

Pallets and containers

StartupBoeing

Cargo is the source of revenue for freight operations and can also be a significant portion of passenger airline revenue. On passenger aircraft, cargo is carried in the lower hold. On freighters, cargo is also carried on the main deck.

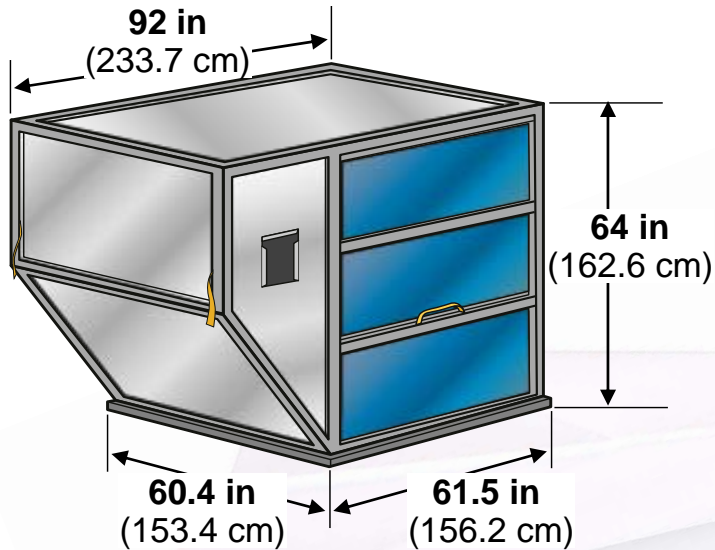
In large Boeing aircraft, cargo is loaded and carried in various pallets and containers, known as Unit Load Devices (ULD). This document describes the main ULDs used by Boeing aircraft for air cargo operations.



Pallets and containers

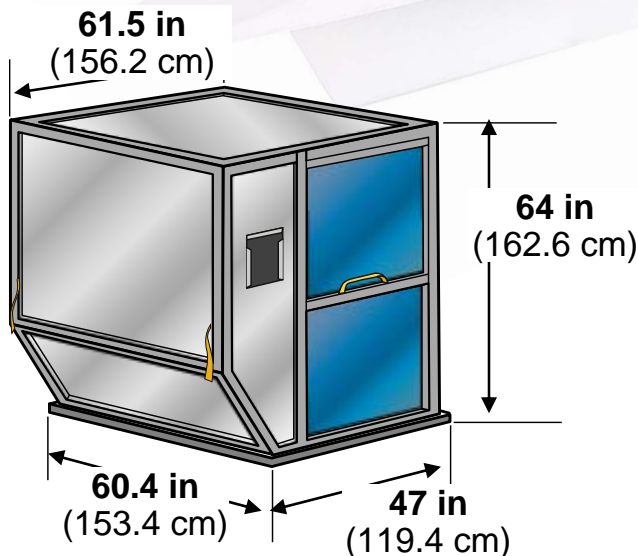
ULD specifications

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Common designation: LD-1

IATA ULD code: AKC contoured container
Also known as: AVC, AVD, AVK, AVJ, and forkable AVY
Rate class: Type 8
Description: Half-width lower hold container with one angled side. Door is either canvas or solid.
Suitable for: **747, 767, 777, 787, MD-11 lower hold**
Door opening: 58 x 61-in (147 x 155-cm)
Maximum gross weight: 1,588 kg (3,501 lb)
Tare weight: 70 to 170-kg (155 to 375-lb)
AS1825 volume: 5.0 m³ (175 ft³)
Boeing volume: 5.0 m³ (175 ft³)



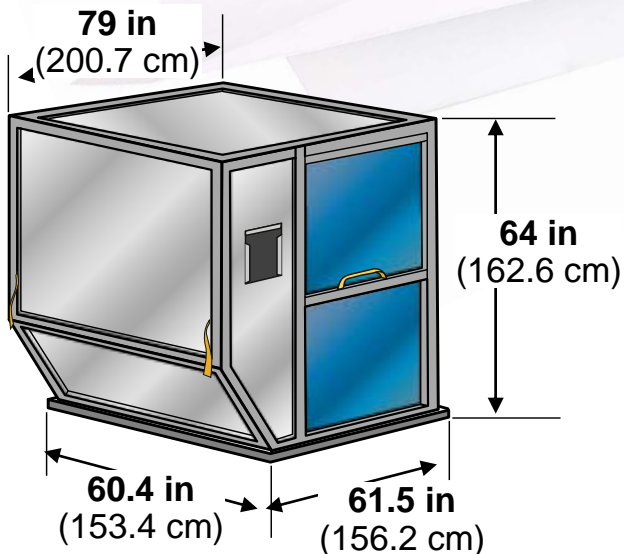
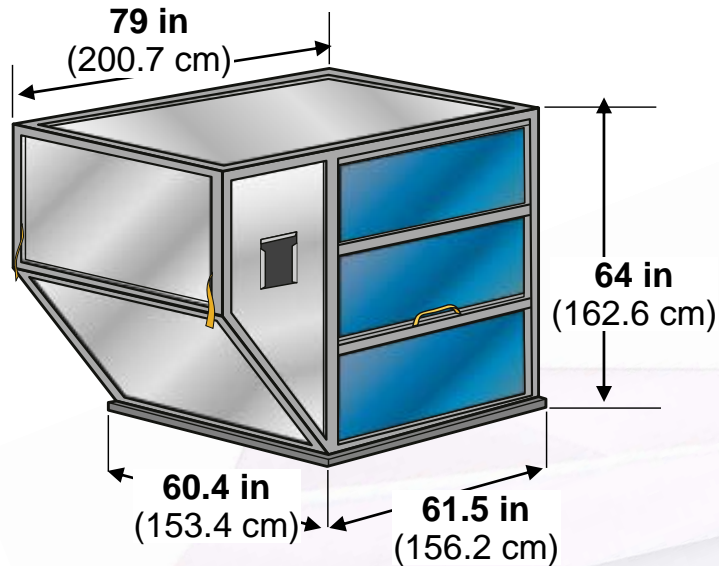
Common designation: LD-2

IATA ULD code: DPE contoured container
Also known as: APA, DPA, and forkable DPN
Rate class: Type 8D
Description: Half-width lower hold container with one angled side. Door is either canvas or solid.
Suitable for: **747, 767, 777, 787 lower hold**
Door opening: 44 x 60-in (112 x 152-cm)
Maximum gross weight: 1,225 kg (2,700 lb)
Tare weight: 92 kg (203 lb)
AS1825 volume: 3.5 m³ (124 ft³)
Boeing volume: 3.5 m³ (124 ft³)

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Common designation: LD-3

IATA ULD code: AKE contoured container

Also known as: AKE, AVA, AVB, AVC, AVK, DVA, DVE, DVP, XKS, XKG, and forkable AKN, AVN, DKN, DVN, and XKN

Rate class: Type 8

Description: Half-width lower hold container with one angled side. Door is either canvas or solid.

Suitable for: 747, 767, 777, 787, DC-10, MD-11 lower hold

Door opening: 58 x 61-in (147 x 155-cm)

Maximum gross weight: 1,588 cm (3,500 lb)

Tare weight: 82 kg (181 lb)

AS1825 volume: 4.5 m³ (159 ft³)

Boeing volume: 4.5 m³ (160 ft³)

Common designation: LD-3 Reefer

IATA ULD code: RKN contoured cool container

Also known as: RVN

Rate class: Type 8

Description: Half-width lower hold insulated container with one angled end. Door is solid. Most examples are forkable.

