

Aerospace series — Lamp caps — Dimensions

ICS 49.060

National foreword

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Foreword

This document (EN 2241:2010) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

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1 Scope

This standard specifies the dimensions of caps for incandescent lamps used on board aircraft respectively the characteristics and tests of which are defined in EN 2240-001 and EN 2756.

2 Normative references

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

EN 2241-001, *Aerospace series — Incandescent lamps — Part 001: Technical specification*

EN 2756, *Aerospace series — Lamps, incandescent — Test methods*

EN 9133, *Aerospace series — Quality management systems — Qualification procedure for aerospace standard parts*

EN 60061-1:1993, *Lamp caps and holders together with gauges for the control of interchangeability and safety — Part 1: Lamp caps (IEC 60061-1:1969 + supplements A:1970 to N:1992, modified)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

cap

part of a lamp which holds it in a lampholder and provides connection to the electric supply

4 Caps dimensions

4.1 General

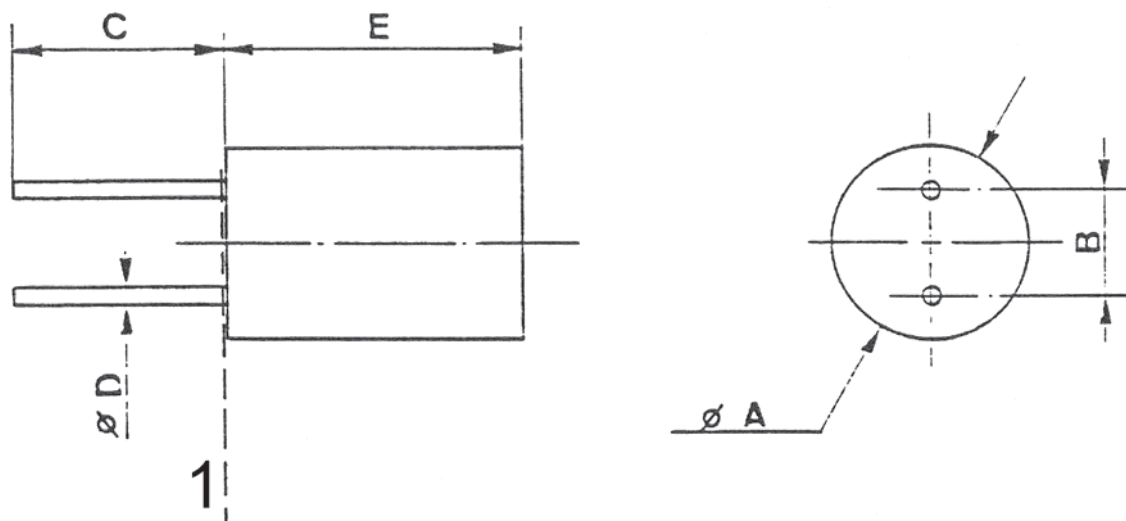
See 4.2 to 4.14.

Dimensions and tolerances are in millimetres.

.....

4.2 Dimensions of bi-pin cap

See Figure 1 and Table 1.



Key

- 1 Level of dimension *B*. Dimension *B* is specified flush with the base.

