



**AUSTRAL - POWERFLO**  
SOLUTIONS

# **POWERFLO** SAFETY & RELIEF VALVES

Fig. 1982  
HIGH CAPACITY FOR LIQUIDS,  
GASES AND STEAM

COMPLIES WITH AS1271-2003

The **POWERFLO** Type 1982 Conventional Safety and Relief Valves are for general service applications in the process industries and is designed for high capacity, medium pressure with assorted fluids.

With standard trim the valve is suitable for gas, vapour or steam service. A special disc design is provided to maximise valve lift with 10% overpressure, while preventing valve chatter. The **POWERFLO** Type 1982 is available in inlet sizes of 15mm to 50mm, is manufactured in accordance with ASME Code Section VIII and complies with Australian Standard AS1271-2003.

## FEATURES & BENEFITS

- Valves manufactured in accordance with the requirements of ASME Boiler and pressure Vessel Code, Section VIII and Australian Code AS1271 - Class A.
- Relieving capacities certified by National Board of Boiler and pressure Vessel Inspectors. Certification includes steam, air and water.
- Larger orifice areas than any other similar size valve on the market, providing maximum capacity, performance and cost effectiveness.
- Adjustable blowdown provides reliable reseating pressure. Typical blowdown is 7 to 10% for gas and vapour applications.
- Precision lapped flat metal-to-metal seat provides good seat tightness beyond API 527.
- Stainless Steel body with Stainless Steel trim as standard
- Alloy Steel spring is standard for service temperatures to 204°C. For higher temperatures Inconel X-750 is used to valve limit of 427°C.



## APPLICATIONS

**Pressure Vessels**  
**Heat Exchangers & Reactors**  
**Process Steam**  
**Pipelines**  
**Thermal Relief**  
**Compressor Stations**  
**Refinery**  
**Petro-Chemical**  
**Chemical Processing**  
**Water Treatment Plants**

Size 20 x 25mm 1982 is manufactured in Australia to suit local market requirements, with all 316 Stainless Steel construction, with the exception of a Monel Disc Holder. Fully meeting the requirements of AS1271 - Class A, this valve has a wide range of applications including NACE MR-01-75 and other corrosive services, and is available for fast delivery at short notice.

Note: the size 20x 25mm 1982 manufactured in Australia has 304 Stainless Steel Spring as standard - suitable to valve limit of 427°C.

## Fully manufactured in Australia

*POWERFLO Safety Relief Valves are manufactured to Australian Standards, under a Quality Management System certified as complying to ISO 9001:2008.*

# POWERFLO 1982 SAFETY AND RELIEF VALVE CAPACITY

## AIR

Litres per second of Free Air (at 15°C)  
at 10% Overpressure and 90% of average capacity

Set Pressure kPag	INLET SIZE (mm)					
	15	20	25	40	50	902
	ORIFICE AREA (mm)					
103	29.2	51.9	80.2	207.2	338.4	338.4
138	33.5	59.9	92.5	239.3	390.3	390.3
207	42.5	76.0	117.0	302.6	494.2	494.2
276	52.4	93.4	143.9	372.4	607.9	607.9
345	62.3	111.4	171.3	442.2	722.1	722.1
414	72.2	128.9	198.2	512.1	835.9	835.9
483	82.1	146.3	225.1	582.0	950.1	950.1
552	92.0	164.2	252.5	651.8	1063.9	1063.9
621	101.5	181.7	279.4	721.7	1178.1	1178.1
690	111.4	199.2	306.3	791.5	1291.8	1291.8
828	131.2	234.6	360.6	930.8	1519.8	1519.8
966	151.0	269.5	414.4	1070.5	1747.8	1747.8
1103	170.8	304.9	468.7	1210.2	1975.8	1975.8
1241	190.2	340.3	522.9	1349.9	2203.8	2203.8
1379	210.0	375.2	576.7	1489.6	2431.7	2431.7
1517	229.8	410.6	631.0	1629.3	2659.7	2659.7
1655	249.7	445.5	685.3	1769.0	2887.7	2887.7
1793	269.5	480.9	739.1	1908.7	3115.6	3115.6
1931	288.8	515.9	793.4	2048.5	3343.6	3343.6
2069	308.7	551.3	847.2	2187.7	3571.6	3571.6
2207	328.5	586.7	901.5	2327.4	3799.6	3799.6
2345	348.3	621.6	955.8	2467.1	4027.5	4027.5
2483	367.7	657.0	1009.6	2606.8	4255.5	4255.5
2621	387.5	691.9	1063.9	2746.5	4483.5	4483.5
2759	407.3	727.3	1118.1	2886.2	4711.5	4711.5
2896	427.16	762.3	1171.9	3026.0	4939.5	4939.5
3035	446.5	797.7	1226.2	3165.7	5167.4	5167.4
3172	466.3	833.1	1280.0	3304.9	5395.4	5395.4
3310	486.1	868.0	1334.3	3444.6	5623.4	5623.4
3448	506.0	903.4	1388.6	3584.3	5851.3	5851.3