Suitable for: 747, 767, 777, 787, DC-10, MD-11 lower hold

Door opening: 54 x 55-in (137 x 140-cm)

Maximum gross weight: 1,588 cm (3,500 lb)

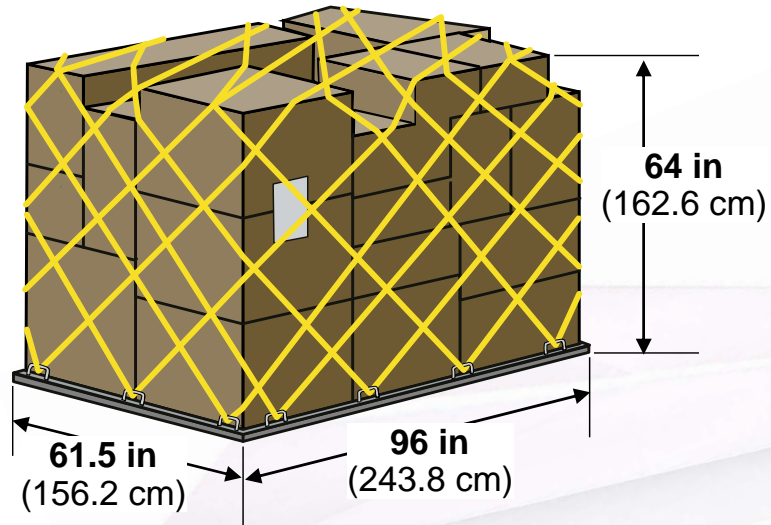
Tare weight: 210 kg (463 lb)

AS1825 volume: 4.5 m³ (159 ft³) plus internal volume (as is)

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Common designation: Half pallet

IATA ULD code: PNA 767 half pallet with net

Also known as: PQP, FQF, and PPC

Rate class: Type 8

Description: Half pallet squared off for 767 lower hold

Suitable for: **767, 787 lower hold**

Maximum gross weight: 2,449 kg (5,399 lb)

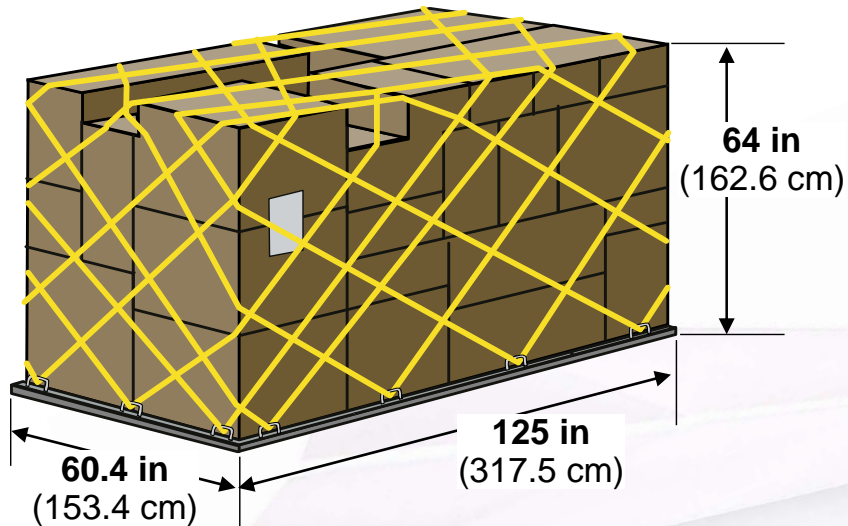
Tare weight: 83 kg (183 lb)

AS1825 volume: 5.5 m³ (194 ft³)

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Common designation: Half pallet

IATA ULD code: PLA half pallet with net

Also known as: PLB, FLA, P9A, P9B, P9P, P9R, and P9S

Rate class: Type 6

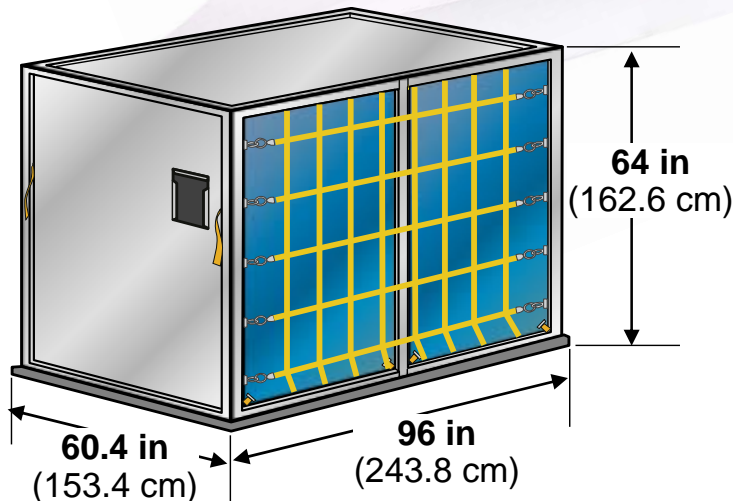
Description: Half pallet is contoured for lower hold and main deck.

Suitable for: **747, 777, 787 lower hold; 707F, 727F, 737F main deck with contoured load**

Maximum gross weight: 3,175 kg (6,999 lb)

Tare weight: 91 kg (200 lb)

AS1825 volume: 7.1 m³ (250 ft³)



Common designation: LD-4

IATA ULD code: ALP rectangular container

Also known as: ALD, AWD, AWZ, DLP, and forkable ALB, ALC, AWB, and AWC

Rate class: Type 8

Description: Full-width lower hold container. Door is canvas with built-in door straps.

Suitable for: **767, 777, 787 lower hold**

Door opening: 92 x 61-in (234 x 155-cm)

Maximum gross weight: 2,449 kg (5,399 lb)

Tare weight: 120 kg (264 lb)

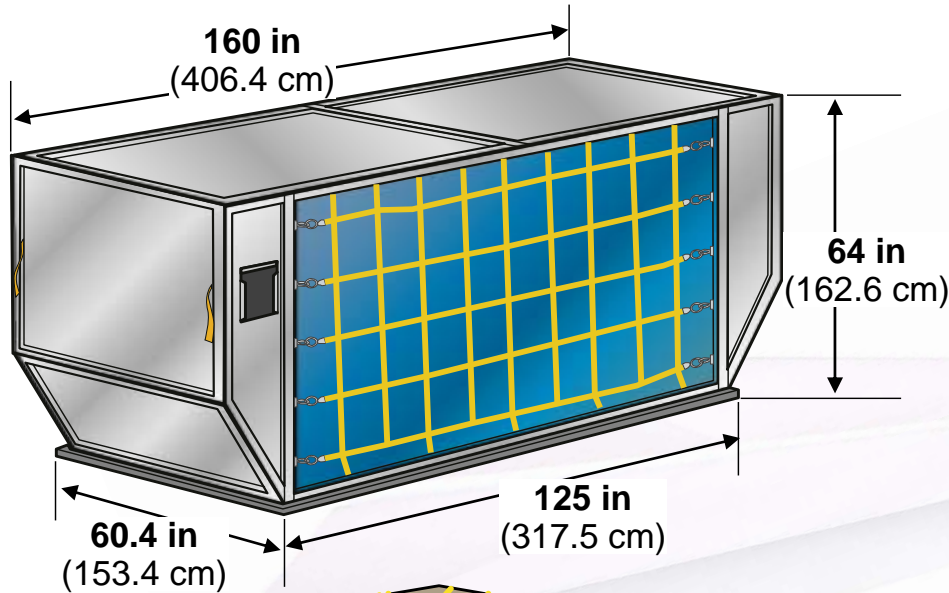
AS1825 volume: 5.7 m³ (200 ft³)

Boeing volume: 5.5 m³ (195 ft³)

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Common designation: LD-6

IATA ULD code: ALF contoured container

Also known as: AWA, AWF, and forkable AWC

Rate class: Type 6W

Description: Full-width lower hold container with angled ends.

Door is canvas with built-in door straps.