Figure 1

Table 1

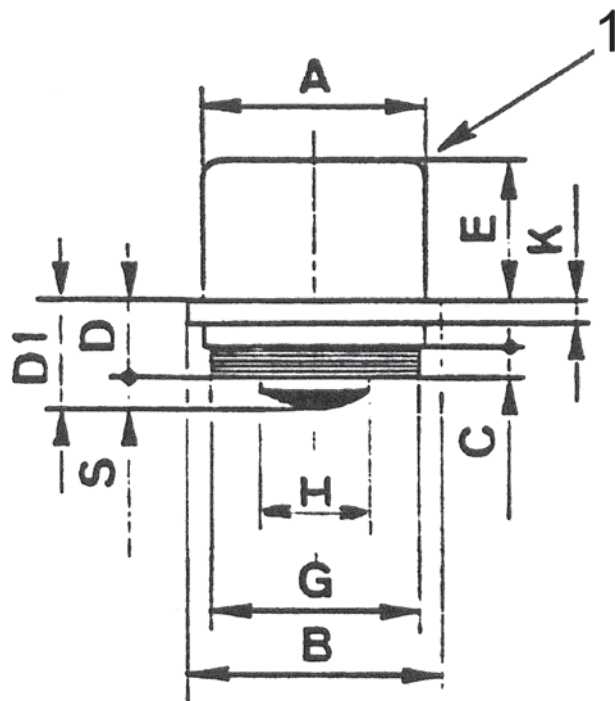
Dimensions in millimetres

Dimensions		Bi-Pin reference				
		G 3,17	G 2,54	GX 2,54	G 1,27	GX 1,27
		Type				
		T1 3/4	T1 1/4	T1	T1	T1
A	min.	5,70	4,60	3,70	3,70	3,20
	max.	5,90	4,80	3,90	3,90	3,40
B	min.	3,07	2,44	2,44	1,17	1,17
	max.	3,27	2,64	2,64	1,37	1,37
C	min.	5,85	5,85	5,85	5,85	5,85
	max.	6,85	6,85	6,85	6,85	6,85
D	min.	0,45	0,45	0,45	0,45	0,45
	max.	0,55	0,55	0,55	0,55	0,55
E	min.	8,50	7,20	5,20	5,20	3,00
	max.	9,00	7,70	5,70	5,70	3,40

The location of the pins, their relative position and their position relative to the cap barrel shall be checked by means of a gauge (under study).

4.3 Dimensions of SX4s/4 cap

See Figure 2 and Table 2.



Key

- 1 Bulbed edge or chamfer

Figure 2

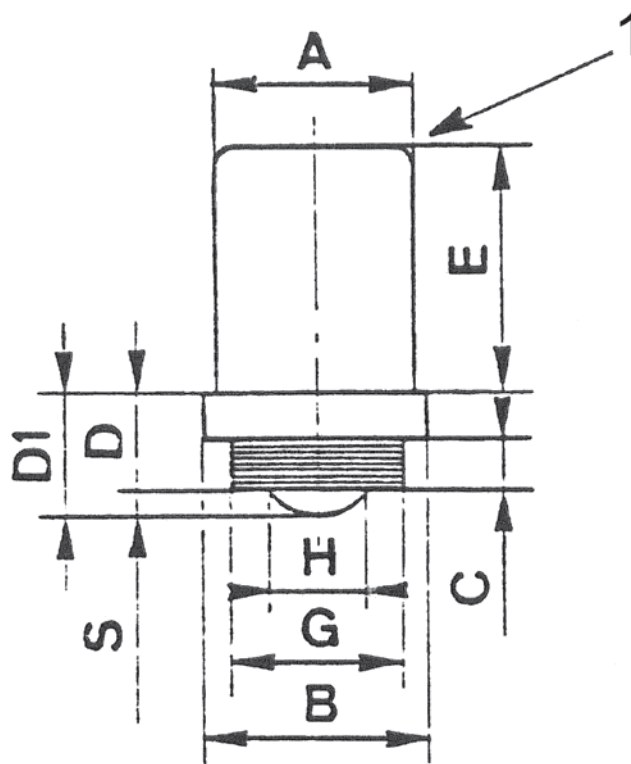
Table 2

Dimensions in millimetres

Dimensions	min.	max.
A	3,89	4,04
B	4,47	4,72
C	0,43	0,58
D	1,35	—
D ₁	1,65	2,16
E	2,57	2,72
G	3,71	3,91
H	To be defined	
K	0,33	0,43
S	0,30	—

4.4 Dimensions of SY4s/7 cap

See Figure 3 and Table 3.