## STEAM

Kilograms per Hour Saturated Steam at 10%  
Overpressure and 90% of average capacity

Set Pressure kPag	INLET SIZE (mm)					
	15	20	25	40	50	902
	ORIFICE AREA (mm)					
103	79.0	141.2	217.0	560.0	914.3	914.3
138	90.8	162.5	250.1	645.6	1054.2	1054.2
207	115.3	205.6	316.4	817.2	1333.8	1333.8
276	141.6	253.3	389.5	1005.6	1641.6	1641.6
345	168.4	300.5	462.1	1194.0	1949.0	1949.0
414	194.7	348.2	535.2	1382.4	2256.8	2256.8
483	221.5	395.9	608.3	1570.8	2564.2	2564.2
552	248.3	429.5	681.4	1759.2	2872.0	2872.0
621	274.6	490.7	754.5	1947.6	3179.8	3179.8
690	301.4	538.4	827.2	2136.0	3487.1	3487.1
828	354.5	633.3	973.3	2512.8	4102.3	4102.3
966	407.7	728.2	1119.5	2890.1	4717.9	4717.9
1103	461.2	823.1	1265.3	3266.9	5333.1	5333.1
1241	514.4	918.0	1411.5	3643.8	5948.3	5948.3
1379	567.5	1013.3	1557.6	4020.6	6563.4	6563.4
1517	620.6	1108.2	1703.4	4397.4	7179.1	7179.1
1655	673.7	1203.1	1849.6	4774.2	7794.2	7794.2
1793	727.3	1298.0	1995.3	5151.5	8409.4	8409.4
1931	780.4	1393.3	2141.5	5528.3	9024.6	9024.6
2069	833.5	1488.2	2287.7	5905.1	9640.2	9640.2
2207	886.6	1583.1	2433.4	6282.0	10255.4	10255.4
2345	939.8	1677.9	2579.6	6658.8	10870.5	10870.5
2483	993.3	1773.3	2725.3	7036.1	11485.7	11485.7
2621	1046.5	1868.2	2871.5	7412.9	12100.9	12100.9
2759	1099.6	1963.1	3017.7	7789.7	12716.5	12716.5
2896	1152.7	2057.9	3163.4	8166.5	13331.7	13331.7
3035	1206.2	2153.3	3309.6	8543.3	13946.9	13946.9
3172	1259.4	2278.2	3455.8	8920.6	14562.0	14562.0
3310	1312.5	2343.1	3601.5	9297.4	15177.6	15177.6
3448	1365.6	2438.0	3747.7	9674.2	15792.8	15792.8

