
Gas cylinders — List of provisions

Bouteilles à gaz — Inventaire des dispositions

STANDARDSISO.COM : Click to view the full PDF of ISO/TR 7470:2023



STANDARDSISO.COM : Click to view the full PDF of ISO/TR 7470:2023



COPYRIGHT PROTECTED DOCUMENT

© ISO 2023

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword.....iv

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 Valve outlets by countries and by threads 1

STANDARDSISO.COM : Click to view the full PDF of ISO/TR 7470:2023

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 of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 58, *Gas cylinders*, Subcommittee SC 2, *Cylinder fittings*.

This third edition cancels and replaces the second edition (ISO/TR 7470:1988), which has been technically revised.

The main changes are as follows:

- the tables have been provided in a spreadsheet available at: <https://standards.iso.org/iso/tr/7470/ed-1/en>

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html

Gas cylinders — List of provisions

1 Scope

This document lists gas cylinders valve outlets in use.

This document provides details of thread types and sizes.

NOTE Complete descriptions of particular valve outlets are given in national standards.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

4 Valve outlets by countries and by threads

Table 1 lists the gas and the corresponding tabs in the spreadsheet available at: <https://standards.iso.org/iso/tr/7470/ed-1/en>, where the nominal dimensions, designations and references of valve outlets found in national standards are presented by country and by thread type. All of the pressures are given in bar. In case of doubt, refer to the applicable valve outlet standard.

NOTE The pressure ratings are taken from the standards. The pressure rating for compressed gas normally corresponds to the working pressure of the gas cylinder and for liquefied gases to the test pressure of the gas cylinder.

Table 1 — List of gas with the corresponding tabs

Gas	UN number	Valve outlets by countries	Valve outlets by threads
1,1 - DIFLUOROETHANE	1030	Table 1	Table 2
1,1,1,2-TETRAFLUROETHANE (R134a)	3159	Table 3	Table 4
1,1,1-TRICHLOROTRIFLUOROETHANE		Table 5	Table 6
1,1,2-TRICHLOROTRIFLUOROETHANE (R113)		Table 7	Table 8
1, 1-DICHLOROTETRAFLUROETHANE (R114a)		Table 9	Table 10
1,1-DIFLUOROETHYLENE	1959	Table 11	Table 12
1, 2-DIBROMOTETRAFLUROETHANE (R114B2)		Table 13	Table 14
1,2-DICHLORODIFLUOROETHYLENE		Table 15	Table 16
1,2-DICHLOROETHYLENE (R1130)	1150	Table 17	Table 18
1, 2-DICHLOROHEXAFLUROCYCLOBUTANE (RC316)		Table 19	Table 20
1,3-BUTADIENE-1,3	1010	Table 21	Table 22
1.1.1TRIFLUOROETHANE OR R143A	2035	Table 23	Table 24

Table 1 (continued)

Gas	UN number	Valve outlets by countries	Valve outlets by threads
1-CHLORO 1,1-DIFLUORETHANE	2517	Table 25	Table 26
1-CHLORO-1, 2, 2, 2-TETRAFLUOROETHANE (R124)		Table 27	Table 28
1-CHLORO-2, 2, 2-TRIFLUOROETHANE (R133a)		Table 29	Table 30
2,3,3,3,-TETRAFLUORO-1-PROPENE (R1234yf)		Table 31	Table 32
2-METHYLPROPENE	1055	Table 33	Table 34
3-METHYL 1-BUTENE	2561	Table 35	Table 36
ACETYLENE	1001	Table 37	Table 38
AMMONIA	1005	Table 39	Table 40
ARGON	1006	Table 41	Table 42
ARSINE	2188	Table 43	Table 44
BORON TRICHLORIDE	1741	Table 45	Table 46
BORON TRIFLUORIDE	1008	Table 47	Table 48
BREATHABLE GAS MIXTURES (UNCO ₂ < 7% O.I. > O.I. (UNAIR))		Table 49	Table 50
BREATHABLE GAS MIXTURES (UNO.I.=O.I.(UNAIR))		Table 51	Table 52
BROMINE CHLORIDE	2901	Table 53	Table 54
BROMINE PENTAFLUORIDE	1745	Table 55	Table 56
BROMINE TRIFLUORIDE	1746	Table 57	Table 58
BROMOCHLORODIFLUOROMETHANE (R12B1)	1974	Table 59	Table 60
BROMOCHLOROMETHANE	1887	Table 61	Table 62
BROMOTRIFLUOROETHYLENE	2419	Table 63	Table 64
BROMOTRIFLUOROMETHANE	1009	Table 65	Table 66
BUTANE	1011	Table 67	Table 68
BUTENE-1 / BUTENE-2	1012	Table 69	Table 70
CARBON DIOXIDE	1013	Table 71	Table 72
CARBON MONOXIDE	1016	Table 73	Table 74
CARBONYL FLUORIDE	2417	Table 75	Table 76
CARBONYL SULFIDE	2204	Table 77	Table 78
CHLORINE	1017	Table 79	Table 80
CHLORINE PENTAFLUORIDE	2548	Table 81	Table 82
CHLORINE TRIFLUORIDE	1749	Table 83	Table 84
CHLORODIFLUOROMETHANE (R22)	1018	Table 85	Table 86
CHLOROHEPTAFLUOROCYCLOBUTANE (RC317)		Table 87	Table 88
CHLOROPENTAFLUOROETHANE	1020	Table 89	Table 90
CHLOROTETRAFLUOROETHANE	1021	Table 91	Table 92
CHLOROTRIFLUORETHYLENE	1082	Table 93	Table 94
CHLOROTRIFLUOROETHANE	1983	Table 95	Table 96
CHLOROTRIFLUOROMETHANE	1022	Table 97	Table 98
CHLOROTRIFLUORO-METHANE AND TRIFLUOROMETHANE	2599	Table 99	Table 100
CO+H ₂	1954	Table 101	Table 102
COAL GAS	1023	Table 103	Table 104
COMPRESSED GAS, OXIDIZING, N.O.S.	3156	Table 105	Table 106
CYANOGENE	1026	Table 107	Table 108
CYANOGENECHLORIDE	1589	Table 109	Table 110