Key

1 Bulbed edge or chamfer

Figure 3

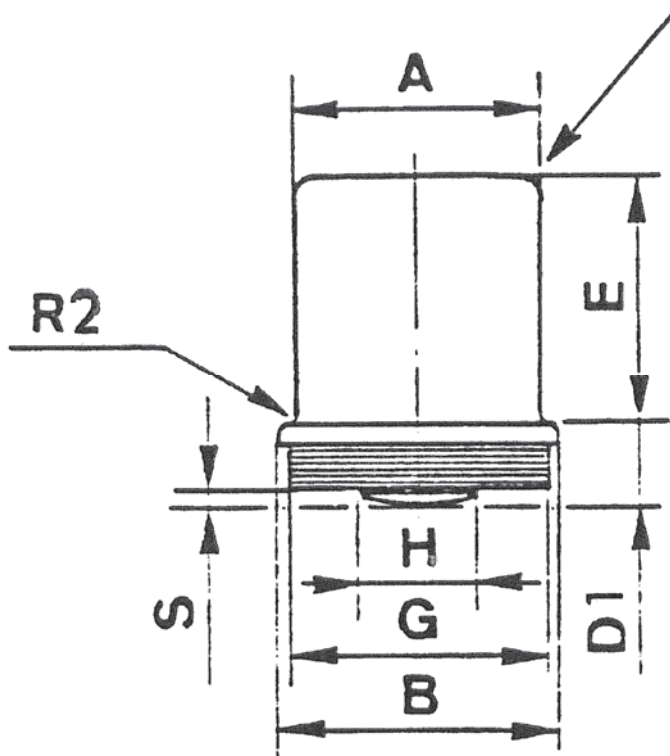
Table 3

Dimensions in millimetres

Dimensions	min.	max.
<i>A</i>	3,90	3,95
<i>B</i>	4,50	4,60
<i>C</i>	1,00	—
<i>D</i>	1,90	—
<i>D</i> ₁	2,25	2,75
<i>E</i>	4,80	5,20
<i>G</i>	3,40	3,60
<i>H</i>	1,80	2,20
<i>S</i>	0,30	—

4.5 Dimensions of SX6s cap

See Figure 4 and Table 4.



Key

- 1 Bulbed edge or chamfer

Figure 4

Table 4

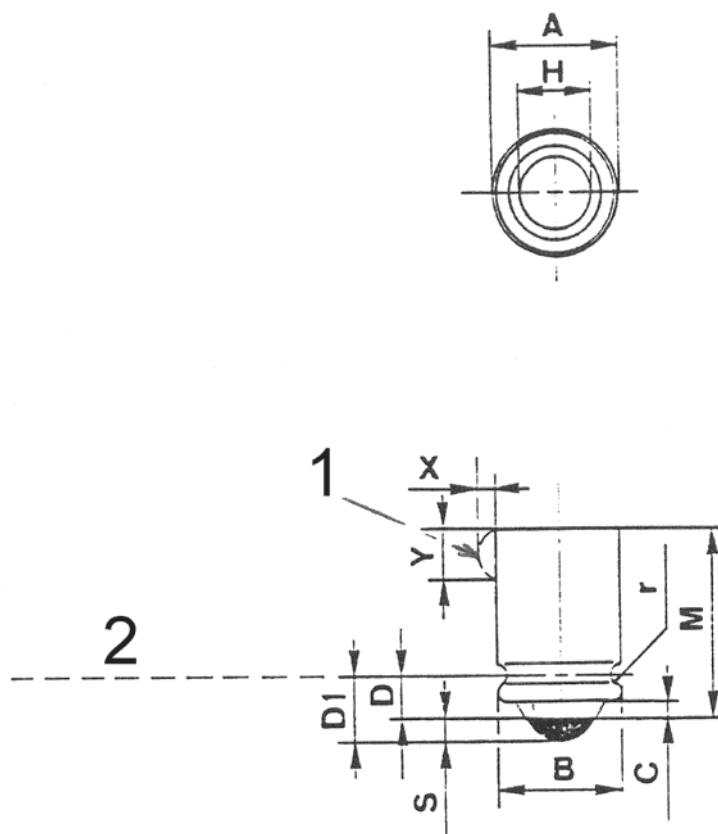
Dimensions in millimetres

Dimensions	min.	max.
A	6,10	6,35
B	7,11	7,37
D ₁	1,70	2,80
E	6,35	6,85
G	6,22	6,98
H	2,54	3,30
R ₂	—	0,20
S	0,38	—

4.6 Dimensions of S5,7s/8

In conformity with EN 60061-1:1993 sheet 7004-62-1

See Figure 5 and Table 5.



Key

- 1 Solder on finished lamp
- 2 Datum line: Bottom of groove

Figure 5

Table 5

Dimensions in millimetres

Dimensions	min.	max.	Dimensions	min.	max.
<i>A</i>	5,56	5,82	<i>M</i> ^a	8,10	8,65
<i>B</i>	5,51	5,72	<i>r</i> ^a	0,38	0,51
<i>C</i>	0,80	—	<i>S</i>	0,40	—
<i>D</i> ^a	1,70	2,70	<i>X</i>	—	0,76
<i>D</i> ₁	2,40	3,30	<i>Y</i>	—	2,30
<i>H</i>	—	3,20	—	—	—

^a Measured on non-assembled base.

4.7 Dimensions of BA7s/12 cap

See Figure 6 and Table 6.

