



Quality
Endorsed
Company
ISO 9001
Lic 4886

Proudly made in
New Zealand



EDITION 7

INNOVATION QUALITY SERVICE



Apex Valves is a privately owned company manufacturing a comprehensive range of Control valves for low and high pressure hot water and filtration systems for over 25 Years.

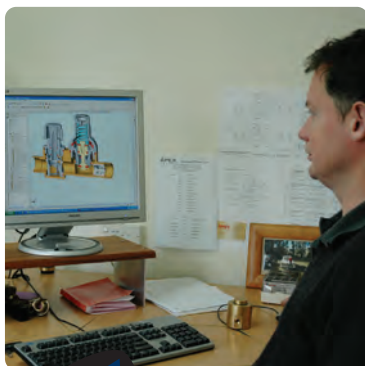
In addition, Apex Valves produces an extensive range of Float and Reservoir Valves for the agriculture sector.

We are proud to be accredited with the internationally recognised ISO 9001 Quality Certification. Apex employ a dedicated in-house Research & Development team designing valves specifically for NZ conditions, with representation on the Executive of The Plumbers & Distributors Association of NZ and the Australian WS 026 Standards Committee.

In addition we manufacture a range of valves for markets in Australia, U.K, USA and South Africa with a range of products designed and manufactured to comply with Australian Watermark Standards.

Apex Valves Limited provides 100% back up and support for all products and are committed to being a progressive, responsible manufacturer, producing high quality, innovative products that are internationally recognised.

www.apexvalves.co.nz





CONTENTS

PRODUCT	CODE	PAGE
FILTER STOP & NON-RETURN (3 IN 1)	FS	2
PRESSURE REDUCING VALVES	FV	3
PRESSURE LIMITING VALVES	LV, LVT	4
LIMITING STOP VALVE	LSV20	5
LIMITING VALVE	LV25	6
HONEYWELL PRESSURE LIMITING & EXPANSION VALVES	LV & EV	7
COLD WATER EXPANSION VALVES	EVT	8
PRESSURE RELIEF VALVES	RV	9
TEMPERING VALVES 15/20mm	TV	10
TEMPERING VALVE 25mm	TV	11
TEMPERING VALVE 20/25mm SOLAR	TV	12
THERMOSTATIC MIXING VALVE	TMV	13
VALVE PACKS	VP	14
COMBI PACKS	CP	15
FILTAMATE®	FM & FMP	16
FILTAMATE®	FMBP & FM1/2	17
RAINAID® VALVE	RA20	18
VACUUM BREAKS (TUNDISH)	VB	19
NON-RETURN VALVES	NR	19
FLOW REGULATORS	FR	19
PRESSURE GAUGES	GLP & GHP	20
URN TAP	UT	20
PRESSURE SETTINGS		21
CONVERSION TABLES		21
THERMAL EXPANSION GRAPH		21
INSTALLATION GUIDES		22/23
FAULT FINDING		24
WARRANTY		26

Focused on
designing and
manufacturing
the best valves
for New Zealand
Plumbing



FILTER STOP & NON-RETURN (3 IN 1) 15/20mm

APPLICATION

- Low and high (mains) pressure systems.
- Any application where filter, non-return and isolating valve are required.

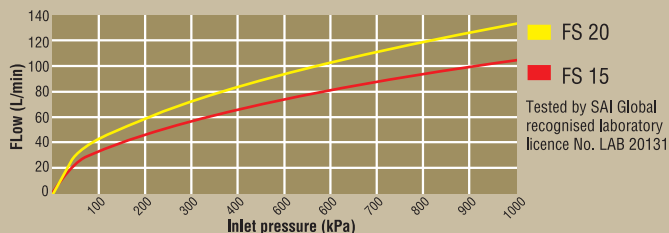
FEATURES/BENEFITS

- Compact 3in1 valve - filter; isolation and non-return with high flow rates.
- No tools are required to service the valve, all servicing done with supply on.
- N.Z Forged, high quality, corrosion resistant DR brass body.
- Machined, assembled and 100% tested in N.Z.

SPECIFICATIONS

- **FS15** Inlet: 15mm, 1/2" BSP (male)
Outlet: 15mm, 1/2" BSP (female)
Length: 86mm
- **FS20** Inlet: 20mm, 3/4" BSP (male)
Outlet: 20mm, 3/4" BSP (male)
Length: 88mm
- 60 mesh (250 micron), stainless steel filter
- Maximum inlet pressure and temperature
Plastic Cap: 1000 kPa and 40°C
Brass Cap: 1600 kPa and 65°C

FLOW GRAPH



INSTALLATION

- Refer page 22 for installation guide.
- Can be installed in any orientation but is best with filter cap down for ease of cleaning.
- Do NOT install in the ground.
- Do NOT apply heat near the valve during installation.

SERVICING

1. Turn handle clockwise to close valve.
2. Remove filter bowl, by hand.
3. Remove and clean filter.
4. Refit filter, filter cap (hand tighten only) and turn on fully.

STANDARDS

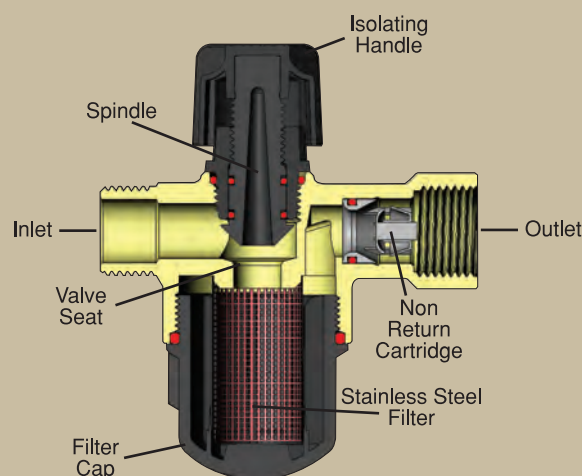
- Complies with NZ Building Code G12 (2001)
- Complies with NZS 4608:1992
- NZ Patent No. 230940, Aust Patent No. 625338



FS 15



FS BC 20
(Hot Water Option)



PRODUCT CODES

FS15	15mm
FS20	20mm
FSBC15	15mm Brass Cap- Hotwater Valve
FSBC20	20mm Brass Cap- Hotwater Valve

PRESSURE REDUCING VALVE (FEED VALVE)

APPLICATION

- Low and medium pressure hot water systems.

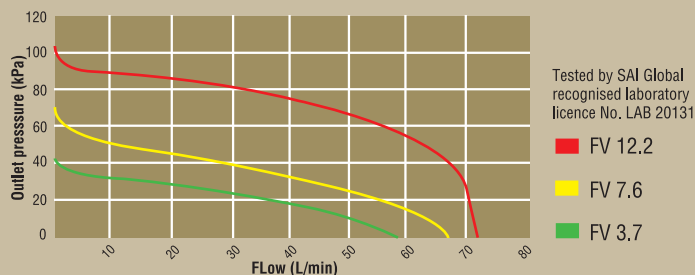
FEATURES/BENEFITS

- Pressure compensated to give constant outlet pressure regardless of inlet pressure.
- Silicone rubber diaphragm and washer – no heat loop required.
- N.Z Forged, high quality, corrosion resistant DR brass body.
- Machined, assembled and 100% tested in N.Z.
- One-piece forged brass fork with no water paths – no leaks!

SPECIFICATIONS

- Inlet: 15mm, 1/2" BSP (male)
- Outlet: 20mm, 3/4" BSP (male)
- Length: 138mm.
- Set pressures: FV3.7 - 35 kPa
FV7.6 - 65 kPa
FV12.2 - 110 kPa
- Adjustable pressure range:
FV3.7 & FV7.6 - 15 to 100 kPa
FV12.2 - 50 to 150 kPa
- Maximum inlet pressure: 2000 kPa
- Maximum temperature: Plastic cap 40°C
Brass cap 80°C - hot water valve

FLOW GRAPH

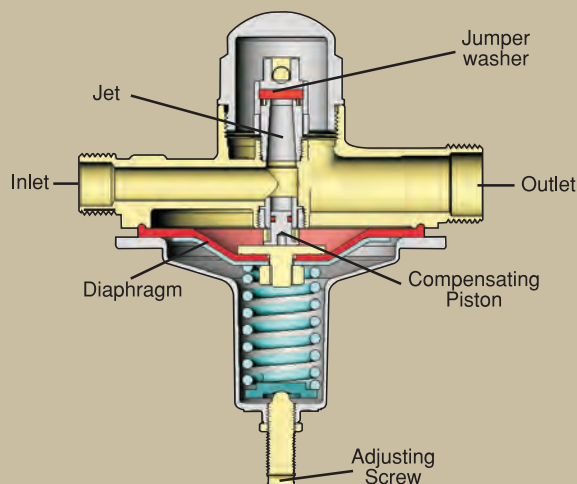
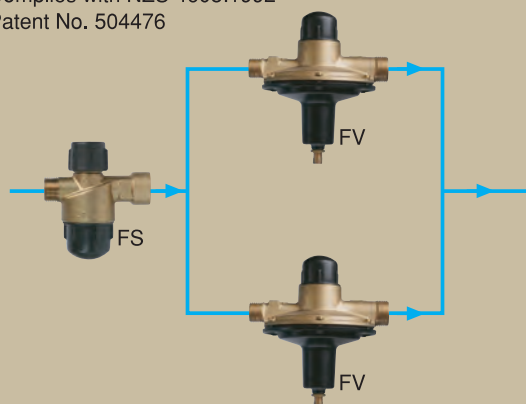


INSTALLATION

- Refer page 22 for installation guide.
- Can be installed in any orientation.
- Do NOT install in the ground.
- Do NOT apply heat near valve during installation.
- Valve may require adjustment on site. To increase pressure turn adjusting screw clockwise (1 1/2 turns = 1 metre head).
- Valve must be either valve vented or open vented.
- **For increased flow rates or inlet pressure below 200 kPa, two valves in parallel may be required, doubling the flow.**
* See diagram below.

STANDARDS

- Complies with NZ Building Code G12 (2001)
- Complies with NZS 4608:1992
- Patent No. 504476



PRODUCT CODES

FV3.7
FV7.6
FV12.2
MP7.6
MP12.2
HFV3.7
HFV7.6
HFV12.2

Matched Pair (FV7.6 & RV7.6)
Matched Pair (FV12.2 & RV12.2)
Hot Water Feed Valve (Brass Cap)
Hot Water Feed Valve (Brass Cap)
Hot Water Feed Valve (Brass Cap)



PRESSURE LIMITING VALVE 15/20mm

APPLICATION

- High (mains) pressure systems.

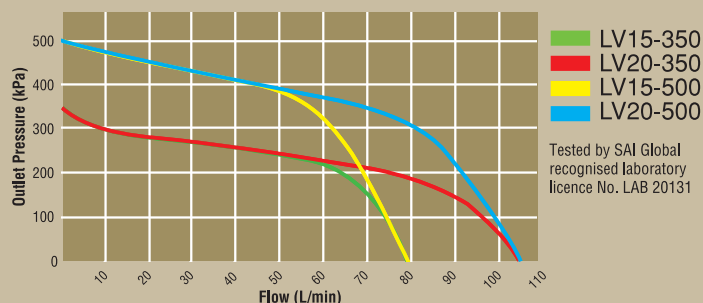
FEATURES/BENEFITS

- Pressure compensated to give constant outlet pressure regardless of inlet pressure.
- Extremely high flow rates up to 135 l/m @ 700 kPa inlet pressure.
- No tools required to service valve, all valve seats and piston are contained in the easily replaceable cartridge. (VALVE CARTRIDGE DOES NOT NEED REASSEMBLING to clean filter).
- Removal of cartridge will not affect the set pressures – all valve seats are contained within the cartridge.
- Valve is adjustable 200 – 600 kPa simply with Philips screw driver.
- No pipe unions, no leaks.
- N.Z Forged, high quality, corrosion resistant DR brass body.
- Machined, assembled , and 100% tested in NZ.

SPECIFICATIONS

- **LV15** Inlet: 15mm, 1/2" BSP (male)
Outlet: 20mm, 3/4" BSP (male)
- **LV20** Inlet: 20mm, 3/4" BSP (female)
Outlet: 20mm, 3/4" BSP (male)
- **LVT15** Inlet: 15mm, 1/2" BSP (male)
Outlet: 20mm, 3/4" BSP (male)
Takeoff: 20mm, 3/4" BSP (male)
- **LVT20** Inlet: 20mm, 3/4" BSP (female)
Outlet: 20mm, 3/4" BSP (male)
Takeoff: 20mm, 3/4" BSP (male)
- Length: 80mm (all models)
- Maximum inlet pressure: 2000 kPa
- Maximum temperature: 65°C
- Integral 60 mesh (250 micron) filter.

