

Plumbing Solutions

Control Valves, Appliance Protection & Rainwater Harvesting



About Us

Apex Valves (founded in 1982) is a New Zealand based company that specialises in the design and manufacture of plumbing control valves as well as tank and trough valves for the agricultural industry and rainwater harvesting.

The Anka range, (founded in 1996) is based on a unique range of polythene pipe fittings. The range also extends to Washdown Hose Nozzles, Quick Lock Couplings, Pipe Unions, Pipe Fittings, Hose Swivels, Check Valves and Foot Valves.

Apex Valves provide 100% backup and support for all our products and are committed to being a progressive, responsible manufacturer, producing high quality, innovative products that are internationally accepted.

Apex Valves Ltd are wholly owned by Watts Water Technologies Inc.

Watts Water Technologies, Inc. through its subsidiaries, is a world leader in the manufacture of innovative products to control the efficiency, safety and quality of water within residential, commercial and institutional applications. Its expertise in a wide variety of water technologies enables it to be a comprehensive supplier to the water industry.

Visit the Watts Water Technologies, Inc. website www.watts.com



Our Culture

The Apex culture is anchored in innovation and quality in our product design and manufacture. We aspire to add excellence in our customer focus, to build our three-pronged platform for sustainable, profitable growth.

But we also take a long-term view. We're not driven by short-term market issues or expediency.

We look ahead and we are prepared to invest in our business now, to make sure we're well positioned for the future.

Although we're action-oriented, we are also professional. Our reputation is very important to us and we aim to be fair and honest in all we do – with customers, our people, suppliers and the public.

Contents

CONTROL VALVES

Filter Stop & Non-Return (3 in 1)	4
Pressure Reducing Valves (Feed Valve)	5
Pressure Limiting Valve 15/20mm	6
Pressure Limiting Stop Valve 20mm	7
Limiting Stop Valve Commercial	8
Limiting Valve 25/32mm	9
Honeywell Braukman - Pressure Limiting Valve 40/50mm	10
Honeywell Braukman - Cold Water Expansion Valve 25/35mm	11
Cold Water Expansion Valves	12
Pressure Relief Valves	13
Tempering Valves 12/15/20mm	14
Tempering Valve 25mm	15
Tempering Valve 20/25mm Solar	16
Commercial Tempering Valve 20mm	17
10 in 1 Commercial Combi-Valve	18
Minimix Thermostatic Mixing Valve	19
Thermostatic Mixing Valve	20
Valve Packs	21
Combi Packs	22
CP 20G High Pressure Gas Combi Pack	23
Check Valves	24

APPLIANCE PROTECTION

Filtamate®	25
------------	----

RAINWATER HARVESTING

RainAid® Valve	27
----------------	----

ACCESSORIES

Non-Return Valves	28
Vacuum Breaks (Tundish)	28
Flow Regulators	29
Pressure Gauges	30
Urn Tap	30

INSTALLATION GUIDES

PRESSURE SETTINGS & CONVERSION TABLES	33
---------------------------------------	----

THERMAL EXPANSION GRAPH	33
-------------------------	----

FAULT FINDING	34
---------------	----

WARRANTY	35
----------	----

Filter Stop & Non-Return (3 in 1) 15/20mm

APPLICATION

Any application where filter, non-return and isolating valve is required in low and high (mains) pressure systems

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
- Forged, high quality, corrosion resistant DR brass body
- Machined, assembled and 100% tested in NZ

SPECIFICATIONS

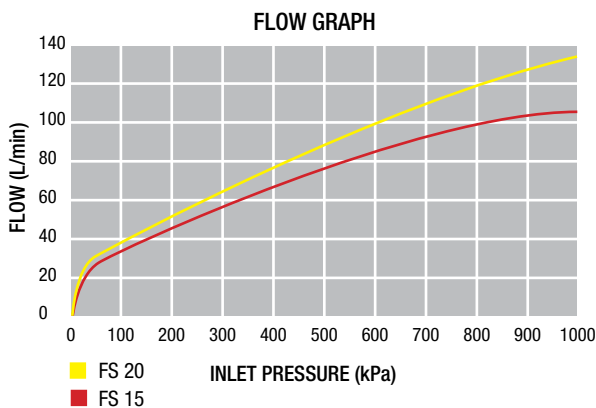
- FS15 Inlet: 15mm, 1/2" BSP (male)
Outlet: 15mm, 1/2" BSP (female)
Length: 86mm
- FS20 Inlet: 20mm, 3/4" BSP (male)
Outlet: 20mm, 3/4" BSP (male)
Length: 88mm
- 60 mesh (250 micron), stainless steel filter
- Maximum inlet pressure and temperature
Plastic Cap: 1000 kPa and 40°C
Brass Cap: FSBC15, 2000 kPa and 65°C
Brass Cap: FSBC20, 2000 kPa and 99°C



FS 15



FS 20



INSTALLATION

- Refer page 31 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

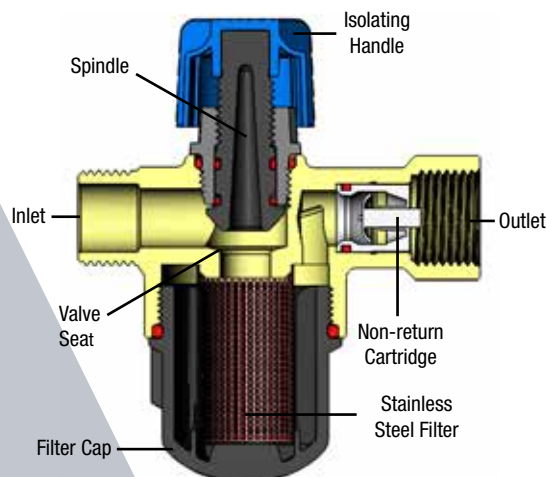
1. Turn handle clockwise to close valve
2. Remove filter bowl, by hand
3. Remove and clean filter
4. Refit filter, filter cap (hand tighten only) and turn on fully

STANDARDS

- Complies with NZ Building Code G12 (2014)
- Complies with NZS 4608:1992
- NZ Patent No. 230940, Aust Patent No. 625338

PRODUCT CODES

FS15	15mm
FS20	20mm
FSBC15	15mm Brass Cap
FSBC20	20mm Brass Cap - Hot water Valve



Pressure Reducing Valve (Feed Valve)

APPLICATION

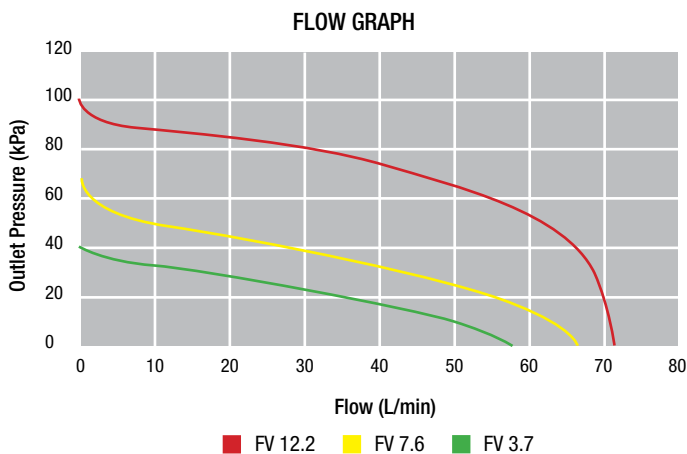
Low and medium pressure hot water systems

