins are not suitable for rail transport. Cabins must be transported empty.

Portable cabins can also be delivered flatpacked (Transpack).
Standard package 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
- 515 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:

1. 10', 16', 20' and 24' cabins and/or packages can be lifted with a forklift (length of fork minimum 2,450 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 chains and the horizontal line must be a minimum of 60° (Fig. 1 or Fig. 3). The necessary chain length for a 20' cabin is at least 6.5 m.

2. 30' cabins or packages can be lifted by crane. Ropes/chains must be fastened to the eyebolts/crane eyes screwed on at the top. The angle between the rope/chain and the horizontal line must be a minimum of 60° (picture 3).

3. Due to the construction and design, handling with a spreader is not possible.

4. Cabins may not be handled when loaded.

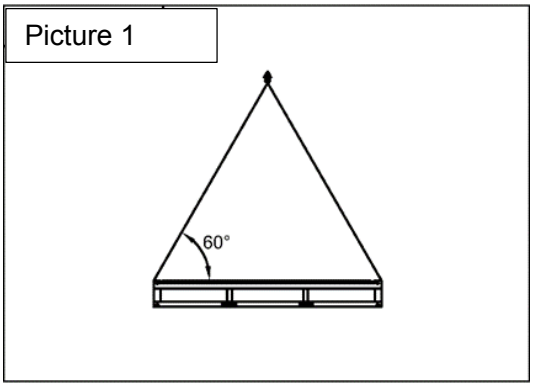
5. Only individual cabins or packages may be lifted.

6. 4 stacking cones (in the cabin corners) each and 2 support wedges each for 10', 16' and 20' cabins (1 piece on each side of the long side roof section - fig. 2) or 4 support wedges each for 24' and 30' cabins (2 pieces on each side of the long side roof section - fig. 4) must be used between the individual packages.

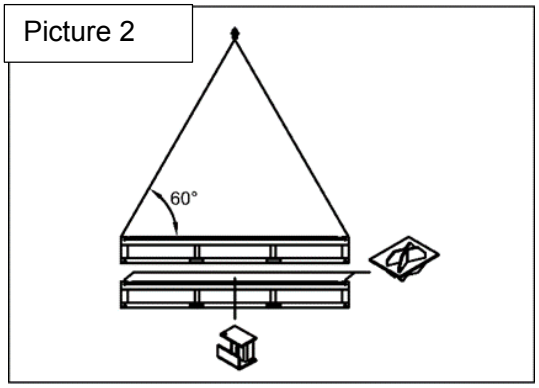
7. Do not place any extra weight on the top package!