Table 1 (continued)

Gas	UN number	Valve outlets by countries	Valve outlets by threads
CYCLOBUTANE	2601	Table 111	Table 112
CYCLOPROPANE	1027	Table 113	Table 114
DEUTERIUM	1957	Table 115	Table 116
DEUTERIUM FLUORIDE		Table 117	Table 118
DEUTERIUM SELENIDE		Table 119	Table 120
DEUTERIUM SULFIDE		Table 121	Table 122
DIBORANE	1911	Table 123	Table 124
DIBROMODIFLUOROMETHANE OR R12B2	1041	Table 125	Table 126
DICHLORODIFLUOROMETHANE OR REFRIGERANT GAS (R12)	1028	Table 127	Table 128
DICHLOROFLUOROMETHANE	1029	Table 129	Table 130
DICHLOROSILANE	2189	Table 131	Table 132
DICHLOROTETRAFLUOROETHANE (R114)	1958	Table 133	Table 134
DICHLOROTRIFLUOROETHANE (R123)		Table 135	Table 136
DIETHYL ETHER	1155	Table 137	Table 138
DIFLUOROMETHANE (R32)	3252	Table 139	Table 140
DIMETHYLAMINE	1032	Table 141	Table 142
DIMETHYLETHER	1033	Table 143	Table 144
DIMETHYLPROPANE	2044	Table 145	Table 146
DINITROGENTRIOXIDE	1421	Table 147	Table 148
ETHANE	1035	Table 149	Table 150
ETHYL CHLORIDE	1037	Table 151	Table 152
ETHYL FLUORIDE (R161)	2453	Table 153	Table 154
ETHYL METHYL ETHER	1039	Table 155	Table 156
ETHYLACETYLENE	2452	Table 157	Table 158
ETHYLAMINE	1036	Table 159	Table 160
ETHYLENE	1962	Table 161	Table 162
ETHYLENE OXIDE	1040	Table 163	Table 164
ETHYLENE OXIDE AND DICHLORODIFLUORO-METHANE	3070	Table 165	Table 166
FLUORINE	1045	Table 167	Table 168
FLUOROFORM	1984	Table 169	Table 170
GERMANE	2192	Table 171	Table 172
HELIUM	1046	Table 173	Table 174
HEPTAFLUOROPROPANE R227	3296	Table 175	Table 176
HEXAETHYL TETRAPHOSPHATE AND COMPRESSED GAS MIXTURE	1612	Table 177	Table 178
HEXAFLUROACETONE	2420	Table 179	Table 180
HEXAFLUROETHANE	2193	Table 181	Table 182
HEXAFLUROPROPENE	1858	Table 183	Table 184
HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S.	1965	Table 185	Table 186
HYDROGEN	1049	Table 187	Table 188
HYDROGEN AND METHANE MIXTURE, COMPRESSED	2034	Table 189	Table 190
HYDROGEN BROMIDE	1048	Table 191	Table 192
HYDROGEN CHLORIDE	1050	Table 193	Table 194
HYDROGEN CYANIDE	1051	Table 195	Table 196

Table 1 (continued)