Suitable for: **747, 777, 787, DC-10, MD-11 lower hold**

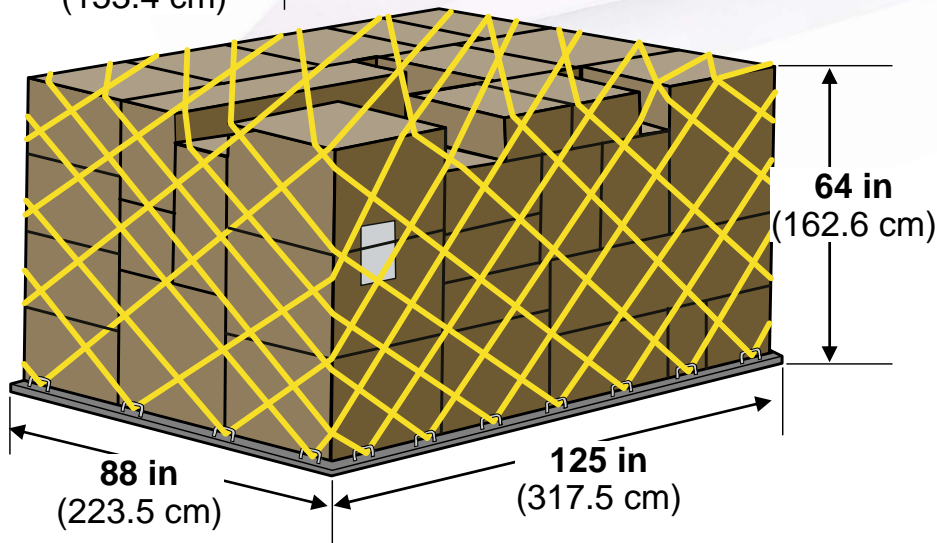
Door opening: 120 x 60-in (305 x 152-cm)

Maximum gross weight: 3,175 kg (7,000 lb)

Tare weight: 230 kg (507 lb)

AS1825 volume: 9.1 m³ (322 ft³)

Boeing volume: 8.9 m³ (316 ft³)



Common designation: LD-7

IATA ULD code: P1P flat pallet with net

Also known as: PAA, PAG, PAJ, PAP, PAX, P1A, P1C, P1D, and P1G

Rate class: Type 5

Description: Universal general-purpose flat pallet for lower holds and main decks.

Suitable for: **Widebody: All aircraft lower holds and main decks**

Standard-body: 707F, 727F, 737F, 757F, DC8F, DC9F main decks

Maximum gross weight: 4,626 kg (10,198 lb)

Tare weight: 105 kg (231 lb)

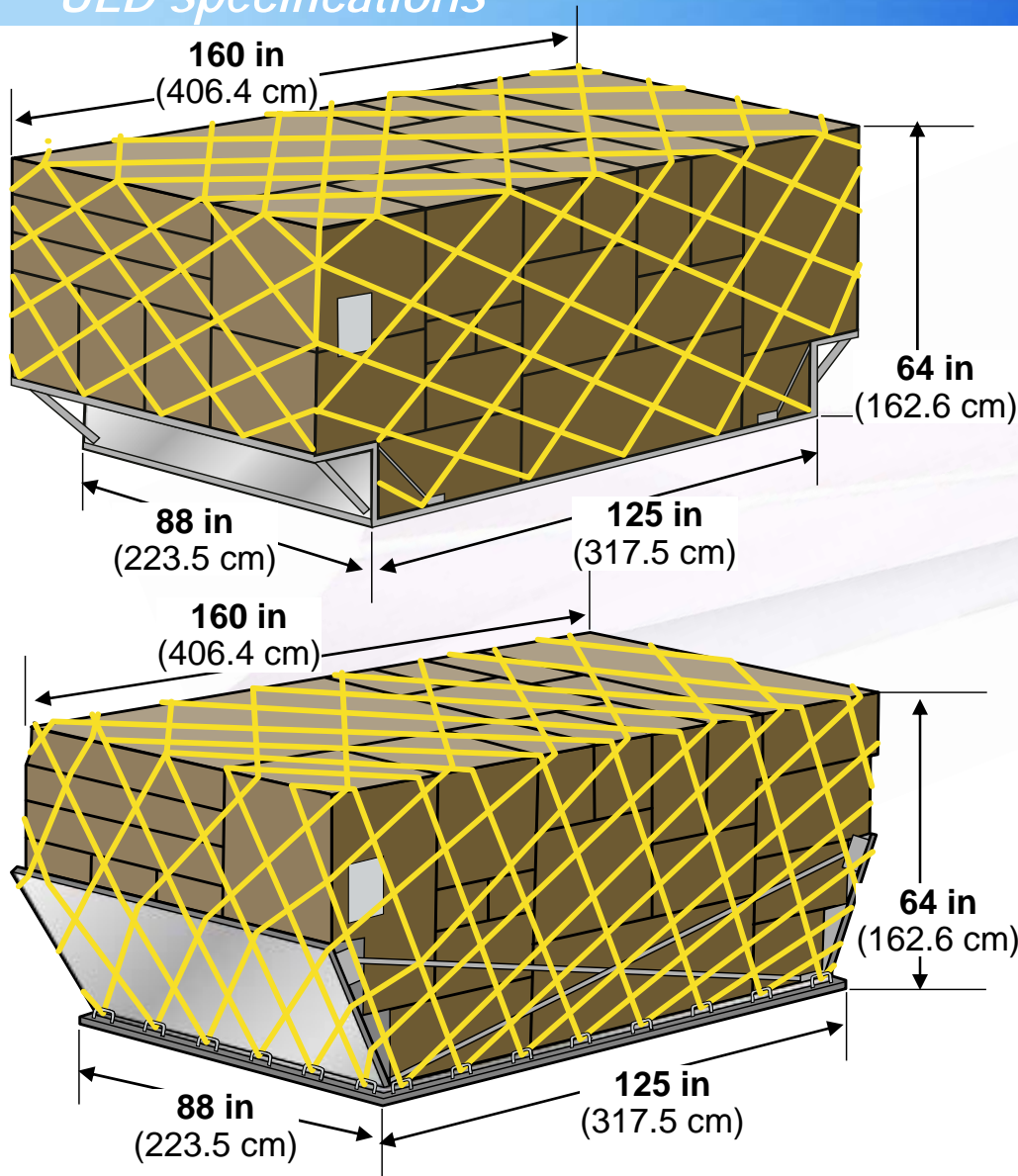
AS1825 volume: 10.5 m³ (370 ft³)

Boeing volume: 10.7 m³ (379 ft³)

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Common designation: LD-7

IATA ULD code: PAD P1P pallet with folding wings and net

Also known as: PAX and P1X

Rate class: Type 5

Description: P1P base with folding wings for overhang.

Suitable for: **747, 777, 787, DC-10, MD-11 lower holds**

Maximum gross weight: 5,000 kg (11,023 lb)

Tare weight: 152 kg (335 lb)

AS1825 volume: 14.0 m³ (495 ft³)

Common designation: LD-7

IATA ULD code: XAW P1P pallet with fixed-angle wings and net

Rate class: Type 5

Description: P1P base with fixed wings for overhang.

Suitable for: **747, 777, 787, DC-10, MD-11 lower holds**

Maximum gross weight: 5,000 kg (11,023 lb)