FEATURES/BENEFITS

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

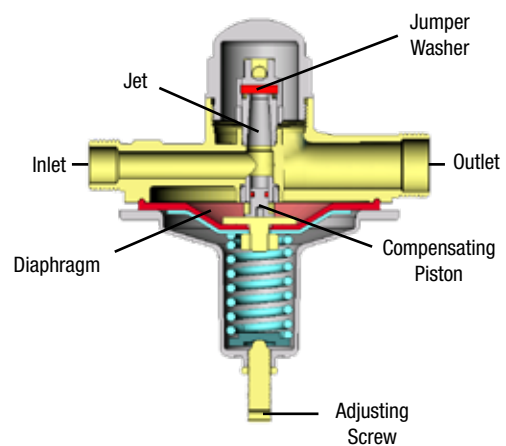
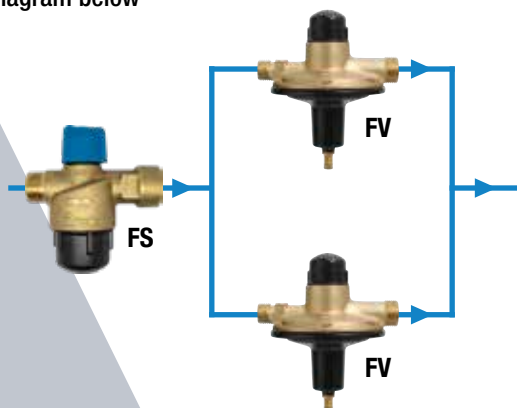
SPECIFICATIONS

- Inlet: 15mm, ½" BSP (male)
- Outlet: 20mm, ¾" 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



For increased flow rates or inlet pressure below 200 kPa, two valves in parallel may be required, doubling the flow.

*See diagram below



INSTALLATION

- Refer page 31 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 (1½ turns = 1 metre head).
- Valve must be either valve vented or open vented

STANDARDS

- Complies with NZ Building Code G12 (2014)
- Complies with NZS 4608:1992
- Patent No. 504476

PRODUCT CODES

- FV3.7**
- FV7.6**
- FV12.2**
- MP3.7** Matched Pair (FV3.7 & RV3.7)
- MP7.6** Matched Pair (FV7.6 & RV7.6)
- MP12.2** Matched Pair (FV12.2 & RV12.2)
- HFV3.7** Hot Water Feed Valve (Brass Cap)
- HFV7.6** Hot Water Feed Valve (Brass Cap)
- HFV12.2** Hot Water Feed Valve (Brass Cap)

Pressure Limiting Valve 15/20mm

APPLICATION

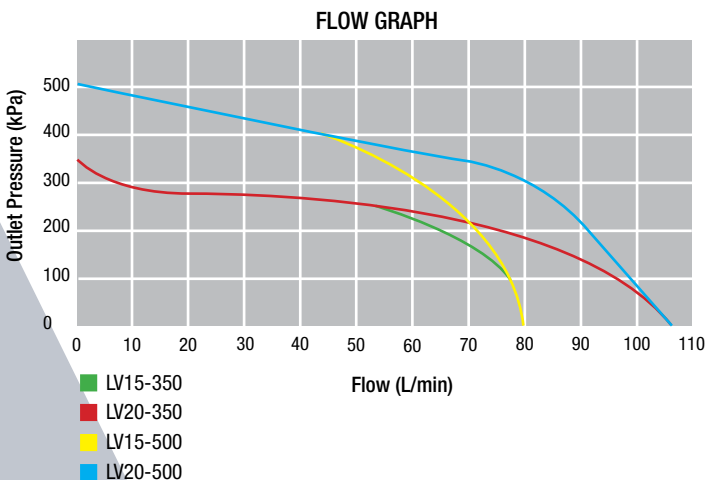
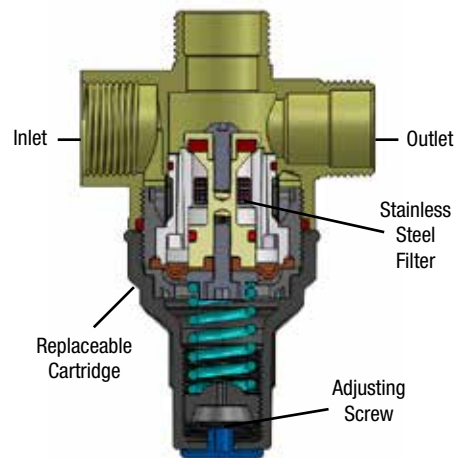
High (mains) pressure systems

FEATURES/BENEFITS

- Pressure compensated to give constant outlet pressure regardless of inlet pressure
- Extremely high flow rates up to 105L/min @ 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 Phillips screw driver
- No pipe unions, no leaks
- Forged, high quality, corrosion resistant DR brass body
- Machined, assembled, and 100% tested in NZ

SPECIFICATIONS

- LV15 Inlet: 15mm, ½" BSP (male)
Outlet: 20mm, ¾" BSP (male)
- LV20 Inlet: 20mm, ¾" BSP (female)
Outlet: 20mm, ¾" BSP (male)
- LVT15 Inlet: 15mm, ½" BSP (male)
Outlet: 20mm, ¾" BSP (male)
Takeoff: 20mm, ¾" BSP (male)
- LVT20 Inlet: 20mm, ¾" BSP (female)
Outlet: 20mm, ¾" BSP (male)
Takeoff: 20mm, ¾" BSP (male)
- Length: 80mm (all models)
- Maximum inlet pressure: 2000 kPa
- Maximum temperature: 65°C
- Integral 60 mesh (250 micron) filter



INSTALLATION

- Refer page 31 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 Phillips 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 (2014)
- Complies with NZS 4608:1992
- Patent No. 562340

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

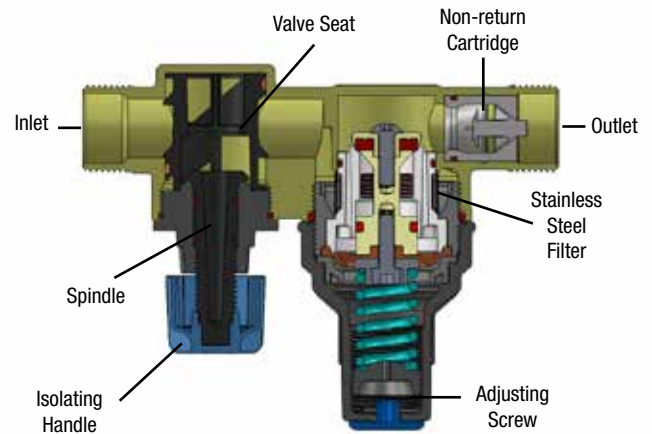
High (mains) pressure systems

FEATURES/BENEFITS

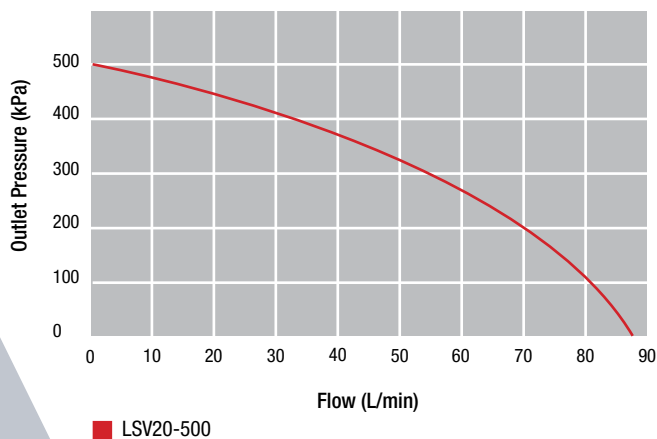
- Compact 4in1 Valve - Limiting, Isolation, Non-return and Filter all in one
- Pressure compensated to give constant outlet pressure regardless of inlet pressure
- Extremely high flow rates up to 90L/min @ 700 kPa inlet pressure
- No tools required to service valve, all valve seats and piston are contained in the easily replaceable cartridge
- Removal of cartridge will not affect the set pressures - all valve seats are contained within the cartridge
- Valve is adjustable 200 - 600 kPa with Phillips screw driver
- Can be installed outside (with cartridge down)
- Machined, assembled, and 100% tested in NZ
- 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
- Integral 60 mesh (250 micron) filter
- Limiting Stop Valve Maximum Temperature: 40°C
- Maximum Inlet Pressure: 2000 kPa



FLOW GRAPH



INSTALLATION

- Refer page 31 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 cap at end of cartridge, insert large Phillips 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 (2014)
- Complies with NZS 4607:1989
- Valves manufactured to NZS 4608:1992

PRODUCT CODES

- LSV20 350 350 kPa (Use with EVT500) - Black rating cap
- LSV20 500 500 kPa (Use with EVT700) - Blue rating cap

Limiting Stop Valve - Commercial

APPLICATION

Protection for High (mains) pressure water systems.
Retrofit solution for existing hot or cold systems.

