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Container Information



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Shipping Containers Information

نظام النقل بالحاويات

Containerization is a system of intermodal freight transport using intermodal containers (also called shipping containers and ISO containers) made of weathering steel. The containers have standardized dimensions. They can be loaded and unloaded, stacked, transported efficiently over long distances, and transferred from one mode of transport to another—container ships, rail transport flatcars, and semi-trailer trucks—without being opened. The handling system is completely mechanized so that all handling is done with cranes and special forklift trucks. All containers are numbered and tracked using computerized systems.

The system, developed after World War II, dramatically reduced transport of its costs, supported the post-war boom in international trade, and was a major element in globalization. Containerization did away with the manual sorting of most shipments and the need for warehousing. It displaced many thousands of dock workers who formerly handled break bulk cargo. Containerization also reduced congestion in ports, significantly shortened shipping time and reduced losses from damage and theft.

نظام النقل بالحاويات هو نظام لنقل البضائع باستخدام حاويات الشحن (تسمى أيضاً بالحاويات القياسية) المصنوعة من الحديد. تصنع الحاويات بمواصفات قياسية ويتم نقلها وتخزينها بكفاءة عبر مسافات طويلة ويمكن أيضاً نقلها ما بين السفن والقطارات والعربات المخصصة بدون فتحها. يتم تداول الحاويات عن طريق اوناش مجهزة بطريقة ميكانيكية ويتم ترقيم كل الحاويات بشكل قياسي سهل التعرف عليه عن طريق أنظمة الكترونية.

طُوّر هذا النظام بعد الحرب العالمية الثانية وساعد في تقليص تكلفة نقل البضائع بطريقة كبيرة وقد ساهم بشكل واضح في انتعاش حركة الاقتصاد العالمية بعد الحرب.

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Choosing the right equipment to ship your cargo



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Container Type

Needs



GENERAL PURPOSE CONTAINERS

Boxes, cartons, cases, sacks, bales, pallets, drums...



REEFER CONTAINERS Fruits, vegetables and dairy products



OPEN TOP CONTAINERS

Bulk minerals, heavy machinery



FLAT-RACK Containers Heavy and bulky semi-finished goods, out of gauge cargo



TANK CONTAINERS Bulk, liquids



HIGH CUBE PALLETWIDE CONTAINER Europallet compatible

AIR FREIGHT CONTAINERS Air freight



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General Purpose Containers

A freight container, totally enclosed and weatherproof, with a rigid roof, rigid side walls, and floor, having at least one of its end walls equipped with doors and intended to be suitable for the transport of a variety of cargoes.

This is by far the most common type of container. It is suitable for the carriage of most types of "Dry" goods, including those packed in boxes, cartons, cases, bags, bales, pal-lets, drums etc... With some suitable adaptations, such as liner bags, flexi-tanks, etc.) and adequate loading/unloading equipment, this type of container may also be used for certain types of bulk cargo (dry and liquid).



	20' x 8' x 8'6"	40' x 8' x 8'6"	40' x 8' x 9'6"	45' x 8'x 9'6
Size and Type grouping code	20GP	40GP	40HC	45HC
Dimensions & type code	22G1	42G1	45G1	L5G1
Internal dimensions				
Length (mm)	5,900	12,034	12,034	13,556
Width (mm)	2,352	2,352	2,352	2,352
Height (mm)	2,393	2,395	2,700	2,700
Door opening				
Width (mm)	2,340	2,340	2,340	2,340
Height (mm)	2,280	2,280	2,585	2,585
Nominal capacity (cu.m.)	33.2	67.8	76.4	86.0
Maximum gross weight (kg)	30,480	30,480/32,500	30,480/32,500	30,480
Average tare (kg)	2,230	3,720	3,900	4,700
Maximum payload (kg)	28,250	26,760/28,780	26,580/28,600	25,780
Securing rings				
Quantity	20	32	32	40
Resistance (kg/each)	1,500	1,500	1,500	1,500

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Reefer Containers



Thermal container equipped with an electrical appliance (mechanical compressor) for the purposes of cooling or heating the air within the container.

