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**Aircraft ducting and piping — Profile  
dimensions for flanges of V-band  
couplings**

*Canalisations et tuyauteries à bord des aéronefs — Dimensions  
d'encombrement des brides à section en V pour raccords*



Reference number  
ISO 2563:2009(E)

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## Foreword

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ISO 2563 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 10, *Aerospace fluid systems and components*.

This second edition cancels and replaces the first edition (ISO 2563:1974), which has been technically revised.



# Aircraft ducting and piping — Profile dimensions for flanges of V-band couplings

## 1 Scope

This International Standard gives the profile dimensions of V-band couplings, and the associated inch-based aircraft ducting and piping for the following external flange profiles:

- lightweight solid profile;
- medium-weight solid profile;
- heavyweight solid profile;
- narrow sheet metal profile;
- wide sheet metal profile;
- wide solid profile;
- wide sheet metal to solid profile.

## 2 Dimensions

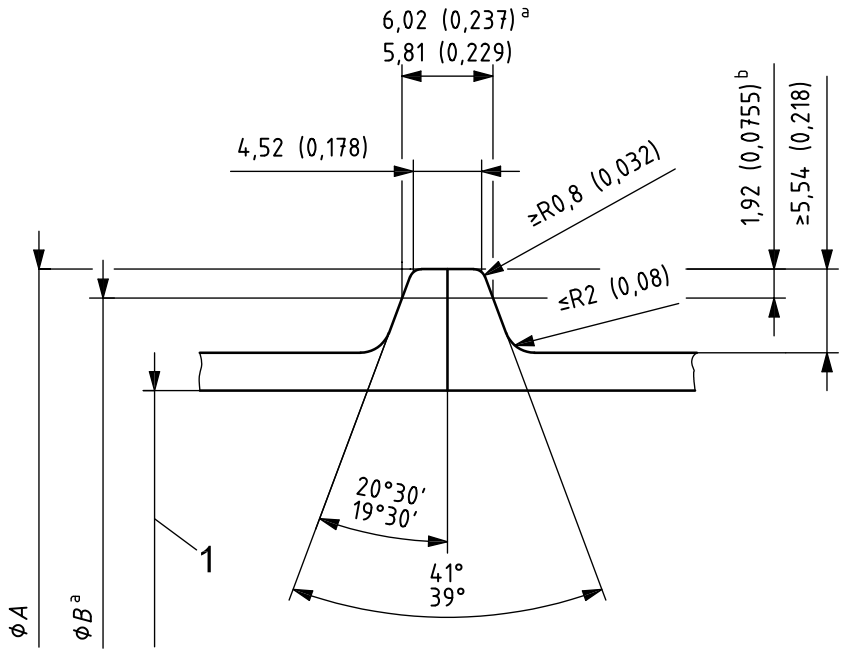
**2.1** The profile dimensions of a mating pair of flanges of V-band couplings shall comply with Figures 1 to 7, in accordance with the type of coupling required for the application. The dimensions are given in millimetres, with inch equivalents in parentheses.

**2.2** The design of joints is at the discretion of the user, but the joint design shall remain within the range of the profiles given in this International Standard.

**2.3** Flange halves are illustrated as being identical in the figures, but at the discretion of the user, the flange faces can be asymmetric, allowing the creation of locating spigots and recesses or other locating features, within the boundaries of the overall definition. The narrow and wide sheet metal flanges are identical. The single wide sheet metal profile flange shown in Figure 7 should be mated with a single solid profile flange shown in Figure 6.

**2.4** The single flange end shown in Figure 7 may be machined on a pump or valve, which mates with ducting.

Dimensions in millimetres (inches)



**Key**

- 1 tube outside diameter
- a Gauge.
- b Nominal.