FEATURES/BENEFITS

- Compact 4in1 Valve - Limiting, Isolation, Non-return and Filter all in one
- Designed to protect systems running hot water up to 80°C
- Pressure compensated to give constant outlet pressure regardless of inlet pressure
- Factory set at 500 kPa outlet pressure (Fully compensated)
- Designed, assembled, and 100% tested in NZ
- DR Brass

SPECIFICATIONS

LSV20H500C Inlet: 20mm, 3/4" BSP (male)
Outlet: 20mm, 3/4" BSP (male)
Length: 132mm

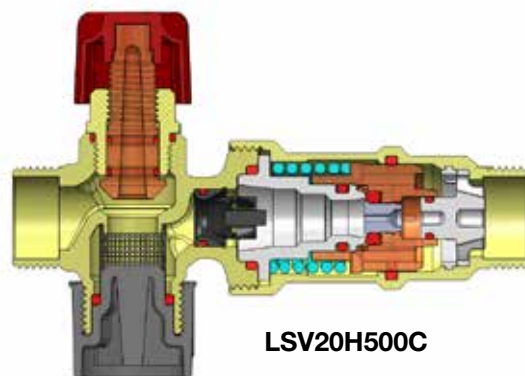
- Maximum inlet pressure: 2000 kPa
- Outlet Pressure: 500 kPa
- Maximum Temperature: 80°C
- Flow Rate 75 litres/minute
- Integral 60 mesh (250 micron) filter
- Integral Non-return

LSV 20H350C Inlet: 20mm, 3/4" BSP (male)
Outlet: 20mm, 3/4" BSP (male)
Length: 132mm

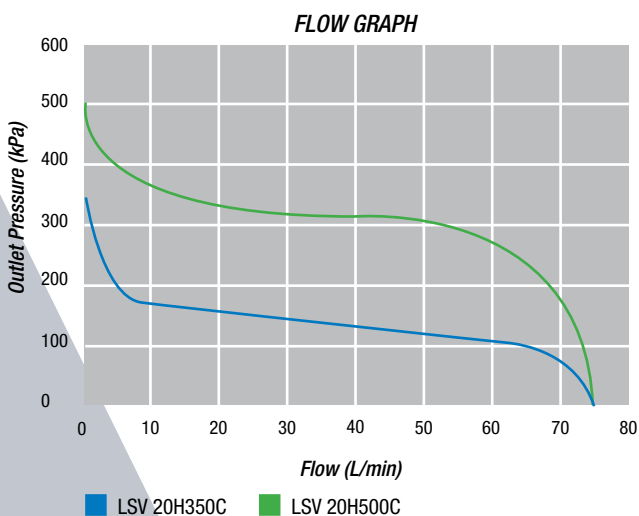
- Maximum inlet pressure 2000 kPa
- Outlet Pressure 350 kPa
- Maximum Temperature 80°C
- Flow Rate 75 litres/minute
- Integral 60 mesh (250 micron) filter
- Integral Non-return



LSV20H500C



LSV20H500C



STANDARDS

Complies with NZBC Clause G12 (2014)
Complies with NZS 4617: 1989

PRODUCT CODES

LSV 20H350C 350kPa limiting stop valve hot
LSV 20H500C 500kPa limiting stop valve hot

Limiting Valve 25/32mm

APPLICATION

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

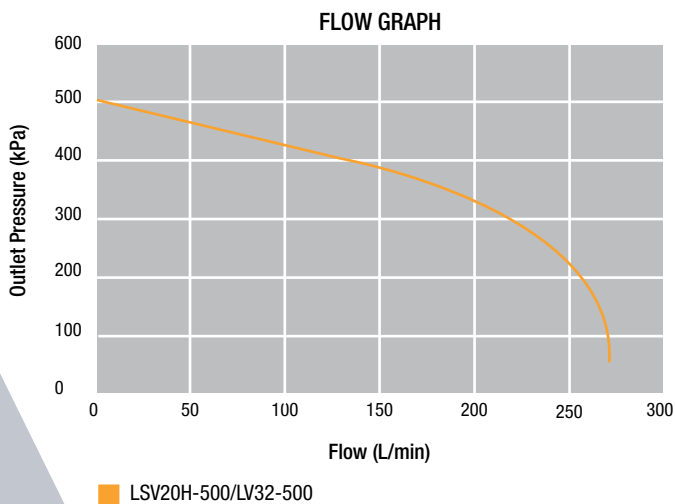
FEATURES/BENEFITS

- 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 dust cap is provided to protect cartridge
- Forged, high quality, corrosion resistant DR brass body
- Machined, assembled and 100% tested in NZ

SPECIFICATIONS

LV25	Inlet 25mm,	1" BSP (male)
	Outlet 25mm,	1" BSP (male)
	Length	110mm
	Height	190mm
LV32	Inlet 32mm,	1¼" BSP (male)
	Outlet 32mm,	1¼" BSP (male)
	Length	110mm
	Height	190mm

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

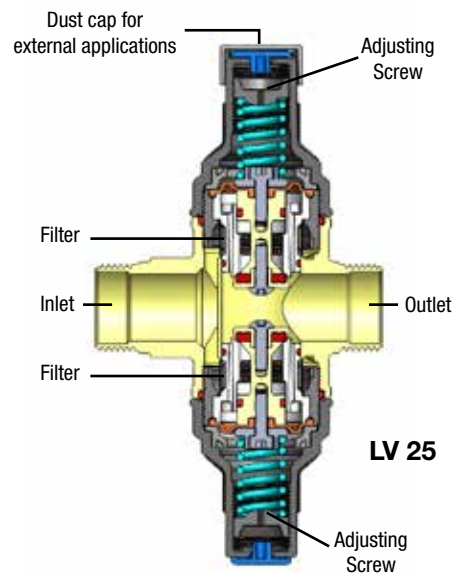


PRODUCT CODES

LV25 25mm	(1" BSP) 500 kPa
LV32 32mm	(1¼" BSP) 500 kPa



LV 25



LV 25

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 Phillips screw driver, turn adjusting screw clockwise to increase (1 turn = 60 kPa)

STANDARDS

- Patent No. 577660
- Complies with NZ building code G12 (2014)
- Complies with NZS 4608

SERVICING

- Filter must be cleaned regularly.