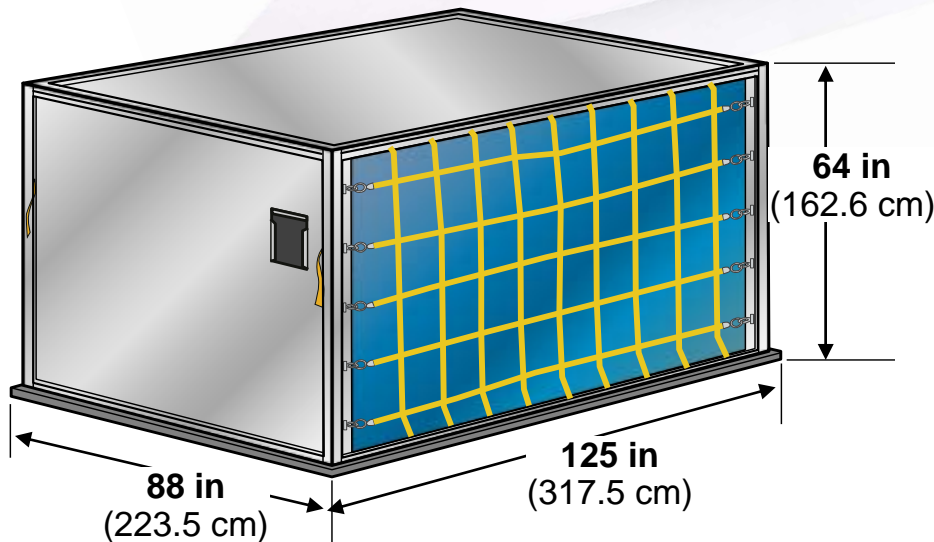
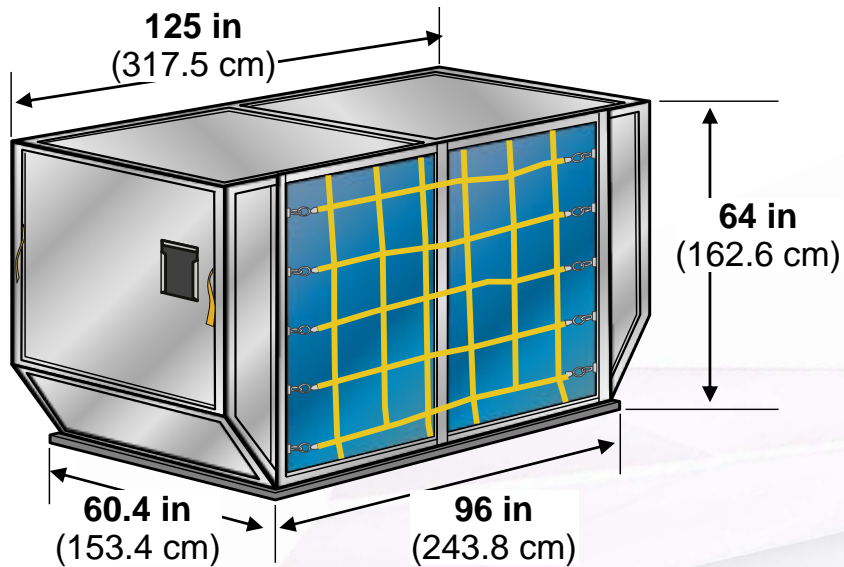
Tare weight: 170 kg (375 lb)

AS1825 volume: 14.0 m³ (495 ft³)

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Common designation: LD-8

IATA ULD code: DQF

Also known as: ALE, ALN, DLE, DLF, DQP, and MQP

Rate class: Type 6A

Description: Full-width lower hold container angled at both ends. Door is canvas with built-in door straps.

Suitable for: **767, 787 lower hold**

Door opening: 92 x 62-in (234 x 157-cm)

Maximum gross weight: 2,450 kg (5,401 lb)

Tare weight: 127 kg (280 lb)

AS1825 volume: 7.1 m³ (252 ft³)

Boeing volume: 6.9 m³ (245 ft³)

Common designation: LD-9

IATA ULD code: AAP enclosed pallet on P1P base

Rate class: Type 5

Description: General-purpose enclosed container fitted to P1P base. Door is canvas with built-in net door straps, or solid.

Suitable for: **747, 767, 777, 787, DC-10, MD-11 lower hold**

Door opening: 118 x 58 in (300 x 147-cm)

Maximum gross weight: Lower hold, 4,624 kg (10,194 lb); main deck, 6,000 kg (13,227 lb)

Tare weight: Canvas door, 215 kg (473 lb);

solid door, 270 kg (595 lb)

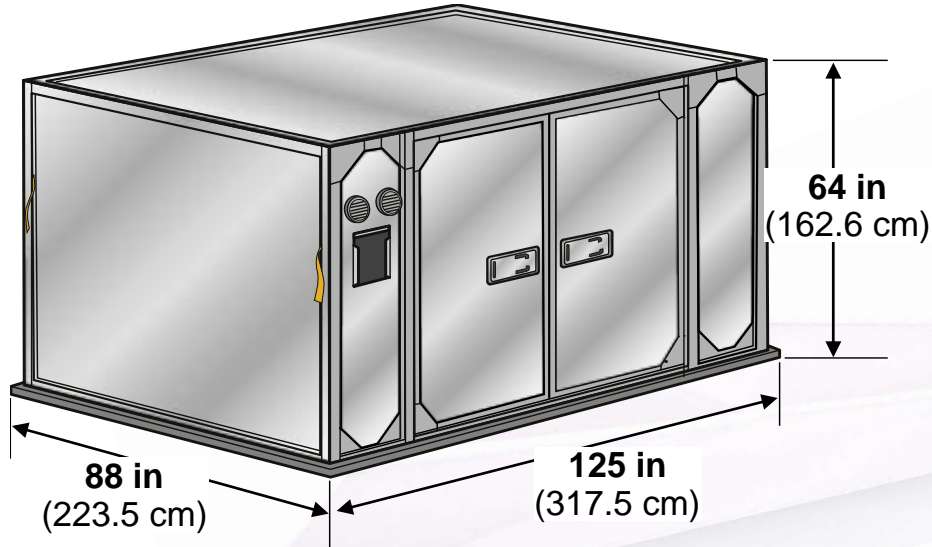
AS1825 volume: 10.8 m³ (381 ft³)

Boeing volume: 10.8 m³ (381 ft³)

Pallets and containers

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Common designation: LD-9 Reefer

IATA ULD code: RAP cool container on P1P base

Rate class: Type 5

Description: Insulated container with solid door.

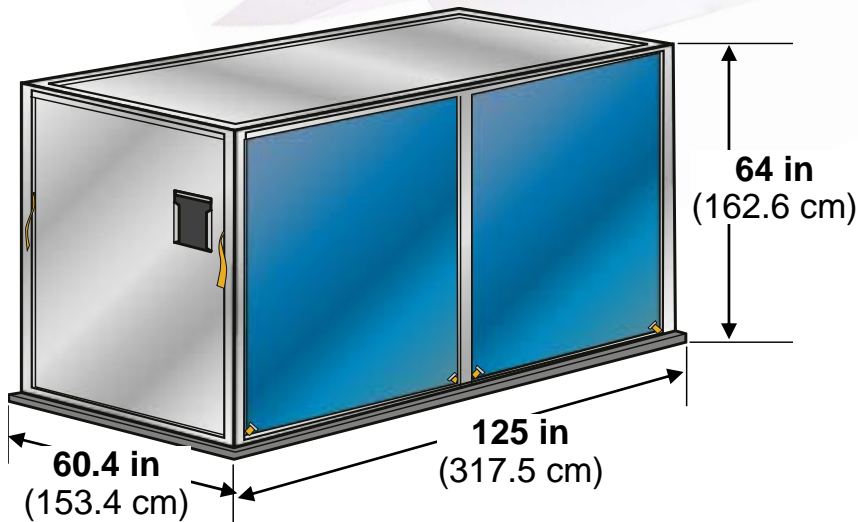
Suitable for: **747, 767, 777, 787, DC-10, MD-11 lower hold**

Door opening: 85 x 58-in (216 x 147-cm)

Maximum gross weight: Lower hold, 4,626 kg (10,198 lb);
main deck, 6,000 kg (13,227 lb)

Tare weight: 400 kg (882 lb)

Internal volume: 9.6 m³ (339 ft³)



Common designation: LD-11

IATA ULD code: ALP rectangular container

Also known as: ALD, AW2, AWB, AWD, AWZ, DLP, DWB,
and MWB. Refrigerated version: RWB, RWD, and RWZ.

Rate class: Type 6

Description: Full-width lower hold container. Door is canvas.
Center post swings clear for loading. Refrigerated version
has solid door.

