
**Aerospace series — Fitting end,
24° internal cone, external thread,
flareless type extra fine thread pitch
inch series — Design standard**

*Série aérospatiale — Raccord, cône interne à 24°, filetage externe,
de type sans épanoui, filetage à pas extra fin, série inch — Norme
de conception*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 10, *Aerospace fluid systems and components*.

Introduction

International Standards use the International system of units (SI); however, large segments of the aerospace industry make use of other measurement systems as a matter of common working practice.

All dimensions and units used in this International Standard are given in SI units, with other units also indicated for the convenience of the user.

The decimal sign used in International Standards is the comma (",""); however, the comma is not used in common working practice with non-SI dimensions. Therefore, in common with many other aerospace standards, the decimal point (".") is used in this International Standard when providing dimensions in inch-pound units.

NOTE The use of non-SI units and the decimal point in this International Standard does not constitute general acceptance of measurement systems other than SI within International Standards.

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Aerospace series — Fitting end, 24° internal cone, external thread, flareless type extra fine thread pitch inch series — Design standard

1 Scope

This International Standard specifies the dimensions, tolerances and the required characteristics of a fitting end, 24° cone, external thread, flareless type, size -04 up to -20 for use in hydraulic and fluid systems at 35 000 kPa (5 080 psi), diameter $6,35 \text{ mm} \leq D \leq 31,75 \text{ mm}$ ($1/4 \text{ inch} \leq D \leq 1 \ 1/4 \text{ inch}$) for aerospace applications.

This is a design standard.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3161, *Aerospace — UNJ threads — General requirements and limit dimensions*

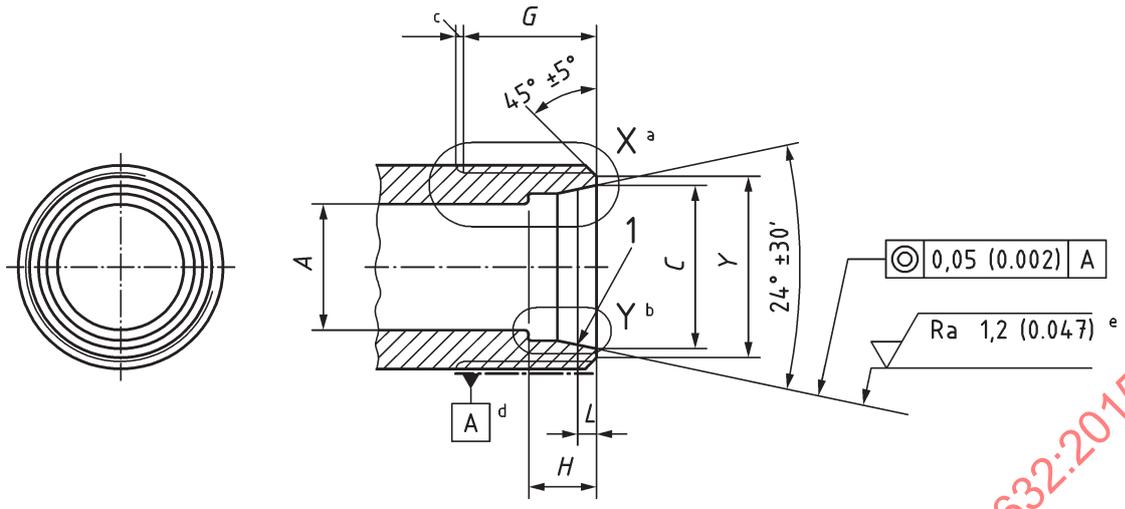
3 Required characteristics — Configuration, dimensions and tolerances

The configuration, dimensions and tolerances shall conform with [Figure 1](#) to [Figure 5](#), [Table 1](#) and [Table 2](#).

Dimensions and tolerances are expressed in millimetres (inch).

Unless otherwise specified, the following tolerances are applicable:

- Linear dimensions: $\pm 0,25 \text{ mm}$ ($\pm 0.010 \text{ inch}$)
- Angular dimensions: $\pm 0^{\circ}30'$



Key

- 1 gauge point
- a This style may have an optional undercut as shown in [Figure 2](#).
- b See [Figure 4](#) or [Figure 5](#).
- c Two incomplete threads max., root radius not required.
- d Thread T as per ISO 3161.
- e Sealing surface.

Figure 1 — Configuration, dimensions and tolerances of fitting end design, style G

Style G is not an appropriate configuration for port fitting.

