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Cylinder valve outlets for gases and gas mixtures — Selection and dimensioning

AMENDMENT 2

Raccords de sortie de robinets de bouteilles à gaz et mélanges de gaz — Choix et dimensionnement

AMENDEMENT 2

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Foreword

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Cylinder valve outlets for gases and gas mixtures — Selection and dimensioning

AMENDMENT 2

Page 7, Table 2 — Allocation of valve outlets for gases and gas mixtures by connection type

To be replaced with the following:

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Table 2 — Allocation of valve outlets for gases and gas mixtures by connection type

Nominal diameter of the connection														
24				27				30						
A-B combination mm	Left-hand thread		Right-hand thread		A-B combination mm	Left-hand thread		Right-hand thread		A-B combination mm	Left-hand thread		Right-hand thread	
	Group (utilisa- tion)	Gas or gas mixture (FTSC code)	Group (utilisa- tion)	Gas or gas mixture (FTSC code)		Group (utilisa- tion)	Gas or gas mixture (FTSC code)	Group (utilisa- tion)	Gas or gas mixture (FTSC code)		Group (utilisa- tion)	Gas or gas mixture (FTSC code)	Group (utilisa- tion)	Gas or gas mixture (FTSC code)
11,2-16,8	8 (M) ^a	Medical cyclopropane (2100)	3 (M)	He (0150) and Xe (0110)	11,8-20,2			3 (M) (I)	N ₂ (0150)	12,4-23,6		3 (M)	He/O ₂ or N ₂ /O ₂ mixture (O ₂ < 20 %)	25
11,9-16,1			10 (I)	O ₂ (4050)	12,5-19,5			12 (I)	(4153; 4203; 4300; 4301; 4303; 4330; 4343; 4351)	13,1-22,9		15 (M)	O ₂ /N ₂ (O ₂ > 22 %) or O ₂ /He mixtures	26
12,6-15,4			15 (M)	Medicinal air and synthetic medicinal air	13,2-18,8			15 (M)	50 % O ₂ / 50 % N ₂ O mixture	13,8-22,2		15 (M)	O ₂ /CO ₂ mixture (CO ₂ ≤ 7 %)	27
13,3-14,7	6 (I)	(2150) except H ₂	3 (I) (M)	Inert gases and gas mixtures (0150) except for He and N ₂	13,9-18,1	13 (I)	(5100; 5200; 5300; 5301; 5350)	5 (I)	Air (1050)	14,5-21,5		15 (M)	O ₂ /CO ₂ mixture (CO ₂ > 7 %) Air/He/CO (CO < 1 %) mixture	28
14-14	6 (I) ^a	H ₂ (2150)	10 (M)	O ₂ (4050)	14,6-17,4	9 (I)	(3300; 3310; 3150)	4 (I)	(0200; 0201; 0203; 0213; 0300; 0303; 0253)	15,2-20,8		3 (M)	N ₂ /NO mixture (100 < NO < 1 000 ppm)	29
					15,3-16,7	8 (I)	CO (2250)	11 (M) (4110)	N ₂ O (4110)	15,9-20,1		3 (I)		30
					16-16	6 (I)	Commercial butane and propane (2100)	2 (M)	CO ₂ (0110)	16,6-19,4		5 (I)	Air (1070)	31
										17,3-18,7		10 (I)		32
										17,3-18,7		1 (M) 1 (I)	SF ₆ ; C ₂ F ₆ ; C ₃ F ₈ (0100)	33
										18-18				34
										18-18				35
										18-18				36
										18-18				37
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										18-18				99
										18-18				100

Pages 9 and 10, Table 3 — Allocation of valve outlets by gas group

To be replaced with the following:

Table 3 — Allocation of valve outlets by gas group

Group No.	Gas and gas mixture characteristic at 15°C	Allocation of outlet connections					
		Right-hand (RH) or left-hand (LH) thread	24		27		30
		Single gases, FTSC code	Gases and gas mixtures and/or FTSC code	A-B combination mm	Gases and gas mixtures and/or FTSC code	A-B combination mm	Gases and gas mixtures and/or FTSC code
1	Non-flammable, non-toxic gases; less stable thermally than group 3	0100					SF ₆ ; C ₂ F ₆ ; C ₃ F ₈ 0100 18-18 33
2	CO ₂	0110			0110	16-16 (M)	
3	Non-flammable, non-toxic and thermally stable gases (except CO ₂)	0150 0170 0110 (Xe)	Medical He and medical Xe Inert gas and gas mixtures	11,2-16,8 13,3-14,7 4	N ₂ (M) (I)	11,8-20,2	He/O ₂ mixture (O ₂ < 20 %) 0170 N ₂ /NO mixture (100 < NO < 1 000 ppm) 15,2-20,8 25 30 29
4	Non-flammable, toxic and corrosive or corrosive by hydrolysis gases	0200; 0201; 0203; 0213; 0300; 0303; 0253			0200; 0201; 0213; 0300; 0303; 0253	14,6-17,4	
5	Air only ^a	1150 1170			1050 Air (I)	13,9-18,1	1170 Air (I) 16,6-19,4 31
6	Flammable and non-toxic gases	2100; 2110; 2150; 2170	H ₂ ≤ 250 bar 2150 (except H ₂)	14-14 13,3-14,7 10 9	Commercial butane and propane	16-16	2170 15,2-20,8 38 2100; 2110 except commercial butane and propane 17,3-18,7 41
7	Flammable and corrosive (basic gases)	2102					2102 16,6-19,4 40
8	Flammable, toxic and corrosive (acidic) or non-corrosive gases	2200	Medical cyclopropane	11,2-16,8 6	CO 2250	15,3-16,7	2200; 2201; 2203; 2300; 2301 15,9-20,1 39

