A Complete Guide to Shipping Container Sizes, Dimensions, Measurements & Specs:

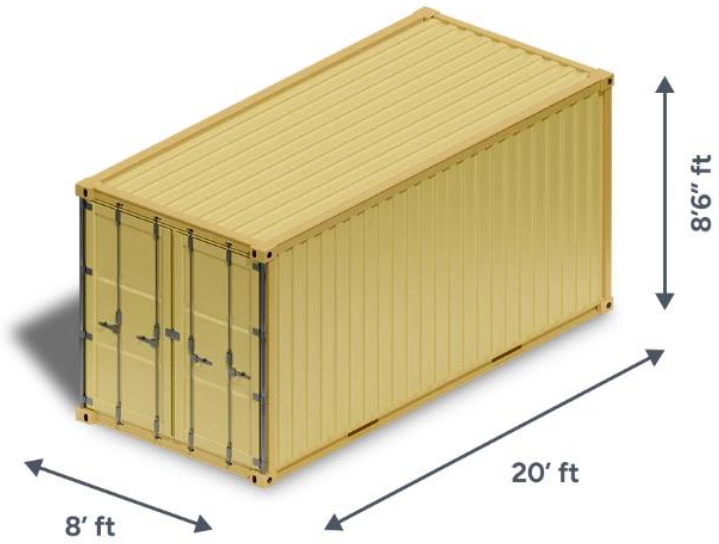
Understanding Basic Shipping Container Dimensions

20ft and 40ft containers are the standard sizes used for international shipping. As a result, they're the most common shipping containers available for purchase.

Other sizes, such as 10ft containers, are available. However, they're harder to source — and consequently, more expensive to buy.

		20ft Standard		40ft Standard		40ft High-Cube	
		Imperial	Metric	Imperial	Metric	Imperial	Metric
EXTERNAL	Length	20' 0"	6.058 m	40' 0"	12.192 m	40' 0"	12.192 m
	Width	8' 0"	2.438 m	8' 0"	2.438 m	8' 0"	2.438 m
	Height	8' 6"	2.591 m	8' 6"	2.591 m	9' 6"	2.896 m
INTERNAL	Length	19' 4"	5.710 m	39' 6"	12.032 m	39' 6"	12.032 m
	Width	7' 8"	2.352 m	7' 8"	2.352 m	7' 8"	2.352 m
	Height	7' 10"	2.385 m	7' 10"	2.385 m	8' 9"	2.650 m
DOORS	Width	7' 8"	2.343 m	7' 8"	2.343 m	7' 8"	2.343 m
	Height	7' 5"	2.280 m	7' 5"	2.280 m	8' 6"	2.585 m
CAPACITY	Internal Volume	1,172 ft^3	33.2 m^3	2,385 ft^3	67.5 m^3	2,694 ft^3	76.3 m^3
	Empty Weight	5,181 lbs	2,350 kg	8,267 lbs	3,750 kg	8,598 lbs	3,900 kg
	Loading Capacity	62,016 lbs	28,130 kg	63,383 lbs	28,750 kg	63,052 lbs	28,600 kg