Transport of perishable goods in a temperature-controlled environment (Usual temperature range, from -25°C to +25°C. For temperatures beyond or above, please contact your 7SEAS Office).

	20' x 8' x 8'6"	40' x 8' x 9'6"	45' x 2550 mm x 9'6'
Size and Type grouping code	20RE	40RH	45RH
Dimensions & type code	22R1	45R1	LNR1
Internal dimensions			
Length (mm)	5,456	11,584	13,280
Width (mm)	2,294	2,294	2,440
Height (mm)	2,273	2,557	2,582
Door opening			
Width (mm)	2,290	2,284	2,440
Height (mm)	2,264	2,567	2,567
Nominal capacity (cu.m.)	28.6	68	83.7
Maximum gross weight (kg)	30,480	34,000	34,000
Average tare (kg)	3,010	4,700	6,180
Maximum payload (kg)	27,470	29,300	27,820
Height usable for cargo (mm)	2,158	2,394	2,482
Capacity in use (cu.m.)	27.3	64.9	80,420
Lashing bars in the ventilation floor side gutters			
Quantity	8	12	0
Resistance (kg/each)	500	1,000	1,000
Some series are certified ATO and/or USDA Fresh air exchange venting system (adjustable)			

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Electric Plug on Reefer Containers

Depending on power sources refrigerated containers are equipped with 1 plug 380 V/ 50 Hz to 460 V/ 60 Hz (32 A).

380/460 V plugs:

4poles according to CEE.

According to ISO 1496-2 annex M.

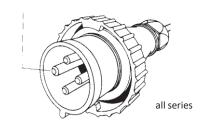
Earth contact in 3hr position according to socket.

There are fixed cables with a length of 18 m (49 ft).

Couplings for adapters are available.

Adapters are subject to corresponding safety regulations.

Earth Contact



Change of Temperature setpoint on Refrigerated Containers



Thermo King

To change the controller setpoint, turn the UNIT ON/OFF switch ON.

Complete the following steps:

- 1. Press the 📗 key.
- 2. Press the 🚽 or 🚮 key to scroll to TEMP SETP line.
- Press the key. For a minus setpoint, press the key first. Type the new Temperature setpoint in using the general purpose keypad.
- Press and hold the key until the cursor stops flashing. The new setpoint appears in the LCD display.
- Press the key to exit the menu.



Carrier

- Press the or ke
 to change the setpoint
 (the left display will blink).
- Press the RITER key at the desired setting to confirm and exit the selection menu.



Daikin

- 1. Press the S key to scroll to "SET-SPC".
- 2. Press the 🔼 or 🔻 to change the setpoint.
- Press the key to set desired setting and exit the menu.



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Open Top Containers

Shipping container similar in all respects to a general-purpose container except that it has no rigid roof but may have a flexible and movable or removable cover, for example one made of canvas or plastic or reinforced plastic material normally supported on movable or removable roof bows.

These containers are primarily used to carry heavy and/or bulky finished products, whose handling and loading can only be performed with a crane or a rolling bridge.



	20' x 8' x 8'6"	40' x 8' x 8'6"
Size and Type grouping code	20OT	40OT
Dimensions & type code	22U1	42U1
Internal dimensions		
Length (mm)	5,898	12,032
Width (mm)	2,352	2,352
Height (mm)	2,348	2,348
Door opening		
Width (mm)	2,340	2,340
Height (mm)	2,280	2,280
Height under top-rail (mm)	2,200	2,000
Top Opening dimensions		
Length between end lintels (mm)	5,682	11,806
Width between gussets (mm)	1,840	1,650
Length between end gussets (mm)	5,397	11,531
Width between roof rails (mm)	2,252	2,232
	1,940	1,940
Nominal capacity (cu.m.)	32	66
Maximum gross weight (kg)	30,480	30,480
Average tare (kg)	2,200	3,880
Maximum payload (kg)	28,280	26,600
Securing rings		
Quantity	20	40
Resistance (kg/each)	1,500	1,500

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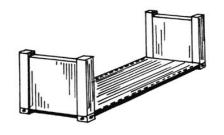
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Flat-rack Containers

Flat-rack containers have no side walls and are available either with fixed or collapsible end-walls. The flush folding collapsible flat-rack, the most sophisticated of its type, has end walls which fold flush with the base.