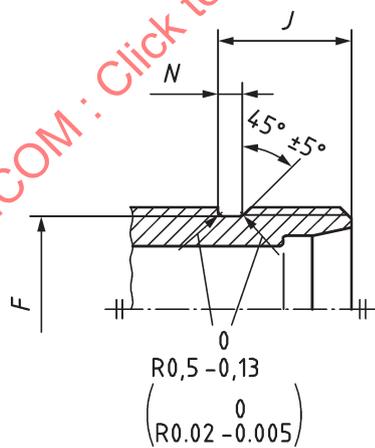


Figure 2 — Configuration, dimensions and tolerances of fitting end design, style B (same as style G except as shown)

Style B is not an appropriate configuration for port fitting.

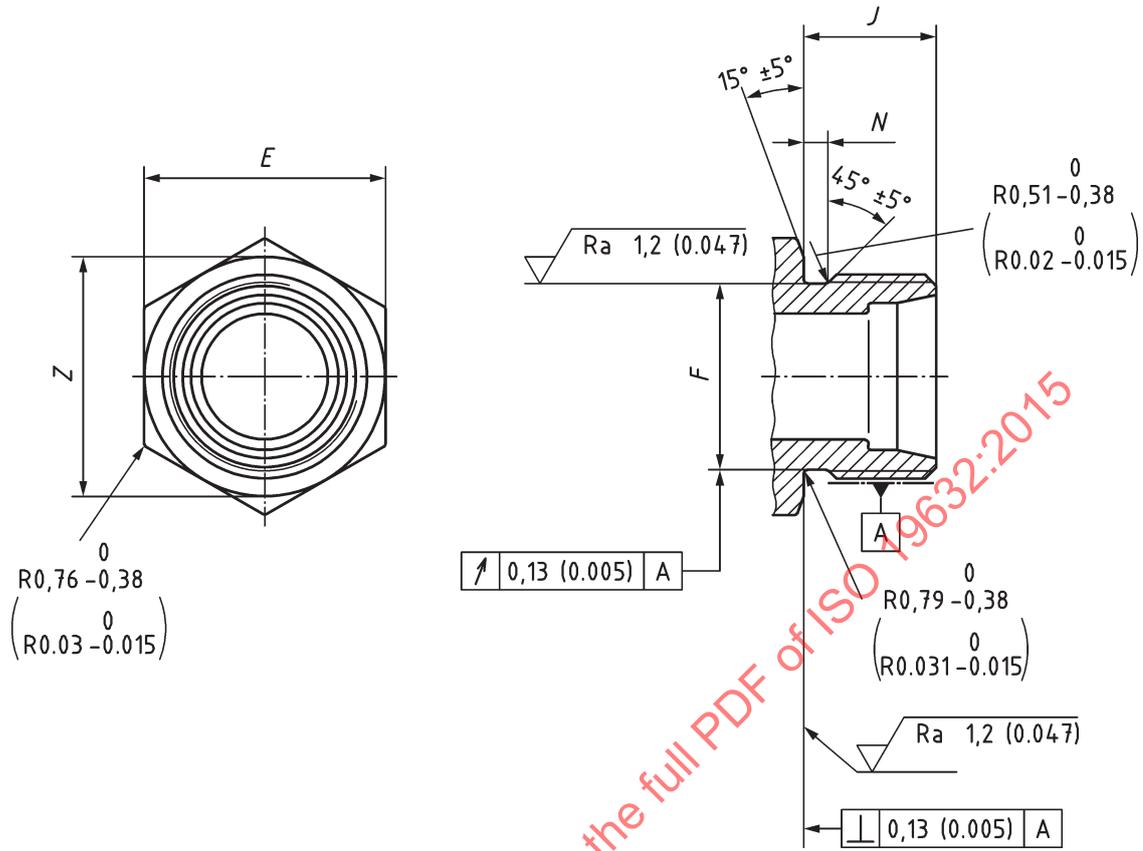
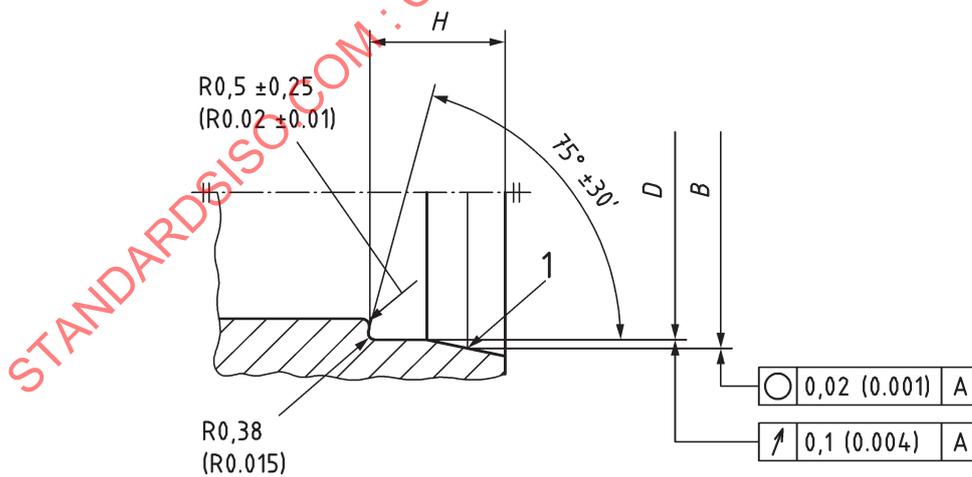