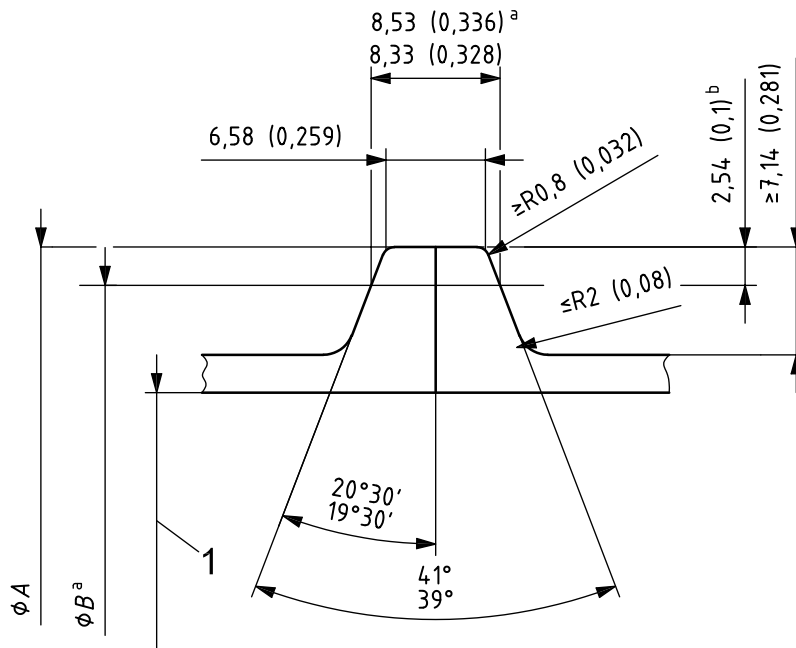
**Figure 1 — Lightweight solid flange profile**

Table 1 — Dimensions for lightweight solid flange

Tube outside diameter DN <sup>a</sup>	Ø A ± 0,25 (0,010)		Ø B	
	mm	in	mm	in
1.000	38,35	1,510	34,52	1,359
1.250	44,70	1,760	40,87	1,609
1.500	51,05	2,010	47,22	1,859
1.750	57,40	2,260	53,57	2,109
2.000	63,75	2,510	59,92	2,359
2.250	70,10	2,760	66,27	2,609
2.500	76,45	3,010	72,62	2,859
2.750	82,80	3,260	78,97	3,109
3.000	89,15	3,510	85,32	3,359
3.250	95,50	3,760	91,67	3,609
3.500	101,85	4,010	98,02	3,859
4.000	114,55	4,510	110,72	4,359
4.500	127,25	5,010	123,42	4,859
5.000	139,95	5,510	136,12	5,359
5.500	152,65	6,010	148,82	5,859
6.000	165,35	6,510	161,52	6,359
6.500	178,05	7,010	174,22	6,859
7.000	190,75	7,510	186,92	7,359
7.500	203,45	8,010	199,62	7,859
8.000	216,15	8,510	212,32	8,359

<sup>a</sup> Nominal size; corresponds to tube outside diameter, in inches.

Dimensions in millimetres (inches)



**Key**

- 1 tube outside diameter
- a Gauge.
- b Nominal.

