



# ANNUAL HYDRANT FLOW TESTING

What you need to know

[www.fwsrgroup.com.au](http://www.fwsrgroup.com.au)

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## OUR FIRE SERVICES

FWSR Group's expert technicians operate in accordance with Australian Fire Regulations, providing a full range of services from installation, commissioning, testing and certifying to repairs and maintenance.

FWSR Group can install, commission, test and certify:

- Portable fire equipment
- Fire hose reels
- Fire alarms
- Sprinklers and fire pumps
- Hydrants
- EWIS/OWS/FIP
- Emergency and exit lights
- Breathing apparatus
- Gas detection

We can also provide maintenance and training for:

- Fire extinguishers
- Fire hose reels
- Fire blankets
- Emergency and exit lights
- Fire alarms
- EWIS/OWS
- Sprinkler systems
- Fire, smoke and exit doors
- Fire hydrants
- Passive fire elements

## SUPPORT & SERVICE

Under AS1851 (Australian Standard), building owners are required to meet safety standards for fire protection systems. This set of rules and regulations ensures building owners are compliant with occupational health and safety requirements and any applicable laws.

But most importantly, these regulations provide safeguards that fire protection systems are routinely tested and maintained to operate at their full capacity in the event of an emergency.

FWSR Group is your 'one-stop-shop' when it comes to fire protection and improving the safety processes in your workplace. We are able to assist you with fire protection compliance, while you will have full access to digital records via our online portal, offering you complete transparency.





## AUSTRALIAN FIRE STANDARDS

The AS1851 Fire Service Standard – Routine Service of Fire Protection and Equipment – includes a series of inspections, tests and maintenance activities to be performed on fire protection systems at set intervals. This includes:

- Monthly
- Quarterly
- 6-monthly
- Yearly
- 5-yearly
- 10-yearly
- 25-yearly and;
- 30-yearly service.

Fire protection systems refer to fire detection and suppression systems including:

- Automatic fire sprinkler systems
- Fire pump sets
- Fire hydrant systems
- Hydrant valves
- Water storage tanks for fire protection systems.

- Fire detection and alarm systems
- Special hazard systems
- Fire hoses, extinguishers and blankets
- Passive fire and smoke systems
- Fire and smoke control features and mechanical services
- Emergency planning in facilities.

The standards set out what tests, inspections and maintenance needs to occur at each set interval.

At FWSR Group, we are committed to providing excellent customer service by partnering with our clients to provide ongoing support for all of your fire services' needs.

We keep all of your equipment and asset information on a database for future scheduling requirements and will get in touch with you prior to your scheduled maintenance being due to arrange a suitable time for your next



COMPLIANCE

REGULATIONS

## ANNUAL ROUTINE SERVICING

### What is the purpose of the annual routine service and flow test?

A reliable water supply is critical to emergency services when responding to a fire and can be the difference to protecting lives and property.

