DITS
DARWIN INSPECTION & TESTING SERVICES



PRV, PSV & PRD TESTING

LIFTS AT SET. SEATS TIGHT.

NATA accredited set pressure and seat tightness testing of pressure relief and safety valves to AS 1271 and API 527. In our Darwin workshop on our Metrus test bench, with water or nitrogen, or on site from our mobile nitrogen test unit. Flanged and screwed valves.

NATA 0–100,000 KPA | AS 1271 | API 527 | FLANGED & SCREWED | WATER OR NITROGEN | MOBILE TEST UNIT | ASME PRD TECHNICIANS

WORKSHOP TEST BENCH

METRUS TEST BENCH, DN25 TO DN400.

Our Metrus PK2 test bench clamps flanged valves from DN25 to DN400 (1 to 16 inch) and takes screwed valves too. Set pressure and seat tightness are tested with water or with nitrogen, read on calibrated gauges.



A flanged relief valve clamped on our Metrus bench, Darwin workshop.

STANDARD CLAW

Clamps the inlet flange on a 300 mm reach. The everyday set-up for most valves.

T-CLAW

A tighter 220 mm reach that holds about double the pressure on the same flange size.

DN	INCH	STANDARD CLAW KPA	T-CLAW KPA
25	1	100,000	**100,000**
32		100,000	**100,000**
40	1½	47,000	**94,000**
50	2	27,000	**54,000**
65		18,000	**36,000**
80	3	12,500	**25,000**
100	4	9,000	**18,000**
125	5	6,000	**12,000**
150	6	4,400	**8,800**
175	7	3,300	**6,700**
200	8	2,500	**5,000**
250	10	1,400	**2,800**
300	12	1,200	**2,400**
350	14	800	**1,600**
400	16	700	**1,400**

Maximum test pressure by flange size, from the bench's clamping plate (bar × 100 = kPa).

WATER OR NITROGEN

THE RIGHT MEDIUM, INSIDE OUR NATA SCOPE.

HYDROSTATIC · WATER

For valves in liquid service. Set pressure and seat tightness tested with water on the bench.

NATA: AS 1271 s2.6 and API 527 cl 4, 0–100,000 kPa

PNEUMATIC · NITROGEN

For valves in gas and vapour service. Set pressure, then seat tightness by bubble count.

NATA: AS 1271 s3.4 and API 527 cl 2 & 5, 0–100,000 kPa

01
RECORD
Nameplate, set pressure and condition as received.

02
AS FOUND
Pressure raised until the valve lifts. Set pressure recorded.

03
ADJUST
Reset to the nameplate if it's out, by our PRD technicians.

04
SEAT TIGHTNESS
Held below set and checked for leakage.

05
CERTIFY
As-left results on a certificate for every valve.

LAST LINE OF PROTECTION

When every other control fails, the relief valve stops the overpressure. Your inspection plan and AS/NZS 3788 set how often it's tested.

SET PRESSURE DRIFTS

Springs relax, seats wear and deposits build up, so a valve's lift point moves over time. Testing shows where it really lifts.

LEAKING SEATS COST

A valve that weeps below set loses product and can't be trusted to reseat after a lift.

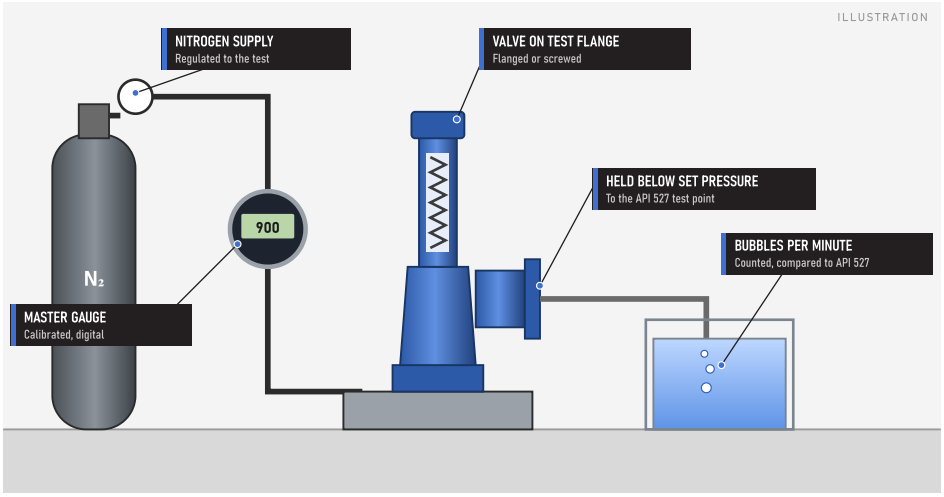
MOBILE TEST UNIT

WE BRING THE TEST BENCH TO YOUR SITE.