**Figure 2 — Medium-weight solid flange profile**

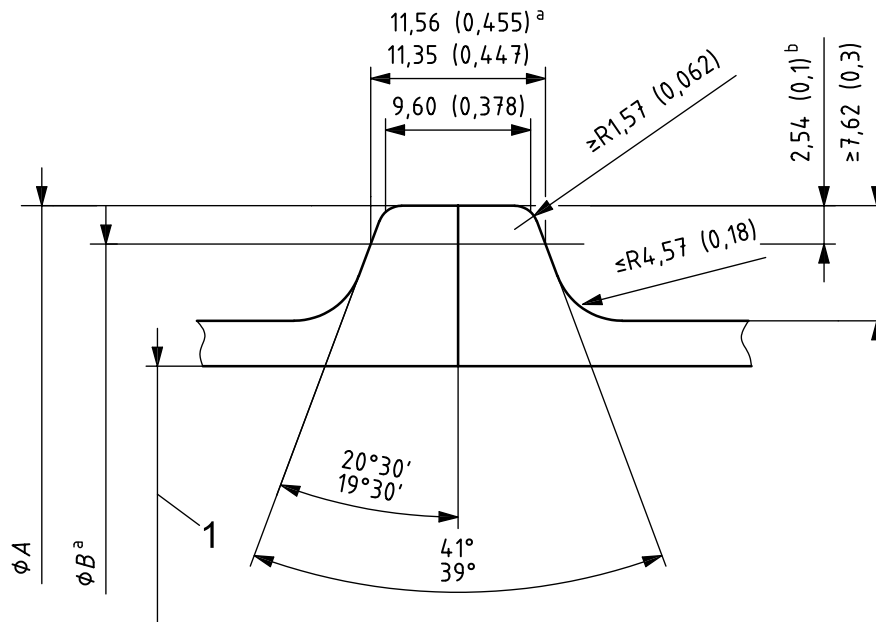


Table 2 — Dimensions for medium-weight solid flange

Tube outside diameter DN <sup>a</sup>	Ø A ± 0,25 (0,010)		Ø B	
	mm	in	mm	in
1.000	44,45	1,750	39,37	1,550
1.250	50,80	2,000	45,72	1,800
1.500	57,15	2,250	52,07	2,050
1.750	63,50	2,500	58,42	2,300
2.000	69,85	2,750	64,77	2,550
2.250	76,20	3,000	71,12	2,800
2.500	82,55	3,250	77,47	3,050
2.750	88,90	3,500	83,82	3,300
3.000	95,25	3,750	90,17	3,550
3.250	101,60	4,000	96,52	3,800
3.500	107,95	4,250	102,87	4,050
4.000	120,65	4,750	115,57	4,550
4.500	133,35	5,250	128,27	5,050
5.000	146,05	5,750	140,97	5,550
5.500	158,75	6,250	153,67	6,050
6.000	171,45	6,750	166,37	6,550
6.500	184,15	7,250	179,07	7,050
7.000	196,85	7,750	191,77	7,550
7.500	209,55	8,250	204,47	8,050
8.000	222,25	8,750	217,17	8,550

<sup>a</sup> Nominal size; corresponds to tube outside diameter, in inches.

Dimensions in millimetres (inches)



**Key**

- 1 tube outside diameter
- a Gauge.
- b Nominal.

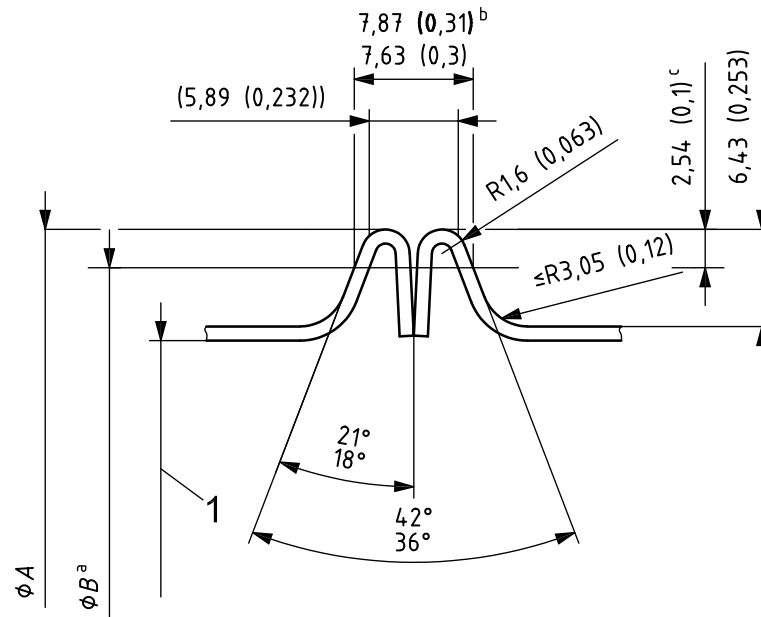
**Figure 3 — Heavyweight solid flange profile**

**Table 3 — Dimensions for heavyweight solid flange**

Tube outside diameter DN <sup>a</sup>	Ø A ± 0,25 (0,010)		Ø B	
	mm	in	mm	in
8.500	239,47	9,428	234,39	9,228
9.000	252,17	9,928	247,09	9,728
9.500	264,87	10,428	259,79	10,228
10.000	277,57	10,928	272,49	10,728
10.500	290,27	11,428	285,19	11,228
11.000	302,97	11,928	297,89	11,728
11.500	315,67	12,428	310,59	12,228
12.000	328,37	12,928	323,29	12,728
12.500	341,07	13,428	335,99	13,228
13.000	353,77	13,928	348,69	13,728
13.500	366,47	14,428	361,39	14,228
14.000	379,17	14,928	374,09	14,728

<sup>a</sup> Nominal size; corresponds to tube outside diameter, in inches.

Dimensions in millimetres (inches)



**Key**

- 1 tube outside diameter
- a Gauge.
- b Gauge loaded.
- c Nominal.