Gas	UN number	Valve outlets by countries	Valve outlets by threads
HYDROGEN FLUORIDE	1052	Table 197	Table 198
HYDROGEN IODIDE	2197	Table 199	Table 200
HYDROGEN SELENIDE	2202	Table 201	Table 202
HYDROGEN SULFIDE	1053	Table 203	Table 204
ISOBUTANE	1969	Table 205	Table 206
ISOBUTYLENE	1055	Table 207	Table 208
KRYPTON	1056	Table 209	Table 210
LIQUEFIED GAS, FLAMMABLE, N.O.S.	3161	Table 211	Table 212
LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.	3309	Table 213	Table 214
LIQUEFIED GAS, TOXIC, FLAMMABLE, N.O.S.	3160	Table 215	Table 216
LIQUEFIED GAS, TOXIC, N.O.S.	3162	Table 217	Table 218
LPG	1075	Table 219	Table 220
METHANE OR NATURAL GAS	1971	Table 221	Table 222
METHANETHIOL	1064	Table 223	Table 224
METHYL BROMIDE	1062	Table 225	Table 226
METHYL CHLORIDE AND METHYLENE CHLORIDE MIXTURE	1912	Table 227	Table 228
METHYL CHLORIDE (R40)	1063	Table 229	Table 230
METHYL FLUORIDE	2454	Table 231	Table 232
METHYL IODIDE	2644	Table 233	Table 234
METHYL NITRITE	2495	Table 235	Table 236
METHYL VINYL ETHER	1087	Table 237	Table 238
METHYLACETYLENE	1060	Table 239	Table 240
METHYLAMINE	1061	Table 241	Table 242
METHYLENE FLUORIDE (R32)	3252	Table 243	Table 244
MONOCHLOROSILANE	2988	Table 245	Table 246
NEON	1065	Table 247	Table 248
NICKEL CARBONYL	1259	Table 249	Table 250
NITROGEN	1066	Table 251	Table 252
NITROGEN DIOXIDE	1067	Table 253	Table 254
NITROGEN MONOXIDE	1660	Table 255	Table 256
NITROGEN TRIFLUORIDE	2451	Table 257	Table 258
NITROGEN TRIOXIDE	2421	Table 259	Table 260
NITROSYLCHLORIDE	1069	Table 261	Table 262
NITROUS OXIDE	1070	Table 263	Table 264
OCTAFLUOROBUT-2-ENE (R1318)	2422	Table 265	Table 266
OCTAFLUOROCYCLOBUTANE (R138)	1976	Table 267	Table 268
OCTAFLUOROPROPANE (R218)	2424	Table 269	Table 270
OXYGEN	1072	Table 271	Table 272
OXYGEN DIFLUORIDE	2190	Table 273	Table 274
PENTACHLOROFLUOROETHANE (R111)		Table 275	Table 276
PENTAFLUOROETHANE	3220	Table 277	Table 278
PENTAFLUOROETHYL IODIDE		Table 279	Table 280
PERFLUOROBUTANE	3163	Table 281	Table 282

Table 1 (continued)

Gas	UN number	Valve outlets by countries	Valve outlets by threads
PERFLUOROBUTENE		Table 283	Table 284
PHOSGENE	1076	Table 285	Table 286
PHOSPHINE	2199	Table 287	Table 288
PHOSPHORUS PENTAFLUORIDE	2198	Table 289	Table 290
PHOSPHORUS TRIFLUORIDE		Table 291	Table 292
PROPADIENE	2200	Table 293	Table 294
PROPANE	1978	Table 295	Table 296
PROPYLENE	1077	Table 297	Table 298
PROPYLENE OXIDE	1280	Table 299	Table 300
DIFLUOROMETHANE (R500)	2602	Table 301	Table 302
REFRIGERANT GAS	3163	Table 303	Table 304
REFRIGERANT GAS (R-404A)	3337	Table 305	Table 306
REFRIGERANT GAS (R-407A)	3338	Table 307	Table 308
REFRIGERANT GAS (R-407B)	3339	Table 309	Table 310
REFRIGERANT GAS (R-407C)	3340	Table 311	Table 312
SELENIUM HEXAFLUORIDE	2194	Table 313	Table 314
SILANE	2203	Table 315	Table 316
SILICON TETRACHLORIDE	1818	Table 317	Table 318
SILICON TETRAFLUORIDE	1859	Table 319	Table 320
STIBINE	2676	Table 321	Table 322
SULFUR DIOXIDE	1079	Table 323	Table 324
SULFUR TETRAFLUORIDE	2418	Table 325	Table 326
SULFUR-HEXAFLUORIDE	1080	Table 327	Table 328
SULFURYL FLUORIDE	2191	Table 329	Table 330
TELLURIUM HEXAFLUORIDE	2195	Table 331	Table 332
TETRACHLORODIFLUOROETHANE (R112)		Table 333	Table 334
TETRAFLUORETHYLENE	1081	Table 335	Table 336
TETRAFLUORMETHANE	1982	Table 337	Table 338
TETRAFLUOROHYDRAZINE		Table 339	Table 340
TRICHLOROSILANE	1295	Table 341	Table 342
TRIFLUOROACETYL CHLORIDE	3057	Table 343	Table 344
TRIFLUOROMETHYL IODIDE		Table 345	Table 346
TRIMETHYLAMINE	1083	Table 347	Table 348
TUNGSTEN HEXAFLUORIDE	2196	Table 349	Table 350
VINYL BROMIDE	1085	Table 351	Table 352
VINYL CHLORIDE	1086	Table 353	Table 354
VINYL FLUORIDE	1860	Table 355	Table 356
VINYL METHYL ETHER	1087	Table 357	Table 358
XENON	2036	Table 359	Table 360
LIQUEFIED GASES, NON-FLAMMABLE CHARGED WITH NITROGEN, CARBON DIOXIDE OR AIR	1058	Table 361	Table 362
REFRIGERANT GASES, N.O.S	1078	Table 363	Table 364
COMPRESSED GAS, N.O.S	1956	Table 365	Table 366