FLOW GRAPH



INSTALLATION

- Refer page 22 for installation guide.
- Do NOT install Limiting Valve in the ground.
- Do NOT apply heat near valve during installation.
- Install so that both hot and cold supplies are balanced.
- Can be installed in any orientation. For outdoor application, cartridge must be at bottom.
- Must be installed with correct Expansion Valve.
- To adjust outlet pressure remove blue cap at end of cartridge, insert large Philips screw driver , turn adjusting screw clockwise to increase (1 turn = 60 kPa).

SERVICING

- Filter must be cleaned regularly.

STANDARDS

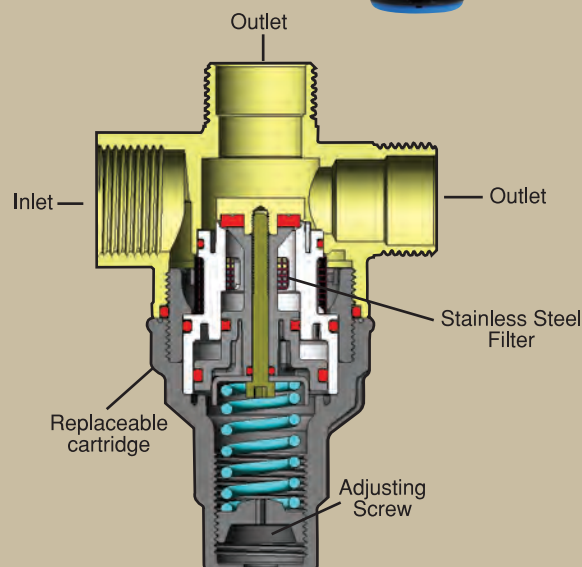
- Complies with NZ Building Code G12 (2001)
- Complies with NZS 4608:1992
- Patent No. 562340
- Cartridge Watermarked AS1357.2 LICWMA 02596



LV 15



LVT 20



PRODUCT CODES

LV15-350	350 kPa	(Use with EVT500)
LV15-500	500 kPa	(Use with EVT700)
LV20-350	350 kPa	(Use with EVT500)
LV20-500	500 kPa	(Use with EVT700)
LVT15-350	350 kPa	(Use with EVT500)
LVT15-500	500 kPa	(Use with EVT700)
LVT20-350	350 kPa	(Use with EVT500)
LVT20-500	500 kPa	(Use with EVT700)



PRESSURE LIMITING STOP VALVE 20mm

APPLICATION

- High (mains) pressure systems.

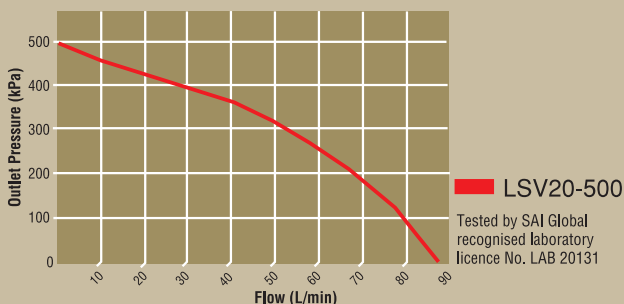
FEATURES/BENEFITS

- Compact 4 in1 Valve - Limiting, Isolation, Non- return and Filter all in one.
- Pressure compensated to give constant outlet pressure regardless of inlet pressure.
- Extremely high flow rates up to 135 l/m @ 700 kPa inlet pressure.
- No tools required to service valve, all valve seats and piston are contained in the easily replaceable cartridge (VALVE DOES NOT NEED REASSEMBLING to clean filter).
- Removal of cartridge will not affect the set pressures - all valve seats are contained within the cartridge.
- Valve is adjustable 200-600 kPa simply with Philips screw driver.
- Can be installed outside (with cartridge down).
- Machined, assembled, and 100% tested in NZ.
- N.Z Forged, high quality, corrosion resistant DR brass body.
- No pipe unions, no leaks.

SPECIFICATIONS

- **LSV20** Inlet: 20mm, 3/4" BSP (male)
Outlet: 20mm, 3/4" BSP (male)
- Length: 140mm
- Maximum inlet pressure: 2000 kPa
- Maximum temperature: 65°C
- Integral 60 mesh (250 micron) filter.

FLOW GRAPH



INSTALLATION

- Refer page 22 for installation guide.
- Do NOT install Limiting Valve in the ground.
- Do NOT apply heat near valve during installation.
- Install so that both hot and cold supplies are balanced.
- Can be installed in any orientation. For external application, cartridge must be at bottom.
- Must be installed with correct Expansion Valve.
- To adjust outlet pressure remove blue cap at end of cartridge, insert large Philips screw driver, turn adjusting screw clockwise to increase (1 turn = 60 kPa).

SERVICING

- Filter must be cleaned regularly

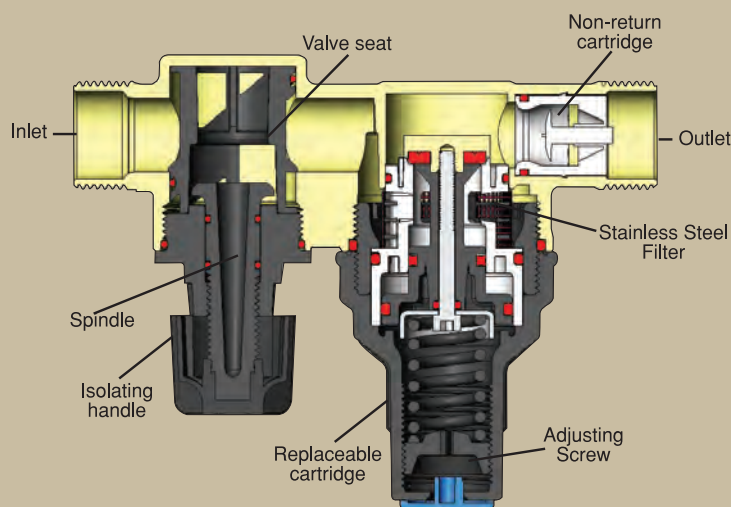
STANDARDS

- Complies with NZ Building Code G12 (2001)
- Complies with NZS 4607:1989
- Valves manufactured to NZS 4608:1992
- Cartridge Watermarked AS1357.2 LICWMKA 02596

WaterMark
AS1357.2
LIC WMKA02596



LSV 20



PRODUCT CODES

LSV20-350	350 kPa	(Use with EVT500)
LSV20-500	500 kPa	(Use with EVT700)



LIMITING VALVE 25/32mm

APPLICATION

- For extremely high flow, high demand mains pressure systems e.g. large homes, multi storey apartments and commercial applications.

FEATURES/BENEFITS

- Extremely high flow rates - 250 litres a minute.
- Pressure compensated to give constant outlet pressure regardless of inlet pressure.
- Twin adjustable (200- 600 kPa), replaceable cartridges for easy servicing.
- All valve seats are contained in the cartridges - no need to remove valve body from system.
- Can be installed in any orientation, for external application a cap is provided to protect cartridge.
- N.Z Forged, high quality, corrosion resistant DR brass body.
- Machined, assembled and 100% tested in NZ.
- No unions, no leaks.

SPECIFICATIONS

LV25

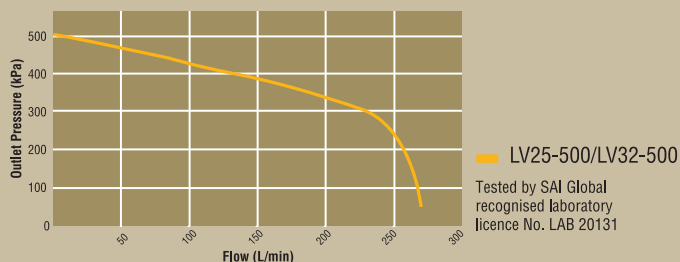
Inlet 25mm,	1" BSP(male)
Outlet 25mm,	1" BSP(male)
Length	110mm
Height	190mm

LV32

Inlet 32mm,	1 1/4" BSP(male)
Outlet 32mm,	1 1/4" BSP(male)
Length	110mm
Height	190mm

- Maximum inlet pressure 2000 kPa
- Maximum inlet temperature 65°C
- Twin, integral 60 mesh (250 micron) strainers

FLOW GRAPH



INSTALLATION

- Do NOT install Limiting Valve in the ground.
- Do NOT apply heat near valve during installation.
- Install so that both hot and cold supplies are balanced.
- Can be installed in any orientation. For outdoor application, fit dust cap to top cartridge.
- Must be installed with correct Expansion Valve.
- To adjust outlet pressure remove blue cap at end of cartridge, insert large Philips screw driver, turn adjusting screw clockwise to increase (1 turn = 60 kPa).

STANDARDS

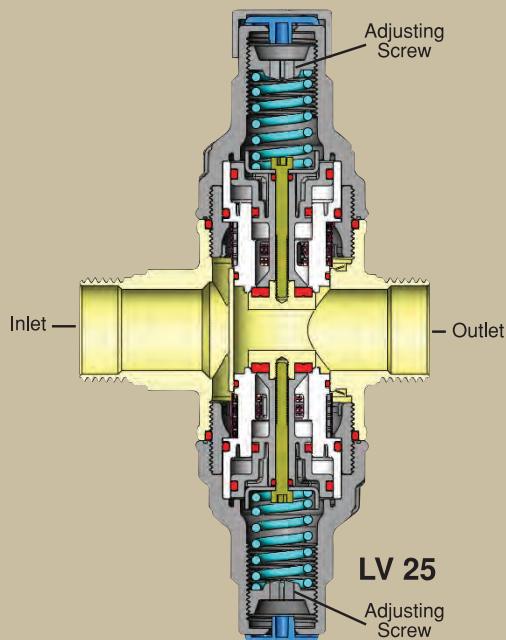
- Patent No. 577660
- Complies with NZ building code G12 (2001)
- Complies with NZS 4608
- Cartridges Watermark approved to AS1357.2 Lic. No. WMKA02596

SERVICING

- Filter must be cleaned regularly.



LV 25



LV 25

PRODUCT CODES

LV25 25mm (1" BSP) 500 kPa

LV32 32mm (1 1/4" BSP) 500 kPa



HONEYWELL BRAUKMAN PRESSURE LIMITING VALVE 40/50mm

APPLICATION

- High pressure systems.

FEATURES/BENEFITS

- Pressures easily adjusted by simply loosening screw and turning knob.
- Corrosion resistant DR (dezincification resistant) Brass with spring located outside the flow.
- Integral filter and optimized flow path around the valve seat - valve is not sensitive to debris.
- High quality synthetic valve seat - not sensitive to scaling .
- Filter can be replaced and cleaned without removing valve from pipe work.
- Constructed and noise resistance tested to German DVGW and UK WRc guidelines.
- Can be used for water, other non-aggressive liquids, compressed air and for Nitrogen.
- Complete with test ports for pressure gauge.
- Hot water conversion available to maximum 70°C (with brass filter bowl fitted).

SPECIFICATIONS

SIZES : 40mm :	Inlet	40mm male, 1 1/2" BSP unions
	Outlet	40mm male, 1 1/2" BSP unions
	Length	225mm
	Height	300mm
50mm :	Inlet	50mm male, 2" BSP unions
	Outlet	50mm male, 2" BSP unions
	Length	255mm
	Height	300mm

- Outlet pressure factory set to: 400 kPa
- Adjustable outlet pressure: 150 - 600 kPa
- Maximum inlet pressure: 2500 kPa
- Maximum temperature: 40°C
- Sizes to 200mm available on request.

STANDARDS

- WRc - UK
- DVGW - Germany
- Complies with NZ Building Code G12 (2001)



PRODUCT CODES

LV40	D06F-1 1/2 A	40mm
LV50	D06F-2A	50mm
GHPH	Gauge 0-1600 kPa (refer page 21)	

COLD WATER EXPANSION VALVE 25/35mm

APPLICATION

- High pressure systems.

FEATURES/BENEFITS

- Energy saving valve – relieves cold water rather than hot, saving electricity.
- Forged, high quality, corrosion resistant DR brass body.

SPECIFICATIONS

EV25	Inlet:	25mm, 1" BSP (female)
	Outlet:	32mm, 1 1/4" BSP (female)
EV32	Inlet:	32mm, 1 1/4" BSP (female)
	Outlet:	40mm, 1 1/2" BSP (female)

- Outlet pressure factory set to 800 kPa.
- Kilowatt rating EV25 - 250kW
EV32 - 2200kW
- Maximum temperature: 90°C
- DR (Dezincification Resistant) brass.
- Made in Germany.