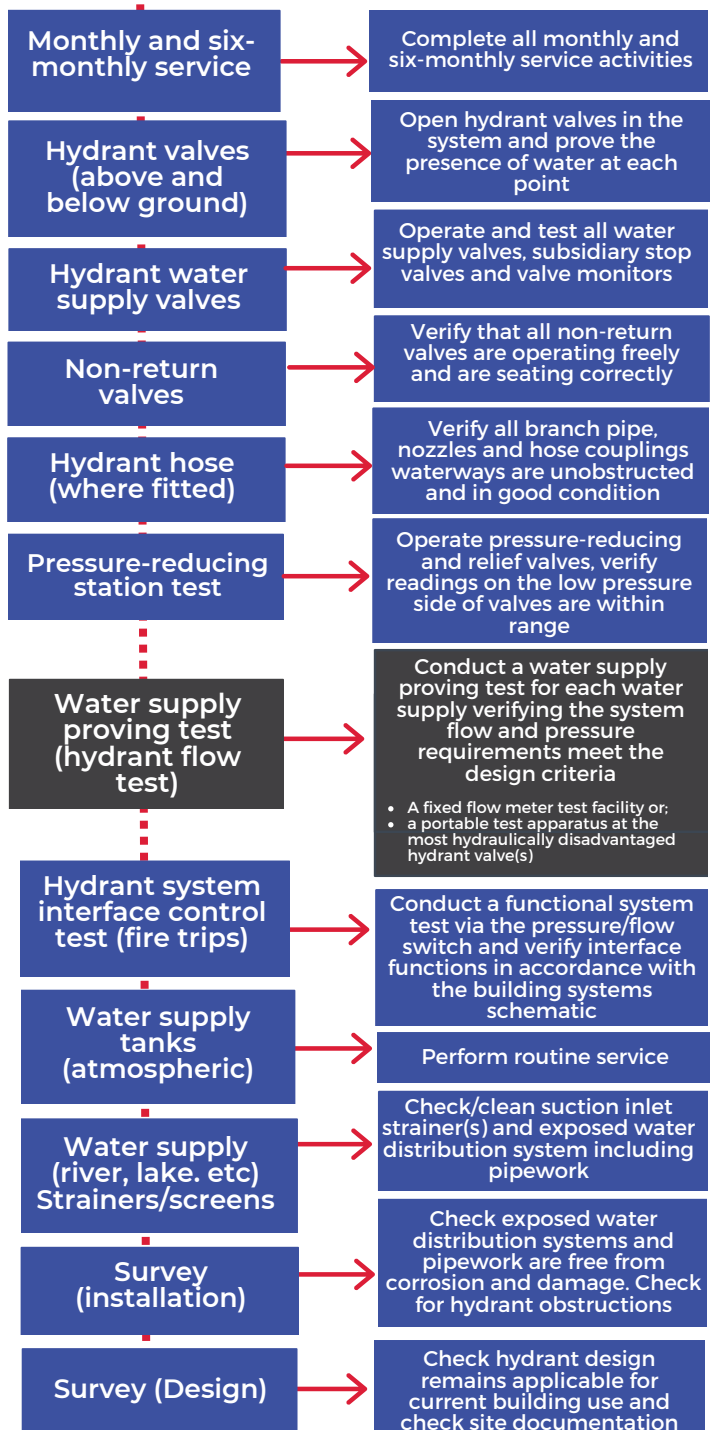
Fire hydrant systems are key to ensuring this water supply is readily available for firefighting operations. But, like all systems, they need to be routinely tested and maintained to ensure their reliability in the event of an emergency.

As part of Australian Standards for the *Routine Service of Fire Protection Systems and Equipment*, the fire hydrant system is required to be tested monthly, six-monthly, annually and every five years. However, a point of difference with the annual hydrant testing is the requirement for a hydrant flow test.

In the standards, this is referred to as a water supply proving test. In short, the fire hydrant pressure and flow test, determines whether there is adequate water supply to the fire protection system.

Testing confirms the flow of water at any given point in the utilised water distribution system and ensures there are no obstructions or impediments restricting the flow of water.

### Fire Hydrant System Annual Service Schedule





# ANNUAL HYDRANT FLOW TEST FREQUENTLY ASKED QUESTIONS

## Do I need an annual hydrant flow test?

Yes, in accordance with Australian Fire Regulations, *AS 1851 - 2012 Routine Service of Fire Protection Systems and Equipment*, an annual flow test is required for all hydrant systems, to ensure the system is in optimal working condition.

The annual flow test simulates fire-fighting operations and determines if the system is sustaining the required pressure and flow for use by emergency services and ensures there are no obstructions or impediments restricting water flow.

## What will be recorded during the flow test?

- The address of the site where the test was conducted, and the date of the test.
- The location of hydrant/s on your site that were tested.
- The hydrant system's minimum water requirements. These are recorded in l/sec's (flow) and kPa (pressure).
- The Static Pressure within the hydrant system. This is the water pressure with no hydrants flowing.
- The Residual Pressure. This is the remaining pressure within the hydrant system when one or more hydrants are flowed at a given flow rate.
- Results of the flow test and comparisons against the system's minimum flow and pressure requirements.

## What else do we look for when it comes to hydrants?

While the hydrant flow test is a key aspect of annual testing, there are other checks when it comes to hydrants.

