INTERNATIONAL STANDARD

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Aircraft — Liquid oxygen replenishment couplings — Mating dimensions

Aéronefs — Raccords de remplissage en oxygène liquide — Dimensions de raccordement

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Foreword

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International Standard ISO 1465 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*.

This second edition cancels and replaces the first edition (ISO 1465 : 1976), of which it constitutes a minor revision.

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Aircraft — Liquid oxygen replenishment couplings — Mating dimensions

1 Scope

This International Standard specifies the mating and clearance dimensions of aircraft liquid oxygen replenishment couplings.

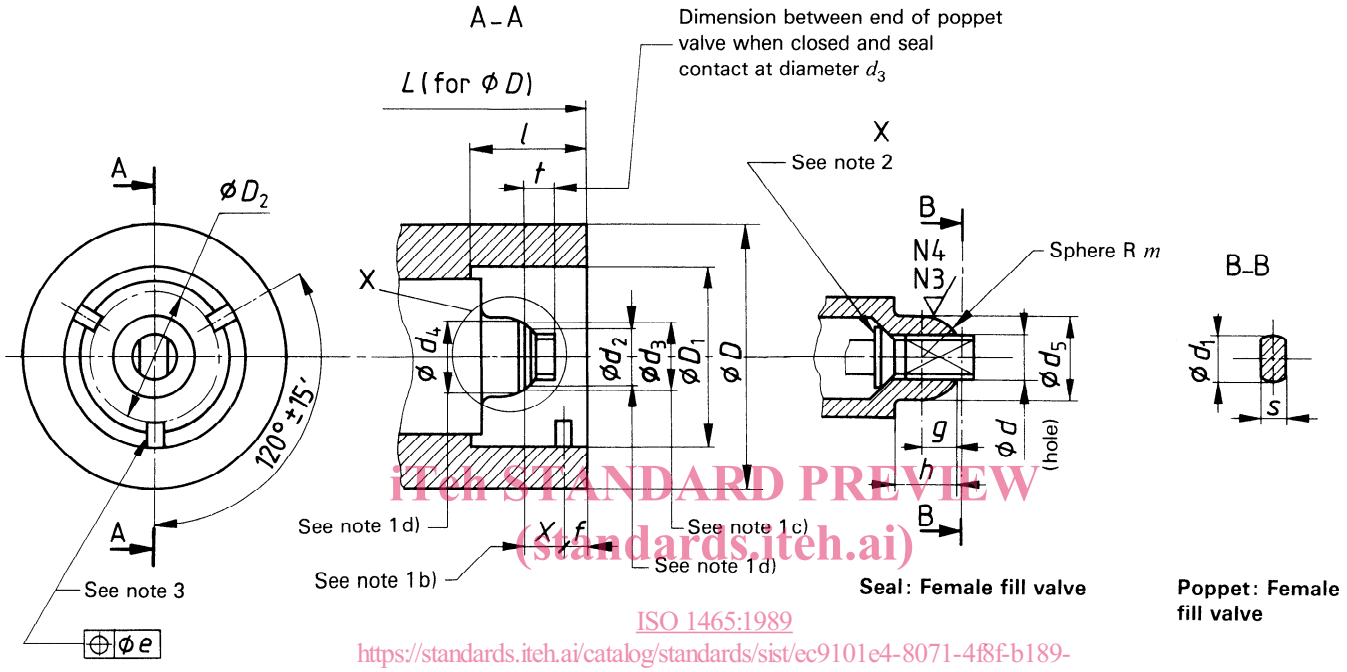
2 Interchangeability

2.1 The mating dimensions and characteristics of the ground half of the liquid oxygen replenishment coupling shall conform to those in figure 1 and table 1.

2.2 The aircraft half of the replenishment coupling for liquid oxygen shall mate with the ground half replenishment coupling.

3 Clearance envelope

The clearance envelope in the aircraft to accommodate the ground half of the replenishment coupling, for the purposes of coupling and uncoupling the hose unit, shall be in accordance with figure 2 and table 2.