Flat-racks are dedicated for those which are over height to transport heavy material. Some 40' flats are suitable to carry as much as 45 metric tons of cargo. The flat racks with collapsible ends also permit the transportation of over length cargo.



	20' x 8' x 8'6"	40' x 8' x 8'6''	
Size and Type grouping code	20PC	40PC	
Dimensions & type code	22P3	42P3	
Internal dimensions			
Length between end headers (mm)	5,920	12,054	
Length between corner posts (mm)	5,634	11,652	
Width between corner posts (mm)	2,224	2,227	
Width of floor (mm)	2,208	2,374	
Height (mm)	2,213	1,959	
Maximum gross weight (kg)	34,000	45,000/50,000	
Average tare (kg)	2,750	4,900/5,100	
Maximum payload (kg)	31,250	40,100/44,900	
Securing rings			
Number per side	12	32	

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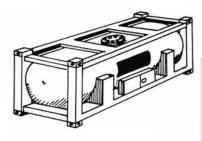


Tank Containers

A freight container which includes two basic elements, the tank and the framework.

This type of container is used to carry hazardous or non-hazardous liquids (foodstuff). It is equipped with accessories to facilitate filling and emptying and has safety devices.

Tank containers are pressure tested under periodical examination every 2.5 years.



	20' x 8' x 8'6"
Size and Type grouping code	20KL
Dimensions & type code	T11
Internal dimensions	
Length (mm)	N/A
Width (mm)	N/A
Height (mm)	N/A
Nominal capacity Litres	26,000
Maximum gross weight (kg)	36,000
Average tare (kg)	3,420
Maximum payload (kg)	32,580
Max. Operating Pressure (bar)	4
Safety Valve setting (bar)	4.4
Manhole (mm)	500
Discharge coupling	
Туре	3" BSP
Diameter (mm)	80

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High Cube Palletwide Containers

40'/45' High Cube Pallet Wide units were specifically designed with the 1.2 m "Europallet" in mind. The equipment, with its 2.45 m internal width, ensures optimum utilization of space.

Shippers benefit by being able to load more Europallets than they would in a standard ISO container.



	40' HC	40' HC PW	45' HC	45' HC PW	
1 m x 1.2 m pallets	21	24	24	26	
1.2 m x 0.8 m Europallets	25	30	27	34	

	40' x 2462 mm x 9'6"	40' x 2462 mm x 9'6"
Size and Type grouping code	40 HW	45HW
Dimensions & type code	4EG0	LEG0
Internal dimensions		
Length (mm)	12,095	13,624
Width (mm)	2,444	2,420
Height (mm)	2,692	2,687
Door opening		
Width (mm)	2,400	2,360
Height (mm)	2,584	2,580
Cubic capacity (cu.m.)	79.60	85.25
Maximum gross weight (kg)	34,000	34,000
Tare weight (kg)	4,260	4,980
Maximum payload (kg)	29,740	29,020

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Air Freight Containers

The following guide to airfreight containers, also called Unit Load Devices (ULD), lists and illustrates the average external dimensions and weight limitations of the primary containers in use today.

Exact dimensions and weight limitations will vary by manufacturer and availability will vary by air carrier and tradelane.





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LD-1

IATA ULD Code: AKC Contoured Container Also known as: AVC, AVD, AVK, AVJ Forkable: AVY Classification: LD-1 Rate Class: Type 8 Suitable for: B747, B767, B777, MD-11 Internal volume: 4.8 cu. m (169.5 cu. ft)

Maximum gross weight: 1588 kg (3501 lb)



LD-2

IATA ULD Code: DPE Contoured Container Also known as: APA, DPA Forkable: DPN Classification: LD-2 Rate Class: Type 8D Suitable for: B767 Internal volume: 3.4 cu.m (120 cu. ft) Maximum gross weight: 1225 kg (2700 lb)