Suitable for: **747, 777, 787, DC-10, MD-11 lower hold**

Door opening: 120 x 61-in (305 x 155-cm)

Maximum gross weight: 3,176 kg (7,002 lb)

Tare weight: 185 kg (408 lb)

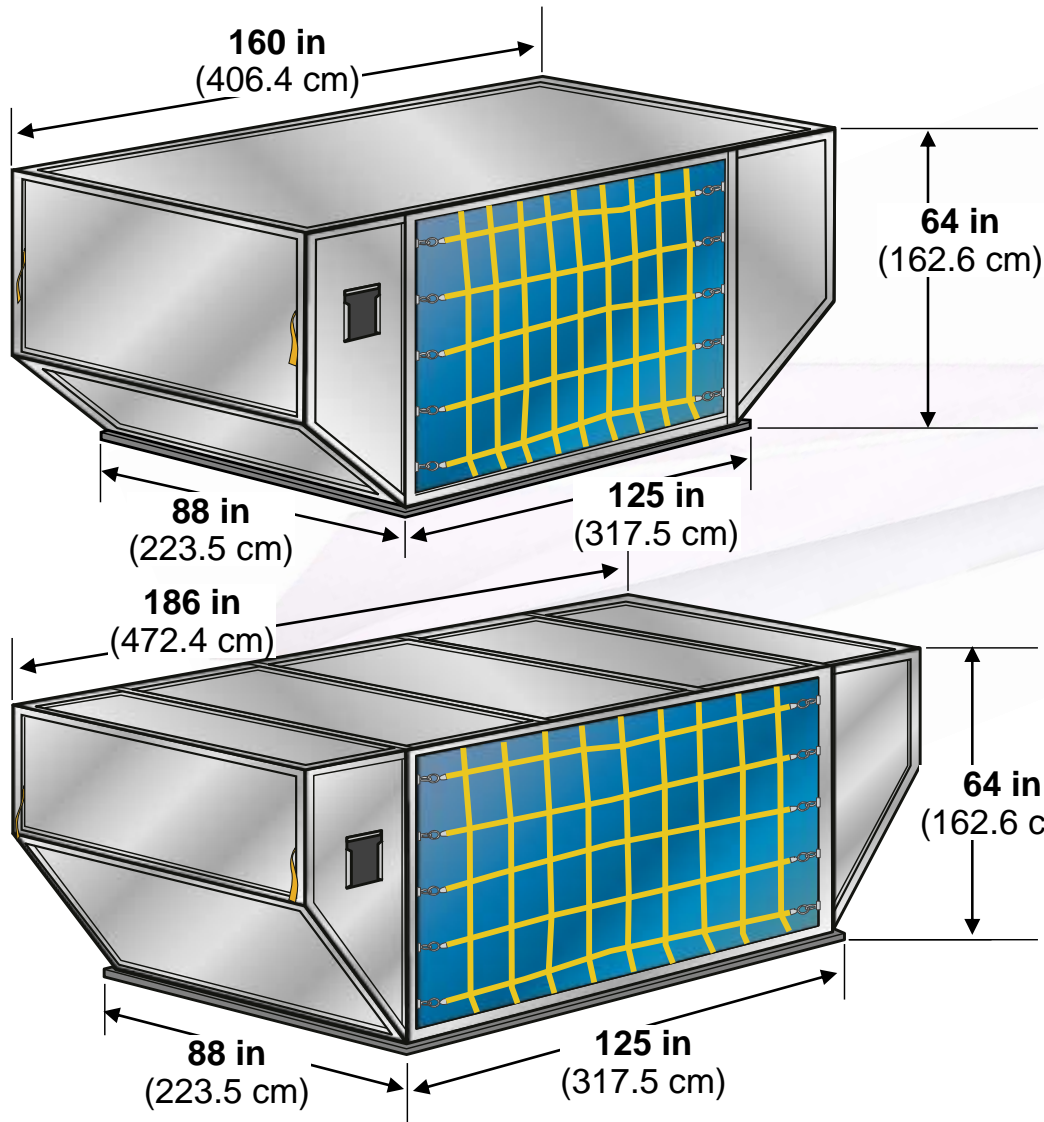
AS1825 volume: 7.4 m³ (262 ft³)

Boeing volume: 7.2 m³ (256 ft³)

Pallets and containers

ULD specifications

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Common designation: LD-26

IATA ULD code: AAF contoured container on P1P base
Rate class: Type 5
Description: Full-width lower hold container angled at both ends. Door is canvas with built-in net door straps.
Suitable for: 747, 777, 787, DC-10, MD-11 lower hold
Door opening: 120 x 60-in (305 x 152-cm)
Maximum gross weight: 6,033 kg (13,300 lb)
Tare weight: 250 kg (551 lb)
AS1825 volume: 13.3 m³ (470 ft³)

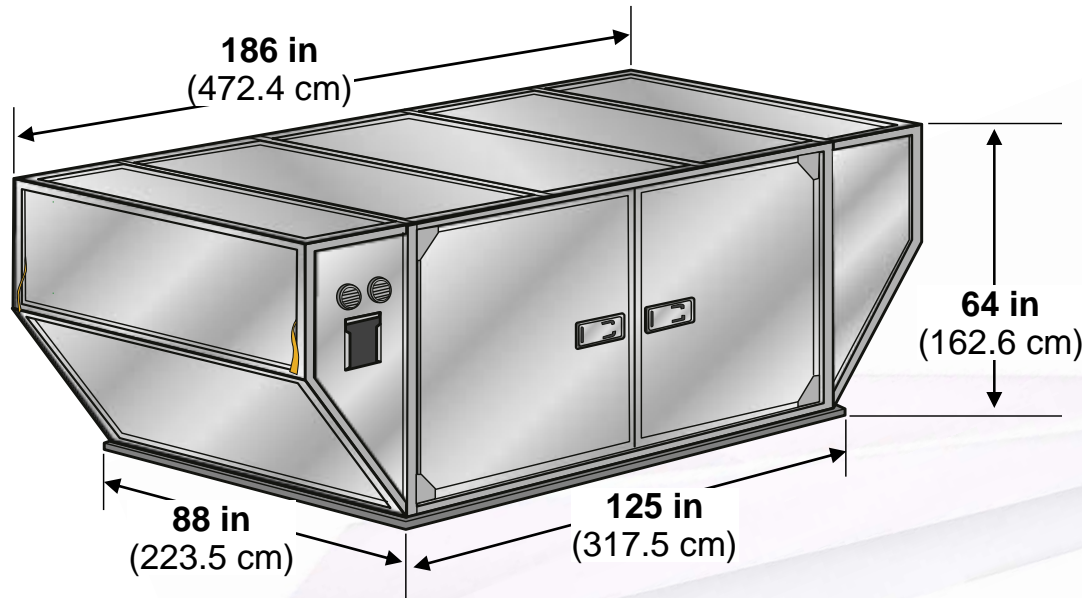
Common designation: LD-29

IATA ULD code: AAU contoured container on P1P base
Rate class: Type 5
Description: Full-width lower hold container angled at both ends. Door is canvas with built-in net door straps.
Suitable for: 747 lower hold
Door opening: 118 x 60-in (300 x 152-cm)
Maximum gross weight: 6,033 kg (13,300 lb)
Tare weight: 265 kg (584 lb)
AS1825 volume: 14.4 m³ (510 ft³)

Pallets and containers

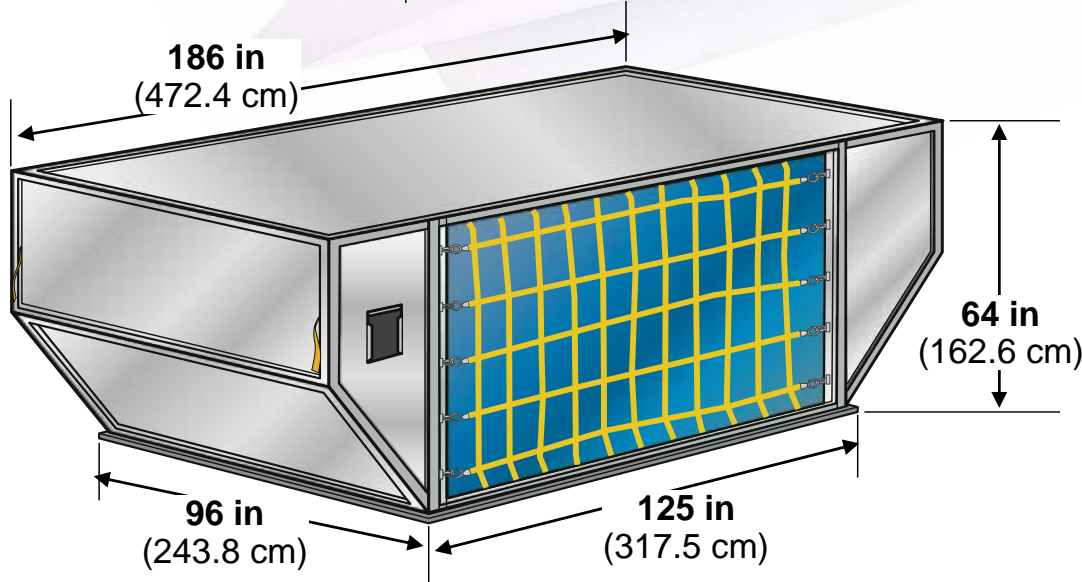
ULD specifications

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Common designation: LD-29

IATA ULD code: RAU contoured cool container on P1P base.
Rate class: Type 5
Description: Full-width lower hold container angled at both ends. Refrigerated version of AAU has solid door.
Suitable for: **747 lower hold**
Door opening: 118 x 60-in (300 x 152-cm)
Maximum gross weight: 6,033 kg (13,300 lb)
Tare weight: 450 kg (992 lb)
Internal volume: 11.1 m³ (392 ft³)