Table 3 (continued)

Group No.	Gas and gas mixture characteristic at 15°C	Single gases, FTSC code, code FTSC	Right-hand (RH) or left-hand (LH) thread	Allocation of outlet connections				
				24		Nominal diameter of the connection		
				Gases and gas mixtures and/or FTSC code	A-B combination mm	Gases and gas mixtures and/or FTSC code	A-B combination mm	30
9	Spontaneously flammable gases	3150; 3300; 3310	LH			3150; 3300; 3310	14,6-17,4	22
10	O ₂ and high pressure oxidant	4050 4070	RH	4050 (M) O ₂ (M)	14-14			
				4050 (I) O ₂ (I)	11,9-16,1			
11	N ₂ O	4110	RH			4110 (M)	15,3-16,7	16
12	Oxidant, toxic and corrosive gases	4203; 4300; 4301; 4303; 4330; 4343; 4351	RH			4203; 4300; 4301; 4303; 4330; 4343; 4351	12,5-19,5	12 ^a
13	Flammable gases subject to decomposition or polymerization	5100; 5200; 5300; 5301; 5350	LH			5100; 5200; 5300; 5301; 5350	13,9-18,1	21
14	C ₂ H ₂ ^b	5130	LH					18-18
15	Oxidant, non-toxic and non-corrosive gas mixture		RH	Medicinal air and synthetic medicinal air (M)	12,6-15,4	50 % N ₂ O/ 50 % O ₂ mixture (M)	13,2-18,8	26
							O ₂ /CO ₂ (CO ₂ ≤ 7 %) (M)	13,8-22,2
							12,5-19,5	12
								14,5-21,5
								28

^a For medical application, see group 15.^b Acetylene.

Page 15, Table A.2 — Gases and gas mixtures belonging to group 1

Trifluoromethane: FTSC code to be changed into 0110

Page 16, Table A.4 — Gases and gas mixtures belonging to group 3

Xenon: add to the FTSC code 0110 the following note "FTSC code due to the critical point of the gas (above 15 °C)".

Page 18, Table A.7 — Gases and gas mixtures belonging to group 6

Difluoromethane: FTSC code to be changed into 2110

Page 20, Table A.11 — Gases belonging to group 10

Oxygen: FTSC code to be changed into 4050

Page 20, Table A.12 — Gases belonging to group t1

Replace table title with the following: Gases belonging to group 11

Page 21, Table A.13 — Gases and gas mixtures belonging to group 12

- Nitrogen tetraoxide to be added as a synonym for Nitrogen dioxide and deleted where it appears as a synonym for Nitrogen trifluoride.
- Nitrogen trifluoride: FTSC code to be changed into 4150

Page 23, Clause B.1

Modify the note to read: "The tolerances on lengths are $\pm 0,1$ mm".

The image contains two technical drawings of connectors, labeled a) and b).

a) Bull nose connector: This is a cross-sectional view of a connector. It features a horizontal section with a rounded end (bull nose) and a vertical section. Dimensions include:

- Horizontal lengths: L_4 , L_3 , L_2 , and a small gap of 1.
- Vertical diameters: ϕb (outer), ϕa (inner), ϕe (inner), $\phi 16$ (middle), and ϕc (outer).
- A chamfer angle of $1 \times 45^\circ$ is indicated on the vertical section.

b) O-ring connector: This is a cross-sectional view of a connector with an O-ring. Dimensions include:

- Horizontal lengths: 25,7, L_7 , and 13,2.
- Vertical diameters: ϕb (outer), ϕa (inner), $\phi 16$ (middle), and ϕc (outer).
- An O-ring is shown with a diameter of ϕa and a cross-section of 0.
- Chamfer angles of $1 \times 45^\circ$ and $90^\circ - 0,5$ are indicated.

Figure B.2 — Connectors

Page 25, Table B.2 — Dimensions of connectors

Replace Table B.2 with the following:

Table B.2 — Dimensions of connectors

Dimensions in millimetres

Nominal diameter of the connection = nominal diameter of the thread <i>D</i>	Constant A+B	<i>A</i>	<i>B</i>	<i>C</i>	<i>r</i>	<i>e</i>	<i>L</i> ₂	<i>L</i> ₃	<i>L</i> ₄	<i>L</i> ₇
24	28	11,2	16,8	21	5,5	11	6,5	14,5	22,5	21,5
		11,9	16,1							21,5
		12,6	15,4							21,2
		13,3	14,7							21,2
		14	14							21,2
27	32	11,8	20,2	24						21,5
		12,5	19,5							21,2
		13,2	18,8							21,2
		13,9	18,1							21,2
		14,6	17,4							21,2
		15,3	16,7							21,2
30	36	16	16	27	6	12	7	15	23	21,2
		12,4	23,6							
		13,1	22,9							
		13,8	22,2							
		14,5	21,5							
		15,2	20,8							
		15,9	20,1							
		16,6	19,4							
17,3	18,7									
18	18									
NOTE The tolerances on lengths are ± 0,1 mm.										

Page 26, Figure B.3 — Union nut

Modify the note to Figure B.3 to read: "The tolerances on lengths are $\pm 0,1$ mm."