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 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 (2014)



LV
Gauge sold separately

PRODUCT CODES

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

Honeywell Braukman 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 (2014)



PRODUCT CODES

APEX CODES
EV25-800 800 kPa
EV32-800 800 kPa

HONEYWELL CODES
SM 152-1AB
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
- High temperature diaphragm 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
- Forged, high quality, corrosion resistant DR brass body
- Machined, assembled, and 100% tested in NZ

SPECIFICATIONS

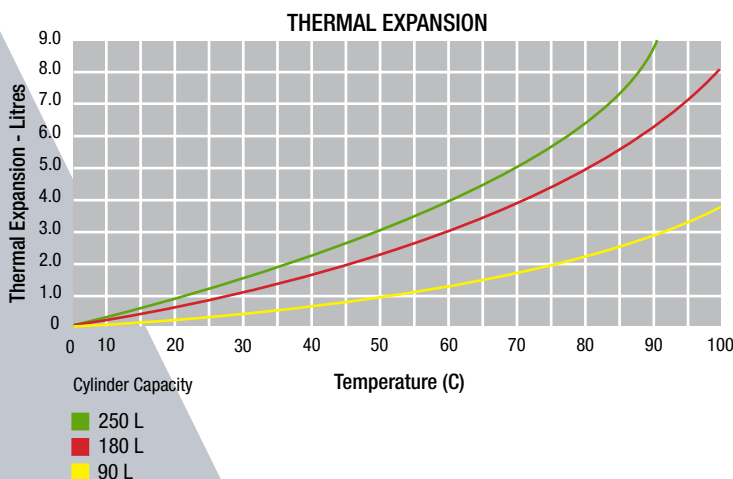
- Inlet/Outlet/Takeoff: 20mm, 3/4" BSP (male)
- Drain: 15mm, 1/2" BSP (male)
- Lengths:
 - EVT Low Pressure: 62mm
 - EVT High Pressure: 70mm
- Pressure settings: 75, 120, 500 and 700 kPa
- Maximum temperature: 99°C
- Kilowatt rating: 20kW

INSTALLATION

- Refer page 31 for installation guide
- If 1.0 metre min head can't be achieved between EVT and RV use EVT underbench model
- May be installed in any orientation provided drain falls continuously to outlet
- Pressure Limiting or Pressure Reducing valve must be fitted
- The cartridge is NOT replaceable and should NOT be removed

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.



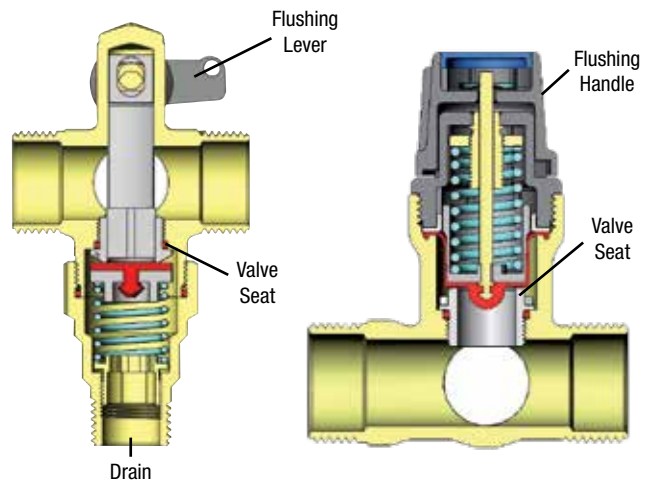
NOTE: All installations must comply with NZBC Clause G12



**EVT
Low Pressure**



**EVT
High Pressure**



STANDARDS

- Complies with NZ Building Code G12 (2014)
- Complies with NZS 4607:1989
- Valve manufactured to NZS 4608:1992

INCLUDED

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

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 as well as pressure systems for marine applications

FEATURES/BENEFITS

- 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

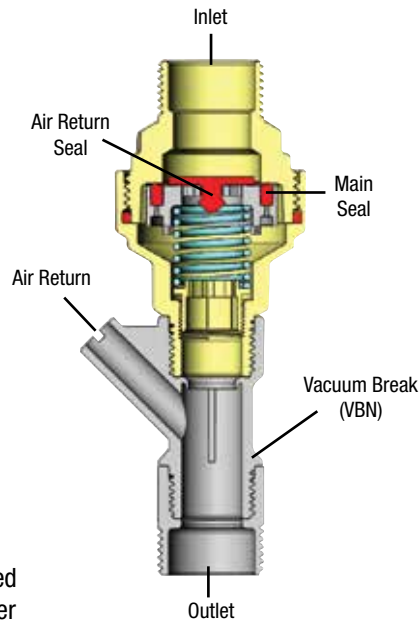
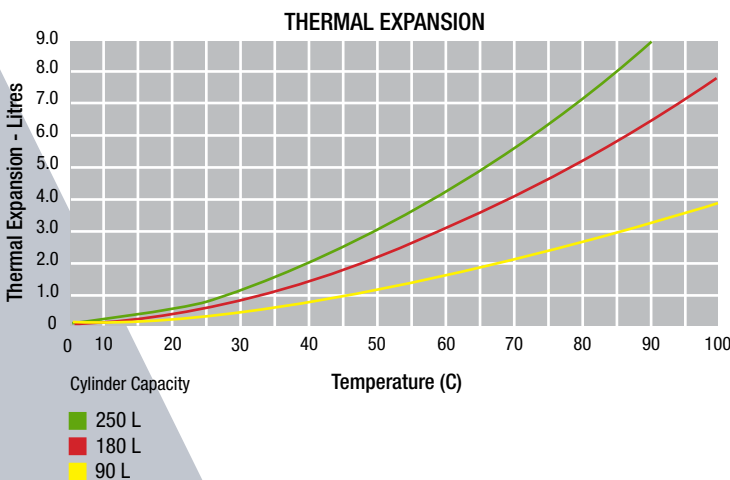
- Inlet: 20mm, 3/4" BSP (male)
- Outlet: 15mm, 1/2" BSP (male) - increases to 20mm with vacuum break
- Length: 80mm (valve)
115mm (c/w Vacuum Break)
- Standard pressure settings: 37, 75 and 120 kPa
- Special settings up to 415 kPa (60psi)
- Maximum temperature: 99°C
- Kilowatt rating: 12kW

INSTALLATION

- Refer page 31 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
- Do NOT apply heat near valve during installation
- Valve body can be unscrewed to clean seats and seals

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.



STANDARDS

- Complies with NZ Building Code G12 (2014)
- Complies with NZS 4608:1992
- NZ Patent No. 209613

INCLUDED

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

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 32)

Tempering Valves

12/15/20mm

APPLICATION

Used in hot water supply systems to mix hot and cold water to a controlled outlet temperature, reducing the risk of exposure to excessively hot water.

FEATURES/BENEFITS

- Extremely High flow rates (20 L/min at only 2m 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)
- 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

Inlet	15mm male, ½" BSP
Outlet	15mm male, ½" BSP
- TV20

Inlet	20mm male, ¾" BSP
Outlet	20mm male, ¾" BSP
- TV12

Inlet cold	12mm	John Guest fitting
Inlet hot	15mm,	½" BSP
Outlet	12mm,	John Guest fitting
- Length: TV15 110mm
TV15P 110mm
TV20, TV20P 105mm
TV12 110mm
- Factory set to give 53°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 unless included (TV20D, TV15).