STANDARDS

- TRD 721
- Complies with NZ Building Code G12 (2001)



PRODUCT CODES

APEX CODES		HONEYWELL CODES
EV25-800	800 kPa	SM 152-1AB
EV32-800	800 kPa	SM 152-1 1/4 AB

COLD WATER EXPANSION VALVES 20mm

APPLICATION

- Low, medium, and high (mains) pressure hot water systems.

FEATURES/BENEFITS

- Energy saving valve - relieves cold water rather than hot, saving electricity.
- Flushing lever/handle to clear foreign matter from valve seat, can also be used as cylinder drain.
- Silicone rubber washers and non-corrosive valve seat materials mean long life — no heat loop required.
- Failsafe against cylinder over pressure.
- Special factory settings between 75 and 750 kPa available on request.
- N.Z Forged, high quality, corrosion resistant DR brass body.
- Machined, assembled, and 100% tested in NZ.

SPECIFICATIONS

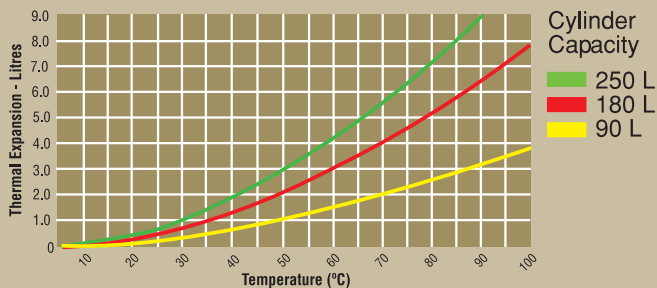
- Inlet/Outlet/Takeoff: 20mm, 3/4" BSP (male)
- Drain: 15mm, 1/2" BSP (male)
- Lengths: EVT Low Pressure 62mm
EVT High Pressure 70mm
- Pressure settings: 75, 120, 500 and 700 kPa
- Maximum temperature: 99°C
- Kilowatt rating- 20kw

INSTALLATION

- Refer page 23 for installation guide.
- If 1.0 metre min head can't be achieved between EVT and RV use EVT underbench model (See page 14 underbench Packs).
- May be installed in any orientation provided drain falls continuously to outlet.
- Pressure Limiting or Pressure Reducing valve must be fitted (see table page 21).

THERMAL EXPANSION

Under normal conditions, a 180 litre hot water cylinder when heated from cold to 65°C will expel 3.6 litres (12.6 metres of 20mm copper pipe) of water due to thermal expansion. The amount of expansion will vary depending on the volume of hot water used and cylinder capacity.

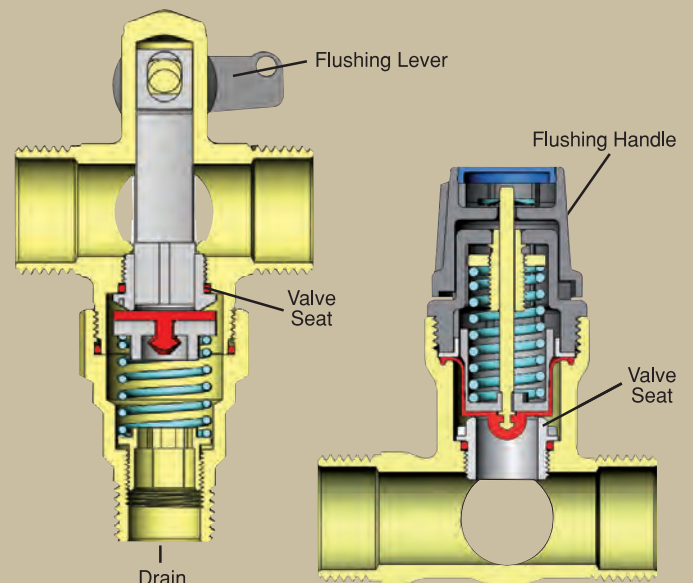


ACCESSORIES

- Non-return (mains pressure only): To prevent cross-connection of hot water to cold water supply.
- Cap: Should second take off not be required.

STANDARDS

- Complies with NZ Building Code G12 (2001)
- Complies with NZS 4607:1989
- Valve manufactured to NZS 4608:1992



PRODUCT CODES

Low Pressure

- EVT7.6 75 kPa (Use with FV 7.6)
- EVT12.2 120 kPa (Use with FV 12.2)

High Pressure

- EVT500 500 kPa (Use with 350 kPa Limiting Valve)
- EVT700 700 kPa (Use with 500 kPa Limiting Valve)

PRESSURE RELIEF VALVE

APPLICATION

- Low and medium pressure hot water systems.
- Pressure systems for marine applications.

FEATURES/BENEFITS

- NZ forged, high quality, corrosion resistant DR brass body.
- Silicone Rubber seals able to withstand 99°C.
- Two simple parts easily unscrew to clean seats and seals, no body screws.
- Unique vacuum break provided means valve retro fits all other similar relief valves at replacement.
- Vacuum relief means failsafe against over pressure and implosion.

SPECIFICATIONS

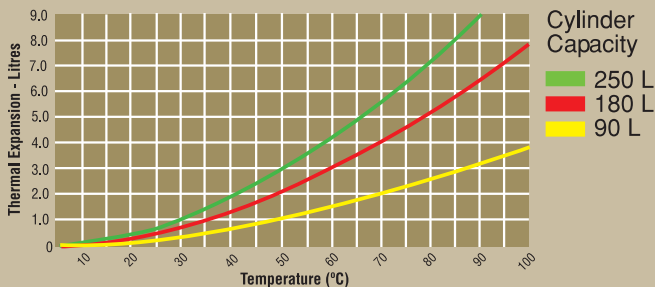
- Inlet: 20mm, 3/4" BSP (male)
- Outlet: 15mm, 1/2" BSP (male)
- Length: 80mm (valve)
115mm (c/w Vacuum Break)
- Standard pressure settings: 37, 75 and 120 kPa
- Special settings up to 415 kPa (60psi)
- Maximum temperature: 99°C
- Kilowatt rating- 12kW

INSTALLATION

- Refer page 22 for installation guide.
- Install approximately 1 metre above Pressure Reducing and Cold Water Expansion Valves.
- May be installed vertically or horizontally. (Provided vacuum break is used)
- Provide 150mm heat trap (refer page 22).
- Do NOT apply heat near valve during installation.

THERMAL EXPANSION

Under normal conditions, a 180 litre hot water cylinder when heated from cold to 65°C will expel 3.6 litres (12.6 metres of 20mm copper pipe) of water due to thermal expansion. The amount of expansion will vary depending on the volume of hot water used and cylinder capacity.

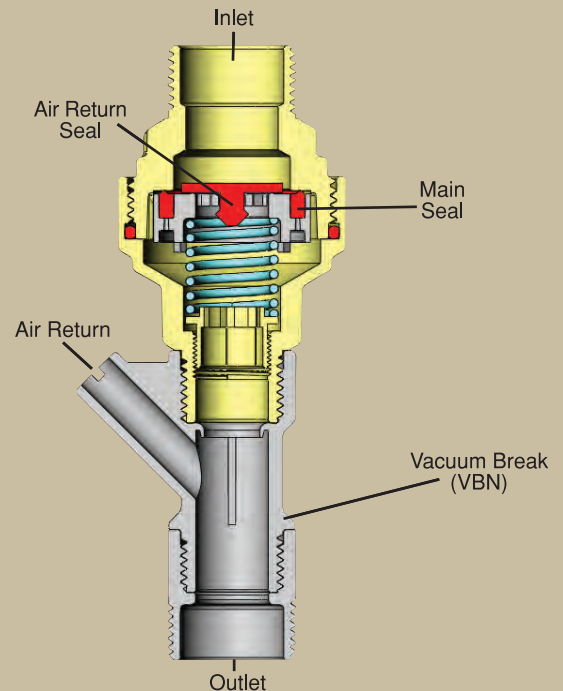


ACCESSORIES

- VBN Vacuum Break.
- 15mm F to 20mm M reducer.

STANDARDS

- Complies with NZ Building Code G12 (2001)
- Complies with NZS 4608:1992
- NZ Patent No. 209613



PRODUCT CODES

- | | |
|---------------|--|
| RV3.7 | 37 kPa. |
| RV7.6 | 75 kPa. |
| RV12.2 | 120 kPa. |
| RVHP | Settings up to 415 kPa (60psi) on request for marine cylinders (See page 23) |



TEMPERING VALVES 15/20mm

APPLICATION

- High and low pressure hot water systems.

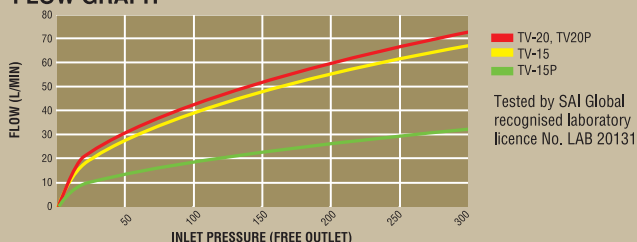
FEATURES/BENEFITS

- Extremely High flow rates (20 l/m at only 2 m head) make the valve (TV20) suitable to both low and high pressure installations.
- Valve can be installed in any orientation.
- Failsafe shutdown - in the event of failure of hot and cold supplies.
- Tamperproof cap-less call outs for readjustment by plumber (TV20TP).
- N.Z Forged, high quality, corrosion resistant DR brass body.
- Machined, assembled and 100% tested in NZ.
- Advanced temperature control - ideal for direct connection to a sanitary fixture e.g. hand basin (TV15P).

SPECIFICATIONS

- Sizes : TV15, TV15P Inlets 15mm male, 1/2" BSP
Outlet 15mm male, 1/2" BSP
TV20 Inlets 20mm male, 3/4" BSP
Outlet 20mm male, 3/4" BSP
TV12 Inlet cold 12mm John Guest fitting
Inlet hot 15mm, 1/2" BSP
Outlet 12mm, John Guest fitting
- Length: TV15 110mm
TV15P 110mm
TV20, TV20P 105mm
TV12 110mm
- Factory set to give 55°C outlet. Can be adjusted from 35°C to 60°C.
- Maximum inlet temperature 99°C.
- Stored water temperature must be at least 10°C above the Tempering valve setting and over 60°C (G12).
- Inlet water pressures:
TV15, TV15P 30 to 1000 kPa (3m head)
TV20, TV20D, TV20TP 20 to 1000 kPa (2m head)
- Flow rates:
TV15 20 L/min at 30 kPa inlet pressure
TV15P 9 L/min at 30 kPa inlet pressure
TV20, TV20D, TV20TP 20 L/min at 20 kPa inlet pressure
- Operating Pressure:
Balanced hot and cold pressure. For unequal water pressure of up to 5:1 (Cold to Hot), non-return must be fitted to hot inlet.

FLOW GRAPH



INSTALLATION

- Refer page 22 for installation guide.
- Valve must be fitted by a qualified plumber.
- Installation must comply with local authority requirements.
- Valve may be installed in any orientation.
- Flush pipes prior to fitting.
- Valve must be protected by a line strainer.
- Non-return valves are required at hot and cold inlets in Ring Main Installations.
- Connections are H (hot inlet), C (cold inlet) and OUT (mixed temperature outlet).
- Do not apply heat near valve during installation - this may damage the mechanism.
- Do NOT install valve directly into outlet of cylinder.
- 1 m MIN copper pipe length from cylinder to tempering valve, THIS IS A MANDATORY REQUIREMENT OF G12.

TEMPERATURE ADJUSTMENT

Refer to page 11.

STANDARDS

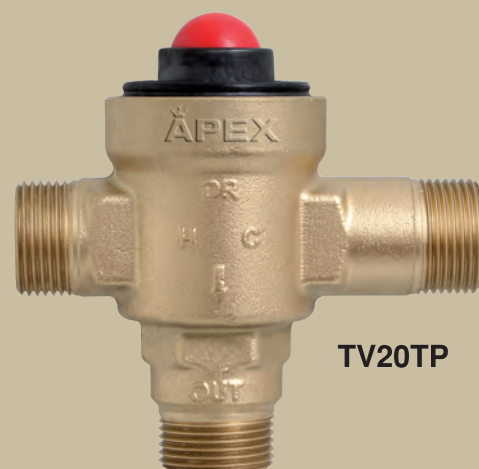
- Complies with NZ Building Code G12 (2001)
- Complies with NZS 4617:1989
- NZ Patent No. 517764, Aust. Patent No. 2003200856
- RSA. Patent No. 2003/1992



TV20



TV15P



TV20TP

PRODUCT CODES

- | | | |
|--------|------|--|
| TV15 | 15mm | (Non-return on both inlets) |
| TV15P | 15mm | Point of use Tempering Valve |
| TV20 | 20mm | |
| TV20D | 20mm | Ring main installation (Non-return on both inlets) |
| TV20TP | 20mm | Tamper proof |
| TV12 | 15mm | BSP Hot |
| | 12mm | John Guest Speed Fit cold and Mix |



TEMPERING VALVES 25mm

APPLICATION

Extremely high flow rate makes the TV 25 suitable for low pressure systems e.g. header tanks, open vented and low head systems. Also suitable for high demand mains pressure systems.