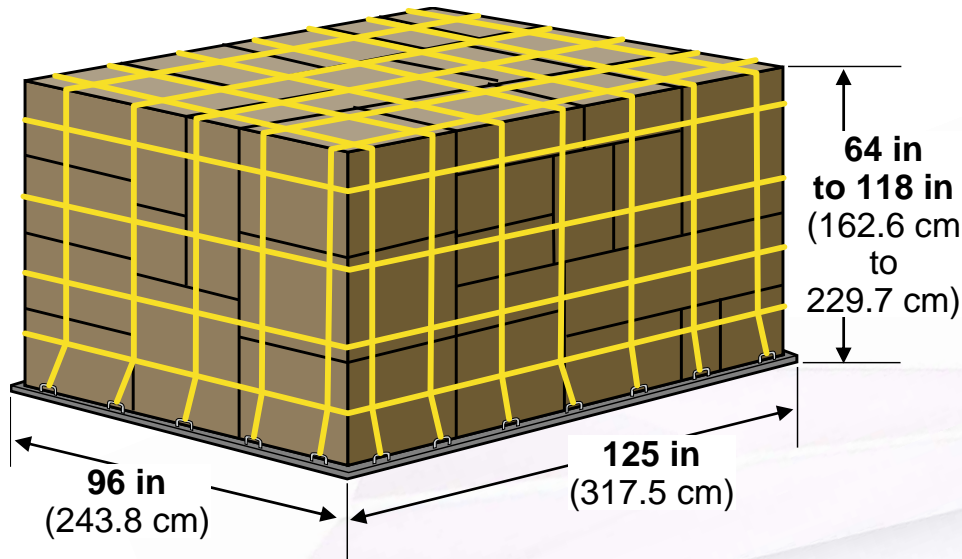
Common designation: LD-39

IATA ULD code: AMU contoured container on P6P base
Rate class: Type 2BG
Description: Full-width lower hold container angled at both ends. Door is canvas with built-in net door straps.
Suitable for: **747 lower hold**
Door opening: 120 x 60-in (305 x 152-cm)
Maximum gross weight: 5,035 kg (11,100 lb)
Tare weight: 290 kg (639 lb)
AS1825 volume: 15.9 m³ (560 ft³)

Pallets and containers

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Common designation: P6P pallet

IATA ULD code: P6P 10-ft flat pallet with net

Rate class: Type 2BG

Description: Universal general-purpose flat pallet for lower holds and main decks.

Suitable for: **747, 767, 777, 787, DC-10, MD-11**

Tare weight: 120 kg (265 lb)

AS1825 volume: H 162.6 cm (64 in), 11.5 m³ (407 ft³)

H 243.8 cm (96 in), 17.0 m³ (600 ft³)

H 299.7 cm (118 in), 21.2 m³ (750 ft³)

Boeing volume: H 162.2 cm (64 in), 11.7 m³ (415 ft³)

H 243.8 cm (96 in), 17.0 m³ (600 ft³)

H 299.7 cm (118 in), 21.2 m³ (750 ft³)



Common designation: Demi

IATA ULD code: AYY contoured container on half pallet base.

Rate class: Type 7

Description: Half-width main deck container with top contour

Suitable for: **727F, 737F, 757F main deck**

747F, 767F, 777F, DC-10F, MD-11F main deck

Maximum gross weight: 3,016 kg (6,649 lb)

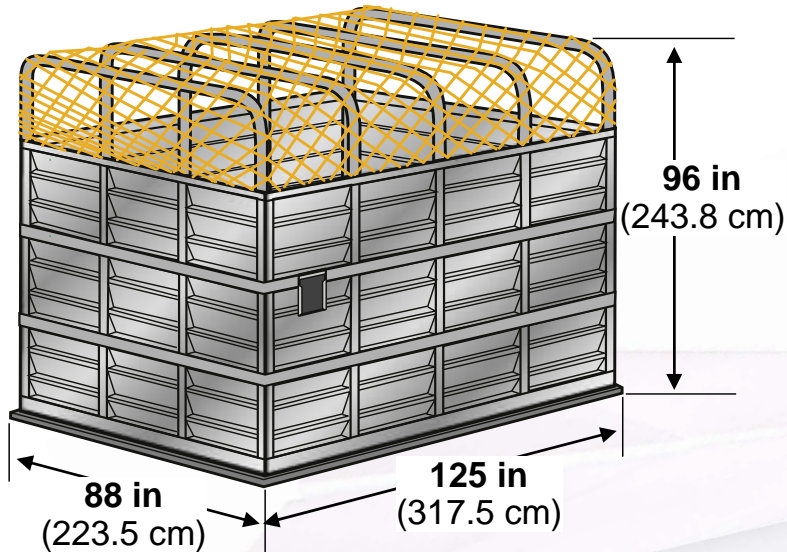
Tare weight: 80 kg (176 lb)

AS1825 volume: 5.8 m³ (206 ft³)

Pallets and containers

ULD specifications

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Common designation: Type A pen

IATA ULD code: KMA sheep and goat pens on P1P base with net

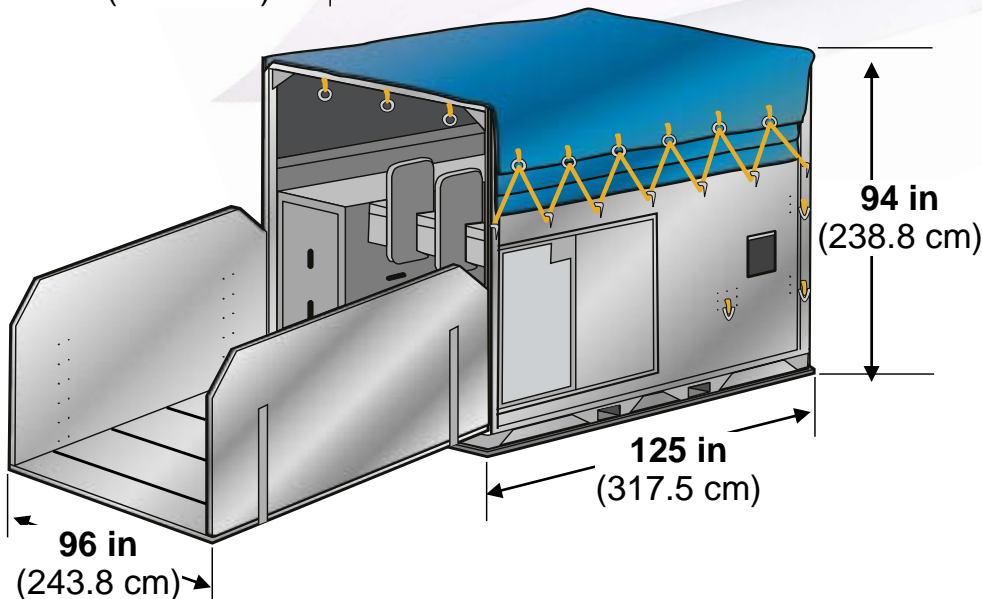
Rate class: Type 3

Description: Triple-deck sheep and goat pens

Suitable for: **Main deck 747F, 767F, 777F, DC-10F, MD-11F**

Tare weight: Triple deck, 610 kg (1,344 lb);

AS1825 volume: 15.9 m³ (560 ft³)



Common designation: HMA stall

IATA ULD code: HMA horse box on P6P pallet base

Rate class: Type 2

Description: P6P base with IATA-specified horse box stalls attached. Available with canvas top or solid roof. Some further modified versions available with position for escort.