STANDARDS

- Complies with NZ Building Code G12 (2014)
- Complies with NZS 4617:1989
- NZ Patent No. 517764,
Aust. Patent No. 2003200856 RSA. Patent No. 2003/1992

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

NOTE: All installations must comply with NZBC Clause G12



TV20

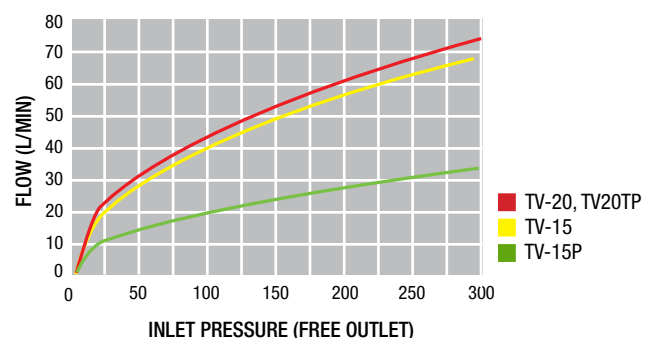


TV15



TV15P

FLOW GRAPH



INSTALLATION

- Refer page 31 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
- 1m MIN copper pipe length from cylinder to tempering valve, THIS IS A MANDATORY REQUIREMENT OF G12

TEMPERATURE ADJUSTMENT

Refer to page 15 overleaf



Tempering Valve

25mm

APPLICATION

Extremely high flow rate makes the TV25 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

- 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 135mm
- Height 105mm
- Inlet water pressures 20 to 1600 kPa
- Flow rates: TV25 25 L/min at 20kPa 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)

INSTALLATION

- Refer page 31 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
- 1m MIN copper pipe length from cylinder to tempering valve, THIS IS A MANDATORY REQUIREMENT OF G12

TEMPERATURE ADJUSTMENT

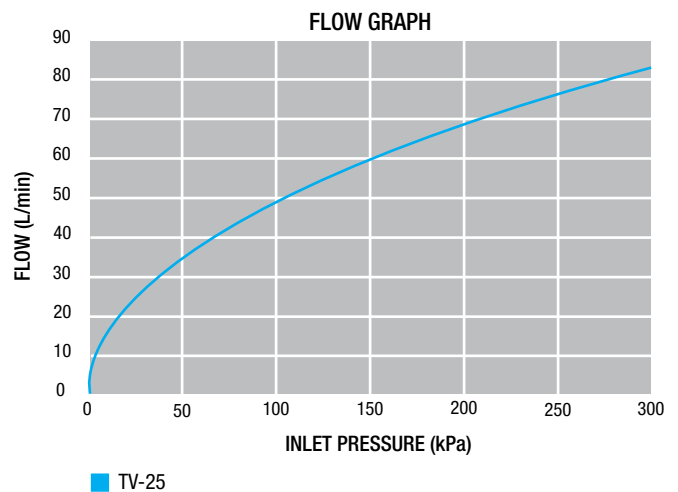
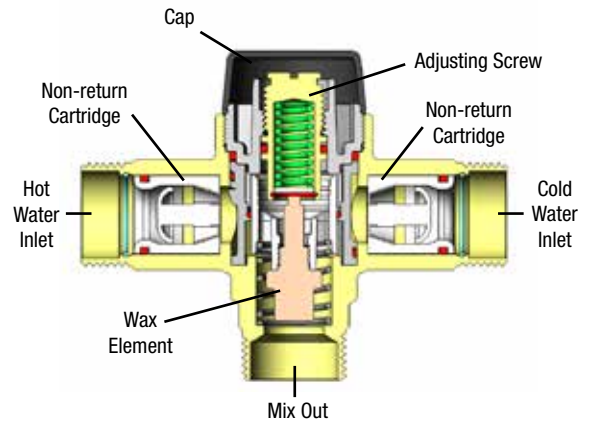
Remove cap. Use screwdriver to adjust to desired temperature. To increase, turn anti-clockwise (H). To decrease, turn clockwise (C). Replace cap. Maximum delivered hot water temperature at any sanitary fixture used for personal hygiene shall not exceed 55°C. For childhood centres, schools, old peoples 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 (2014)
- Complies with NZS 4617
- NZ Patent No. 517764, Aust. Patent No. 2003200856
- RSA. Patent No. 2003/1992



TV25



PRODUCT CODES

TV25 25mm (Non-return on both inlets)

Tempering Valves

Solar 20/25mm

APPLICATION

For use in hot water supply systems with an uncontrolled heat source such as solar or wetback installations to mix hot and cold water to a controlled outlet temperature, reducing the risk of exposure to excessively hot water.

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/min @ 2 metre head
- 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.
TV25S	25 L/min at 20 kPa inlet pressure.
- Max. pressure imbalance between the hot & cold supplies 5:1.

INSTALLATION

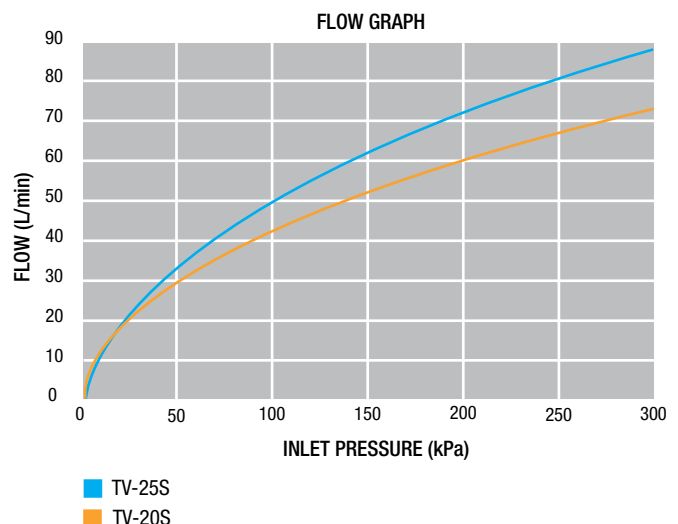
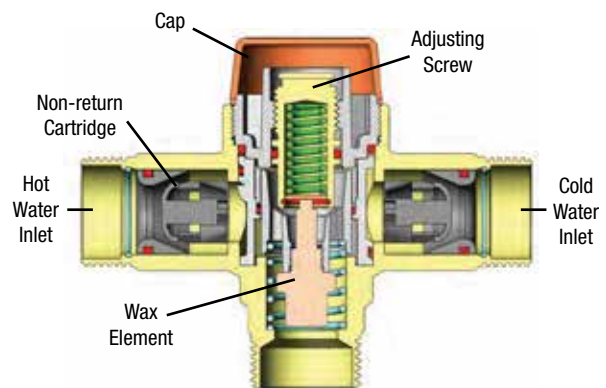
- Refer page 31 for installation guide
- Valve must be fitted by a qualified plumber
- Installation must comply with local authority requirements
- Valve may be installed in any orientation
- Flush pipes prior to fitting
- Valve must be protected by a line strainer
- Connections are H (hot inlet), C (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
- 1m 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.



TV25S



STANDARDS

- Complies with NZ Building Code G12 (2014)
- Complies with NZS 4617:1989
- NZ Patent No. 517764, Aust. Patent No. 2003200856
- RSA. Patent No. 2003/1992

PRODUCT CODES

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



Commercial Tempering Valve 20mm



APPLICATION

Used in hot water supply systems to mix hot and cold water to a controlled outlet temperature, reducing the risk of exposure to excessively hot water.