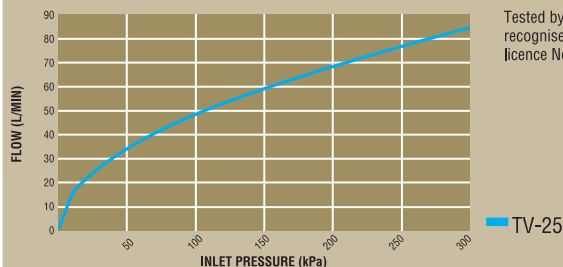
FEATURES/BENEFITS

- NZ forged, high quality, corrosion resistant, DR brass body.
- Machined, assembled and 100% tested in NZ.
- Extremely high flow rates - Up to 90 litres a minute.
- Integral non-returns mean valve is ideal in ring main installations.
- No pipe unions, no leaks.

SPECIFICATION

- Inlet 25mm, 1" BSP (male)
- Outlet 25mm, 1" BSP (male)
- Length 135 mm
- Height 105 mm
- Inlet water pressures 20 to 1600 kPa.
- Flow rates:
TV25 25 L/min at 20 kPa inlet pressure
- Outlet temperature adjustable from 35°C to 60°C.
- Maximum inlet temperature 99°C.
- Stored water temperature must be at least 10°C above the Tempering valve setting and over 60°C (G12).
- Integral hot and cold non return valves.
- Operates with unequal water pressure up to 5:1 ratio (cold:hot).

FLOW GRAPH



INSTALLATION

- Refer page 22 for installation guide.
- Valve must be fitted by a qualified plumber.
- Installation must comply with local authority requirements.
- Valve may be installed in any orientation.
- Flush pipes prior to fitting.
- Valve must be protected by a line strainer.
- Connections are H (hot inlet), C (cold inlet) and OUT (mixed temperature outlet).
- Do not apply heat near valve during installation - this may damage the mechanism.
- Do NOT install valve directly into outlet of cylinder.
- 1 m MIN copper pipe length from cylinder to tempering valve, THIS IS A MANDATORY REQUIREMENT OF G12.

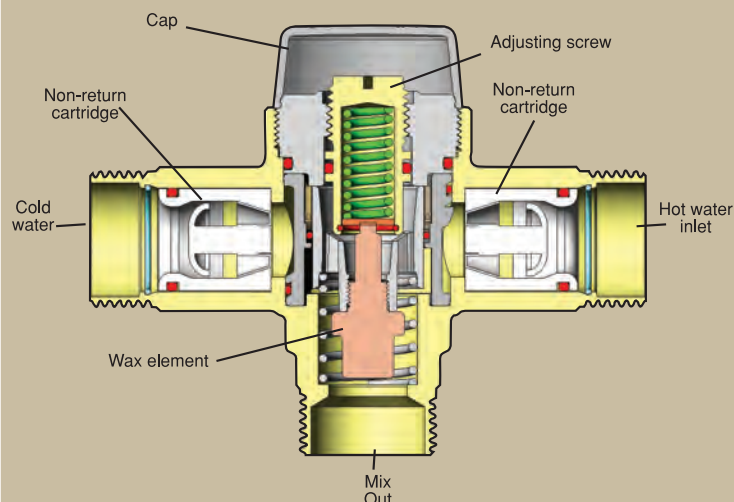
TEMPERATURE ADJUSTMENT

Remove cap. Use screwdriver to adjust to desired temperature. To increase, turn anti-clockwise (H). To decrease, turn clockwise (C). Replace cap. Maximum delivered hot water temperature at any sanitary fixture used for personal hygiene shall not exceed 55°C.

For childhood centres, schools, old peoples homes, hospitals and institutions for people with psychiatric or physical disabilities, outlet must be set to max 45°C.

STANDARDS

- Complies with NZ Building Code G12 (2001)
- Complies with NZS 4617
- NZ Patent No. 517764, Aust. Patent No. 2003200856
RSA. Patent No. 2003/1992



PRODUCT CODES

TV25 25mm (Non-return on both inlets)



TEMPERING VALVES SOLAR 20mm

APPLICATION

- High and low pressure hot water systems.

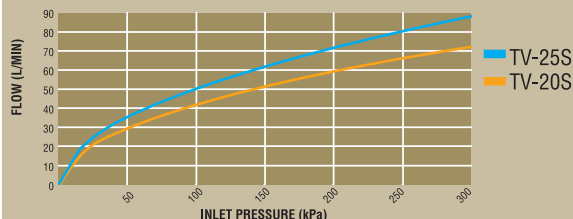
FEATURES/BENEFITS

- Able to withstand 110°C (constant), ideal for solar and wetback installations.
- Extremely high flow rates make it suitable for both high and low pressure systems - 20 l/m @ 2 metre head.
- NZ forged, high quality, corrosion resistant DR brass body.
- Machined, assembled and 100% tested in NZ.
- Dual non-returns - ideal for unequal pressures.
- Failsafe shutdown - in the event of failure of hot or cold supplies.

SPECIFICATIONS

- Length: TV20S 130mm Length: TV25S 135mm
- Factory set to give 55°C outlet. Can be adjusted from 35°C to 60°C.
- Maximum inlet temperature 110°C.
- Stored water temperature must be at least 10°C above the Tempering valve setting and above 60°C (G12).
- Inlet water pressures:
TV20S 20 kPa (2m head) to 1000 kPa.
TV25S 20 kPa (2m head) to 1600 kPa.
- Flow rates:
TV20S 20 L/min at 20 kPa inlet pressure.
TV20S 25 L/min at 20 kPa inlet pressure.

FLOW GRAPH



INSTALLATION

- Refer page 23 for installation guide.
- Valve must be fitted by a qualified plumber.
- Installation must comply with local authority requirements.
- Valve may be installed in any orientation.
- Flush pipes prior to fitting.
- Valve must be protected by a line strainer.
- Connections are H (hot inlet), C (cold inlet) and OUT (mixed temperature outlet).
- Do not apply heat near valve during installation - this may damage the mechanism.
- Do NOT install valve directly into outlet of cylinder.
- 1 m MIN copper pipe length from cylinder to tempering valve, THIS IS A MANDATORY REQUIREMENT OF G12.

TEMPERATURE ADJUSTMENT

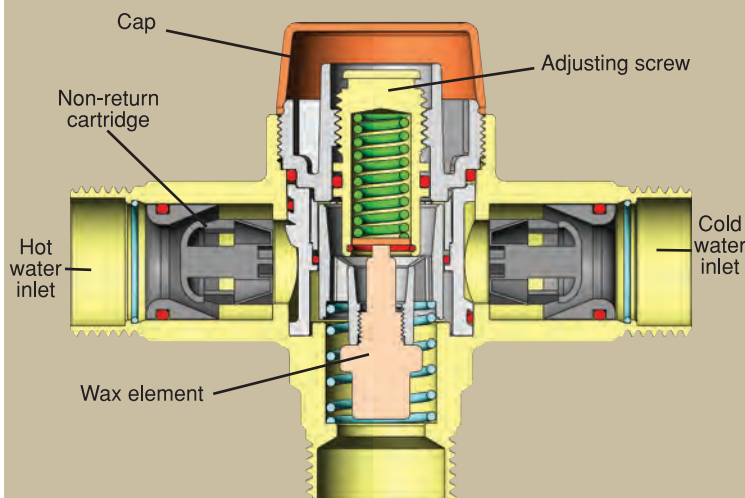
Remove cap. Use screwdriver to adjust to desired temperature. To increase, turn anti-clockwise (H). To decrease, turn clockwise (C). Replace cap. Maximum delivered hot water temperature at any sanitary fixture used for personal hygiene shall not exceed 55°C. For childhood centres, schools, old peoples homes, hospitals and institutions for people with psychiatric or physical disabilities, outlet must be set to max 45°C.

STANDARDS

- Complies with NZ Building Code G12 (2001)
- Complies with NZS 4617:1989
- NZ Patent No. 517764, Aust. Patent No. 2003200856
RSA. Patent No. 2003/1992



TV25S



PRODUCT CODES

- | | |
|-------|------------------|
| TV20S | 20mm Solar Valve |
| TV25S | 25mm Solar Valve |

THERMOSTATIC MIXING VALVE

APPLICATION

Where water temperature control must be precise or water is required to be at safe skin contact temperature e.g. childhood centre, schools, old peoples homes, hospitals and institutions for people with psychiatric or physical disabilities.

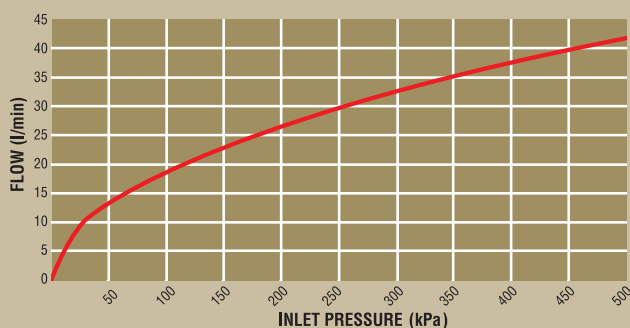
FEATURES/BENEFITS

- Fail safe shutdown, controls temperature, factory set to 45°C.
- Outlet temperature adjustable 35°C to 60°C.
- High Flow rate, 40l/min at 500 kPa.
- NZ forged, high quality, corrosion resistant, DR brass body nickel plated.
- Integral non-returns means valve is ideal in ring main installations.
- TMV 20 has internal chamfer to suit compression fittings-no union required.
- TMV 20BV comes with right angle ball valves for easy testing, maintenance or replacement.
- TMV 20 & TMV 20BV both have integral, 250 micron/60 mesh filters to ensure no debris enters the valve.

SPECIFICATIONS

- TMV 20 strainers (60 mesh, 250 micron).
- TMV 20BV strainers (60 mesh, 250 micron) & isolating valves.
- Factory set to 45°C
- Min. setting 35°C
- Inlet water pressures 50 to 1600 kPa
- Outlet temperature adjustable from 35°C to 60°C
- Maximum inlet temperature 99°C
- Stored water temperature must be at least 10°C above the thermostatic valve setting and above 60°C (G12).
- Min. differential between hot supply and set temperature 10°C.
- Max. supply pressure 1600 kPa static, 500 kPa dynamic.
- Flow rate 40l/min at 500 kPa
- Max. pressure imbalance between the hot & cold supplies 5:1.

FLOW GRAPH



■ TMV 20 & TMV 20BV
Tested by SAI Global recognised laboratory licence No. LAB 20131

STANDARDS

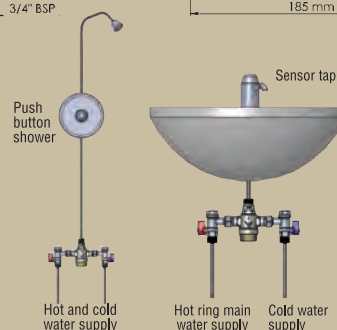
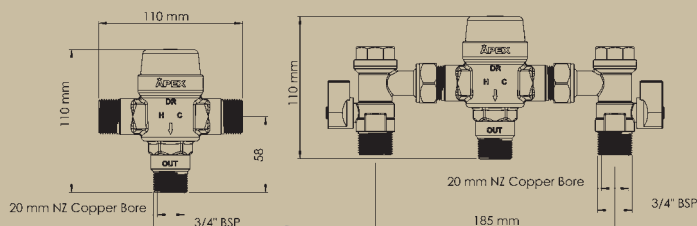
- Complies with NZBC Clause G12 (2001)
- Complies with NZS 4617: 1989
- Complies with BS7942



TMV 20



TMV 20BV



PRODUCT CODES

- TMV 20 20mm Thermostatic Mixing Valve
- TMV 20 BV 20mm Thermostatic Mixing Valve with right angle ball valves



VALVE PACKS

LOW PRESSURE

APPLICATION

- Low pressure hot water systems.