Suitable for: **Main deck 747F, 767F, 777F, DC-10F, MD-11F**

Maximum gross weight: 3,500 kg (7,716 lb)

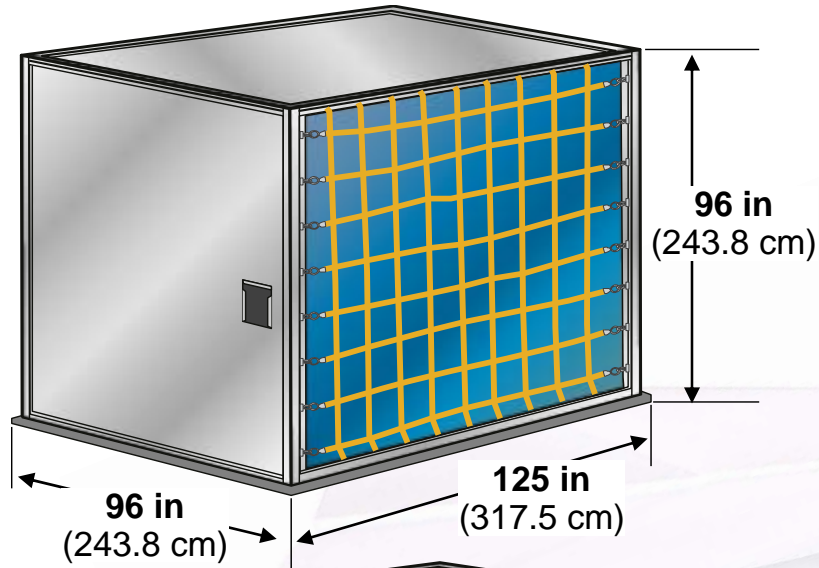
Tare weight: 1,310 kg (2,888 lb)

AS1825 volume: 18.4 m³ (653 ft³)

Pallets and containers

ULD specifications

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Common designation: M-1

IATA ULD code: AMA rectangular container on P6P base

Rate class: Type 2

Also known as: AMF, AMG, AMK, AMP, AQA, AQD, and AQ6

Description: Main-deck container. Door is canvas with built-in net door straps.

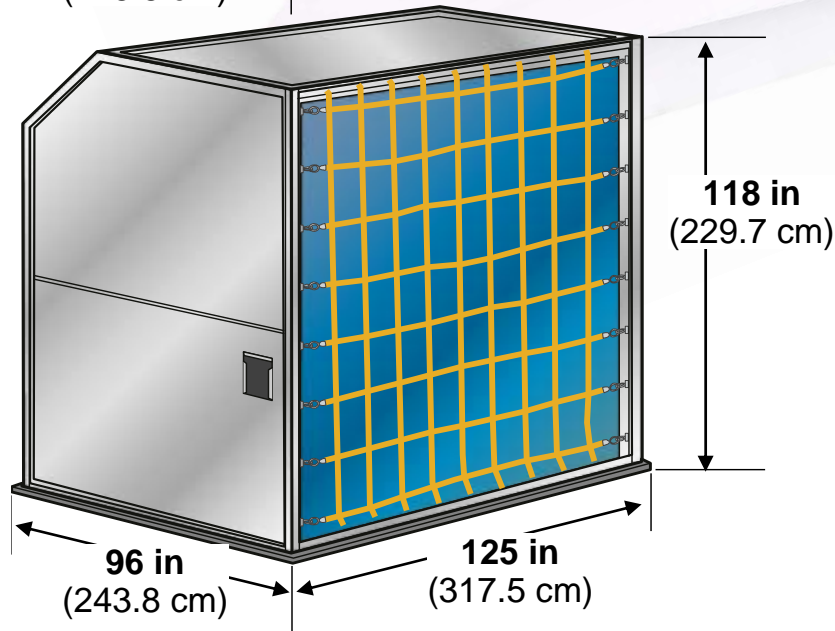
Suitable for: 747F, 747 Combi

777F center loading only

Maximum gross weight: 6,804 kg (15,000 lb)

Tare weight: 350 kg (772 lb),

AS1825 volume: 17.6 m³ (623 ft³)



Common designation: M1H

IATA ULD code: AMD contoured

Rate class: Type 2H

Description: Main-deck upper contoured container. Door is canvas with built-in net door straps.

Suitable for: 747F, 747 Combi

777F center loading only

Maximum gross weight: 6,800 kg (14,991 lb)

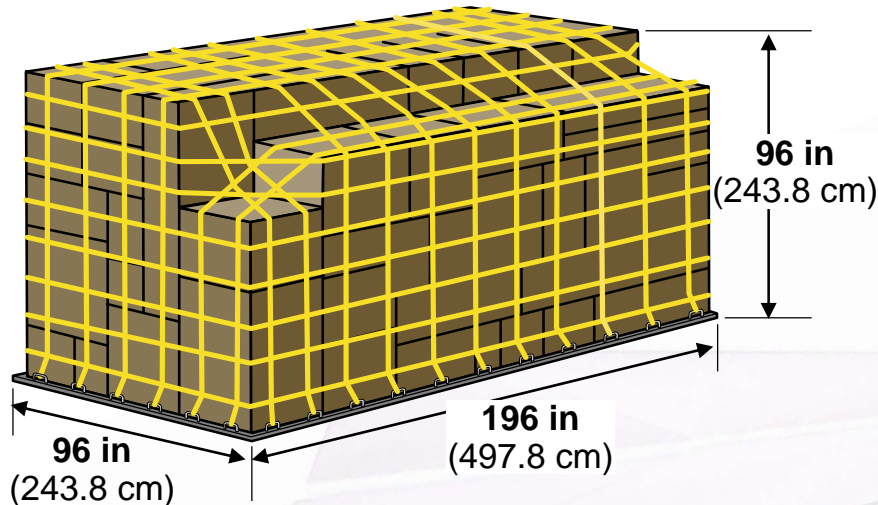
Tare weight: 370 kg (816 lb)

AS1825 volume: 21.2 m³ (750 ft³)

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Common designation: Main deck pallet (MDP)

IATA ULD code: PRA 16-ft pallet with net

Rate class: Type 1P

Also known as: PMA, P4A, P4M, and PZA

Description: Main-deck pallet with net

Suitable for: **747F, 747 Combi, 777F**

Maximum gross weight: **11,300 kg (24,911 lb)**

Tare weight: **410 kg (904 lb)**

AS1825 volume: **27.6 m³ (974 ft³)**

Common designation: M-6

IATA ULD code: PRA 16-ft flat pallet with twin car racks as VRA

Rate class: Type 1P

Also known as: PMA, P4A, P4M, and PZA

Description: Main-deck pallet with special moulding for car rack attachments. The support racks are available in pairs as IATA ULD code VRA.