FEATURES/BENEFITS

- Used on high pressure hot water systems
- Valve can be installed in any orientation
- Dual check valves, suitable for ring main applications
- Failsafe shutdown in the event of failure of hot and cold supplies
- High quality DR brass body
- 100% tested
- Complies with NZ building code (G12)

SPECIFICATIONS

- Nominal size 20mm
- Maximum static supply pressure 1400 kPa
- Maximum dynamic supply pressure 500 kPa
- Factory set at 53°C, can be adjusted between 35°C and 60°C
- Connections 20mm male, 3/4" BSP
- Hot and cold check valves for ring main installations

INSTALLATION

- Valve must be fitted by a qualified plumber
- Flush lines before installation
- Valve may be fitted in any orientation
- Valve must be protected by a line strainer
- Connections are H (hot inlet), C (cold inlet) and OUT (tempered water delivery)
- Do not apply heat near valve during installation
- Do not install valve directly into outlet of cylinder
- 1m MINIMUM copper pipe from cylinder to tempering valve is a requirement of G12

TEMPERATURE ADJUSTMENTS

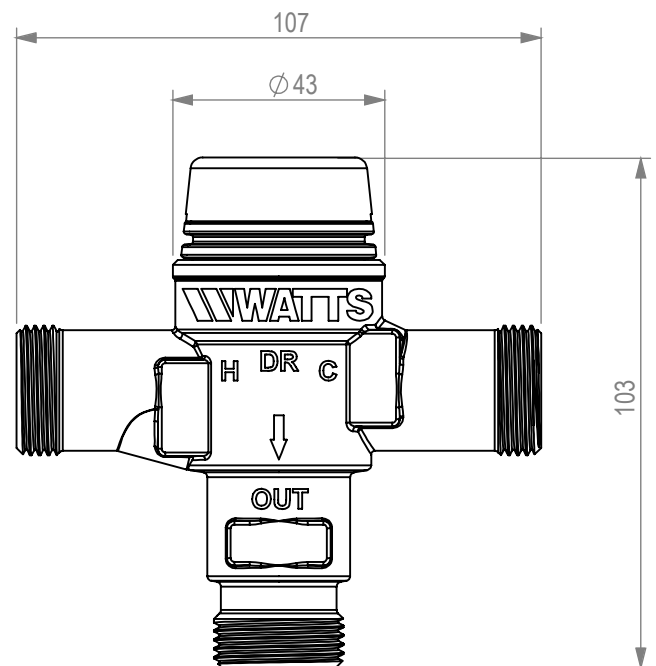
- Remove cap, use a screwdriver to adjust to the desired temperature. To increase, turn anti-clockwise.
- To decrease, turn clockwise. Check outlet temperature required by local authorities with a calibrated thermometer.

STANDARDS

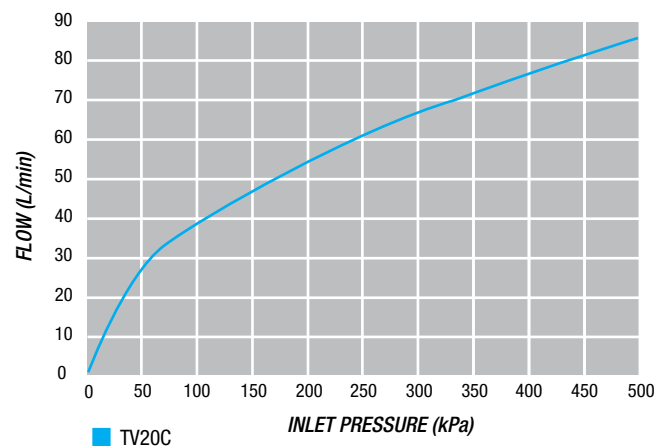
- Complies with NZBC Clause G12 (2014)
- Complies with NZS 4617: 1989

PRODUCT CODES

TV20C 20mm Commercial Tempering Valve
(Non-return on both inlets)



FLOW GRAPH



10 in 1 Commercial Combi-Valve



APPLICATION

High (mains) pressure commercial ring mains where tempering, isolation, filtration and limiting is required at each take off.

FEATURES/BENEFITS

- Pressure limiting stop valve cold (Tee)
- Pressure limiting stop valve hot (Elbow)
- Tempering valve (TV20C)
- Pressure limited cold feed
- Free-rotating Limiting Valve body
- Filters
- Non-returns on both hot and cold

SPECIFICATIONS

20mm Pressure limiting stop valve cold

- Isolating valve
- Stainless steel filter 250 micron
- Integrated Non-return
- DR brass body
- Pressure setting 500 kPa
- Max temperature: 40°C
- Max Inlet pressure: 2000 kPa

20mm Pressure limiting stop valve hot

- Isolating valve
- Stainless steel filter 250 micron
- Integrated non-return
- DR brass body
- Pressure setting 500 kPa
- Max temperature: 80°C
- Max Inlet pressure: 2000 kPa

20mm Tempering Valve (TV20C)

- Thermostatically controlled safety valve to reduce the risk of scalding
- Maximum static supply pressure 1400 kPa
- Maximum dynamic supply pressure 500 kPa
- Factory set at 53°C, can be adjusted between 35°C and 60°C
- Connections 20mm male, ¾" BSP
- Hot and cold check valves for ring main installations

TEMPERATURE ADJUSTMENT

Remove cap, use a screwdriver to adjust to the desired temperature. To increase, turn anti-clockwise (H). To decrease, turn clockwise (C). Check outlet temperature required by local authorities with a calibrated thermometer.

STANDARDS

Complies with NZBC Clause G12 (2014)
Complies with NZS 4617: 1989



INSTALLATION INSTRUCTIONS

- Valve must be fitted by a qualified plumber
- Installation must comply with local authority regulations
- Flush lines before installation
- Valve may be fitted in any orientation
- Do not apply heat near valve during installation - this may damage the mechanism

PRODUCT CODES

10IN1 500 kPa Combi-Valve

Minimix Thermostatic Mixing Valve



APPLICATION

Specific thermostatic mixing valve for point of use control requiring an aesthetic environment. Designed to supply sinks, hand wash-basins or electronic faucets with immediate tempered water not exceeding a temperature set (factory preset: 38°C). MINIMIXing provides high security level against scalding and Legionella bacteria. Applications in communities or in bathrooms: hospitals, nursing homes, hotels, schools, restaurants, laboratories, motorway services ... anywhere needing an excellent temperature management, particularly on startup of flow.

FEATURES/BENEFITS

- Extra compact size
- Aesthetic design with brass body chrome polished
- Temperature set secured by hexagonal socket screw (Allen key)
- Easy to replace modular adjustment mechanism (cartridge)
- Graduated ring inside the body for temperature control by the installer or user
- Incorporated stainless steel filters, integrated in the thermostatic cartridge
- Remarkable rapidity of reaction of the mechanism

SPECIFICATIONS

- Maximum working pressure – 1000 kPa
- Minimum working pressure – 100 kPa
- Recommended working pressure from 200 to 400 kPa
- Max. pressure difference between hot and cold water 150 kPa
- Minimum difference between input temperatures 10°C
- Maximum hot water temperature 85°C
- Setting range from 30 to 70°C
- Factory preset temperature 38°C
- Flow under 300 kPa 28 l/min
- Minimum flow 5 l/min

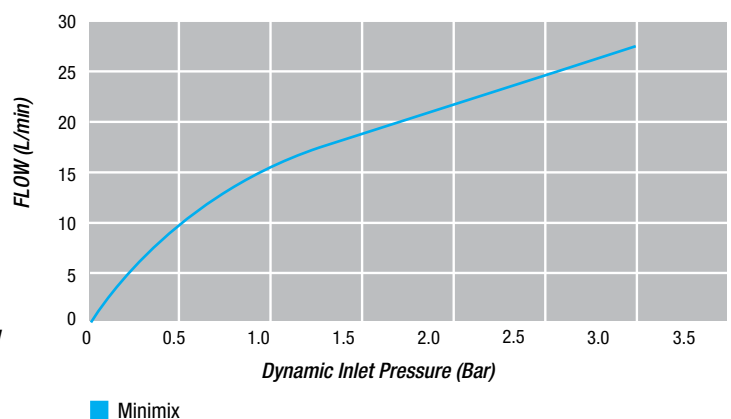
TEMPERATURE ADJUSTMENTS STANDARDS

- Cartridge can be removed and replaced (for easier scale removal and disinfecting)
- Integral check-valves avoid connection risk between cold and hot water (withstanding temperatures above 90°C)
- Thermal shock : simply remove the protective cover and set the temperature with the Allen key to maximum hot position to allow hot water to circulate (kills bacteria above 60°C)
- The valve is delivered with a rinsing cover kit: after removing the cartridge and placing the rinsing cover kit, you can flush the valve with a disinfectant solution or with water up to 90°C without danger of damaging the thermostatic mechanism



TMV-MINI-KIT

FLOW GRAPH



PRODUCT CODES

TMV-MINI-KIT 1/2" (15x21) Male flat sealings

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, aged care, hospitals and institutions for people with psychiatric or physical disabilities.