## WATER

Litres per second of Water at 10%  
Overpressure and 90% of average capacity

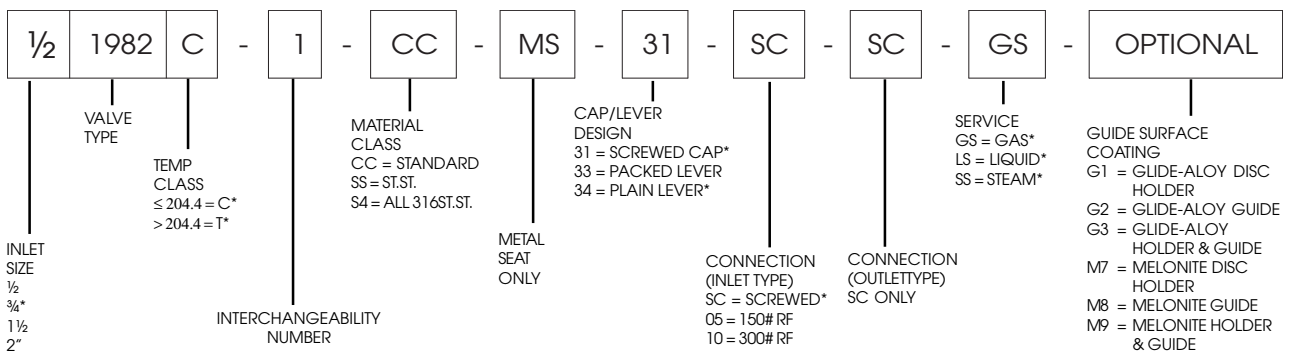
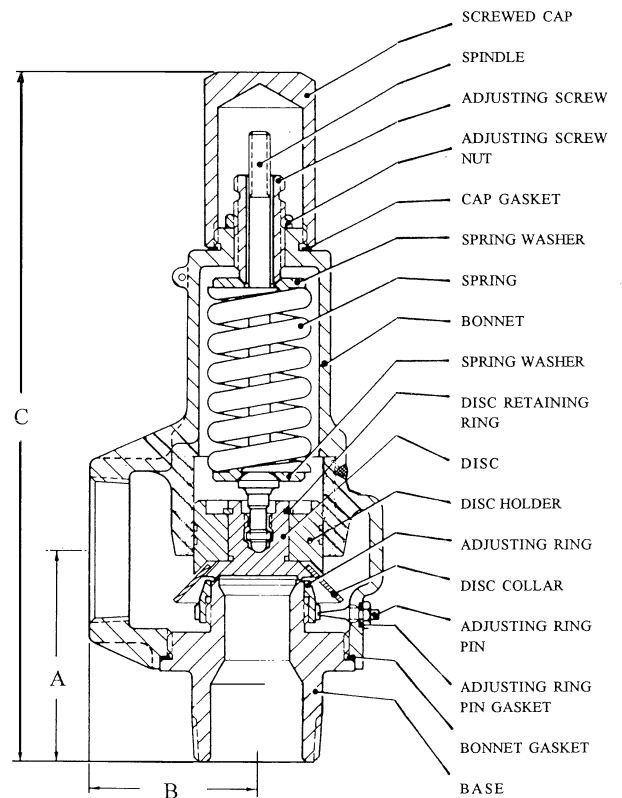
Set Pressure kPag	INLET SIZE (mm)					
	15	20	25	40	50	902
	ORIFICE AREA (mm)					
103	0.93	1.66	2.55	6.6	10.77	10.77
138	1.05	1.88	2.89	7.46	12.17	12.17
207	1.26	2.25	3.46	8.93	14.58	14.58
276	1.45	2.6	4.0	10.31	16.84	16.84
345	1.63	2.91	4.46	11.53	18.82	18.82
414	1.78	3.18	4.89	12.63	20.62	20.62
483	1.92	3.44	5.28	13.64	22.27	22.27
552	2.06	3.67	5.65	14.58	23.81	23.81
621	2.18	3.9	5.99	15.47	25.26	25.26
690	2.3	4.11	6.32	16.31	26.62	26.62
828	2.52	4.5	6.93	17.91	29.16	29.16
966	2.72	4.86	7.47	19.3	31.5	31.5
1103	2.91	5.2	7.99	20.63	33.68	33.68
1241	3.09	5.51	8.47	21.88	35.72	35.72
1379	3.25	5.81	8.93	23.06	37.65	37.65
1517	3.41	6.09	9.37	24.19	39.49	39.49
1655	3.56	6.36	9.78	25.26	41.25	41.25
1793	3.71	6.62	10.19	26.3	42.93	42.93
1931	3.85	6.88	10.57	27.29	44.55	44.55
2069	3.99	7.12	10.94	28.25	46.11	46.11
2207	4.12	7.35	11.3	29.17	47.63	47.63
2345	4.24	7.58	11.65	30.07	49.09	49.09
2483	4.37	7.8	11.99	30.94	50.52	50.52
2621	4.48	8.01	12.31	31.79	51.59	51.59
2759	4.6	8.22	12.63	32.62	53.25	53.25
2896	4.72	8.42	12.95	33.42	54.56	54.56
3035	4.83	8.62	13.25	34.21	55.85	55.85
3172	4.94	8.81	13.55	34.98	57.1	57.1
3310	5.04	9.0	13.84	35.73	58.33	58.33
3448	5.15	9.19	14.13	36.47	59.53	59.53