Figure 3 — Configuration, dimensions and tolerances of fitting end design, style E (same as style G except as shown)

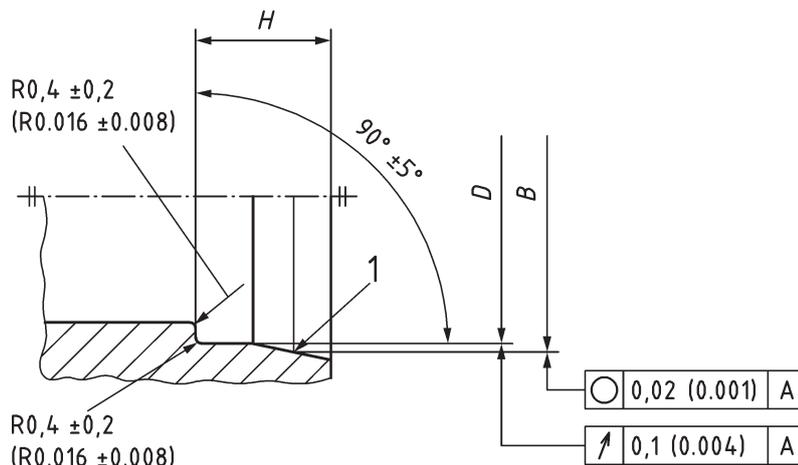
Style E is an appropriate configuration for port fitting.



Key

1 gauge point

Figure 4 — Configuration, dimensions and tolerances of fitting end design



Key

1 gauge point

Figure 5 — Configuration, dimensions and tolerances of fitting end design, optional style F

Style F is not an appropriate configuration for port fitting.

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Table 1 — Dimensions and tolerances

Diameter code no.	T thread ISO 3161 class 3A	∅ A ± 0,08 (± 0.003)	∅ B GAGE	∅ C REF.	∅ D + 0,10 0 (+ 0.004) (0)	∅ F + 0,10 - 0,08 (+ 0.004) (- 0.003)	G min.	H ± 0,08 (± 0.003)	J ± 0,25 (± 0.010)	L ± 0,08 (± 0.003)	N + 0,38 0 (+ 0.015) (0)	∅ Y ± 0,25 (± 0.010)
04	0.4375-28UNJEF	4,75 (0.187)	7,442 (0.2930)	8,10 (0.319)	6,63 (0.261)	9,63 (0.379)	11,25 (0.443)	5,94 (0.234)	11,51 (0.453)	1,52 (0.060)	1,91 (0.075)	9,27 (0.365)
06	0.5625-24UNJEF	7,54 (0.297)	10,566 (0.4160)	11,20 (0.441)	9,80 (0.386)	12,62 (0.497)	11,66 (0.459)	6,35 (0.250)	11,91 (0.469)	1,45 (0.057)	2,11 (0.083)	12,19 (0.480)
08	0.7500-20UNJEF	10,72 (0.422)	14,224 (0.5600)	15,27 (0.601)	13,06 (0.514)	17,12 (0.674)	14,02 (0.552)	7,75 (0.305)	14,27 (0.562)	2,41 (0.095)	2,39 (0.094)	16,76 (0.660)
10	0.8750-20UNJEF	12,70 (0.500)	17,424 (0.6860)	18,47 (0.727)	16,28 (0.641)	20,29 (0.799)	15,62 (0.615)	8,89 (0.350)	15,87 (0.625)	2,46 (0.097)	2,72 (0.107)	19,68 (0.775)
12	1.0625-18UNJEF	16,66 (0.656)	20,574 (0.8100)	21,64 (0.852)	19,46 (0.766)	24,66 (0.971)	17,22 (0.678)					24,00 (0.945)
16	1.3125-16UNJ	22,22 (0.875)	26,975 (1.0620)	27,99 (1.102)	25,81 (1.016)	31,01 (1.221)	17,22 (0.678)	10,54 (0.415)	17,47 (0.688)	2,36 (0.093)	3,18 (0.125)	30,35 (1.195)
20	1.6250-16UNJ	27,76 (1.093)	33,426 (1.3160)	34,42 (1.355)	32,26 (1.270)	38,94 (1.533)	17,22 (0.678)			2,29 (0.090)		38,22 (1.505)

The diameter code no. is given in 1/16 inch of tube diameter.

For dimensions E see [Table 2](#).