These tasks are completed in addition to testing water flow and pressure to check the hydrant is easily identifiable, clear of obstructions and hazards and accessible for emergency services.

## Who determines the requirement for a hydrant in my building/location?

While Australian Fire Standards determine the regular testing, inspection and maintenance requirements for building fire detection and suppression systems, the type of system or equipment you require is legislated under the National Construction Code.

Your building design, size and location will determine what equipment, system or solution is required to best prevent the spread of the fire, provide access for firefighting operations and minimise the risk to lives and property in the event of a fire.

For more information, refer to the code: <https://ncc.abcb.gov.au/editions/ncc-2022/adopted/volume-two/h-class-1-and-10-buildings/part-h3-fire-safety>



# HYDRANT FLOW TEST CRITERIA

## Maximum static pressure

The maximum static pressure at any fire hydrant at no flow, with the pump running is 1300 kPa.

The below table outlines the number of fire hydrant outlets required to discharge simultaneously according to building classification and floor area.

Building classification	Fire compartment floor area m <sup>2</sup>	No. of fire hydrant outlets required to flow simultaneously
2, 3, 5 and 9 (1 or 2 storeys contained)	<1000	1
2, 3, 5 and 9 (1 or 2 storeys contained)	>1000 <5000	2
2, 3, 5 and 9 (3 or more storeys contained)	<500	1
2, 3, 5 and 9 (3 or more storeys contained)	>500 <5000	2
6, 7 and 8	<500	1
6, 7 and 8	>500 <5000	2
All classes sprinklered	>5000 <10,000	2
All classes sprinklered	>10,000	3
All classes sprinklered	>5000 <10,000	3
All classes sprinklered	>10,000	3 plus one additional fire hydrant for each additional 5000 m <sup>2</sup> or part thereof



# HYDRANT FLOW TEST CRITERIA

## Minimum static pressure

The below table outlines the minimum fire hydrant outlet flow rates and pressures.

Fire hydrant type	Minimum required flow rate (L/s)	Minimum required residual pressure (kPa)	
		NSW	All other states and territories
Feed fire hydrant, unassisted	10	150	200
Attack fire hydrant, unassisted	10	250	350
Internal and external fire hydrants when boosted by a fire brigade pumping appliance	10	700	700

## Fire hydrant outlet flow rates and pressures

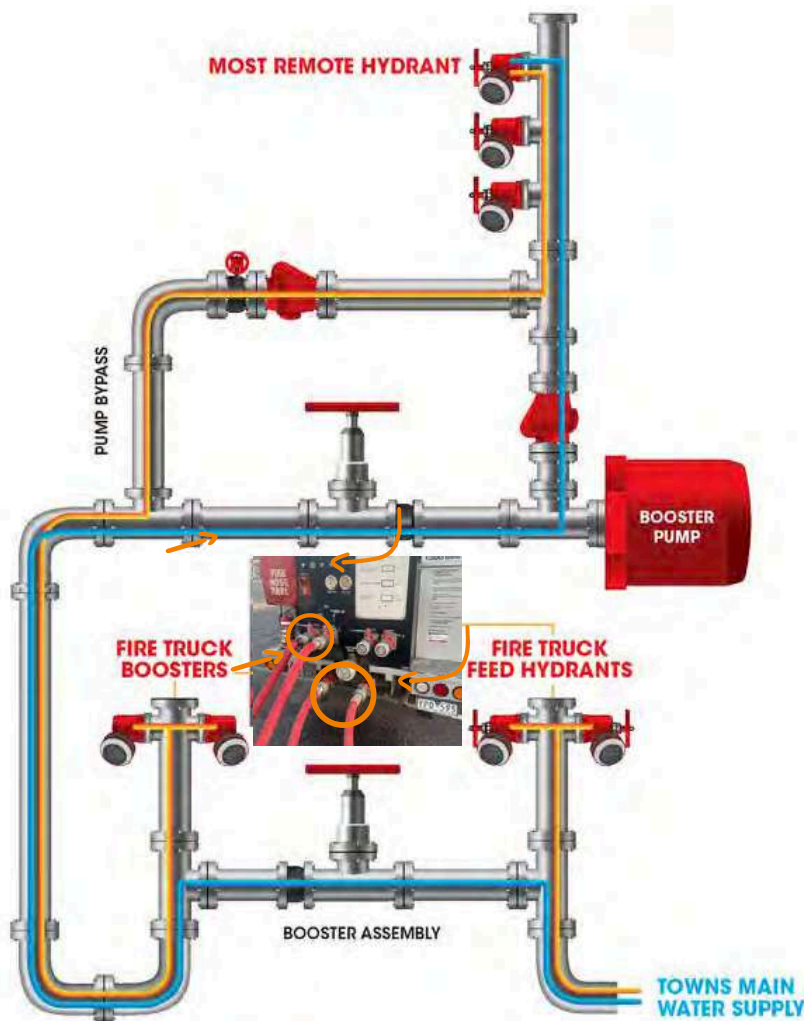
Fire hydrant type	Minimum required flow rate (L/s)	Minimum required residual pressure (kPa)
Attack fire hydrant performance achieved without the use of a fire brigade pumping appliance	5	700
Internal and external fire hydrants when boosted by a fire brigade pumping appliance	10	700