20ft Standard Shipping Container Dimensions



External Dimensions:
20' L x 8' W x 8'6" H

Internal Dimensions:
19'4" L x 7'8" W x 7'10" H

Door:
7'8" W x 7'5" H

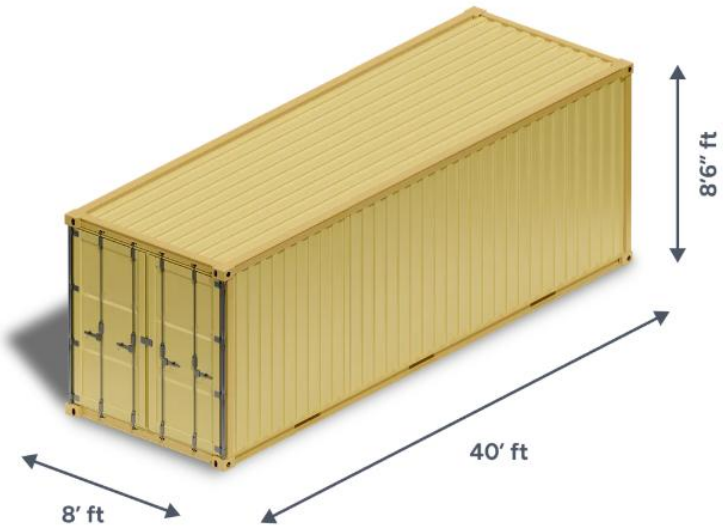
Weight:
5,181 lbs when empty

Loading Capacity:
62,016 lbs

Twenty-Foot Equivalent Units (TEUs)

TEU (twenty-foot equivalent unit) is a unit of measurement that determines how many shipping containers can fit on a ship. A 20ft standard shipping container is equal to 1 TEU, while a 40ft standard shipping container is equal to 2 TEUs. A large container ship can transport more than 18,000 TEUs!

40ft Standard Shipping Container Dimensions



External Dimensions:
40' L x 8' W x 8'6" H

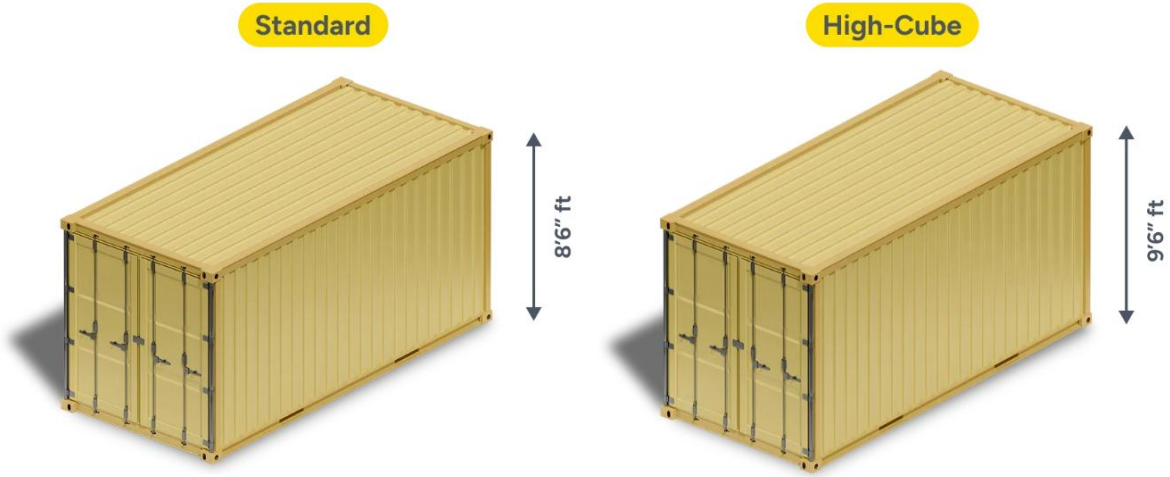
Internal Dimensions:
39'6" L x 7'8" W x 7'10" H

Door:
7'8" W x 7'5" H

Weight:
8,267 lbs when empty

Loading Capacity:
63,383 lbs

High-Cube Container Dimensions



20ft High-Cube Shipping Containers

Due to their limited use in international shipping, 20ft high-cube containers are less readily available than 40ft high-cube containers. As a result, 40ft high-cubes are very economical and, at times, less expensive than their 20-foot counterparts.