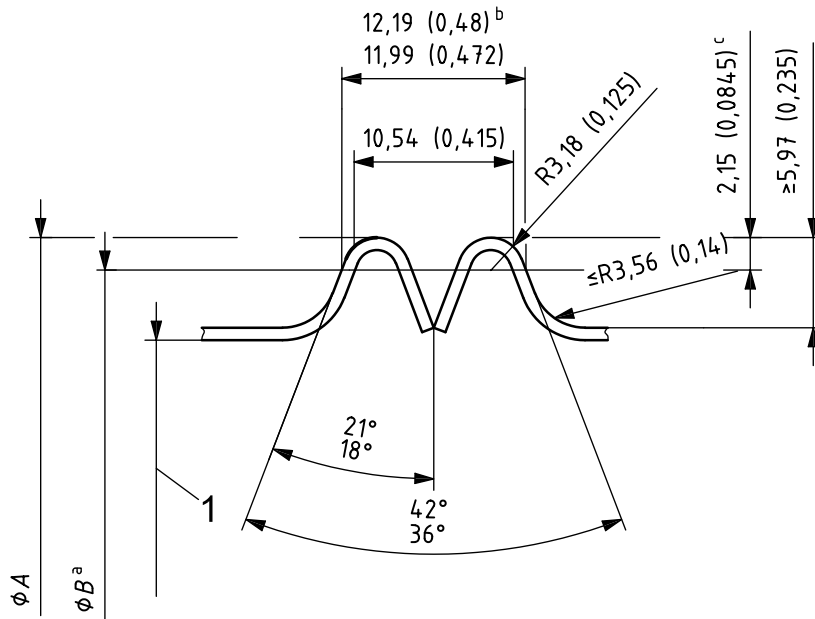
**Figure 4 — Narrow sheet metal flange profile**

**Table 4 — Dimensions for narrow sheet metal flange**

Tube outside diameter DN <sup>a</sup>	Ø A ± 0,25 (0,010)		Ø B	
	mm	in	mm	in
1.000	40,13	1,580	35,05	1,380
1.250	46,48	1,830	41,40	1,630
1.500	52,83	2,080	47,75	1,880
1.750	59,18	2,330	54,10	2,130
2.000	65,53	2,580	60,45	2,380
2.250	71,88	2,830	66,80	2,630
2.500	78,23	3,080	73,15	2,880
2.750	84,58	3,330	79,50	3,130
3.000	90,93	3,580	85,85	3,380
3.500	103,63	4,080	98,55	3,880
4.000	116,33	4,580	111,25	4,380
4.500	129,03	5,080	123,95	4,880
5.000	141,73	5,580	136,65	5,380
5.500	154,43	6,080	149,35	5,880
6.000	167,13	6,580	162,05	6,380
6.500	179,83	7,080	174,75	6,880
7.000	192,53	7,580	187,45	7,380
7.500	205,23	8,080	200,15	7,880
8.000	217,93	8,580	212,85	8,380

<sup>a</sup> Nominal size; corresponds to tube outside diameter, in inches.

Dimensions in millimetres (inches)

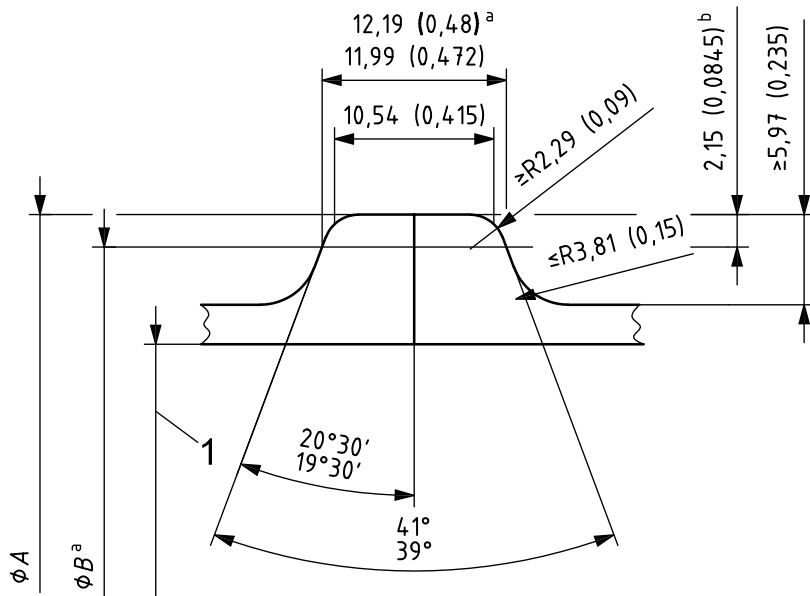


**Key**

- 1 tube outside diameter
- a Gauge.
- b Gauge loaded.
- c Nominal.