LD-3

IATA ULD Code: AKE Contoured Container Also known as: AKE, AVA, AVB, AVC, AVK, DVA, DVE, DVP, XKS, XKG Forkable: AKN, AVN, DKN, DVN, XKN Classification: LD-3 Rate Class: Type 8 Suitable for: A300, A310, A330, A340, B747, B767, B777, DC-10, MD-11, L1011 Internal volume: 4.3 cu. m (152 cu. ft) Maximum gross weight: 1588 kg (3500 lb)



Insulated LD-3

IATA ULD Code: RKN Classification: LD-3 Rate Class: Type 8 Suitable for: A300, A310, A330, A340, B747, B767, B777, DC-10, MD11, L1011 Internal volume: 3.0 cu.m (109 cu. ft) Maximum gross weight: 1588 kg (3500 lb) Temperature Control Range: -20C to +20C



IATA ULD Code: ALP Rectangular Container Also known as: ALD, AWD, AWZ, DLP Forkable: ALB, ALC, AWB, AWC Classification: LD-4 Rate Class: Type 8 Suitable for: B767, B777 Internal volume: 5.7cu, m (201 cu, ft) Maximum gross weight: 2449 kg (5399 lb)



IATA ULD Code: ALF Contoured Container Also known as: AWD, AWF Forkable: AWC Classification: LD-6 Rate Class: Type 6W Suitable for: A300, A310, A330, A340, B747, B777, DC-10, MD-11, L1011 Internal volume: 8.9 cu. m (314 cu. ft) Maximum gross weight: 3175 kg (7000 lb)



IATA ULD Code: XAW P1P Pallet with fixed angle wings and net Classification: LD-7 Rate Class: Type 5 Suitable for: Wide body: All aircraft Maximum volume with overhang: 14.0 cu. m (494 cu. ft) Maximum gross weight: 5000 kg (11023 lb)

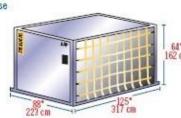


IATA ULD Code: DQF Also known as: ALE, ALN, DLE, DLF, DQP, MQP Classification: LD-8 Rate Class: Type 6A Suitable for: B767 Internal volume: 6.85 cu. m (242 cu. ft) Maximum gross weight: 2450 kg (5401 lb)



IATA ULD Code: AAP Enclosed Pallet on P1P base Also known as: AA2, XAG, XAV Classification: LD-9 Rate Class: Type 5 Suitable for: A300, A310, A330, A340, B747, B767, DC-10, MD-11, L1011 Internal volume: 9.1 cu, m (321 cu, ft) Maximum gross weight: 4624 kg (10194 lb) lower deck

6000 kg (13227 lb) main deck



LD-11

IATA ULD Code: ALP Rectangular Container Also known as: ALD, AW2, AWB, AWD, AWZ, DLP, DWB, MWB Refrigerated version: RWB, RWD, RWZ Classification: LD-11 Rate Class: Type 6 Suitable for: A300, A310, A330, A340, B747, B777, DC-10, MD-11, L1011 Internal volume: 7.2 cu, m (253 cu, ft) Maximum gross weight: 3176 kg (7002 lb)



IATA ULD Code: DAA Classification: A-2



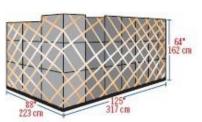




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88" PALLET

IATA ULD Code: P1P Classification: 88" Pallet with net Suitable for: 8747, B767, B777, DC-10 Maximum volume: 11.9 cu, m. (420 cu, ft) Maximum gross weight: 747/DC-10: 6033 kg (13300 lb) 767: 5103 kg (11227 lb) 777/DC-10: 4626 kg (10501 lb) Can be loaded to 96" (162 cm) and



IATA ULD Code: AMA Rectangular Container on P6P Base Also known as: AMF, AMG, AMK, AMP, AQA, AQD, AQ6 Classification: M-1 Rate Class: Type 2 Suitable for: B747F, B747Combi Internal volume: 17.5 cu, m (618 cu, ft) Maximum gross weight: 6804 kg (15000 lb)