8. You must only stack max. 5 packages on top of each other. Possible package heights see 8.1.

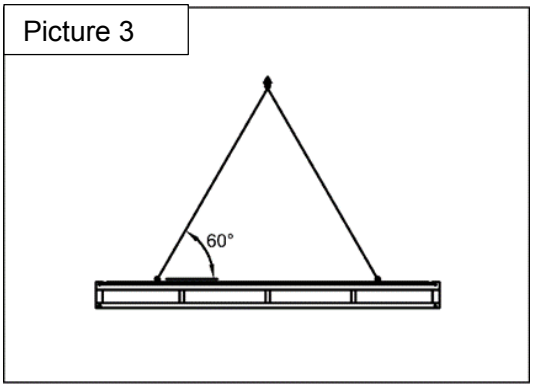
Picture 1



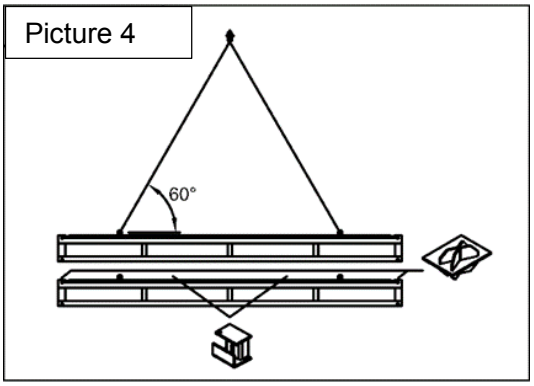
Picture 2



Picture 3



Picture 4



8.3 Installation / Assembly / Structural / Maintenance

In General:
Each individual cabin must be placed onto foundations provided on site with at least 4 points of support for 10' cabins, 6 points of support for 16' and 20' cabins and at least 8 points of support for 24' and 30' cabins (annex 9.4. to 9.7.). The dimensions of the foundation has to be adapted to local circumstances, norms and frost line, under consideration of the local soil condition and the maximum possible loads. The levelness of the foundation is a precondition for a smooth assembly and the failure-free standing of the entire construction. Should the foundation points not be level, these must be levelled by using shims with minimum width of the floor frame profile. The design of the foundations must ensure a free flow of rain water and sufficient ventilation underneath.
During set up or placement of the cabin (constructions), maximum permitted loads and regional conditions (e.g. snow loads) must be taken into account. After removing the transport covers, the holes in the floor frame 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 selectively configured next to, behind, or on top of each other, while bearing in mind the structural indications and the max. permitted loads. For one-level (ground level) constructions, the cabins may be placed arbitrarily and without restriction regarding quantity. For two- and three-storey buildings, the permitted arrangement and combination possibilities presented in annex 9.1. to 9.3. must be observed.
In the event that the cabins are linked in other combinations than those presented in annex 9.1. to 9.3., no information can be given about the max. permitted pay, 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 instructions and the service notes must be adhered to and can be sent upon request. Handling and installation instructions are enclosed in the cabin and must be observed.

Before starting the work, a risk analysis must be carried out in accordance with the local requirements and the applicable provisions on site. Necessary measures must be implemented by the assembly personnel. 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, which may result from installations contrary to these principles. Liability for consequential damages is excluded in principle.

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 system) and any supplied accessories (e.g. stairs, air conditioning etc.) for the planned application must be checked by the customer.

Subject to technical alterations!

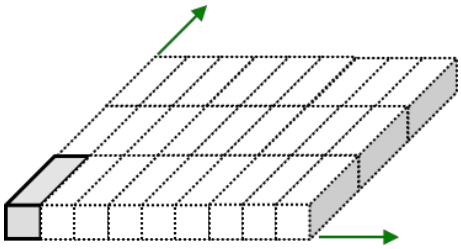
This document is a translation of the German version and is subject to translation and spelling errors. If in doubt, the German version must be consulted.

9 Appendix

9.1 Arrangement options for 10', 16' and 20' cabins, max. external height 2.96m

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

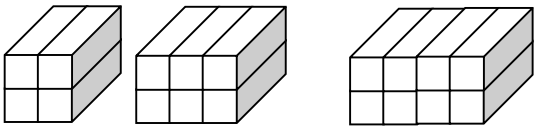
1- storey



The cabins can be linked at will or positioned individually, **without restriction to room sizes.**

2- storey

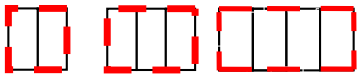
Single row modular buildings (quantity of long sides = 1)



2x1x2 3x1x2 4x1x2

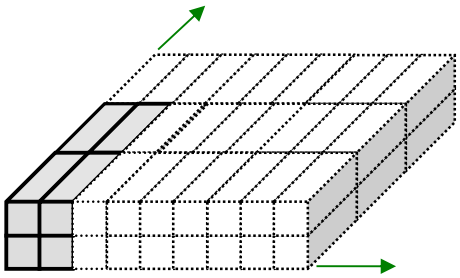
The illustrated two-storey modular buildings can be linked at will or positioned individually..
The bracing outer walls must not be removed (maximum room size therefore 4x1 cabins)..

Position of the required bracing outer walls
Bracing outer walls shown with dashed lines. Inside rooms open plan



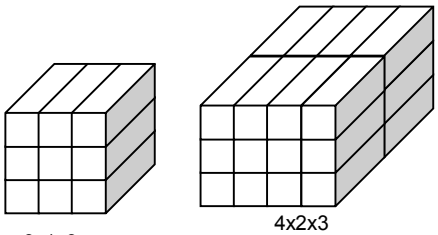
2x1 3x1 4x1

Multiple rows modular buildings (quantity of long sides ≥ 2



From a minimum size of 2x2x2 cabins an extension of the building in all directions is possible, **without restriction to room sizes.**

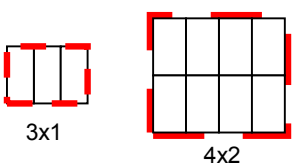
3- storey



3x1x3 4x2x3

The illustrated three-storey modular buildings can be linked at will or positioned individually.
The bracing outer walls must not be removed (maximum room size therefore 4x2 cabins).

Position of the required bracing outer walls
Bracing outer walls shown with dashed lines. The panel wall in the upper floors must be placed over a panel wall in the floor below.



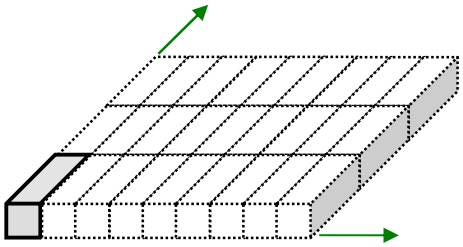
3x1 4x2

Load capacities according to 1.5.