SPECIFICATIONS

- **VP3.7** includes: Filterstop (FS15), Pressure Reducing Valve (FV3.7), Tempering Valve (TV20), MF Ball Valve 20mm (BV) and Socket.
- **VP3.7 Solar** includes: Filterstop (FS15), Pressure Reducing Valve (FV3.7), Tempering Valve Solar (TV20S), MF Ball Valve 20mm (BV) and Socket.
- **VP75** includes: Filterstop (FS15), Pressure Reducing Valve (FV7.6), Cold Water Expansion (EVT7.6), Tempering Valve (TV20), Pressure Relief (RV7.6), MF Ball Valve 20mm (BV), Vacuum Break and Socket.
- **VP120** includes: Filterstop (FS15), Pressure Reducing Valve (FV12.2), Cold Water Expansion (EVT12.2), Tempering Valve (TV20), Pressure Relief (RV12.2), MF Ball Valve 20mm (BV), Vacuum Break and Socket.
- **VP75U/VP120U** Underbench packs as per VP75 and VP120 except Pressure Reducing and Cold Water Expansion Valve settings preset to ensure correct operation within confined space.
- Ball Valve and TV20 not included in Under Bench Pack.

STANDARDS

- Complies with NZBC Clause G12 (2001)
- Complies with NZS 4617: 1989

HIGH (MAINS) PRESSURE 15/20mm

APPLICATION

- High (mains) pressure hot water systems.

SPECIFICATION

- **VP15 500 Includes:** Filterstop (FS15), Pressure Limiting Valve with take-off (LVT15-500), Cold Water Expansion Valve EVT-700), Tempering Valve (TV20), MF Ball Valve 20mm (BV), Non-Return 20mm (NR), Cap and Socket
- **VP20 500 Includes:** Filterstop (FS20), Pressure Limiting Valve with take-off (LVT20- 500), Cold Water Expansion Valve (EVT- 700), Tempering Valve (TV20), MF Ball Valve 20mm (BV), Non-Return 20mm (NR), Cap and Socket.

STANDARDS

- Complies with NZBC Clause G12 (2001)
- Complies with NZS 4617: 1989



VP75

PRODUCT CODES

VP3.7	3.7m	Open vented
VP3.7 Solar	3.7m	Open vented- Solar
VP75	7.6m	Valve vented
VP75U	7.6m	Underbench valve vented
VP120	12.2m	Valve vented
VP120U	12.2m	Underbench valve vented



VP20 500

PRODUCT CODES

VP15 500	15mm, 500 kPa
VP20 500	20mm, 500 kPa



COMBI PACKS

15/20/25mm

APPLICATION

- High pressure hot water systems and solar.

SPECIFICATIONS

- **CP15** includes: Pressure Limiting Valve with take off (LVT15- 500), Cold Water Expansion Valve (EVT 700), Tempering Valve (TV20), 1 x MF Ball Valve 15mm, 1 x MF Ball Valve 20mm, Non-Return 20mm (NR), Cap and Socket.
- **CP20** includes: Pressure Limiting Stop Valve (LSV20 500), Cold Water Expansion Valve (EVT 700), Tempering Valve (TV20), 1 x MF Ball Valve 20mm, Non-Return 20mm (NR), and Socket.
- **CP20T** includes: Pressure Limiting Valve with take-off (LVT20- 500), Cold Water Expansion Valve (EVT 700), Tempering Valve (TV20), 1 x MM Ball Valve 20mm, 1 x MF Ball Valve 20mm, Non-Return 20mm (NR), Cap and Socket.
- **CP20P Pump Pack** includes: Filterstop (FS20), Cold Water Expansion Valve (EVT 700), Tempering Valve (TV20), 1x MF Ball Valve 20mm, Non-Return 20mm (NR) and Socket.
- **CP20M Manifold Pack** includes: Pressure Limiting Valve (LVT20-500), Cold Water Expansion Valve (EVT 700), Tempering Valve (TV20), 1x MM Ball Valve 20mm, 1x MF Ball Valve 20mm, Non-Return 20mm (NR), 100mm Crox Connector, Cap and Socket.
- **CP20S Solar Pack** includes: Pressure Limiting Stop Valve (LSV20 500), Cold Water Expansion Valve (EVT 700), SolarTempering Valve (TV20S), 1 x MF Ball Valve 20mm, Non-Return 20mm (NR), and Socket.
- **CP25** Includes: Pressure Limiting Valve (LV25-500), Cold Water Expansion Valve Honeywell (EV25-800), Tempering Valve (TV25), 2 x MF Ball Valves (BV25mm) , Non-Return 25mm(NR25).

STANDARDS

- Complies with NZ Building Code G12 (2001)
- Complies with NZS 4607:1989

PRODUCT CODES

- CP15** 15mm, 500 kPa or 350 kPa
CP20 20mm, 500 kPa or 350 kPa
CP20M 20mm, 500 kPa or 350 kPa Manifold included
CP20P 20mm, Pump Pack - no Limiting Valve
CP20S 20mm, 500 kPa or 350 kPa Solar
CP20T 20mm, 500 kPa or 350 kPa -Limiting Valve with Take-off
CP25 25mm, 500 kPa or 350 kPa



CP25



CP15



CP20



CP20S



CP20P



FiltaMate

PRESSURE LIMITING VALVE

APPLICATION

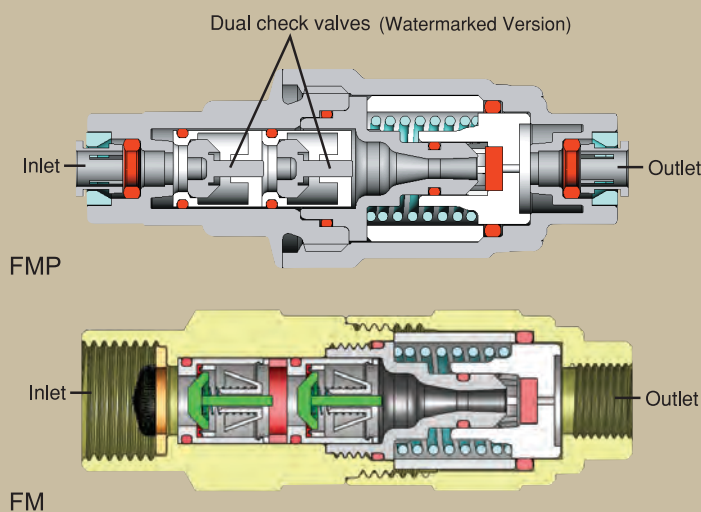
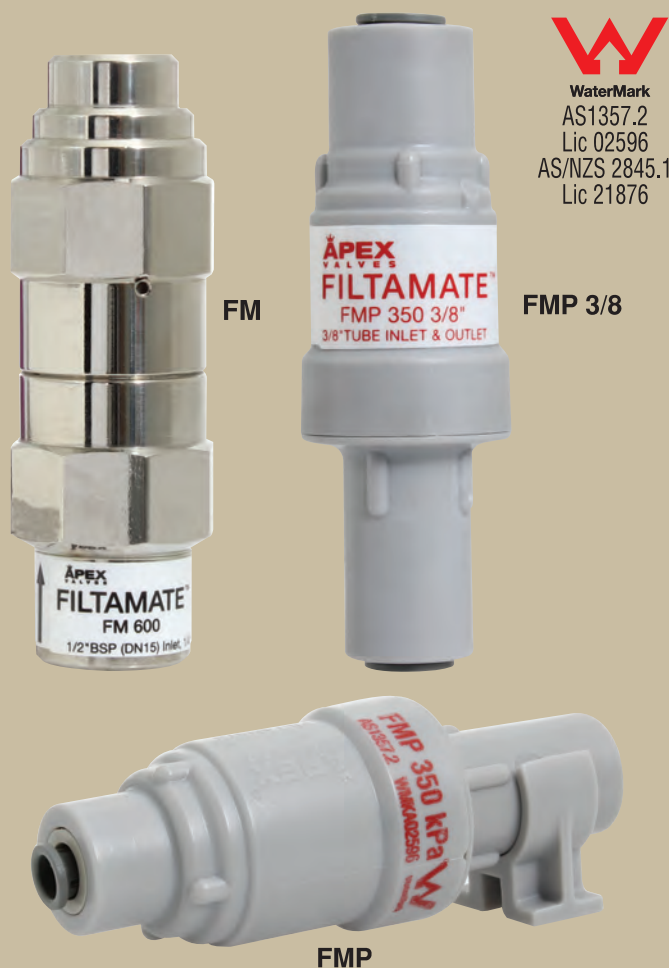
- High pressure systems to protect downstream components eg. Water filters, drink dispensers, ice makers, coffee machines and reverse osmosis machines.

FEATURES/BENEFITS

- The FM (Brass version) is precision machined from high quality N.Z. DR brass and nickel plated.
- Dual checks (FM, FMP, FMP 3/8, FMBP, FM 1/2) prevent backflow making the valve ideal for reverse osmosis units, fridges with ice makers and coffee machines.
- The FiltaMate protects water filters by limiting water pressure to the filter (avoiding costly water damage in the house).
- FMP (acetyl plastic version) has quick and simple John Guest fittings for speedy install.

SPECIFICATIONS

- FM** Inlet: 15mm, 1/2" BSP (female)
Outlet: 8mm, 1/4" BSP (female)
Length: 97mm
- FMP 3/8** Inlet: 3/8" John Guest connector
Outlet: 3/8" John Guest connector
Length: 110mm
- FMP** Inlet: 1/4" John Guest connector
Outlet: 1/4" John Guest connector
Length: 98mm
- Flow rate: 14 L/min at 700 kPa inlet pressure
- Outlet pressures: 350 and 600 kPa $\pm$ 10% @ 1000kPa inlet pressure.
- Pressure ratio: 10:1 (for every 10 kPa increase in inlet pressure above 1000 kPa, the outlet pressure will increase by 1kPa).
- Maximum inlet pressure: 1600 kPa
- Maximum temperature: 40°C FMP, 60°C FM
- Minimum temperature: 1°C
- Integral Dual Check Valves (Except FMP350NZ, FM12 and FMSC12).
- FMP supplied with fixing clip and screw.
- FMP Acetyl plastic.



PRODUCT CODES

FM 350	350 kPa Brass/Nickel Plated with dual check valves
FM 600	600 kPa Brass/Nickel Plated with dual check valves
FMP 350	350 kPa with dual check valves
FMP 600	600 kPa with dual check valves
FMP 350 3/8	350 kPa with dual check valves
FMP 600 3/8	600 kPa with dual check valve
FMP 350NZ	350 kPa without dual check valves

FiltaMate

PRESSURE LIMITING VALVE

(Cont'd)

SPECIFICATIONS

- **FMBP** Inlet: 15mm, 1/2" BSP (female)
Outlet: 1/4" John Guest connector
Length: 98mm
- **FM 1/2** Inlet: 15mm, 1/2" BSP (female)
Outlet: 15mm, 1/2" BSP (female)
Length: 100mm
- **FM12** Inlet: 15mm, 1/2" BSP (female)
Outlet: 12mm John Guest connector
Length: 84mm
- **FMSC12** Inlet: 15mm, 1/2" BSP (female)
Outlet: 12mm John Guest connector
Length: 107mm

Flow rate: 14 L/min at 700 kPa inlet pressure
Outlet pressures: 350 and 600 kPa $\pm$ 10% @1000kPa inlet pressure
Pressure ratio: 10:1 (for every 10 kPa increase in inlet pressure above 1000 kPa, the outlet pressure will increase by 1 kPa).

Maximum inlet pressure: 1600 kPa

Maximum temperature: 40°C, 60°C FM 1/2

Minimum temperature: 1°C

INSTALLATION

- Installation must be carried out by a Qualified Plumber.
- All pipe work must be flushed prior to installation.
- Do NOT apply heat near valve during installation.
- Must be fitted downstream of approved isolating valve.
- Must be installed in the direction as indicated by the flow arrow.
- Must be protected by a line strainer – See (www.apexvalves.co.nz/plumbing/filtamate/pressure_limiting.html) for specifications.
- Must be installed according to local regulations.
- May be fitted in any orientation.
- Warranty is limited to any fault found in a valve due to poor workmanship or materials that is returned to Apex Valves Ltd within 2 years from the date of manufacture.
- **If thermal expansion (due to heating or cooling) or back pressure can occur downstream, an expansion valve must be fitted to relieve the excessive pressure build up.**

SERVICING

- The FiltaMate® valve opens and closes automatically every time water is drawn through it. As it is a mechanical device we recommend that it is replaced every 5 years or sooner in high usage installations.