Open-Top Container Dimensions

Specifications	20ft Open-Top	40ft Open-Top
External Dimensions (L x W x H)	20ft x 8ft x 8.5ft	40ft x 8ft x 8.5ft
Internal Dimensions (L x W x H)	19.3ft x 7.7ft x 7.7ft	39.5ft x 7.7ft x 7.7ft
Cubic Capacity (ft^3)	1,151.2ft^3	2,342.5ft^3
Max Gross Weight (lbs)	52,910 lbs	67,205 lbs
Tare Weight (lbs)	5,071 lbs	8,378 lbs
Payload Capacity (lbs)	47,639 lbs	58,827 lbs

Flat Rack Container Dimensions

Specifications	20ft Flat Rack	40ft Flat Rack
External Dimensions (L x W x H)	20ft x 8ft x 7.4ft	40ft x 8ft x 7ft
Internal Dimensions (L x W x H)	18.5ft x 7.2ft x 7.1ft	39.8ft x 7.2ft x 6.4ft
Max Gross Weight (lbs)	74,957 lbs	99,208 lbs
Tare Weight (lbs)	6,036 lbs	11,023 lbs
Payload Capacity (lbs)	68,921 lbs	88,185lbs

Double-Door (Tunnel) Container Dimensions

Specifications	20ft Double-Door	40ft Double-Door
External Dimensions (L x W x H)	20ft x 8ft x 8.5ft	40ft x 8ft x 8.5ft
Internal Dimensions (L x W x H)	19.3ft x 7.7ft x 7.8ft	39.5ft x 7.7ft x 7.8ft
Cubic Capacity (ft^3)	1,173.5ft^3	2,390.6ft^3
Max Gross Weight (lbs)	67,205 lbs	71,650 lbs
Tare Weight (lbs)	6,293 lbs	8,598 lbs
Payload Capacity (lbs)	60,912 lbs	63,052 lbs

Guide to Refrigerated (Reefer) Shipping Containers -

Here are some of the top benefits of transporting and storing goods with reefer containers:

1. Product Quality: Goods can be kept fresh and safe throughout their journey, no matter how far they have to travel.

2. Regulatory Compliance: Lots of products have strict, mandatory transportation rules that require the controlled environment a reefer provides.

3. Waste Reduction: By stopping spoilage in its tracks, reefers seriously cut down on waste, saving both money and resources.

4. Market Expansion: Producers can reach new markets, and consumers can enjoy a wider selection of products all year round.

How Do Refrigerated (Reefer) Containers Work?

Reefer containers have a built-in refrigeration system connected to a power source on shipping vessels or trucks. Different power supply options meet varying needs, with voltage requirements and costs that are important to consider:

Three-Phase (3-Phase) Reefers

• **Voltage:** Typically requires 440V to 460V, common in the U.S. and globally.

• **Use Case:** Ideal for large-scale operations with reliable three-phase power access, such as major ports or distribution centers.

• **Cost Consideration:** Three-phase reefers have higher running costs compared to single-phase reefers but lower purchase price, making them a preferred choice for long-term, high-frequency use.

Single-Phase Reefers

• **Voltage:** Generally operates on 208V to 230V, modified from standard three-phase reefers.

• **Use Case:** Suited for smaller operations or locations without three-phase power, such as remote sites or specialized retail applications.

• **Cost Consideration:** Single-phase reefers are often modified versions of three-phase units, which raises their initial purchase cost, but they can be more economical for lower-frequency use where three-phase power isn't available.

Genset-Equipped Reefers

• **Voltage:** Can provide backup power across different voltage requirements, depending on setup.

• **Use Case:** Best for transporting extremely temperature-sensitive goods over long distances or during unpredictable travel conditions.

• **Cost Consideration:** Higher upfront cost due to the additional genset, but the backup power ensures temperature control during power interruptions.

There are five components in a reefer's refrigeration mechanism that allow it to maintain temperatures to suit its load.

Airflow System

Reefers use a cold airflow design called the T-shaped decking system. Cold air gets pumped from the bottom of the container and moves upwards through the grooves present on the floor. This allows equal cooling across the entire length and breadth of the cargo, leaving no room for any hot spot that could spoil your products.

Temperature Maintenance

Despite popular belief, reefers don't actually cool your products. Instead, they maintain the temperature of the products at loading, whether cool or hot. Simply put, if you load warm products into a reefer set to a colder temperature, it's not going to cool them down very well.