Our mobile test unit runs on nitrogen and tests flanged and screwed valves where they're removed, read on a calibrated digital master gauge. No freight to a workshop and back.



Our mobile test unit, ready in the ute.



SEAT TIGHTNESS BY BUBBLE COUNT

With the valve held below its set pressure, the outlet is piped to a tube under water and the bubbles counted for a minute, then checked against API 527.

API 527 · METAL-SEATED VALVES

SET PRESSURE (KPA)	103–6,896	10,300	13,800	17,200	20,700	27,600	34,400	41,400
Orifice up to 18 mm, bubbles/min	40	60	80	100	100	100	100	100
Orifice over 18 mm, bubbles/min	20	30	40	50	60	80	100	100

Maximum seat leakage rates, as carried on our mobile test unit. Soft-seated valves are tested to zero bubbles.

ALSO FROM THE SAME TEAM

VALVES, GAUGES AND THE PEOPLE TO SIGN THEM OFF.

ASME PRD TECHNICIANS

Certified for the inspection, testing, maintenance and certification of pressure relieving devices.

PRESSURE GAUGE TESTING

In-service pressure gauges inspected, tested and certified on site, on the same visit as your valves.

REPLACEMENT VALVES

If a valve fails, we can supply a replacement valve or spring so the equipment goes back into service.

DN25–DN400
Flanged valves on the workshop bench

100,000 KPA
NATA range, water or nitrogen

ON SITE
Mobile nitrogen unit, flanged and screwed

WHAT YOU GET

A CERTIFICATE FOR EVERY VALVE, AS FOUND AND AS LEFT.

DITS

RELIEF VALVE TEST CERTIFICATE

Example

REPORT NO.	PRV-EXAMPLE-01	LOCATION	On site, mobile unit
TESTED TO	AS 1271 s3.4, API 527	MEDIUM	Nitrogen
MASTER GAUGE	Crystal XP2i, DO1922	SEAT TEST	Bubble count, 1 min

TAG	SIZE	CONN.	SET KPA	AS FOUND	AS LEFT	BUBBLES/MIN	RESULT
PSV-101	DN25 × 50	Flanged	1,000	1,010	1,000	0	Pass
PSV-102	DN50 × 80	Flanged	1,550	1,640	1,550	0	Pass, reset
PRV-201	½″ NPT	Screwed	700	705	705	0	Pass
PRV-202	¾″ NPT	Screwed	1,400	1,560	–	55	Fail, replace

Valves were tested as listed. PSV-102 was reset to its nameplate set pressure. PRV-202 did not reseat within API 527 limits and was tagged out for replacement.

Accredited for compliance with ISO/IEC 17025, Testing. NATA accreditation No. 12303.

TECHNICIAN SIGNATURE DATE

EXAMPLE

WITH EVERY VALVE

- As-found and as-left set pressure
- Seat tightness result
- A NATA-endorsed certificate for tests within our scope
- Master gauge ID and calibration details
- A clear pass, reset or fail call

WHAT WE NEED FROM YOU

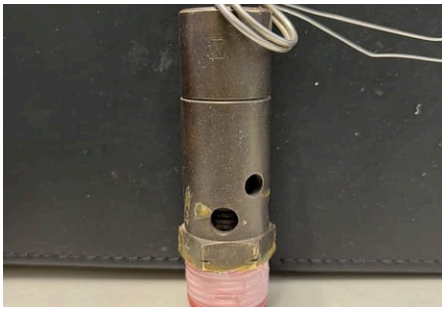
- Valve list: tag, size, connection and set pressure
- The service: gas, vapour or liquid

VALVES WE TEST



FLANGED PSVS

Process and plant safety valves, DN25 to DN400 on the bench.



SCREWED PRVS

Air receivers, compressors and small vessels, in the workshop or on site.



METRUS PK2 BENCH

German-built valve test bench in our Darwin workshop, water or nitrogen.

RELIEF VALVES DUE FOR TESTING?

Swift reporting, round the clock.

NATA 12303 | ISO 9001 | ASME PRD

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