FEATURES/BENEFITS

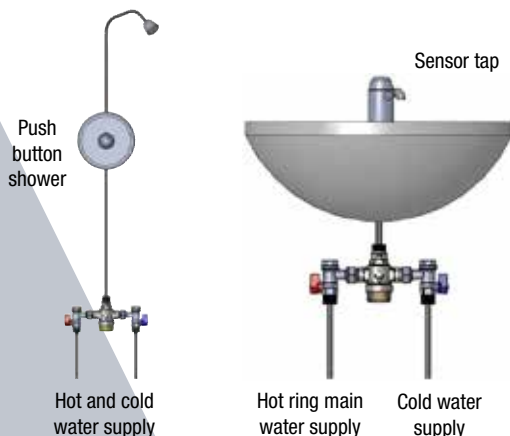
- Fail safe shutdown in the event of failure of hot and cold supplies, controls temperature, factory set to 45°C
- Outlet temperature adjustable 35°C to 60°C
- High Flow rate, 40 L/min at 500 kPa
- Forged, high quality, corrosion resistant, DR brass body nickel plated
- Integral non-returns means valve 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 - to adjust refer to page 16
- 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 40 L/min at 500 kPa
- Max. pressure imbalance between the hot & cold supplies 5:1.

STANDARDS

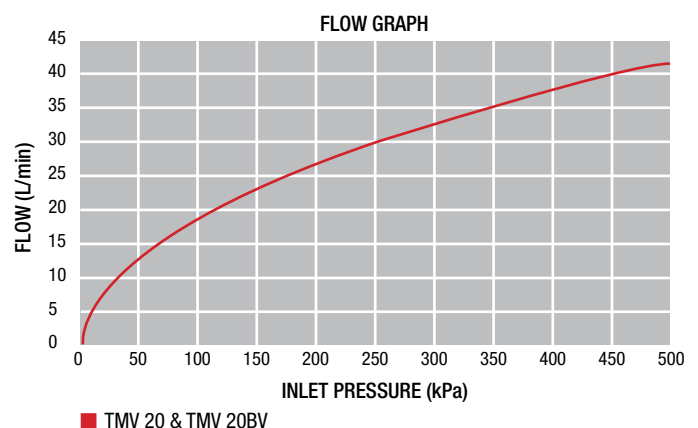
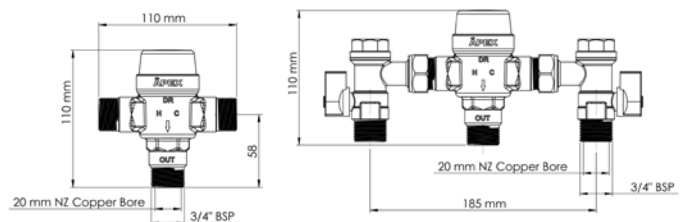
- Complies with NZBC Clause G12 (2014)
- Complies with NZS 4617: 1989
- Complies with BS7942



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
- **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



VP75

PRODUCT CODES

VP37	3.7m Open vented
VP75	Valve vented
VP75U	Underbench valve vented
VP120	Valve vented
VP120U	Underbench valve vented

Combi Packs: 15/20/25mm

APPLICATION

High/Mains Pressure hot water systems and solar installations

SPECIFICATIONS

- **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
- **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
- **CP20S Solar Pack** includes: Pressure Limiting Stop Valve (LSV20 500), Cold Water Expansion Valve (EVT 700), Solar Tempering Valve (TV20S), 1 x MF Ball Valve 20mm, Non-Return 20mm (NR), 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
- **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)
- **CP20T** (not pictured) includes: Pressure Limiting Valve with take-off (LVT20-500), Cold Water Expansion Valve (EVT 700), Tempering Valve (TV20), 1 x MF Ball Valve 20mm, 1 x MF Ball Valve 20mm, Non-Return 20mm (NR), Cap and Socket
- **CP20C** (not pictured) includes Pressure Limiting Stop Valve (LSV30500C), Cold Water Expansion Valve (EVT 700NR), Tempering Valve (TV20C), 1 x MF Ball Valve 20mm

STANDARDS

- Complies with NZ Building Code G12 (2014)
- Complies with NZS 4607:1989

PRODUCT CODES

CP15	15mm 500 kPa or 350 kPa
CP20	20mm 500 kPa or 350 kPa
CP20P	20mm Pump Pack - no Limiting Valve
CP20S	20mm 500 kPa or 350 kPa Solar
CP25	25mm 500 kPa or 350 kPa
CP20T	20mm 500 kPa or 350 kPa - Limiting Valve with Take-off
CP20C	500kPa Contract Combi-Pack



CP 20G High Pressure Gas Combi Pack

APPLICATION

High (mains) pressure gas continuous flow hot water systems.

FEATURES/BENEFITS

- Premium quality gas continuous flow combi-pack. All required valves in the one pack for ease of use and confident installation / commissioning.

SPECIFICATIONS

Pressure Limiting Stop Valve 20mm (LSV20-500C)

- Isolating valve
- Stainless Steel Filter 250 micron
- DR Brass Body
- Pressure Setting: 500kPa
- High Flow rate up to 74 litres/minute

20mm Ball Valve - Blue Handle for Water

- Forged brass ball valve
- Aluminium T-handle
- Thread ends ISO228
- Nominal pressure (PN) in bar: 20
- Temperature range: -30°C to 95°C

20mm Ball Valve - Yellow Handle for Gas

- Forged brass ball valve
- Yellow aluminium T-handle
- Thread ends ISO228
- Nominal pressure (PN) in bar: MOP5
- Temperature range: -10°C to 80°C

PLUS 1 x MF 20mm, 1 x 20mm Fibre Washer (Gas) and 1 x 20mm Rubber Washer (Water)



LSV20-500C



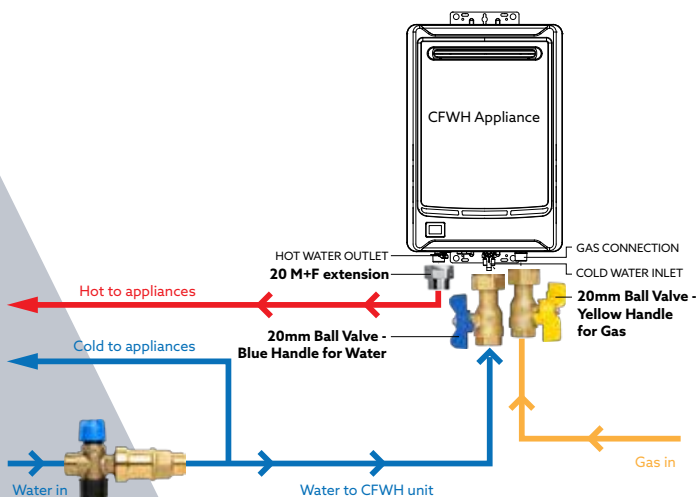
20mm Ball Valve - Blue Handle for Water



20mm Ball Valve - Yellow Handle for Gas



MF 20mm



INSTALLATION INSTRUCTIONS

INSTALLATION FOR MAINS PRESSURE GAS CONTINUOUS FLOW WATER HEATERS in accordance with NZBC Clause G12 (2001) and NZS 4607:1989. Valves manufactured to NZS 4608:1992.