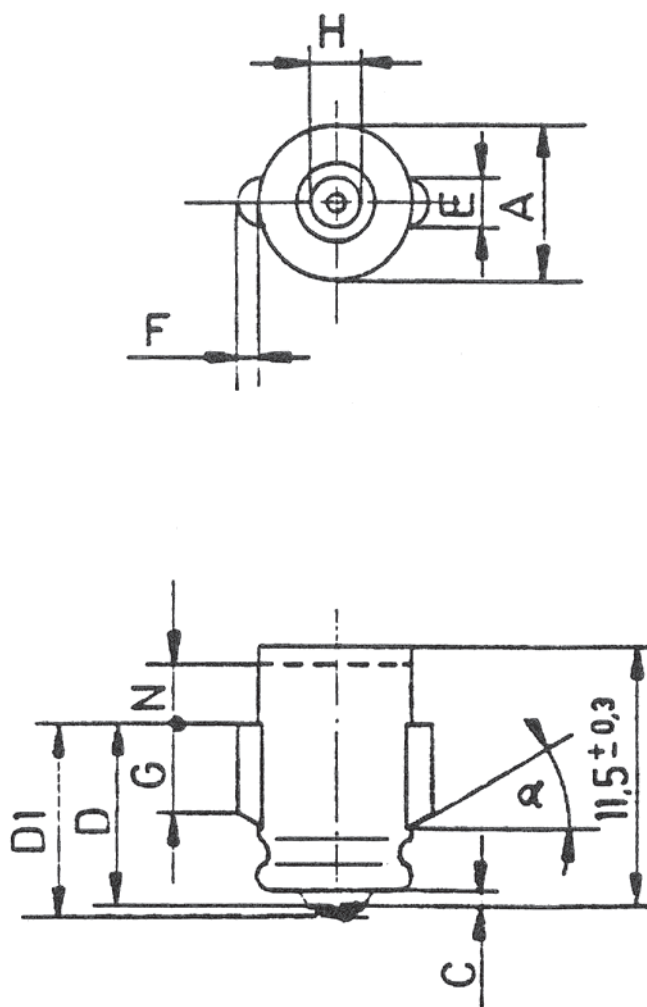


Figure 6

Table 6

Dimensions in millimetres

Dimensions	min.	max.	Dimensions	min.	max.
A^a	6,87	7,05	F	0,70	0,90
C	0,90 ^b	—	G	3,40	4,00
D	7,70 ^b	8,10 ^b	H	2,40	2,60
D_1	—	8,70	N^a	2,60	—
E	1,80	2,00	α	Approx. 30°	

^a Dimension N gives the minimum length along which dimension A must be in compliance.

^b Measured on non-assembled base.

4.8 Dimensions of BA9s/13 cap

In conformity with EN 60061-1:1993 sheet 7004-14-7.

See Figure 7 and Table 7.

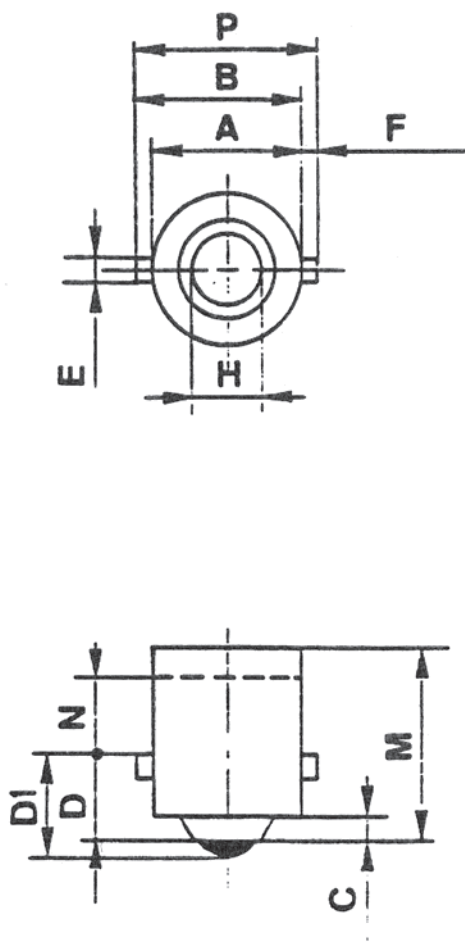


Figure 7

Table 7

Dimensions in millimetres

Dimensions	min.	max.	Dimensions	min.	max.
<i>A</i> ^a	9,08	9,25	<i>F</i>	0,64	—
<i>B</i>	9,75	10,16	<i>H</i>	3,50	4,00
<i>C</i>	1,50 ^b	—	<i>M</i>	12,90	13,30
<i>D</i>	4,30 ^b	5,20 ^b	<i>N</i> ^a	4,50	—
<i>D</i> ₁	—	5,90	<i>P</i>	—	11,00
<i>E</i>	1,50	1,70	—	—	—

^a Dimension *N* gives the minimum length along which dimension *A* must be in compliance.

