



Assets Planning and Delivery Group
Engineering

DESIGN STANDARD DS 70-06

CHLORINE ANCILLARY EQUIPMENT

VERSION 1
REVISION 0

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FOREWORD

The intent of Design Standards is to specify requirements that assure effective design and delivery of fit for purpose Water Corporation infrastructure assets for best whole-of-life value with least risk to Corporation service standards and safety. Design standards are also intended to promote uniformity of approach by asset designers, drafters and constructors to the design, construction, commissioning and delivery of water infrastructure and to the compatibility of new infrastructure with existing like infrastructure.

Design Standards draw on the asset design, management and field operational experience gained and documented by the Corporation and by the water industry generally over time. They are intended for application by Corporation staff, designers, constructors and land developers to the planning, design, construction and commissioning of Corporation infrastructure including water services provided by land developers for takeover by the Corporation.

Nothing in this Design Standard diminishes the responsibility of designers and constructors for applying the requirements of WA OSH Regulations 1996 (Division 12, Construction Industry – consultation on hazards and safety management) to the delivery of Corporation assets. Information on these statutory requirements may be viewed at the following web site location:

https://www.legislation.wa.gov.au/legislation/statutes.nsf/law_s4665.html

Enquiries relating to the technical content of a Design Standard should be directed to the Senior Principal Engineer, Water Treatment, Engineering. Future Design Standard changes, if any, will be issued to registered Design Standard users as and when published.

Head of Engineering

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Any interpretation of anything in the Standards/Specifications that deviates from specific Water Corporation Project requirements must be referred to, and resolved by, reference to and for determination by the Water Corporation's project manager and/or designer for that particular Project.

REVISION STATUS

The revision status of this standard is shown section by section below:

REVISION STATUS						
SECT.	VER./REV.	DATE	PAGES REVISED	REVISION DESCRIPTION (Section, Clause, Sub-Clause)	RVWD.	APRV.
1	1/0	11.02.01	All	New Version/Revision	BM	DH

2	1/0	11.02.01	All	New Version/Revision	BM	DH

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1 PRELIMINARIES

1.1 Scope

The scope of this Design Standard is to list the ancillary equipment required for specific types of chlorine installations.

1.2 Standards

This Design Standard refers to the following current Standards:

AS/NZS 2927 The storage and handling of liquefied chlorine gas

1.3 Definitions

1.3.1 Chlorine

Elemental chlorine in its gaseous or liquid form.

1.3.2 Container

The vessel in which the chlorine is wholly or partly contained, including cylinders and drums.

1.3.3 Cylinder

A rigid packaging, which is designed in accordance with AS 2030.1 as a portable pressure vessel for storage of chlorine, and has only one cylinder valve, at the top, used for the withdrawal of chlorine gas.

1.3.4 Chlorine Store

An area that is used solely for the storage of chlorine containers and their associated equipment.

1.3.5 Drum

A cylindrical steel container having a water capacity of 500-1000 L and which can be fitted into a protective cradle for storage and transport.

1.3.6 Shall

Indicates the statement is mandatory, and thus must be carried out.

1.3.7 Should or May

Indicates the statement is a recommendation.

1.3.8 Cylinder Facility

A building designed to house chlorine cylinders. Cylinders are moved about using purpose-built trolleys.

1.3.9 Drum Facility

A building designed to house chlorine drums. Drums are unloaded from trucks using HIABs, or monorail or gantry cranes.

2 REQUIREMENTS

The ancillary equipment requirements for each type of chlorine facility are listed below, along with links to the relevant Equipment Specifications. Contractors can source these specifications from the Superintendent or Principal's Representative.

2.1.1 Chlorine Facilities Housing Cylinders

Chlorine cylinder facilities (both prefabricated modules and fixed buildings) shall be provided with the following equipment:

- 1) Ammonia Bottle Station

<https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573716>

- 2) Chlorine Mallet

<https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573731>

- 3) Chlorine Valve Key

<https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573742>

- 4) Multi Chlorine Spanner

<https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573779>

- 5) Manifest Holder Tube

<https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573764>

- 6) Windsock or Windvane (according to Region preference)

<https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573792>

<https://nexus.watercorporation.com.au/otcs/cs.exe/link/58574823>

- 7) Cylinder Ramps

<https://nexus.watercorporation.com.au/otcs/cs.exe/link/58575759>

2.1.2 Drum Rail Module or Drum Facility

Chlorine drum facilities (both prefabricated modules and fixed buildings) shall be provided with the following equipment:

- 1) Ammonia Bottle Station

<https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573716>

- 2) Chlorine Mallet

<https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573731>

- 3) Chlorine Valve Key

<https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573742>

- 4) Multi Chlorine Spanner

<https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573779>

- 5) Manifest Holder Tube

<https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573764>

- 6) Windsock or Windvane (according to Region preference)

<https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573792>

<https://nexus.watercorporation.com.au/otcs/cs.exe/link/58574823>

- 7) Lifting Beam

<https://nexus.watercorporation.com.au/otcs/cs.exe/link/103786207>

- 8) Lifting Beam Rest

<https://nexus.watercorporation.com.au/otcs/cs.exe/link/103814850>

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