96" PALLET

118" (300 cm) on freighters

IATA ULD Code: P6P 10ft flat pallet with net Also known as: P6A, P6C, P6Q, PMA, PMC, PMP, PQP Classification: LD-9 Rate Class: Type 2BG Suitable for: A300, A310, A330, A340, B747, B767, B777, DC-10, MD-11, L1011 Maximum volume: 21.2 cu.m (747 cu.ft.) Maximum gross weight: 6,804 kg (15000 lb) Can be loaded to 96" (162 cm)

and 118" (300 cm) on freighters



A07

IATA ULD Code: AMD Contoured Container on P6P Base Also known as: AQA, AQ7 Classification: M1H Rate Class: Type 2H Suitable for: B747F, B747Combi Internal volume: 19.9 cu. m (702 cu. ft) Maximum gross weight: 6800 kg (14991 lb)



HALF PALLET

IATA ULD Code: PLA half pallet with net Also known as: PLB, FLA, P9A, P9B, P9P, P9R, P9S Classification: HP Rate Class: Type 6 Suitable for: Lower deck: B747, B777 Main deck: B707F, B727F, B737F Maximum volume: 7.2 cu. m (254 cu. ft) Maximum gross weight: 3175 kg (6999 lb)



M-6

IATA ULD Code: AGA 20ft Box Container Also known as: ASE Classification: M-6 Rate Class: Type 1 Suitable for: B747F, B747Combi Internal volume: 33.0 cu. m (1165 cu. ft.) Maximum gross weight: 11340kg (25000 lb)



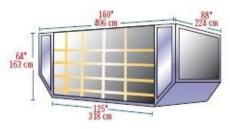
16 FT PALLET

IATA ULD Code: PRA 16ft flat pallet with net Also known as: PMA, P4A, P4M, PZA Classification: MDP Rate Class: Type 1P Suitable for: B747, B747Combi Maximum volume: 26.8 cu. m (946cu. ft) Maximum gross weight: 11300 kg (24991 lb)



LD-26

IATA ULD Code AAF Classification: LD-26 Suitable for: B747, B777, DC-10 Maximum gross weight: 747/DC-10: 6033 kg (13300 lb) 777/DC-10: 4626 kg (10501 lb)



20 FT PALLET

IATA ULD Code: PGA 20ft flat pallet with net Also known as: PGA, PGE, PGF, PSA, PSG, P7A, P7E, P7F, P7G Classification: M-6 Rate Class: Type 1 Suitable for: B747F, B747Combi Maximum volume: 33.2 cu, m (1174cu, ft.) Maximum gross weight: 11340 kg (25000 lb)



LD-29

IATA ULD Code: AAU Contoured Container on PIP base Classification: LD-29 Rate Class: Type 5 Suitable for: B747 Internal volume: 14.2 cu, m (501cu, ft)





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Container stuffing basic rules

- 1. Cargo weight must be evenly spread over the largest possible floor area.
- 2. Center of gravity of the cargo is to be as close as possible to the container center and as low as possible. The higher the center of gravity, the higher must be the wedging devices.
- 3. The cargo load units must support (be in contact with) each other with no large gaps in between and must be secured to the container (wedges, lashings, etc.) so that they cannot move nor collapse. All containers are fitted with several lashing rings and bars.
- 4. If the cargo load units are not homogeneous the heaviest ones must be on floor level and the lighter ones on top (and liquid ones underneath solid ones).
- 5. The maximum gross mass/weight of the container (usually marked as "Max gross" on the container right hand side door) must never be exceeded (there are also maximum limits related to different local inland transport regulations). It is illegal for cargo weight to exceed the net weight (payload) value marked on same right hand side door.
- 6. Cases of concentrated cargo load.

As per rule 1, the cargo must lay over as many floor cross members as possible so that the weight distribution is as close as possible to the ideal one based on container max payload value and length. For instance the limit for a 20 GP is about 5 T per linear meter (based on max payload 28T, length 6m). The below basic guideline can be used:

Cargo distribution over container length	50%	66%	75%	100%
Max admissible container payload	66%	75%	80%	100%

Whenever necessary the cargo must be put on some additional supports / longitudinal members to comply with above recommendations.

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