^b Measured on non-assembled base.

4.9 Dimensions of BA15s/19 cap

In conformity with EN 60061-1:1993 sheet 7004-14-7.

See Figure 8 and Table 8.

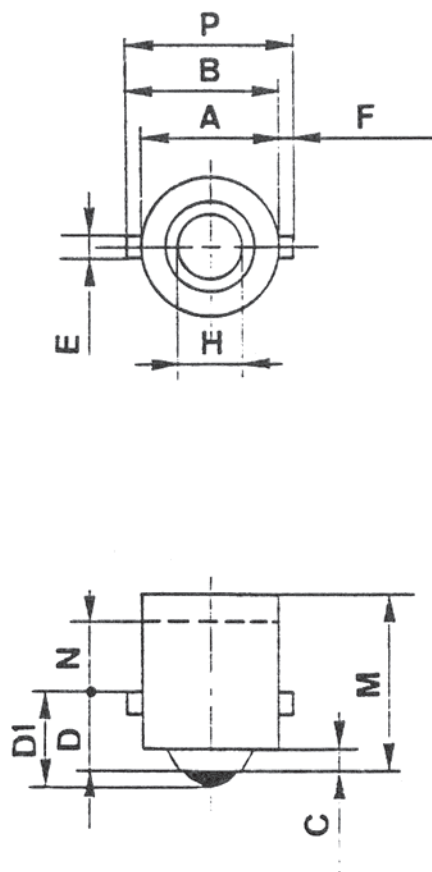


Figure 8

Table 8

Dimensions in millimetres

Dimensions	min.	max.	Dimensions	min.	max.
<i>A</i> ^a	9,08	9,25	<i>F</i>	0,64	—
<i>B</i>	9,75	10,16	<i>H</i>	3,50	4,00
<i>C</i>	1,50 ^b	—	<i>M</i>	13,75	14,25
<i>D</i>	4,30 ^b	5,20 ^b	<i>N</i> ^a	4,50	—
<i>D</i> ₁	—	5,90	<i>P</i>	—	11,00
<i>E</i>	1,50	1,70	—	—	—

^a Dimension *N* gives the minimum length along which dimension *A* must be in compliance.

^b Measured on non-assembled base.

4.10 Dimensions of BA15s/19 cap

In conformity with EN 60061-1:1993 sheet 7004-11A-7.

See Figure 9 and Table 9.

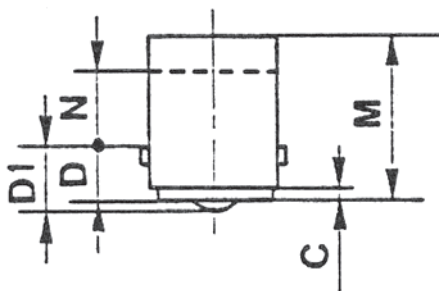
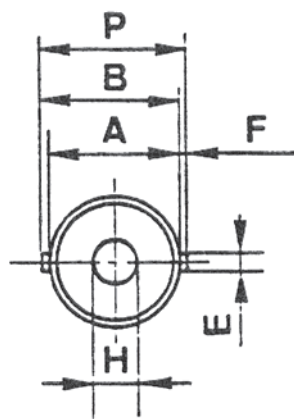


Figure 9

Table 9

Dimensions in millimetres

Dimensions	min.	max.	Dimensions	min.	max.
A^a	15,05	15,30	F	0,64	—
B	15,65	16,15	H	4,50 ^b	5,20 ^b
C	1,50 ^b	—	M	18,75	19,25
D	6,00 ^b	6,60 ^b	N^a	8,90	—
D_1	6,32	7,50	P	—	17,00
E	1,80	2,20	—	—	—

^a Dimension N gives the minimum length along which dimension A must be in compliance.

^b Measured on non-assembled base.