9.2 Arrangement options for 24' and 30'[1] cabins, max. external height 2.96 m

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

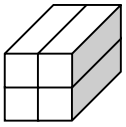
1- storey



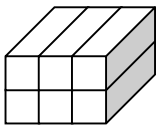
The cabins can be linked at will or positioned individually, **without restriction to room sizes.**

2- storey

Single row modular buildings (quantity of long sides = 1)



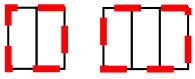
2x1x2



3x1x2

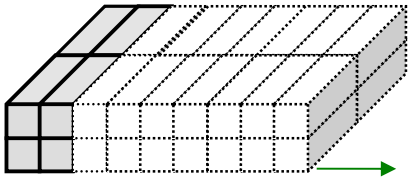
The illustrated two-storey modular buildings can be linked at will or positioned individually.
The bracing outer walls must not be removed (maximum room size therefore 3x1 cabins).

Position of the required bracing outer walls
Bracing outer walls shown with dashed lines. Inside rooms open plan

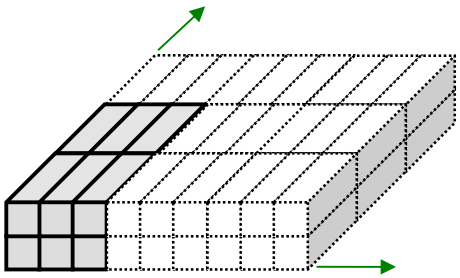


2x1 3x1

Multiple rows modular buildings (quantity of long sides ≥ 2)

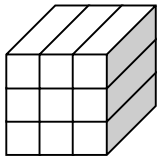


From a minimum size of 2x2x2 cabins an extension of the building in all directions is possible, **without restriction to room sizes.**

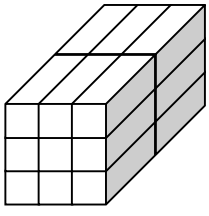


From a minimum size of 3x3x2 cabins an extension of the building in all directions is possible, **without restriction to room sizes.**

3- storey



3x1x3

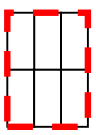


3x2x3

The illustrated three-storey modular buildings can be linked at will or positioned individually.
The bracing outer walls must not be removed (maximum room size therefore 3x2 cabins).

Position of the required bracing outer walls
Bracing outer walls shown with dashed lines. The panel wall in the upper floors must be placed over a panel wall in the floor below.

3x1



max.3x2

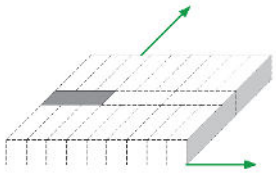
Load capacities according to 1.5.

[1] except 30' cabins with optional payloads

9.3 Arrangement options for 16' and 24' corridor cabins, max. external height 2.96m

Number of cabins (SxLxH); short side (S) x long side (L) x height (H)

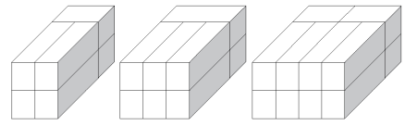
1- storey



The cabins can be linked at will or positioned individually.
Without restriction to room sizes.

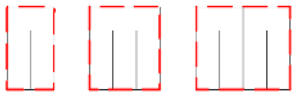
2- storey

Single row modular buildings (quantity of long sides = 1)

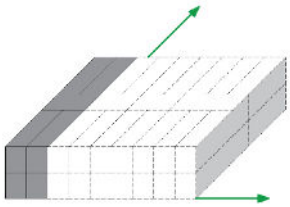


The illustrated two-storey modular buildings can be linked at will or positioned individually.
The bracing outer walls must not be removed (maximum room size therefore 4x1 cabins).

Position of the required bracing outer walls
(Bracing outer walls shown with dashed lines. Inside rooms open plan)

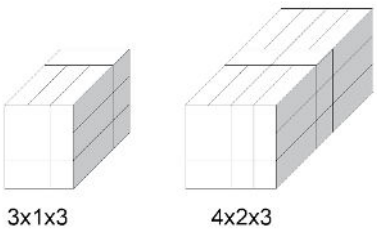


Multiple rows modular buildings (quantity of long sides ≥ 2)



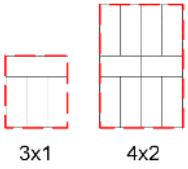
From a minimum size of 2x2x2 cabins an extension of the building in all directions is possible.
Without restriction to room sizes.

3- storey



The illustrated three-storey modular buildings can be linked at will or positioned individually.
The bracing outer walls must not be removed (maximum room size therefore 4x2 cabins).

Position of the required bracing outer walls. Bracing outer walls shown with dashed lines. The panel wall in the upper floors must be placed over a panel wall in the floor below.



Payloads according to 1.5