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Australian Standard 2472—1983

VALVES FOR MEDICAL GAS CYLINDERS (PIN-INDEXED OUTLET)

STANDARDS ASSOCIATION OF AUSTRALIA
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The following interests are represented on Committee ME/2:

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Australasian Steamship Owners Federation
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VALVES FOR MEDICAL GAS CYLINDERS (PIN-INDEXED OUTLET)

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PREFACE

This edition of this standard was prepared by the Association's Committee on Gas Cylinders to supersede AS 2472—1981.

Dimensions for the pin-index couplings are taken from the metric range of BS 1319, Medical Gas Cylinders, Valves and Yoke Connections which in turn generally aligns with ISO/R 407, Yoke Type Valve Connections for Small Medical Gas Cylinders Used for Anaesthetic and Resuscitation Purposes, and follows ANSI B57.1, Compressed Gas Cylinder Valve Outlet and Inlet Connections. This standard provides what is in effect a soft metrication of the dimensions given in Supplement 1 to AS CB4 (the former SAA Gas Cylinders Code, now superseded by AS 2030). Following a report of possible incorrect connection due to loss of a pin, a requirement has been included that the pins not be readily detachable.

An additional outlet connection for nitrogen is included, as will be provided in ISO 407.2*. Requirements for aspects other than the outlet are provided by reference to AS 2473, Valves for Compressed Gas Cylinders.

*In course of preparation.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
VALVES FOR MEDICAL GAS CYLINDERS (PIN-INDEXED OUTLET)

1 SCOPE. This standard specifies inlet threads, outlet non-interchangeability features, material, testing, and marking requirements for medical gas cylinder valves.

NOTE: Although medical gases may also be used for non-medical breathing application, it is not intended that valves specified in this standard be mandatory for non-medical applications.

2 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

AS 2030	SAA Gas Cylinders Code
AS 2473	Valves for Compressed Gas Cylinders (Diameter-indexed Outlets)

3 DEFINITIONS. For the purpose of this standard, the definitions given in AS 2030 apply.

4 VALVE STEM THREAD. The valve stem (inlet) thread shall comply with AS 2473.

5 OUTLET CONNECTIONS. The outlet connection shall conform to the yoke arrangement and dimensions of the yoke connecting features given in Fig. 1(a) or to either of the alternatives given in Fig. 1(c) and (d).

NOTE: The user should nominate any preference for one particular yoke arrangement.

The pin locations shall comply with Figs 2 to 11 and 13 as nominated for the particular gas or gas mixtures in Table 1. The pin dimensions and corresponding hole dimensions shall comply with Fig. 1(a), or for single pin connections Fig. 1(b), as appropriate.

Pins shall not be readily detachable from the yoke.

NOTE: Pins that may be unscrewed with commonly available spanners are considered to be readily detachable unless special thread locking is provided.

6 SPINDLE AND HANDWHEEL. Valves operated by a spindle shall have a handwheel not separable from the spindle without the use of tools, or shall have a flatted end to the spindle conforming to Fig. 12.

An attached handwheel shall not obstruct the coupling or uncoupling of the valve and yoke.

Where the valve is operated by a spindle, clockwise operation of the spindle (when viewed from the spindle end) shall close the valve. The spindle gland and spindle retaining nut shall not be loosened by operation of the spindle.

7 MATERIALS. The materials compatibility and valve body mechanical properties shall comply with AS 2473.

8 MANUFACTURE. Valve bodies shall not be manufactured as castings.

9 PRESSURE RATING. The pressure rating shall comply with AS 2473.

10 TESTING. Testing shall be in accordance with AS 2473.

11 MARKING. Valves shall be permanently and legibly marked on the body with the manufacturer's name or mark, and sufficient information to determine the maximum service pressure for which the valve is designated.

TABLE 1
PIN CODES FOR PARTICULAR GASES AND GAS MIXTURES

Gas	Pin code (See Figs 1 to 11 and 13)	Reference Figure
Oxygen	2, 5	2
Oxygen/carbon dioxide mixtures (carbon dioxide not exceeding 7 percent)	2, 6	3
Oxygen/helium mixtures (helium not exceeding 80 percent)	2, 4	4
Ethylene	1, 3	5
Nitrous oxide	3, 5	6
Cyclopropane	3, 6	7
Helium, and for helium/oxygen mixtures (oxygen less than 20 percent)	4, 6	8
Carbon dioxide, and for carbon dioxide/oxygen mixtures (carbon dioxide exceeding 7 percent)	1, 6	9
Medical air	1, 5	10
Oxygen 50 percent/nitrous oxide 50 percent	Single pin	11
Nitrogen	1, 4	13