Picture this: you load ice cream at 40°F into a reefer set to 20°F. Chances are, that ice cream's going to stay at 40°F, and you're risking some serious melty mess. The golden rule? Always pre-cool your products to the temperature you want before loading them up.

Humidity Control

Different cargos require different humidity levels, so reefers are equipped with a dehumidification feature to maintain optimal humidity for each type of cargo. While standard relative humidity in reefers is between 60%-85%, some units can reach as low as 50%. This lower humidity is essential for certain goods like chocolate, which requires a humidity level of around 50% to prevent condensation, mold, and spoilage during transport.

Ventilation

Ventilation is essential for transporting goods like fresh fruits and vegetables, which emit gasses like ethylene that can accelerate ripening. Reefer containers are equipped with adjustable ventilation systems that allow fresh air to circulate inside the container. These systems use air exchange vents to release ethylene and other gasses while simultaneously pulling in fresh air. The ventilation rate can be adjusted based on cargo needs, typically ranging from 0 to 260 cubic meters per hour, ensuring that produce stays fresh and ripens more slowly during transit.

Drainage

Reefers feature a sophisticated draining system, which prevents excess water accumulation inside the container. The system removes excess water while preventing external water or insects from getting inside the container. This keeps the cargo safe and intact.

20ft Reefer Containers

Measurement	20ft Reefer Container
Internal length	17.9 ft / 5.44 m
Internal width	7.5 ft / 2.29 m
Internal height	7.5 ft / 2.27 m
Tare weight	3,080 kg / 6,790 lbs
Payload capacity	27,400 kg / 60,417 lbs
Cubic capacity	999 ft^3 / 28.3 m^3

40ft Reefer Containers

Measurement	40ft Reefer Container
Internal length	37.9 ft / 11.56 m
Internal width	7.5 ft / 2.28 m
Internal height	7.4 ft / 2.25 m
Tare weight	4,800 kg / 10,584 lbs
Payload capacity	27,700 kg / 61,079 lbs
Cubic capacity	2,093.3 ft^3 / 59.3 m^3

40ft High Cube (HC) Reefer Containers

Measurement	40ft High Cube (HC) Reefer Container
Internal length	38.0 ft / 11.58 m
Internal width	7.5 ft / 2.29 m
Internal height	7.9 ft / 2.40 m
Tare weight	4,480 kg / 9,880 lbs
Payload capacity	29,520 kg / 65,080 lbs
Cubic capacity	2,380 cu ft / 67.3 m^3

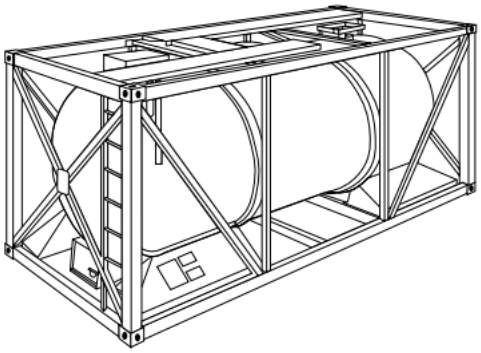
Other type of container

PLATFORM (COLLAPSED FLATRACK)

	Inside dimensions			Weights		
20'	Length mm ft	Width mm ft	Height of bottom mm ft	Max. gross kg lbs	Tare kg lbs	Max. payload kg lbs
Flat/Platform with flushfolding end walls and softwood floor 1' 1¼" high	6,058 20'	2,438 8'	370 1' 2½"	34,000 74,957	2,740 6,041	31,260 68,916
				40,000 88,184	2,940 6,482	37,060 81,702
				45,000 99,207	2,900 6,393	42,100 92,814

	Inside dimensions			Weights		
40'	Length mm ft	Width mm ft	Height of bottom mm ft	Max. gross kg lbs	Tare kg lbs	Max. payload kg lbs
Flat/Platform with flushfolding end walls and softwood floor 2" high	12,192 40'	2,245 7' 4⅜"	648 2' 1½"	50,000 110,230	5,950 13,117	44,050 97,113
				55,000 121,253	5,900 13,007	49,100 108,246
					5,850 12,897	49,150 108,356
				60,000 132,276	5,800 12,787	54,200 119,489