4.11 Dimensions of BA15d/19 cap

In conformity with EN 60061-1:1993 sheet 7004-11A-7.

See Figure 10 and Table 10.

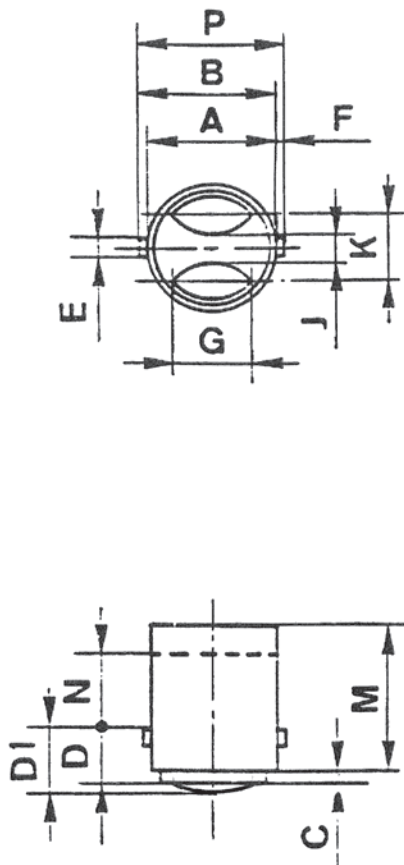


Figure 10

Table 10

Dimensions in millimetres

Dimensions	min.	max.	Dimensions	min.	max.
<i>A</i> ^a	15,05	15,30	<i>G</i>	About 9 ^b	
<i>B</i>	15,65	16,15	<i>J</i>	3,00	—
<i>C</i>	1,50 ^b	—	<i>K</i>	7,00	8,00
<i>D</i>	6,00 ^b	6,60 ^b	<i>M</i>	18,75	19,25
<i>D</i> ₁	6,32	7,50	<i>N</i> ^a	8,90	—
<i>E</i>	1,80	2,20	<i>P</i>	—	17,00
<i>F</i>	0,64	—	—	—	—

^a Dimension *N* gives the minimum length along which dimension *A* must be in compliance.

^b Measured on non-assembled base.

4.12 Dimensions of BAY15s/19 cap

See Figure 11 and Table 11.

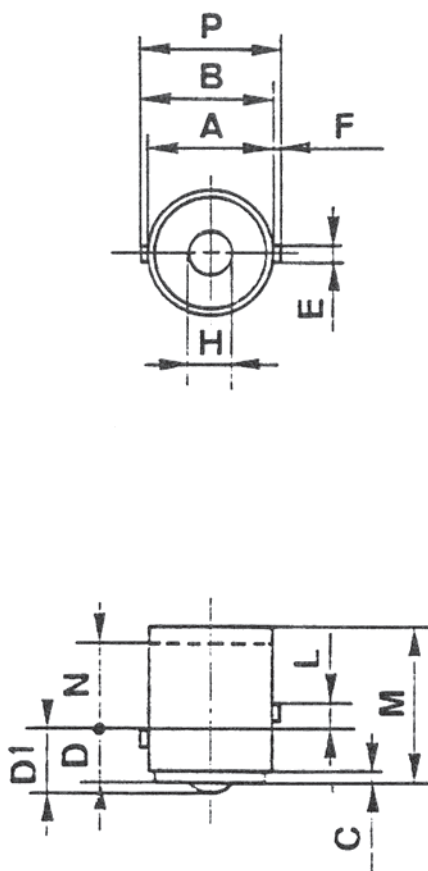


Figure 11

Table 11

Dimensions in millimetres

Dimensions	min.	max.	Dimensions	min.	max.
A^a	15,05	15,30	F	0,64	—
B	15,65	16,15	H	4,50 ^b	5,20 ^b
C	1,50 ^b	—	L	3,00	3,40
D	6,00 ^b	6,50 ^b	M	18,75	19,25
D_1	6,52	7,50	N^a	8,90	—
E	1,80	2,20	P	—	17,00

^a Dimension N gives the minimum length along which dimension A must be in compliance.

^b Measured on non-assembled base.

4.13 Dimensions of BA15s3/19 cap

See Figure 12 and Table 12.