STANDARDS

- Complies with NZ Building Code G12 (2001)
- Complies with NZS 4608:1992
- Australian Watermark Approval AS1357.2 LIC. 02596 (Except FMSC12)
- Australian Watermark Approval AS2845.1 LIC. 21876 (FM; FM 1/2 and FMBP only)
- Australian Watermark Approval AS 1357.2 LIC. 02596, AS/NZS 2845.1 LIC. 21876 (FM, FM1/2 and FMBP only)



WaterMark
AS1357.2
Lic 02596
AS/NZS 2845.1
Lic 21876

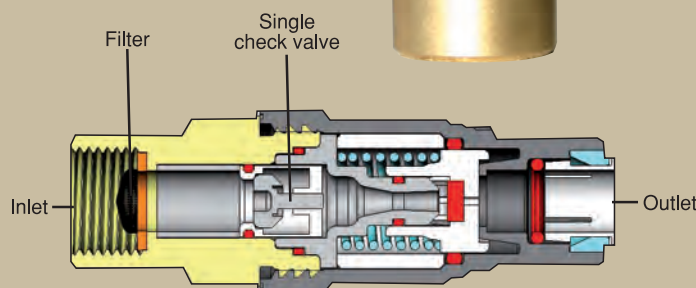
FMBP

FM 1/2



FM12

FMSC12



FMSC12

PRODUCT CODES

- | | |
|-------------------|---|
| FM350 1/2 | 350 kPa Brass |
| FM600 1/2 | 600 kPa Brass |
| FMBP 350 | 350 kPa Brass/Plastic with dual check valves |
| FM12 350 | 350 kPa Brass/Plastic (No check) |
| FMSC12 350 | 350 kPa Brass/Plastic (Includes single check valve) |



RainAid®

20mm

Application

The RainAid® valve is designed to be connected to the mains water supply on a rainwater collection tank. It will provide a backup supply of water in the event of demand exceeding rain supply.

STANDARDS

- Watermark approved
- New Zealand patent No. 535912
- Australian Class No. 736446
- Australian Class II Patent No. 1025211
- RSA Patent No. 98/8777

FEATURES/BENEFITS

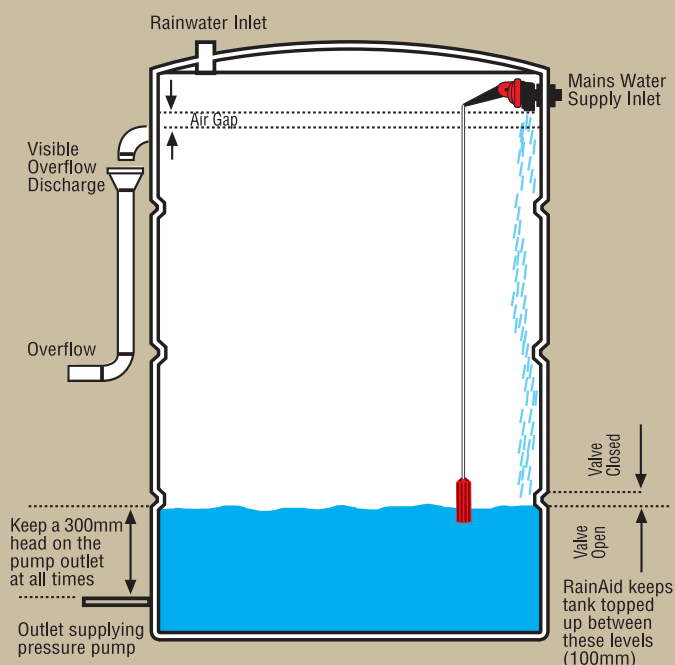
- Under normal conditions, rainwater will fill the tank. If the rainwater level drops below a pre-set level, the RainAid® valve will open to maintain the water level using the mains water supply.
- The rainwater tank is used to supply water to non potable outlets such as the toilets, laundry and garden. There is a 100mm differential between the open and closed positions of the RainAid® Valve.

SPECIFICATIONS

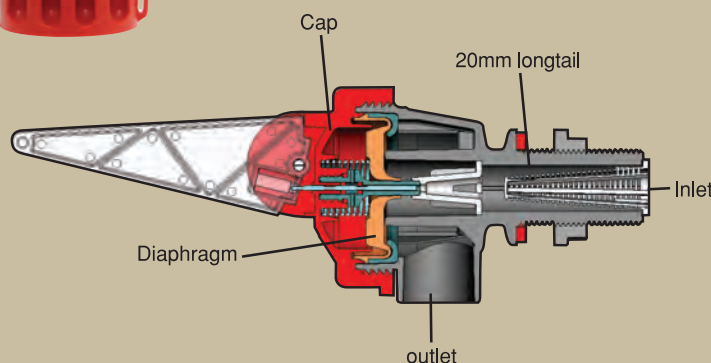
- Inlet 20mm 3/4" BSP (male).
- Cold mains pressure water connection.
- Working Pressure: 55-1200 kPa (8-175 psi).
- Maximum water temperature 60°C.
- Supplied with inlet strainer.

INSTALLATION

- Valve must be installed horizontally.
- Do not install on an angle.
- Do not restrict inlet water flow.
- Not to be modified.
- Not to be used in dual purpose tanks used for stormwater detention.
- N.B Some Australian states stipulate a minimum water level that must be maintained for fire fighting purposes.
- **Overflow and air gap to comply with local standards (air gap of 55mm complies with AS/NZS 3500.1).**



AS 1910
Lic. 20368



PRODUCT CODES

RA20

RA2L 2 L/min

NOTE

For full range see www.apexvalves.co.nz



NON-RETURN VALVES

APPLICATION

To prevent the reverse flow of water.

STANDARDS

- Complies with NZ Building Code G12 (2001)
- Complies with NZS 4608:1992

SPECIFICATIONS

- NR15** 15mm BSP (male/male)
- NR20** 20mm BSP (male/female)
- NR20S** 20mm BSP (male/female)
- Maximum pressure: 1600 kPa
- Maximum temperature: 65°C NR15,20
110°C NR20S
- DR (Dezincification Resistant) brass.



NR 15

NR20

NR20S

PRODUCT CODES

NR15	15mm
NR20	20mm
NR20S	20mm (Solar)

VACUUM BREAKS

APPLICATION

- Air gap for hot water systems.
- For combined or over length drains, refer page 22.

STANDARDS

- Complies with NZS 4608:1992.
- WRc (UK) approved Certificate No. 1001007 (not VBN).

SPECIFICATIONS

- Safeguards cylinders in the event of a blocked drain.
- Provides visual check of power and water waste from thermostat or valve malfunction (not VBN).
- SVB & RAVB - 20mm air gap.
- VBN has 15mm F inlet.
- VBN has 15 & 20mm outlet options.
- VBN may be installed horizontally or vertically.
- Acetyl plastic.

Notes:

- First number inlet size, second number outlet size.
- M= Male thread, F= Female thread.
- Some models may be subject to minimum order quantities.



SVB

RAVB

VBN

PRODUCT CODES

SVB 15F 20M	RAVB 15M 20F
SVB 15F 22M	RAVB 20M 20F
SVB 15M 20M	RAVB 20M 25F
SVB 15M 22M	
SVB 20M 20F	VBN 15M 15F
SVB 20M 25F	
SVB 22M 25F	

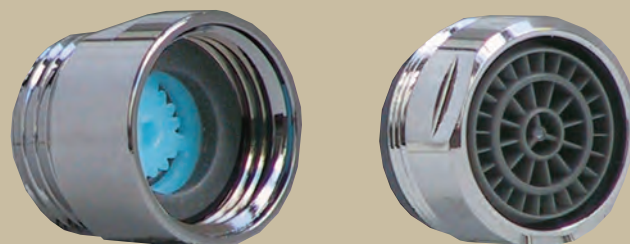
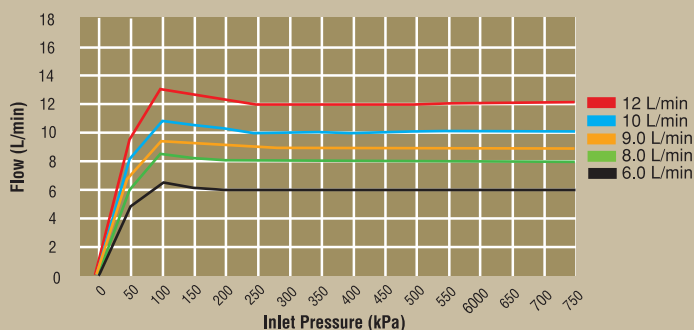
FLOW REGULATORS

APPLICATION

- To reduce water use.

SPECIFICATIONS

- FR 15** Inlet: 15mm BSP (female)
Outlet: 15mm BSP (male)
Length: 22mm
- FR A** Inlet: M24 x 1 (male)
- Replaces most single lever tapware aerators, remove insert for perlator type.
- Maximum inlet pressure: 1000 kPa
- Maximum temperature: 65°C
- Flow graph:



FR 15

FR A

PRODUCT CODES

FR 15-6	6.0 L/min	Black
FR 15-8	8.0 L/min	White
FR 15-9	9.0 L/min	Orange
FR 15-10	10.0 L/min	Blue
FR 15-12	12.0 L/min	Red
Aerator/Perlator Type		
FR A-8	8.0 L/min	White



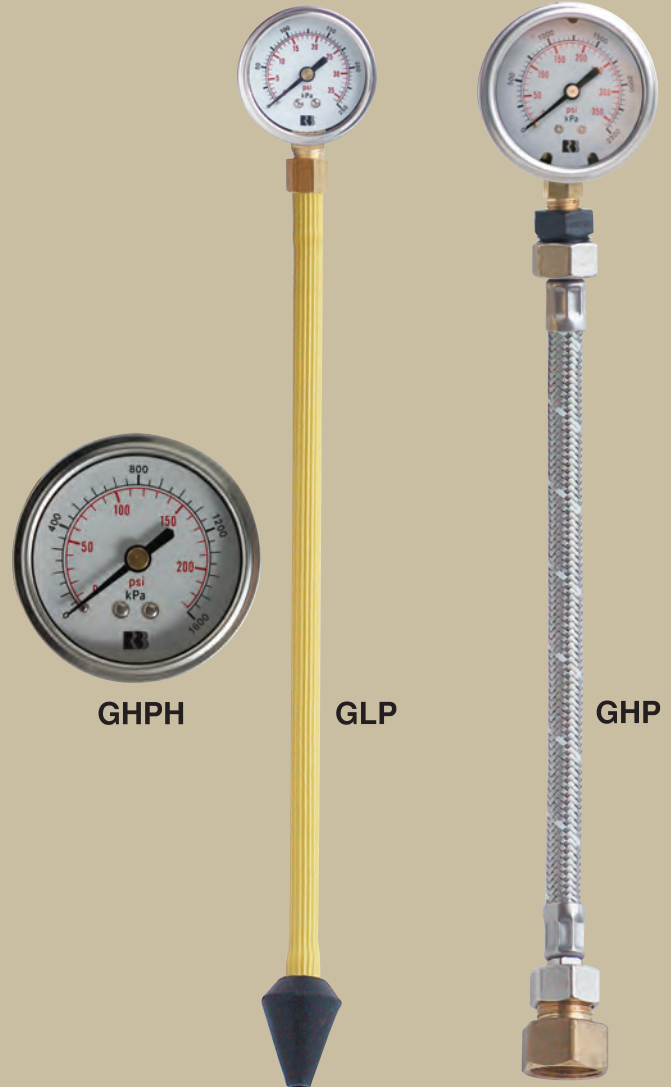
PRESSURE GAUGES

APPLICATION

Pressure testing of high and low pressure systems.

SPECIFICATIONS

- **GHP:** 0 - 2500 kPa (367 psi) pressure range.
Supplied with 15mm and 20mm female connectors.
Oil filled.
- **GLP:** 0 - 250 kPa (35 psi) pressure range.
Supplied with tapered rubber plug.
- **GHPH:** For Honeywell Braukmann Pressure Limiting Valves.
0 - 1600 kPa (232 psi) pressure range.
Back entry.



PRODUCT CODES

GHP Gauge High pressure

GLP Gauge Low pressure

GHPH Gauge High pressure (for Honeywell Limiting Valve)

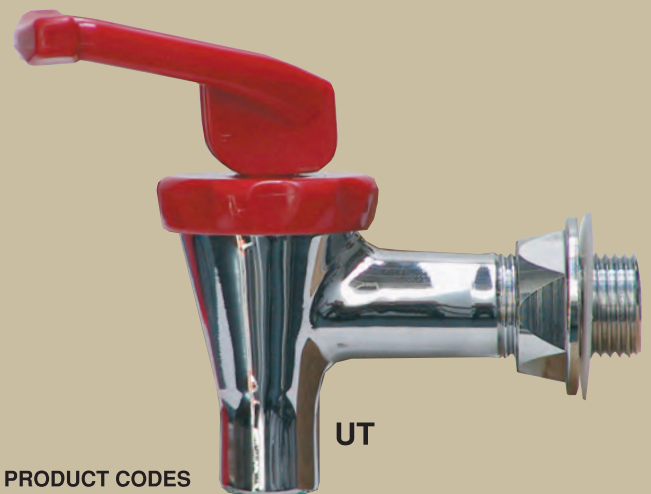
URN TAP

APPLICATION

Tap for dispensing boiling water.