TANK CONTAINER



- Hapag-Lloyd can provide tank containers which are approved to the highest standards. Depending on the characteristics of the products to be carried, the requirements vary. Hapag-Lloyd offer their services on operational, technical and regulatory questions
- Separate tank fleets are available for:

  FOODSTUFFS, e. g.:
  - Alcohols
  - Fruit juices
  - Edible oils
  - Food additives

  CHEMICAL PRODUCTS, e. g.:
  - Flammables
  - Oxidising agents
  - Toxic substances
  - Corrosives

- Tanks must be filled to not less than 80 % of their capacity to avoid dangerous surge/ swell during transport
- Tanks must not be filled to 100 % of their capacity. Sufficient ullage space shall be left – which must be determined depending on the thermal expansion of the product to be carried
- Certain dangerous products must be carried in tanks having no openings below the surface level of the liquid. Such tanks must be discharged through a syphon pipe by either pressure or pumping
- National road/rail weight limitations have to be maintained when arranging land transports
- For the cleaning of tanks and disposal of residues, dedicated rules apply

CONTAINER SIZE TYPE CODES ACCORDING TO ISO 6346

Size (L x H)	Type	ISO type group 1	ISO size type 2	ISO type group di* 1a	ISO size type di* 2a
20' x 8"	General Purpose	20GP	20G0		
20' x 8'6"	General Purpose	22GP	22G0		
		22GP	22G1		
20' x 8'6"	General Purpose (Fantainer)	22VH	22V2		
		22VH	22V3*		22V2
20' x 8'6"	Ventilated	22VH	22V0		
20' x 8'6"	Bulk	22BU	22B0		
20' x 8'6"	Open Top	22UT	22U1		
20' x 8'6"	Hardtop	22UP *	22U6	22UT	22U6
20' x 1'11/4"	Platform	29PL	29P0		
20' x 8'	Flat (fixed ends)	20PF	20P1		
20' x 8'6"	Flat (fixed ends)	22PF	22P1		
20' x 8'6"	Flat (collapsible)	22PC	22P3		
20' x 8'6"	Refrigerated	22RT	22R1		
20' x 8'6"	Refrigerated (no foodstuffs)	22RC*	22R9*	22RT	22R1
40' x 8'6"	General Purpose	42GP	42G0		
		42GP	42G1		
40' x 9'6"	High Cube GP	45GP	45G0		
		45GP	45G1		

Size (L x H)	Type	ISO type group 1	ISO size type 2	ISO type group di* 1a	ISO size type di* 2a
40' x 8'6"	Open Top	42UT	42U1		
40' x 9'6"	High Cube Open Top	45UT	45U1		
40' x 8'6"	Hardtop	42UP*	42U6	42UT	42U6
40' x 9'6"	High Cube Hardtop	45UP*	45U6	45UT	45U6
40' x 2'	Platform	49PL	49P0		
40' x 8'6"	Flat (fixed ends)	42PF	42P1		
40' x 8'6"	Flat (collapsible)	42PC	42P3		
40' x 9'6"	Flat (collapsible)	45PC	45P3		
40' x 8'6"	Refrigerated	42RT	42R1		
40' x 8'6"	Refrigerated (diesel genset)	42RS	42R3		
40' x 8'6"	Refrigerated (no foodstuffs)	42RC*	42R9*	42RS	42R3
40' x 9'6"	Refrigerated	45RT	45R1		
40' x 9'6"	Refrigerated (no foodstuffs)	45RC*	45R9*	45RT	45R1
45' x 9'6"	High Cube Cont.	L5GP	L5G1		

*) Some types/groups in columns "1" and "2" are marked as non-ISO.
"*" means ISO spares codes have been used. If official ISO codes required for data interchange (di), please use entries in columns "1a" and "2a".