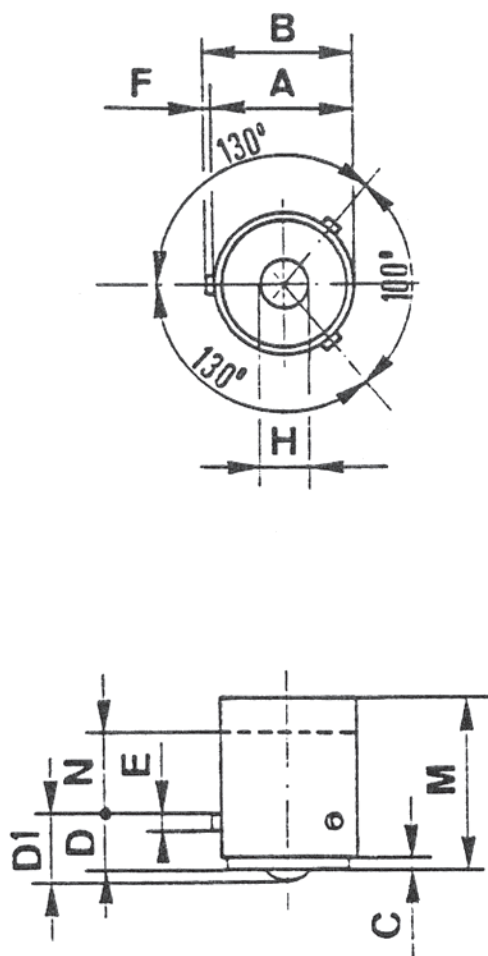


Figure 12

Table 12

Dimensions in millimetres

Dimensions	min.	max.	Dimensions	min.	max.
<i>A</i> ^a	15,05	15,30	<i>E</i>	1,80	2,20
<i>B</i>	15,65	16,15	<i>F</i>	0,64	—
<i>C</i>	1,50 ^b	—	<i>H</i>	4,50	5,20
<i>D</i>	6,00 ^b	6,60 ^b	<i>M</i>	18,75	19,25
<i>D</i> ₁	6,32	7,50	<i>N</i> ^a	8,90	—

^a Dimension *N* gives the minimum length along which dimension *A* must be in compliance.

^b Measured on non-assembled base.

4.14 Dimensions of BA20d cap

In conformity with EN 60061-1:1993 sheet 7004-12-6.

See Figure 13 and Table 13.

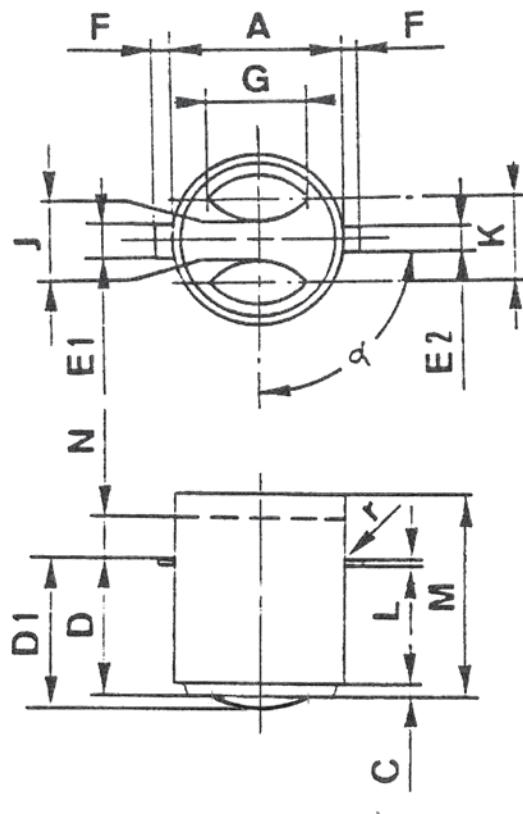


Figure 13

Table 13

Dimensions in millimetres

Dimensions	min.	max.	Dimensions	min.	max.
A^a	19,95	20,10	J	3,00	—
C	1,50	—	K	9,50 ^b	10,00 ^c
D^b	15,50	16,00 ^c	L	0,40	—
D_1	—	17,00	N^a	5,00	—
E_1	4,40	4,50	r	—	0,20
E_2	2,90	3,00	α	82° 30'	97° 30'
F	1,90	2,20	M	To be defined	
G	About 12 ^b		—	—	—

^a Dimension N gives the minimum length along which dimension A must be in compliance.

^b Maximum deviation in height between lugs $\pm 0,15$ mm.

^c Measured on non-assembled base.

5 Quality assurance

See EN 9133.

6 Technical specification

See EN 2240-001.

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