SPECIFICATIONS

- Length: 75mm
- Silicone rubber diaphragm.
- Locknut to conceal inlet thread.
- Nylon washer.
- Chrome plated finish.
- Maximum temperature 100°C.
- 1 year warranty.
- DR (Dezincification Resistant) brass.



PRODUCT CODES

UT 15 15mm



STANDARD PRESSURE SETTINGS AND CONVERSION TABLES

LOW PRESSURE - up to 120 kPa

FV PRESSURE REDUCING VALVE	EVT EXPANSION VALVE	RV RELIEF VALVE	TAG COLOUR
37 (kPa)	N/A	OPEN VENTED	
65	75	75	
110	120	120	

HIGH PRESSURE - above 120 kPa

LV PRESSURE LIMITING VALVE	EVT EXPANSION VALVE	TPR TEMPERATURE PRESSURE RELIEF VALVE	TAG COLOUR
350 (kPa)	500	850/1000/1400	
500	700	850/1000/1400	

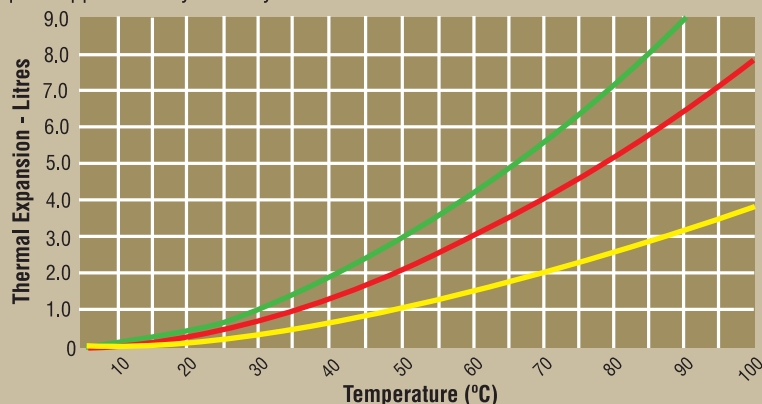
kPa	BAR	METRE HEAD	FOOT HEAD	P.S.I.
5	0.05	0.5	1.7	0.7
10	0.1	1.0	3.3	1.5
20	0.2	2.0	6.7	2.9
30	0.3	3.1	10.0	4.4
37	0.37	3.77	12.4	5.4
40	0.4	4.1	13.4	5.8
50	0.5	5.1	16.7	7.3
60	0.6	6.1	20.1	8.7
70	0.7	7.1	23.4	10.2
75	0.75	7.65	25.1	10.9
80	0.8	8.2	26.8	11.6
90	0.9	9.2	30.1	13.1
100	1.0	10.2	33.5	14.5
120	1.2	12.2	40.1	17.4

kPa	BAR	METRE HEAD	FOOT HEAD	P.S.I.
200	2.0	20.4	66.9	29.0
300	3.0	30.6	100.4	43.5
350	3.5	35.7	117.1	50.8
400	4.0	40.8	133.8	58.0
500	5.0	51.0	167.3	72.5
600	6.0	61.2	200.7	87.1
700	7.0	71.4	234.2	101.5
800	8.0	81.6	267.6	116.1
900	9.0	91.8	301.0	130.6
1000	10.0	102.0	334.6	145.0

1 P.S.I = 6.89 kPa (7 nominal)
1 bar = 100 kPa
1 kPa = 0.145 P.S.I.

THERMAL EXPANSION

Under normal conditions, a 180 litre hot water cylinder when heated from cold to 65°C will expel 3.6 litres (12.6m of 20mm DIA copper pipe) of water due to thermal expansion. The amount of expansion will vary depending on the volume of hot water used and cylinder capacity. A normal domestic system expels approximately 10L/day.



Cylinder Capacity

- 250 L
- 180 L
- 90 L

• Normal bucket holds 10 litres



Installation to comply with NZBC Clause G12 (2001) or NZS 4607:1989.

- Valves must NOT be installed in ground.
- Valves must be installed in a position where reasonable access is provided for maintenance and/or replacement.
- Caution:** do not apply heat near valves during installation.

DRAIN LINES

- IMPORTANT:** TAPS, VALVES OR OTHER SHUT-OFF DEVICES MUST NOT BE INSTALLED IN THE RELIEF OR EXPANSION DRAIN LINES.
- Drain line should be copper, they should fall continuously from the valve outlet and be of the shortest possible length.
- The discharge end of the drain line must be positioned so as any discharge will be visible, but not cause damage or a nuisance.
- Drain lines must not be smaller than the outlet of the valve to which they are connected.

NOTE:

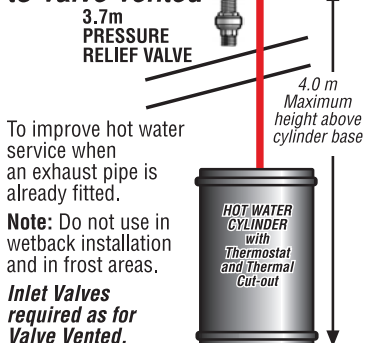
* R.V and E.V drains may be combined provided discharge is via a minimum airbreak of 25mm. Drain must have a minimum size of 20mm diameter and be one size larger than the largest relief valve outlet. (Refer diagrams)

** 1.0m minimum copper pipe length from cylinder to Tempering Valve and 150mm heat trap to Tempering valve. (As per G12)

! If the drain exceeds a factor of 12 as a combination of length in metres and no. of bends (e.g. 7 metres & 5 bends = 12) a SVB vacuum break must be fitted as per G12 (see pg.19)

LOW PRESSURE

Open Vented conversion to Valve Vented

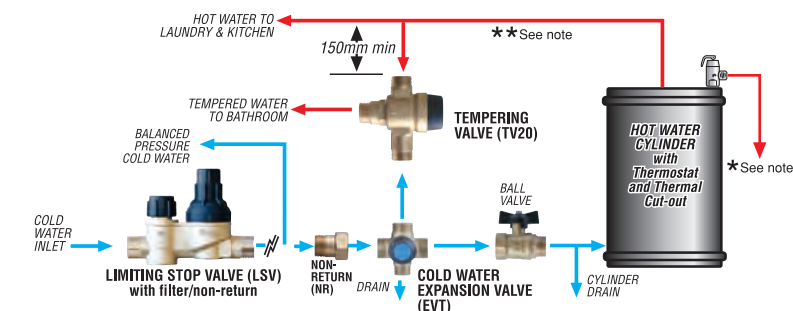


RECOMMENDED

- In frost areas fitting an EVT7.6 can protect cylinders in the event of exhaust pipe freezing.
- To protect tapware and appliances from excessive high pressure it is recommended to install Apex LV at point of entry to the household.

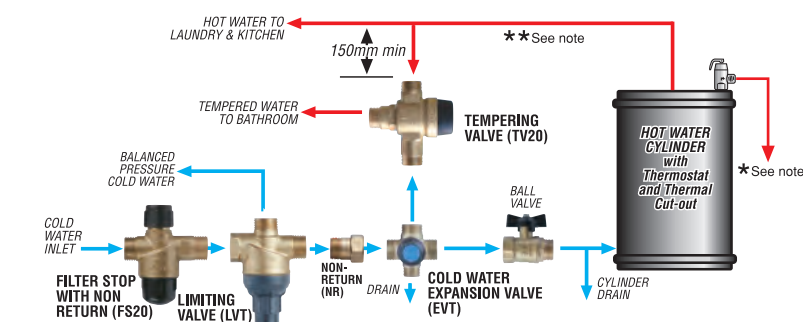
HIGH PRESSURE - Valve Vented

CP20



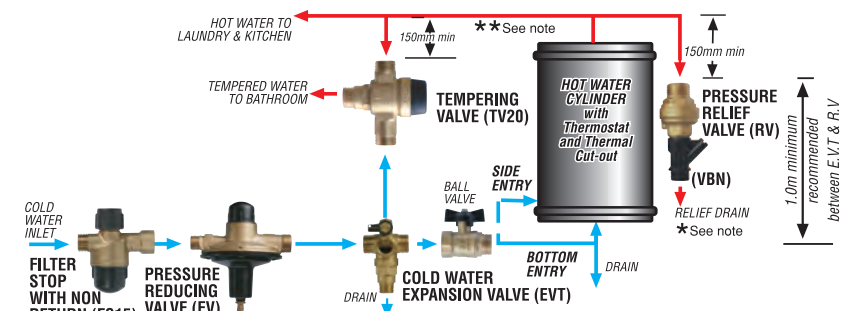
HIGH PRESSURE - Valve Vented

VP20 500



LOW PRESSURE - Valve Vented

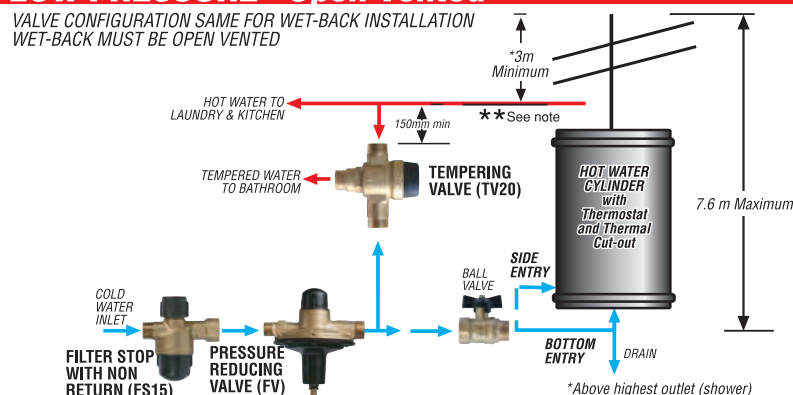
VP75



LOW PRESSURE - Open Vented

VP3.7

VALVE CONFIGURATION SAME FOR WET-BACK INSTALLATION
WET-BACK MUST BE OPEN VENTED

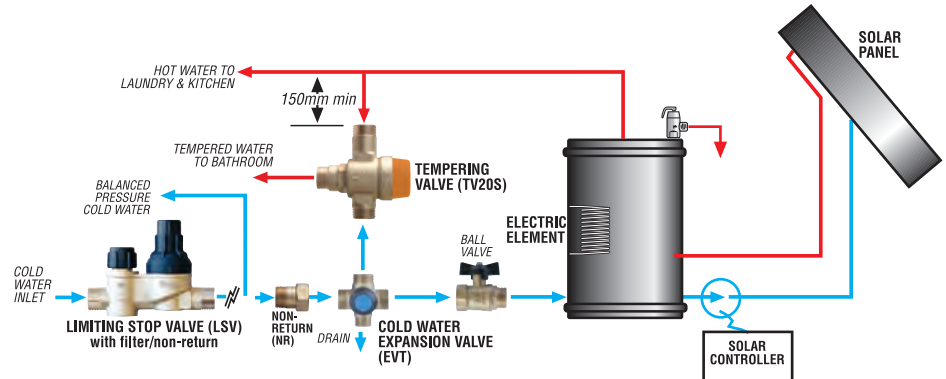


PRODUCT CODES

Limiting Stop Valve (LSV), Non-return (NR),
Cold water expansion valve (EVT) and Tempering
Valve Solar (TV20S).
See CP20S Page 15.

OPEN LOOP SOLAR INSTALLATION

CP20S



NOTE: Hotwater could be up to 95°C!

