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MDC40 Container Data Center

Data sheet

Version as of 29 June 2016

MDC40 Data sheet

ISO Container

Type	40 Feet High Cube
Measurement	12,192 m x 2,438 m x 2,896 m (L x W x H)
Weight (w/o IT)	circa 30 tons
Construction	Steelframe
Infill	Steelsheet, double-walled, insulated
Resistance Grade	Body shell, doors and ventilation grids RC3. Interior doors RC2.
Coating	2-Layer-corrosion-protection-coating with 2-K-varnishsystem (dry film thickness outside 110µ, inside 80µ). RAL colour on request (standard outside 7035 – lightgrey semi-gloss, inside 9001 – creamwhite semi-gloss)
Transport	Worldwide via ocean vessel, rail and truck. Custom seal options for the container openings are provided.
Installation Area	Floor loading capacity appropriate for weight
Installation	on the 4 corners of the container
Certification	CSC. Approval number D-HH-8588/GL 9749 TÜViT. Certificate ID 66316.16
Description	The MDC40 is a one-container-solution for data centers. All system parts are located inside the container. Connecting several containers in series achieves extensions of performance to any desired level and/or realization of so-called “Dual-Site-locations”.

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The outside walls of the container are smooth. All openings can be sealed with deadlights for transport.

Side and front walls form a flush optic that way. They fall 5mm behind the corner fittings. The doors have interior hinges. Their handles are designed as recessed grips. Flush-mount profile cylinder locks with latch lever function are positioned separately.

IT area

Rack height units	224
IT power uptake	up to 60 KW
Connections to power mains per rack	A/B supply. 2 x 400 V CEE (fusing 2 x 32A, power uptake 2 x 20 KW)
Description	The racks are special designs tailored to the spatial conditions (feasible with or without shock absorber). 2 racks stand opposite each other in each cold aisle containment and are flanked by side coolers.

Cooling/air supply

IT area

Precision air conditioning systems	redundant (n + 1)
Room temperature	18 – 27°C
Humidity	40 – 60%

UPS room

Split air conditioning unit

Room temperature	22 – 30°C

Battery room

Split air conditioning unit

Room temperature	20 – 25°C
Description	The system is cooled according to the direct evaporator principle. Under full load, the cooling system is designed for an external temperature of up to 35°C.

Supply connections

Power grid	380 – 440 V rotary current at 50/60 Hz
Water network	Pressure 1.0 to 8.0 bar
Network	Any common wire-based media
Description	The ports for power, water and network connection are located in the container floor and are equipped with watertight sealing.

Backup power supply

Modular UPS system	redundant (n + 1)
Battery backup	15 minutes under full load
Diesel genset	Start-up time: max. 15 seconds
Fuel supply	1.000 l
Fuel reach	48 hours without refuelling with an assumed load of 80%. Refuelling possible without operational interruption.

Safety management

Access control system	Main entrance and IT area (with escape door control). Autonomous server in the container.
Description	Authentication by smart cards with PIN code. Access to the IT area is additionally secured: - the door only opens if all the subsequent doors in the lock are closed and - a third person gives their approval after convincing himself of the identity of the person who desires access by video and audio transmission (separation).
Monitoring system	Operational monitoring and fault detection. Autonomous server in the container. Android client for the presentation (iOS, Windows and Windows Phone in preparation).
Description	The monitoring system provides information on the status of all system parts, various air parameters and the door states. In addition, the system is equipped with video and audio channels. The communication between client and server is encrypted.
Intruder alarm system	VdS 2311 class C
Description	Intruder alarm system in ring bus technology with through-connection to security services. Room monitoring by motion detectors of VdS class C. Door monitoring by magnetic contacts and bolt switch contacts of VdS class C.
Fire alarm system	According to all applicable DIN and VDE regulations, especially DIN 14675 and VDE 0833/2
Description	Fire alarm system in ring bus technology with optinal through-connection to the Fire Brigade. For container extensions, it can be set up as main fire alarm system (optical fibre ring). 2 VdS interfaces for the activation of an extinguishing system.

	Area-wide monitoring by automatic fire detectors (multi-criteria detector). Additional ASD system to ensure fires are detected as early as possible on the IT area.
Fire extinguishing system	According to all applicable provisions, especially VdS 2380
Description	Automatic nitrogen extinguishing system (N_2) with an extinguishing range covering the entire closed container area. The extinguishing is handled by two control centrals (standard flooding and backup flooding). Activation by the central fire alarm system via VdS interface. Additional possibility for manual activation. In-door alarm via pneumatic and electric horns and beacons. Activating concentration 45.2% vol. (emergency standby system and battery 61%). Reduction of the oxygen content to <10% of the room volume. The extinguishing procedure is residue-free and non-corrosive.
Lightning protection system	Lightning protection class 1 according to DIN EN 62305-3
Description	Installation of insulated lightning rods (H=5 m) at the four corners of the container (distance >= 0.5 m) on frost-resistant concrete supports. Connecti-on to the earth rod.
Earthing system	Earth rod and surface rod
Description	Earth rods (5 m) must be provided for the four container corners and connected by a ring line. All metal systems are connected to this line.