**Figure 5 — Wide sheet metal flange profile**

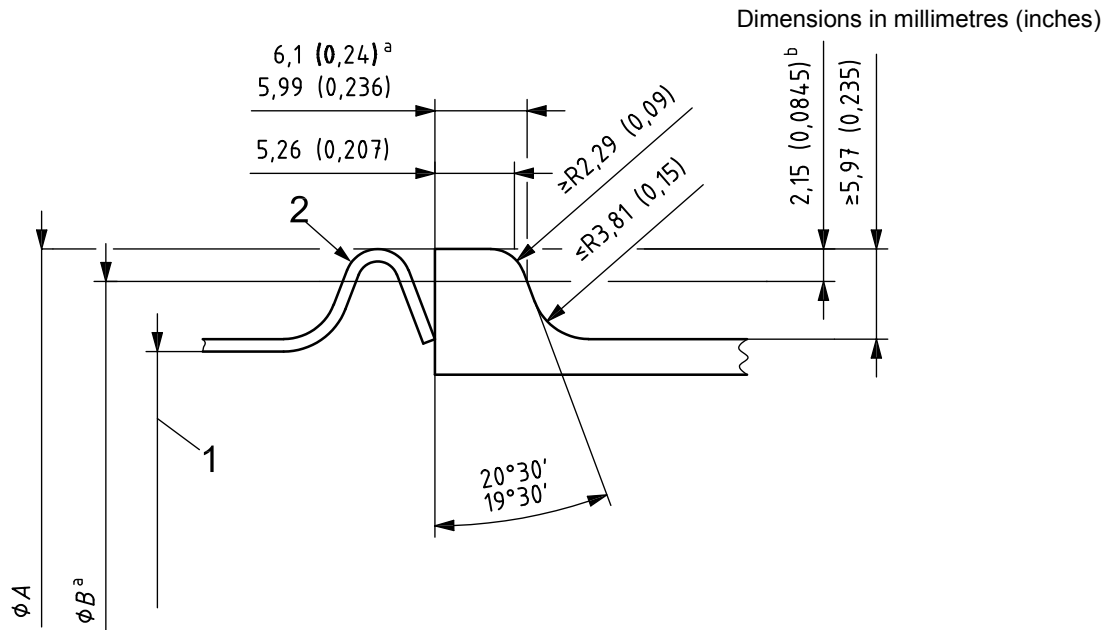
Dimensions in millimetres (inches)



**Key**

- 1 tube outside diameter
- a Gauge.
- b Nominal.

**Figure 6 — Wide solid flange profile**



**Key**

- 1 tube outside diameter
- 2 wide sheet metal flange (see Figure 5)
- <sup>a</sup> Gauge.
- <sup>b</sup> Nominal.

**Figure 7 — Wide sheet metal to solid flange profile**

**Table 5 — Dimensions for wide sheet metal and solid flanges**

Tube outside diameter DN <sup>a</sup>	Ø A ± 0,25 (0,010)		Ø B	
	mm	in	mm	in
1.000	39,42	1,552	35,13	1,383
1.250	45,77	1,802	41,48	1,633
1.500	53,90	2,122	49,61	1,953
1.750	60,00	2,362	55,70	2,193
2.000	66,60	2,622	62,31	2,453
2.250	73,30	2,886	69,01	2,717
2.500	79,65	3,136	75,36	2,967
2.750	86,00	3,386	81,71	3,217
3.000	92,35	3,636	88,06	3,467
3.250	98,70	3,886	94,41	3,717
3.500	104,93	4,131	100,63	3,962
3.750	111,53	4,391	107,24	4,222
4.000	117,88	4,641	113,59	4,472
4.500	130,58	5,141	126,29	4,972
5.000	143,28	5,641	138,99	5,472
5.500	155,98	6,141	151,69	5,972
6.000	168,68	6,641	164,39	6,472
6.500	181,38	7,141	177,09	6,972
7.000	194,08	7,641	189,79	7,472
7.500	206,78	8,141	202,49	7,972
8.000	219,48	8,641	215,19	8,472

<sup>a</sup> Nominal size; corresponds to tube outside diameter, in inches.

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