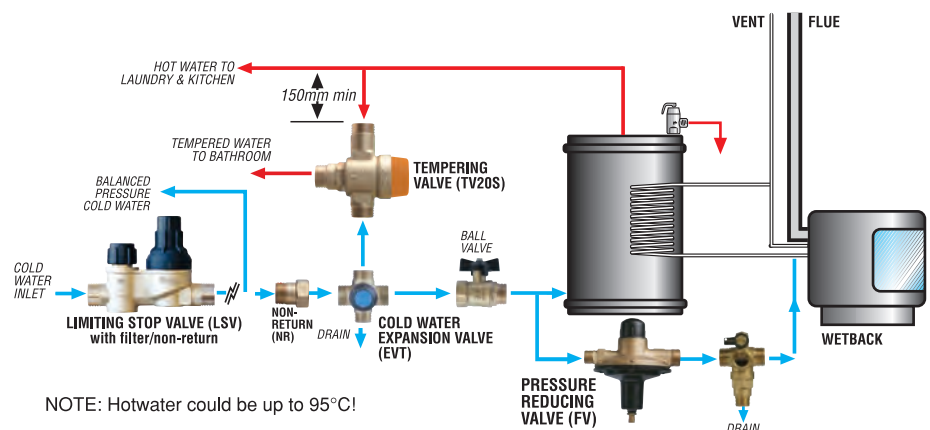
PRODUCT CODES

Limiting Stop Valve (LSV), Non-return (NR),
Cold water expansion valve (EVT), Tempering Valve
Solar (TV20S) and Pressure Reducing Valve (FV),
Cold water expansion valve (EVT 7.6).
See CP20S, FV, and EVT 7.6.

RECOMMENDED:

In frost areas fitting an EVT 7.6 can protect
wetback system and FV.

MAINS PRESSURE, WETBACK INSTALLATION



NOTE: Hotwater could be up to 95°C!

PRODUCT CODES

RVHP Relief Valve RVHP xxx (xxx = setting required
and units - kPa or psi).
Tempering Valve, Solar TV20S (high temperature)
Non-return valve NR20.

NOTE:

Apex marine relief valves are available at settings up to
415 kPa (60 psi).

It is important that the relief valve is set about 70 kPa
(10 psi) above the pump outlet pressure.

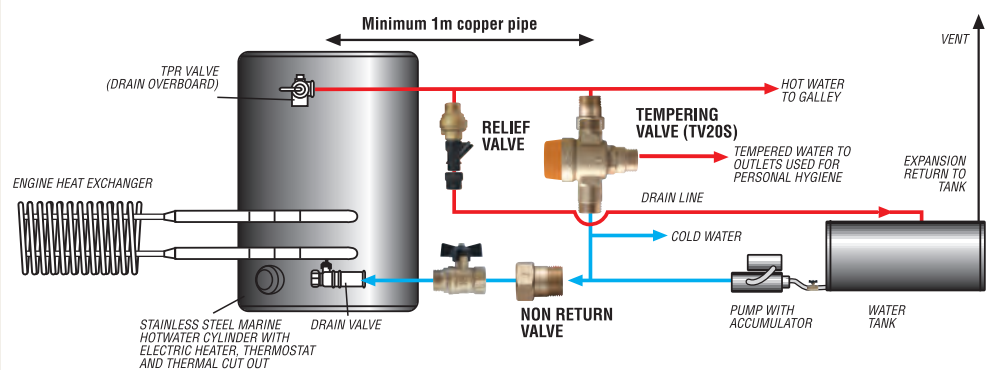
The TPR valve and maximum cylinder working pressures
must be greater than the relief valve setting.

The TPR drain is plumbed overboard, otherwise if the
valve discharges the complete contents of the hot water
cylinder, due to an overheating fault, the cold water tank
could be damaged.

Drain lines must have fall and be piped in half hard
copper pipe. On alloy hulls, take precautions to prevent
electrolysis.

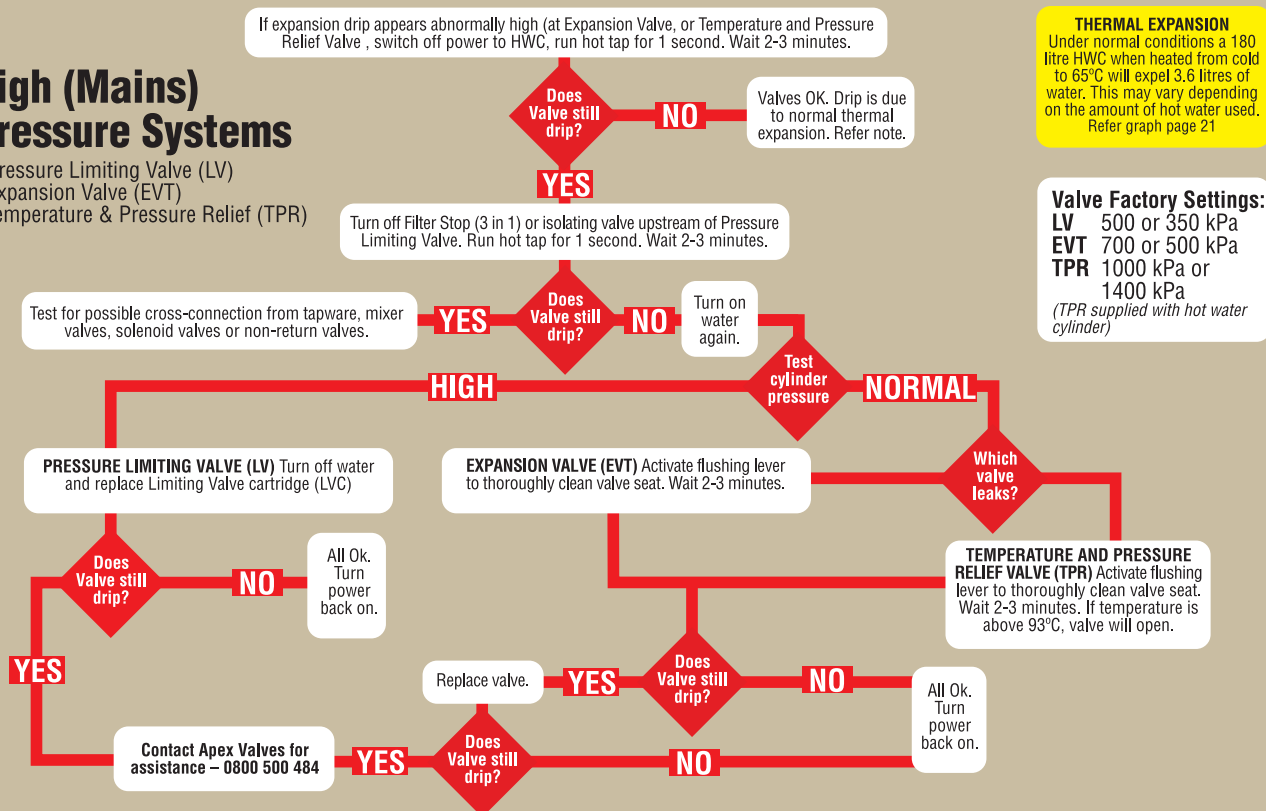
If the water tank is not vented, run the drain line to
waste.

MARINE HOTWATER CYLINDER INSTALLATION



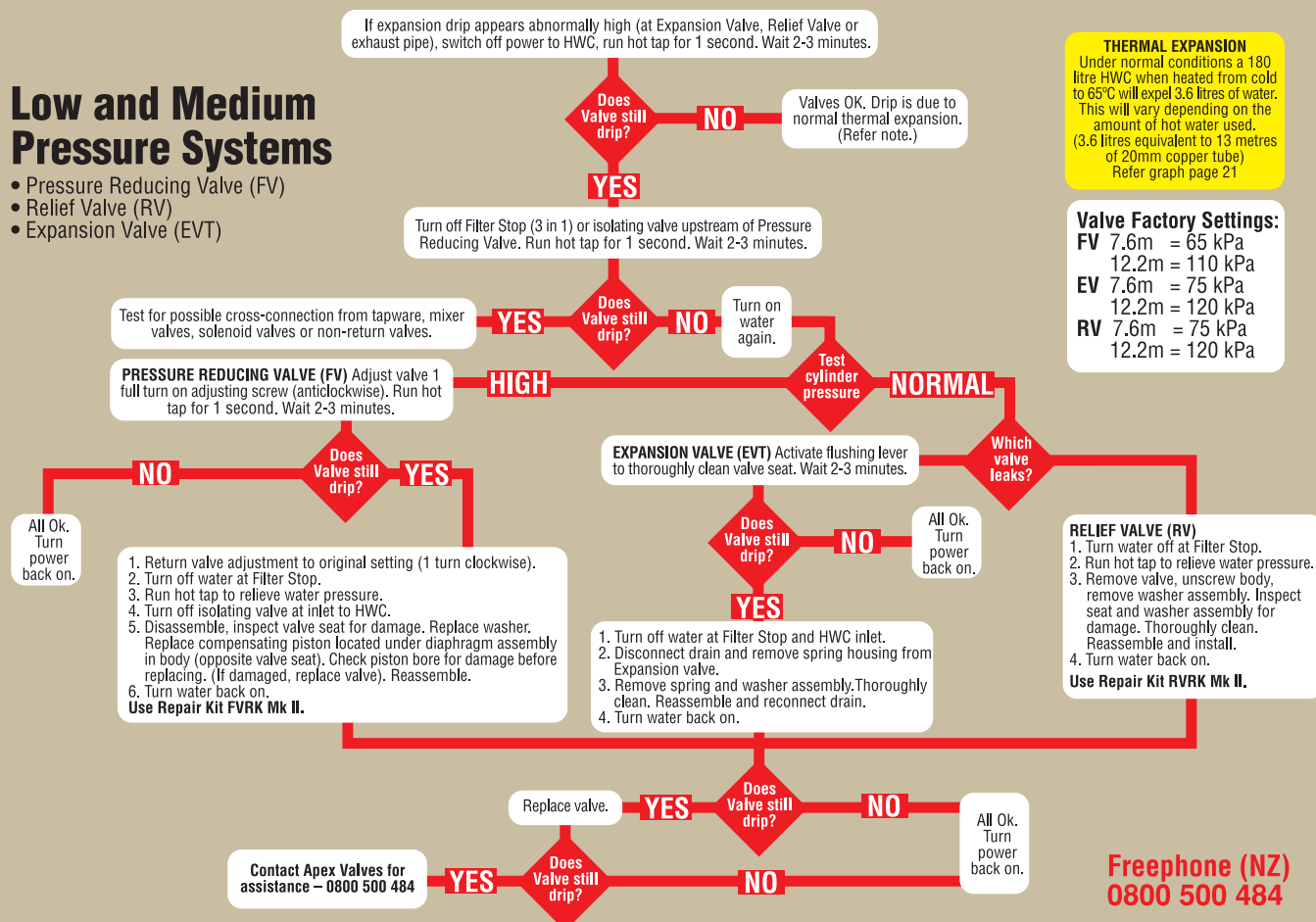
High (Mains) Pressure Systems

- Pressure Limiting Valve (LV)
- Expansion Valve (EVT)
- Temperature & Pressure Relief (TPR)

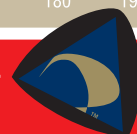


Low and Medium Pressure Systems

- Pressure Reducing Valve (FV)
- Relief Valve (RV)
- Expansion Valve (EVT)



Buy the Best!



WARRANTY (NZ ONLY)

Apex Valves warranty is limited to any fault found in a new valve due to poor workmanship or materials that is returned to Apex Valves Ltd within five (5) years from the date of manufacture unless otherwise stated. This warranty meets the durability requirements as specified in NZ Building Code Clause B2, Table 1.

The warranty does NOT apply if faults arise due to the following causes:

1. Faulty operation due to foreign matter in the water supply.
2. Installation of valves to impure or deleterious water supplies that contain excessive dissolved salts or chemicals.
3. Installation that does not comply with NZ Building Code G12, NZS 4607:1989, any other relevant approved Standard, or Manufacturers instructions and recommendations.
4. Abuse or mutilation of a valve during installation or in an attempt to repair or replace the valve.
5. Installation of a valve in an application where its intended use is not that for which the valve was designed without the prior written consent of Apex Valves Limited.
6. Failure due to a lack of maintenance.

Apex Valves Limited shall in no way be liable for any loss, damage (direct, indirect or consequential), cost or expense incurred other than those rights a consumer has under the Consumer Guarantees Act 1993.

Note: Apex Valves Limited reserve the right at any time to modify any valve specifications.

For all technical drawings and specifications refer to:

www.apexvalves.co.nz

MANUFACTURER:



Rosebank, Auckland, NZ, 367 Rosebank Rd, Avondale, NZ
Phone: 09 828 3123, Fax: 09 828 3505,
NZ Nationwide Freephone: 0800 500 484
Email: sales@apexvalves.co.nz www.apexvalves.co.nz

DISTRIBUTOR:



North Island - P.O. Box 33780, Takapuna, Auckland.
Ph 09-415 6151, Fax 0800 488 444
South Island - P.O. Box 4419, Christchurch.
Ph 03-341 1048, Fax 0800 488 333
www.hydroflow.co.nz

**Proudly made in
New Zealand**



APEX[®]
VALVES

CONNECTING SERVICE WITH QUALITY