This diagram outlines how the fire hydrant and booster pump interacts with the town's mains water supply and connects to a fire truck's booster and feed hydrants to allow for firefighting operations.

The blue line indicates the annual hydrant flow test.

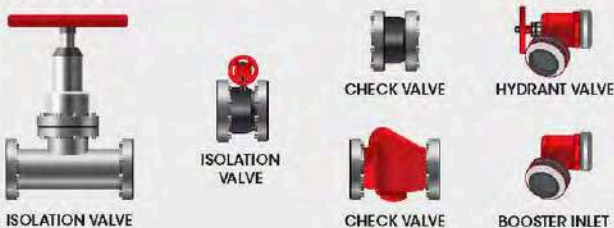
The image on the right indicates a single, non-boosted hydrant.



## NON-BOOSTED HYDRANT



### LEGEND



- **5 YEARLY TEST**  
 Providing performance of:
  - Pump Bypass
  - Boosters & Feed Hydrants
- **ANNUAL FLOW TEST**  
 Providing performance of:
  - On Site Pump
  - Towns Main Supply
  - Booster Bypass



# ANNUAL FLOW TEST REPORT EXAMPLE

Melbourne Unit 2 / 41-55 Leakes Road, Laverton North, VIC 3026  
 Shepparton 33 Florence Street, Shepparton, Vic 3630  
 Mildura 3A/142A Eleventh Street, Mildura Vic 3500  
 Bendigo 8 Purhill Lane, East Bendigo Vic 3550

**Service Report (Hydrant and Hose Reel Ad-Hoc Flow Test)**

Serviced to  
 24th September 2024  
 Technician: Cody

Firewatch Safety Results Group, 33 Florence St, Shepparton  
 Hydrant Flow Testing  
 33 FLORENCE ST, SHEPPARTON VIC 3630

**Flow Readings:**

CONDUCT a water supply proving test for each water supply - complete part a or part b.

See Appendix Figure A

(a) a fixed flow meter test facility, static and flowing

	Pressure	Flow L/sec
1	140	29
2	250	25
3	260	20
4	340	15
5	390	10
6	410	5
7	410	0

or (b) a portable test apparatus at the most hydraulically disadvantaged hydrant valve(s). The diameter must be 12, 16, 19, 22, 25 or 28.

	Diameter	Pressure	Flow L/sec
1			

	Number of Reels Flowed Simultaneously	Reel Size (most disadvantaged)	Flow L/sec
1			

**Comments:**

Enter any further comments required following the completed testing.

Asset label or identifier  
 Dual head c/a front of property - on mains

Comment related to testing  
 Via 65mm ambit flow meter

Melbourne Unit 2 / 41-55 Leakes Road, Laverton North, VIC 3026  
 Shepparton 33 Florence Street, Shepparton, Vic 3630  
 Mildura 3A/142A Eleventh Street, Mildura Vic 3500  
 Bendigo 8 Purhill Lane, East Bendigo Vic 3550

**Appendix**

**Figure A**




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