NOTES

1 The valve seal shall be held in its longitudinal position by means of a spring having the following characteristics:

a) Spring rate 1,3 mm ± 0,29 mm deflection per daN (0,022 8 in ± 0,005 in deflection per lbf).

b) In the fully coupled position, the sealing zone of the nose shall remain leak-proof through all positions of dimensions X, i.e. from 10,1 mm to 25 mm (0,398 in to 0,985 in), and shall produce a load on the seal of the aircraft-half connector of 22,2 daN ± 2,2 daN (50 lbf ± 5 lbf) when dimension X is 12 mm (0,47 in). The load shall not exceed 35,6 daN (80 lbf) for any value of X in its permitted range.

c) Seal contact at 12,7 mm (0,5 in) gauge diameter is assumed for the purposes of this International Standard.

d) The sealing zone lies between diameters d_2 and d_4.

2 In the uncoupled position, the valve poppet shall be held by means of a spring having the following characteristics:

a) Spring rate 5 mm ± 0,57 mm deflection per daN (0,087 6 in ± 0,01 in deflection per lbf).

b) The spring shall provide a force of 2,67 daN ± 0,22 daN (6 lbf ± 0,5 lbf) when the leading face of the poppet is located flush with the forward face of the seal.

c) The range of movement of the poppet valve shall be permitted to a depth of 2 mm (0,08 in) within the seal.

3 Fastening is ensured by three engagement pins each 4,09 / 3,85 mm (0,161 / 0,151 in) diameter equally spaced and positioned as shown.

Figure 1 — Ground half of liquid oxygen replenishment coupling

Table 1 — Mating dimensions of ground half of liquid oxygen replenishment coupling

Dimension		mm	in
D	max.	51,2	2,016
D_1	max. min.	35,76 35,71	1,408 1,406
D_2	max. min.	28,98 28,17	1,141 1,109
d	max. min.	8,79 8,69	0,346 0,342
d_1	max. min.	8,59 8,48	0,338 0,334
d_2	min.	10,9	0,43
d_3[1]		12,7	0,5
d_4	max.	15,24	0,6
d_5	max. min.	16 15,74	0,63 0,62
e	max.	0,25	0,01

Dimension		mm	in
f	max.	4,09	0,161
g	max. min.	6,48 6,22	0,255 0,245
h	max. min.	12,04 11,79	0,474 0,464
L	min.	76,2	3
l	min.	21,34	0,84
m[2]	max. min.	8 7,87	0,315 0,31
s	max. min.	4,9 4,65	0,193 0,183
t	max. min.	4,95 4,45	0,195 0,175
N3	min.	0,1 µm (R_a)	4 µin (R_a)
N4	max.	0,2 µm (R_a)	8 µin (R_a)

1) Gauge diameter.

2) Spherical radius.

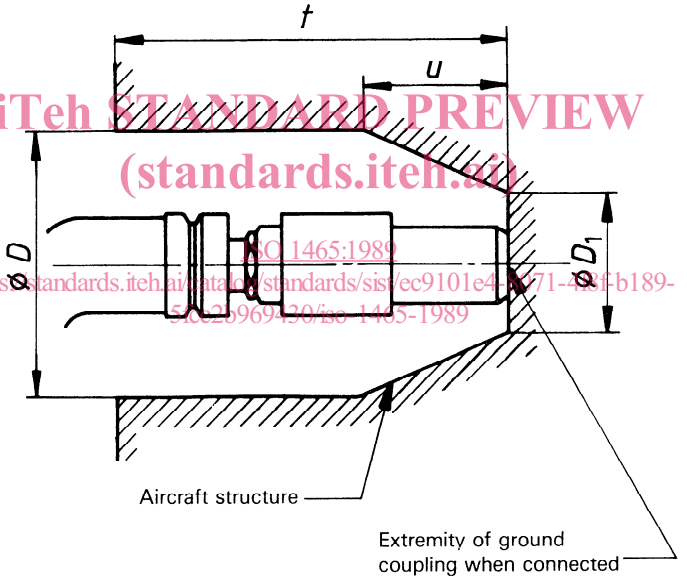


Figure 2 — Clearance envelope for liquid oxygen replenishment coupling

Table 2 — Dimensions of clearance envelope

Dimension		mm	in
t	max.	279,4	11
u	max.	101,6	4
D	min.	177,8	7
D_1	min.	95,25	3,75

NOTE — In establishing the clearance envelope, consideration has been given to the provision of sufficient room for easy insertion of the ground servicing connector by an operator wearing heavy gloves and for a connecting hose having a minimum bend radius of 152,4 mm (6 in).

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Descriptors: aircraft, liquefied gases, oxygen, aircraft equipment, fluid circuits, filling devices, specifications, dimensions.

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