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Australian Standard 2472—1981

VALVES FOR MEDICAL GAS CYLINDERS (PIN-INDEXED OUTLET)

STANDARDS ASSOCIATION OF AUSTRALIA
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THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL ORGANIZATIONS and departments were officially represented on the committee entrusted with the preparation of this standard:

Aluminium Development Council

Australasian Steamship Owners Federation

Australian Chamber of Commerce

Australian Liquefied Petroleum Gas Association

Australian Underwater Federation

Bureau of Steel Manufacturers of Australia

Confederation of Australian Industry

Department of the Capital Territory

Department of Defence

Department of Industrial Affairs and Employment, S.A.

Department of Industrial Relations, N.S.W.

Department of Labour and Industry, Vic.

Department of Labour and Industry, W.A.

Department of Labour and Industry, Tas.

Department of Labour Relations, Qld

Department of Mines, Qld

Department of Mines and Energy, N.T.

Insurance Council of Australia

Railways of Australia Committee

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VALVES FOR MEDICAL GAS CYLINDERS (PIN-INDEXED OUTLET)

AS 2472—1981

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PREFACE

This standard was prepared by the Association's Committee on Gas Cylinders. It supersedes Supplement No 1 (1955) to AS CB4.

Dimensions for the pin-index couplings are taken from the metric range of BS 1319: 1976, which in turn generally aligns with ISO/R 407 and follows ANSI B57.1. This standard provides what is in effect a soft metrication of the dimensions given in Supplement 1 to AS CB4. 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 single pin connection for the special mixture of 50 percent oxygen and 50 percent nitrous oxide is included, as provided in BS 1319. Requirements for aspects other than the outlet connection and handwheels are provided by reference to AS 2473.

This standard requires reference to the following standards:

AS 2030 SAA Gas Cylinders Code

AS 2473 Valves for Compressed Gas Cylinders (Threaded Outlet)

CONTENTS

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

3 VALVE STEM THREAD. The valve stem (inlet) thread shall comply with Clause 3.1 of AS 2473.

4 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 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.

5 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.

6 MATERIALS. The materials compatibility and valve body mechanical properties shall comply with Clause 6 of AS 2473.

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

8 PRESSURE RATING. The pressure rating shall comply with Clause 8 of AS 2473.

9 TESTING. Testing shall be in accordance with Clause 9 of AS 2473.

10 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)	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