# 1982 High Capacity Valve Series

VALVE SIZE (mm)	VALVE TYPE	TEMPERATURE RANGE (°C)	SET PRESSURE RANGE (kPag)	(Ae) ASME AND ACTUAL ORIFICE AREA (mm <sup>2</sup> )	STANDARD CONNECTIONS INLET/OUTLET	BACK PRESSURE LIMIT
15 x 20	1982c 1982t	-28 to 204.4°C -28 to 426.6°C	70 to 3448	78.06	Male/Female NPT	340 kPag
20 x 25	1982c 1982t	-28 to 204.4°C -28 to 426.6°C	70 to 3448	139.35	Male/Female NPT or BSPT	340 kPag
25 x 40	1982c 1982t	-28 to 204.4°C -28 to 426.6°C	70 to 3448	214.19	Male/Female NPT	340 kPag
40 x 50	1982c 1982t	-28 to 204.4°C -28 to 426.6°C	70 to 3448	552.90	Male/Female NPT	340 kPag
50 x 65	1982c 1982t	-28 to 204.4°C -28 to 426.6°C	70 to 3448	902.57	Male/Female NPT	340 kPag

COEFFICIENT OF DISCHARGE ( $\alpha$ )  
 = 0.855 (VAPOUR, GASES AND STEAM)  
 = 0.758 (LIQUIDS)

1982 SERIES VALVES DIMENSIONS (mm) and WEIGHTS (kgs)					
Screwed Connections					
Size	15 x 20	20 x 25	25 x 40	40 x 50	50 x 65
A	66.7	69.9	82.6	98.4	111.1
B	31.8	36.5	47.6	66.7	82.6
C	181.0	190.5	231.8	304.8	357.2
Approx. Weight	1.0	1.4	2.3	5.4	8.4



\* MANUFACTURED IN AUSTRALIA

# VALVE REPAIR AND SERVICE

Our manufacturing facility has a comprehensive valve repair and service capability for Austral-Powerflo products.

Austral-Powerflo's Valve Service includes overhaul service for all types of valves including Safety and Relief Valves. Our Repair and Service Facility has a Quality Management System Certified to AS/NZS ISO 9001:2008 and is fully conversant with national standards. By using our valve overhaul service, you can be assured of reliable valve performance and operation in your process plant.

## SERVICES

- Initial Pop Test
- Dismantling and Inspection
- Machining and lapping of discs and seats
- Spindle repair and machining
- Hydrostatic testing to 65,000 kPa
- Air testing to 20,700 kPa
- Repair report and Certificate of Test
- Fast turnaround



Relief Valve on Test Rig

## STOCK REPLACEMENTS

A large range of flanged steel Safety Relief Valves is held in stock.



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