
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

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ISO 5145:2004/Amd 2:2008

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Foreword

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

Amendment 2 to ISO 5145:2004 was prepared by Technical Committee ISO/TC 58, *Gas cylinders*, Subcommittee SC 2, *Cylinder fittings*.

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

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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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[ISO 5145:2004/Amd 2:2008](https://standards.iteh.ai/catalog/standards/sist/9ba6c9c6-cbb6-4332-8738-6e4ae38bef76/iso-5145-2004-amd-2-2008)
<https://standards.iteh.ai/catalog/standards/sist/9ba6c9c6-cbb6-4332-8738-6e4ae38bef76/iso-5145-2004-amd-2-2008>

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) (l)	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 (l)	O ₂ (4050)	12,5-19,5		12 (l)	(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	34
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 %)	35
13,3-14,7	6 (l)	(2150) except H ₂	3 (l) (M)	Inert gases and gas mixtures (0150) except for He and N ₂	13,9-18,1	13 (l)	5 (l)	Air (1050)	14,5-21,5		15 (M)		O ₂ /CO ₂ mixture (CO ₂ > 7 %) Air/He/CO (CO < 1 %) mixture	36
14-14	6 (l) ^a	H ₂ (2150)	10 (M)	O ₂ (4050)	14,6-17,4	9 (l)	4 (l)	(0200; 0201; 0203; 0213; 0300; 0303; 0253)	15,2-20,8		3 (M)		N ₂ /NO mixture (100 < NO < 1 000 ppm)	37
			10 (M)		15,3-16,7	8 (l)	11 (M)	N ₂ O (4110)	15,9-20,1		3 (l)		(0170)	29
			6 (l)		16-16	6 (l)	2 (M)	CO ₂ (0110)	16,6-19,4		5 (l)		Air (1070)	30
			6 (l)				2 (M)		17,3-18,7		6 (l)		(2100; 2110) (except commercial butane and propane)	40
			6 (l)				2 (M)				14 (l)		C ₂ H ₂ ^b (5130)	41
			1 (M)				1 (M)				1 (M)		SF ₆ ; C ₂ F ₆ ; C ₃ F ₈ (0100)	32
			1 (l)				1 (l)				1 (l)			33

^a l for industrial applications; M for medical applications (< 250 bar). See Annex D.

^b Acetylene.

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	Single gases, FTSC code, FTSC code	Right-hand (RH) or left-hand (LH) thread	Allocation of outlet connections						
				24		27		30		
				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	A-B combination mm	
1	Non-flammable, non-toxic gases; less stable thermally than group 3	0100	RH					0100 SF ₆ ; C ₂ F ₆ ; C ₃ F ₈	18-18	33
2	CO ₂	0110	RH			0110	16-16 (M)			
3	Non-flammable, non-toxic and thermally stable gases (except CO ₂)	0150	RH	Medical He and medical Xe	11,2-16,8	N ₂ (M) (I)	11,8-20,2	He/O ₂ mixture (O ₂ < 20 %)	12,4-23,6	25
		0170		Inert gas and gas mixtures	13,3-14,7					
4	Non-flammable, toxic and corrosive or corrosive by hydrolysis gases	0200; 0201; 0203; 0213; 0300; 0303; 0253	RH				14,6-17,4			29
5	Air only ^a	1150	RH			0200; 0201; 0213; 0300; 0303; 0253	14,6-17,4			
		1170			1050 Air (I)	13,9-18,1				
6	Flammable and non-toxic gases	2100; 2110; 2150; 2170	LH	H ₂ ≤ 250 bar	14-14	Commercial butane and propane	16-16		2170	15,2-20,8
		2150 (except H ₂)		13,3-14,7						
7	Flammable and corrosive (basic gases)	2102	LH					2102	16,6-19,4	40
8	Flammable, toxic and corrosive (acidic) or non-corrosive gases	2200	LH	Medical cyclopropane	11,2-16,8	CO 2250	15,3-16,7		2200; 2201; 2203; 2300; 2301	15,9-20,1
										23
										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	All allocation of outlet connections				Nominal diameter of the connection			
				24		27		30		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	A-B combination mm	Gases and gas mixtures and/or FTSC code	A-B combination mm		
9	Spontaneously flammable gases	3150; 3300; 3310	LH			3150; 3300; 3310	14,6-17,4				
10	O ₂ and high pressure oxidant	4050 (M) O ₂ (M)	RH	14-14							17,3-18,7
		4050 (l) O ₂ (l)		1,9-16,1	5						
11	N ₂ O	4110	RH			4110 (M)	15,3-16,7				
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				
13	Flammable gases subject to decomposition or polymerization	5100; 5200; 5300; 5301; 5350	LH			5100; 5200; 5300; 5301; 5350	13,9-18,1				
14	C ₂ H ₂ ^b	5130	LH						5130		18-18
15	Oxidant, non-toxic and non-corrosive gas mixture		RH			50 % N ₂ O/ 50 % O ₂ mixture (M)	13,2-18,8			O ₂ / N ₂ or O ₂ / He mixtures	13,1-22,9
										13	O ₂ /CO ₂ (CO ₂ ≤ 7 %) (M)
							12,5-19,5			CO ₂ /O ₂ (CO ₂ > 7 %) (M) air/He/CO (CO < 1 %) mixture (M)	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".