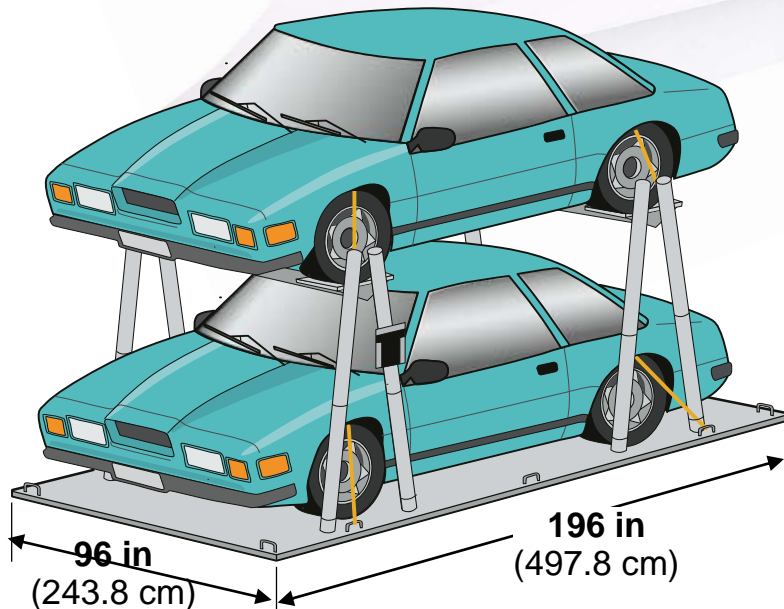
Suitable for: **747F, 747 Combi, 777F (center loading only)**

Maximum gross weight: **8,900 kg (19,621 lb)**, vehicle for upper rack must not exceed **1,800 kg (3,968 lb)**

Tare weight: **400 kg (882 lb)**

Car supports weight: **130 kg (286 lb) per pair**

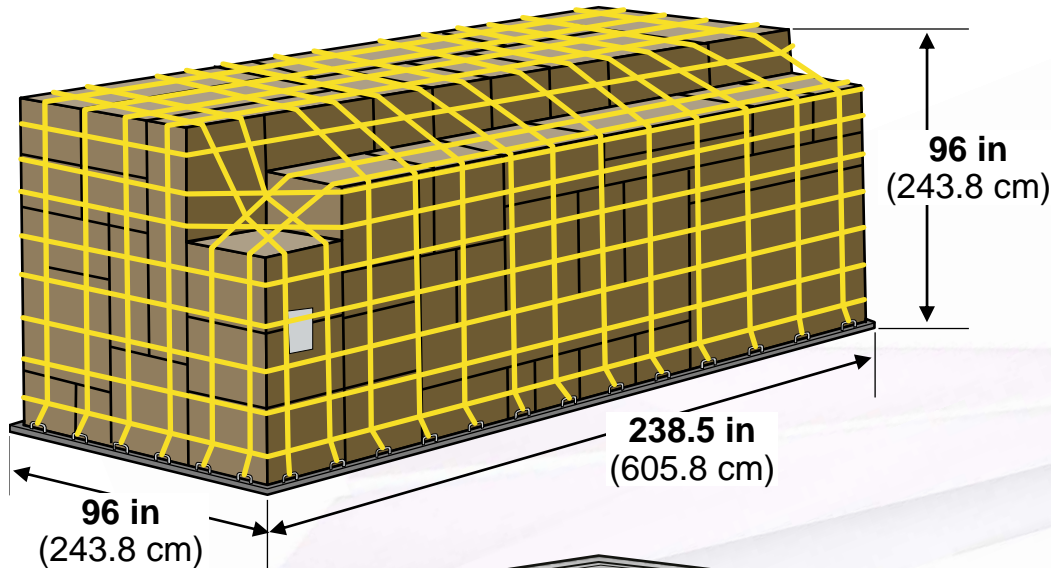
Note: The same system is available for longer vehicles on 20-ft pallet. The only increase in weight is the pallet tare weight: **500 kg (1,102 lb)**.



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Common designation: M-6

IATA ULD code: PGA 20-ft flat pallet with net

Rate class: Type 1

Also known as: PGA, PGE, PGF, PSA, PSG, P7E, P7F, and P7G

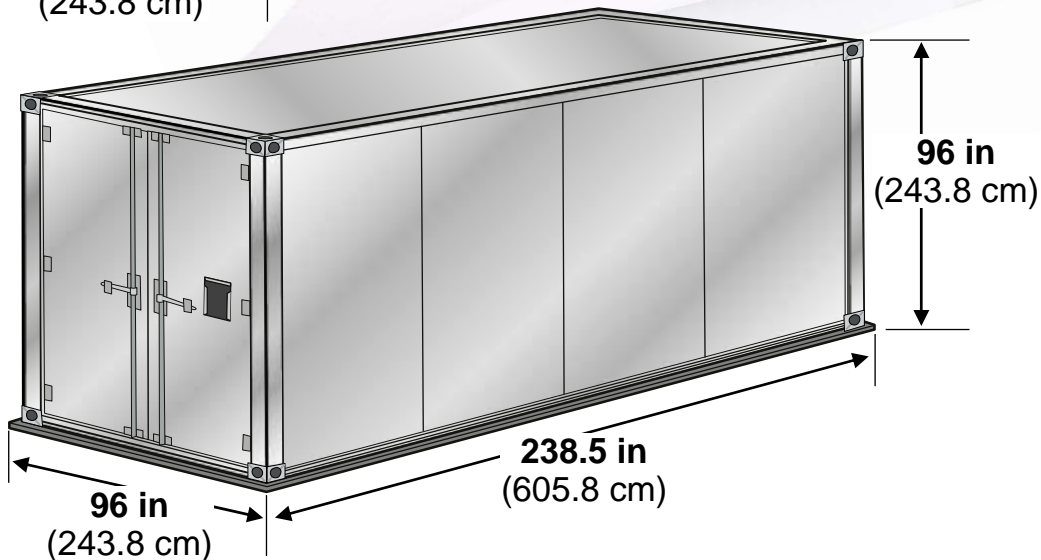
Description: Main-deck pallet squared off to 244 cm (96 in) high.

Suitable for: **747F, 747 Combi, 777F**

Maximum gross weight: 11,340 kg (25,000 lb)

Tare weight: 500 kg (1,102 lb)

AS1825 volume: 33.7 m³ (1,190 ft³)



Common designation: M-2

IATA ULD code: AGA 20-ft box container

Rate class: Type 1

Also known as: ASE

Description: Main-deck container. Door is solid.

Suitable for: **747F, 747 Combi**

777F center loading only

Maximum gross weight: 11,340 kg (25,000 lb)

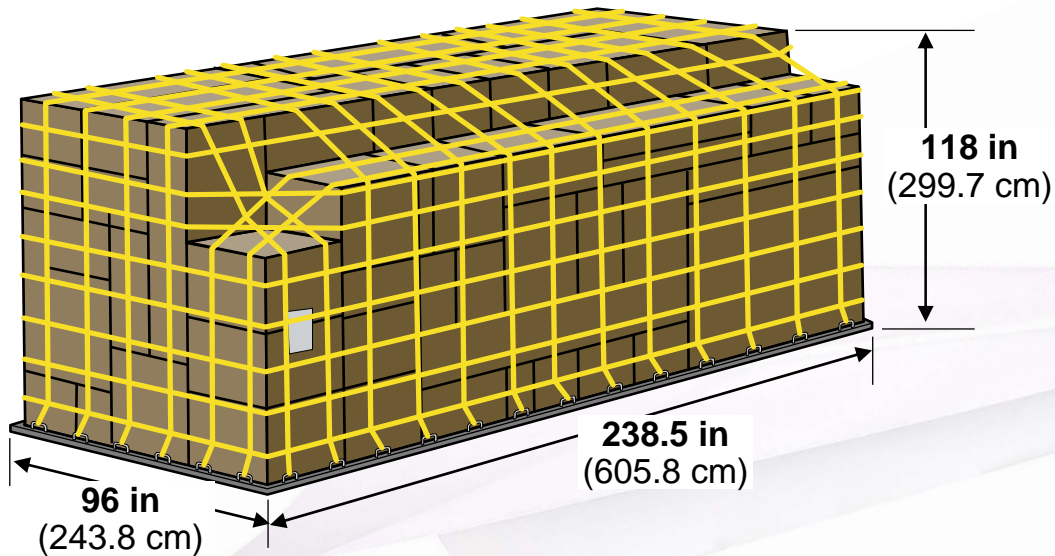
Tare weight: 1,000 kg (2,204 lb)

AS1825 volume: 33.7 m³ (1,190 ft³)

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Common designation: M-6

IATA ULD code: PGA 10-ft high, 20-ft flat pallet with net

Rate class: Type 1

Also known as: PGA, PGE, PGF, PSA, PSG, P7A, P7E, P7F, and P7G

Description: Main-deck pallet squared off to 299.7 cm (118 in) high.

Suitable for: 747 Combi, 777F

747F through side cargo door only

Maximum gross weight: 11,340 kg (25,000 lb)

Tare weight: 500 kg (1,102 lb)

AS1825 volume: 39.6 m³ (1,400 ft³)

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