

Australian Standard™

**Fixed fire protection installations—  
Pumpset systems**

This Australian Standard was prepared by Committee FP-008, Fire Service Pumps. It was approved on behalf of the Council of Standards Australia on 21 June 2002 and published on 2 September 2002.

---

The following are represented on Committee FP-008:

Association of Consulting Engineers, Australia  
Association of Hydraulic Services Consultants, Australia  
Australasian Fire Authorities Council  
Australasian Railways Association  
Australian Chamber of Commerce and Industry  
Australian Pump Manufacturers Association  
Fire Protection Association, Australia

---

### **Keeping Standards up-to-date**

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Australia web site at [www.standards.com.au](http://www.standards.com.au) and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Australian Standard*, has a full listing of revisions and amendments published each month.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at [mail@standards.com.au](mailto:mail@standards.com.au), or write to the Chief Executive, Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001.

---

Australian Standard™

**Fixed fire protection installations—  
Pumpset systems**

Originated as AS 2941—1987.  
Previous edition 1995.  
Third edition 2002.

**COPYRIGHT**

© Standards Australia International

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia International Ltd  
GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 4642 X

## PREFACE

This Standard was prepared by the Standards Australia Committee FP-008, Fire Service Pumps, to supersede AS 2941—1995.

The objective of the Standard is to provide regulatory authorities and fire protection system designers with requirements for pumpset systems to suit various types of fire protection systems such that a reasonable degree of protection for life and property from fire may be achieved. These requirements are based on sound engineering principles, test data and field experience.

Although the installation of a pumphouse is not a requirement of this Standard, the Committee has considered the fire pumpset and its ancillary equipment as being ideally located in a pumphouse. Requirements are established for the selection, installation and operation of fire pumps, pump drivers and associated equipment. However, the Standard does not consider the number, disposition or types of driver considered appropriate for a given fixed fire protection system. The term ‘driver’ is used in lieu of the term ‘engine’ or ‘motor’.

The committee does not consider the initiation of the starting sequence outside the pumphouse to be within the scope of this Standard. Instead, it has considered the processing of signals entering the pumphouse.

The Standard provides minimum performance requirements for pumpsets including motors, engines, fire pump controllers, batteries and related ancillaries. The Standard requires that pumpsets be shop tested as an assembly, that is, the pump driver and fire pump controller are to be checked as a working combination (and appropriate test certification issued) prior to dispatch from the pumpset assembler’s works. Further testing is required following final installation on site, and the Standard requires the incorporation of a flow-measuring device at each pumpset, unless provided elsewhere, to facilitate commissioning and subsequent periodic testing.

The Standard requires that each pump be provided with circulation relief to protect the pump from damage when exposed to extended periods of operation at or near shut-off head. It also requires that some pumps be provided with a pressure-relief/flow control valve to protect downstream piping from overpressurization and the pump against suction and discharge recirculation. Circulation and pressure-relief flow control requirements are addressed in Section 3.

This edition includes requirements for residential sprinkler system and domestic sprinkler system pumpsets.

Maintenance requirements for fire pumpsets are given in AS 1851.14, *Maintenance of fire protection equipment*, Part 14: *Pumpset systems*.

The symbols used in this Standard comply with those given in HB20, *Graphical symbols for fire protection drawings*, and have been developed from ISO Standards. The typical illustrations are in diagrammatic form only.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

*This Standard incorporates commentary on some of the clauses. The commentary directly follows the relevant clause, is designated by ‘C’ preceding the clause number and is printed in italics in a box. The commentary is for information and guidance.*

## CONTENTS

	<i>Page</i>
<b>SECTION 1 SCOPE AND GENERAL</b>	
1.1 SCOPE.....	5
1.2 APPLICATION .....	5
1.3 REFERENCED DOCUMENTS.....	5
1.4 DEFINITIONS.....	5
<b>SECTION 2 WATER SUPPLIES</b>	
2.1 GENERAL.....	9
2.2 ACCEPTABLE SOURCES OF SUPPLY .....	9
2.3 QUALITY OF WATER.....	9
2.4 FLOODED SUCTION .....	9
2.5 SUCTION.....	9
<b>SECTION 3 GENERAL REQUIREMENTS FOR FIRE PROTECTION PUMPSETS</b>	
3.1 PERFORMANCE CHARACTERISTICS .....	10
3.2 TYPES OF PUMPS .....	13
3.3 TYPES OF DRIVERS .....	15
3.4 PUMP/DRIVER CONNECTION .....	15
3.5 BASEPLATE.....	15
3.6 PIPEWORK (see also Section 11) .....	15
3.7 VALVES .....	16
3.8 VISIBILITY OF DISCHARGE .....	18
3.9 PRESSURE GAUGES.....	18
3.10 FLOW-MEASURING DEVICES .....	18
3.11 STARTING AND CONTROL.....	19
3.12 ELECTRICAL REQUIREMENTS .....	19
3.13 MARKING .....	19
3.14 PUMPSET MANUALS .....	20
3.15 PUMPSET CONFIGURATIONS .....	20
<b>SECTION 4 SPECIFIC REQUIREMENTS FOR FIRE PROTECTION PUMPS</b>	
4.1 GENERAL.....	27
4.2 END-SUCTION PUMPS .....	29
4.3 AXIALLY SPLIT CASE PUMPS (HORIZONTAL OR VERTICAL SHAFT) .....	29
4.4 MULTISTAGE CENTRIFUGAL PUMPS .....	29
4.5 TURBINE TYPE CENTRIFUGAL PUMPS (VERTICAL SHAFT).....	30
4.6 DRIVERS FOR VERTICAL TURBINE PUMPS.....	32
<b>SECTION 5 REQUIREMENTS FOR PRESSURE MAINTENANCE PUMPS</b>	
5.1 GENERAL.....	33
5.2 GENERAL REQUIREMENTS.....	33
<b>SECTION 6 FIRE HOSE REEL PUMPSETS</b>	
6.1 GENERAL.....	35
6.2 PREASSEMBLED FIRE HOSE REEL PUMPSETS.....	35
6.3 TYPES.....	35
6.4 OPERATION.....	35
6.5 ELECTRICAL .....	36
6.6 VALVES .....	36
6.7 UNIONS .....	36
6.8 MAXIMUM ALLOWABLE WORKING PRESSURE.....	36
6.9 MARKING .....	36

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
  - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-