- Do NOT install Limiting Stop Valve in the ground
- Refer to water heater manufacturer's installation instructions for installation requirements.

PRODUCT CODES

CP20G 20mm 500kPa

Nylon Check Valves

APPLICATION

APEX Check Valves are a spring-loaded non-return valve which can be used in a variety of cold water applications including irrigation, plumbing, marine, domestic and agricultural industries to allow water to flow in one direction only.

FEATURES/BENEFITS

- Install at any angle
- Durable, versatile and non-corrodible materials
- Serviceable. Can be taken apart for cleaning
- Does not restrict flow
- Spring-loaded

HOW IT WORKS

- Plunger opens fully when pump turns on
- Water flows through valve
- Plunger securely closes & seals

SPECIFICATIONS

Working Pressure: 1600kpa (230psi) @ 20°C (68°F)

Temperature Range: Cold water applications

Threads: BSPT

Materials: Glass Fibre Reinforced Nylon body
316 Stainless Steel spring
Acetyl plunger
Nitrile rubber washer & o-rings

SPARES & ACCESSORIES

- Foot screens available on request

PRODUCT CODES

CKV20 20 x 20mm (3/4" x 3/4")

CKV25 25 x 25mm (1" x 1")

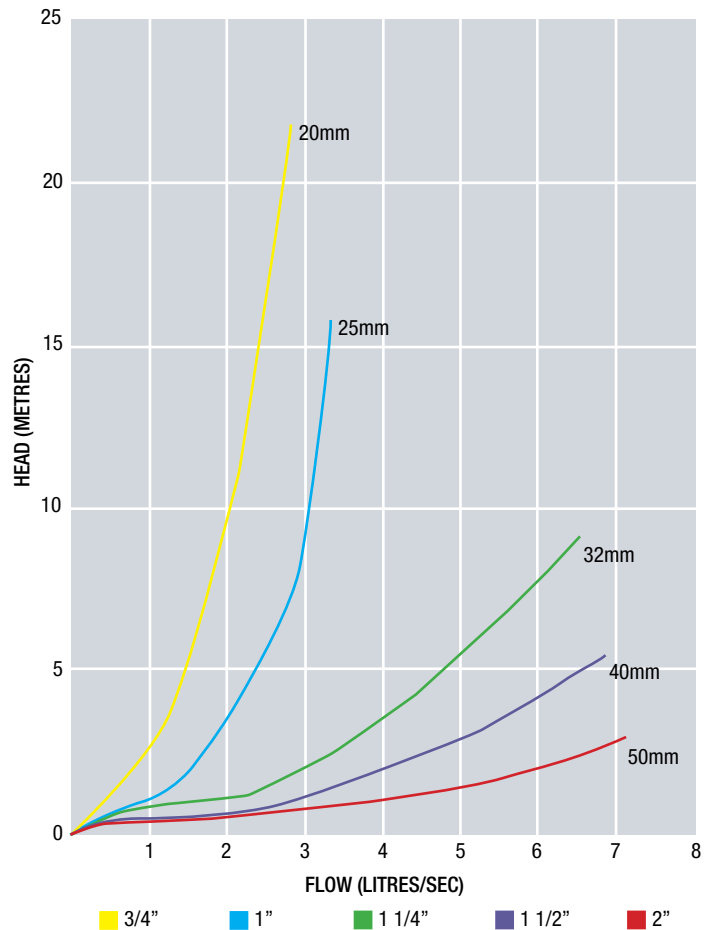
CKV32 32 x 32mm (1 1/4" x 1 1/4")

CKV40 40 x 40mm (1 1/2" x 1 1/2")

CKV50 50 x 50mm (2" x 2")



CHECK VALVE PERFORMANCE CURVE



Filtamate® Pressure Limiting Valve

APPLICATION

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

FEATURES/BENEFITS

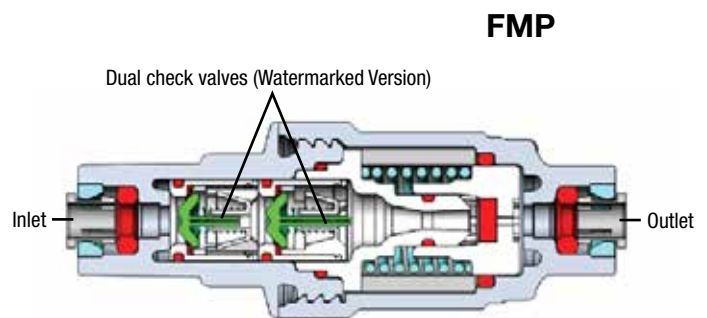
- The FM (Brass version) is precision machined from high quality N.Z. DR brass and nickel plated.
- Dual checks (FM, FMP, FMP 3/8, FMBP, FM 1/2) prevent backflow making the valve ideal for reverse osmosis units, fridges with ice makers and coffee machines.
- The Filtamate protects water filters by limiting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

SPECIFICATIONS

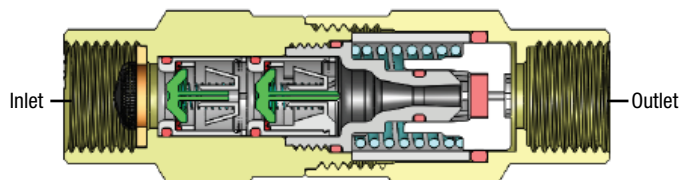
- **FM** Inlet: 15mm, 1/2" BSP (female)
Outlet: 8mm, 1/4" BSP (female)
Length: 97mm
- **FMP 3/8** Inlet: 3/8" John Guest connector
Outlet: 3/8" John Guest connector
Length: 110mm
- **FMP** Inlet: 1/4" John Guest connector
Outlet: 1/4" John Guest connector
Length: 98mm
- Flow rate: 14 L/min at 700 kPa inlet pressure
- Outlet pressures: 350 and 600 kPa +- 10% @ 1000 kPa 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 FMP, 60°C FM
- Minimum temperature: 1°C
- Integral Dual Check Valves (Except FMP350NZ, FM12 and FMSC12).
- FMP supplied with fixing clip and screw.

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



FMP



FM

Filtamate® Pressure Limiting Valve

SPECIFICATIONS

- FMBP** Inlet: 15mm, ½" BSP (female)
 Outlet: ¼" John Guest connector
 Length: 98mm
 - FM ½** Inlet: 15mm, ½" BSP (female)
 Outlet: 15mm, ½" BSP (female)
 Length: 100mm
 - FM12** Inlet: 15mm, ½" BSP (female)
 Outlet: 12mm John Guest connector
 Length: 84mm
 - FMSC12** Inlet: 15mm, ½" 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+- 10% @1000 kPa 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 ½
 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
- 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 (2014)
- Complies with NZS 4608:1992
- Australian Watermark Approval AS1357.2 & AS/NZS2845.1 Lic. WMKA2596 (Except FMSC12, FM12 & FMP350NZ)



FMBP



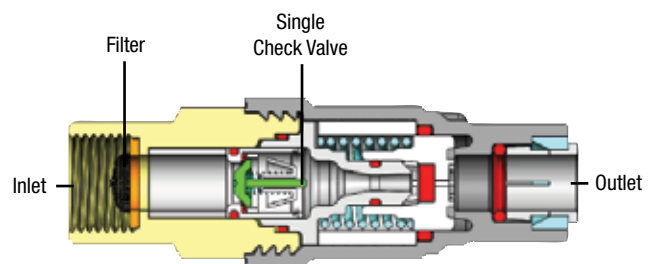
FM 1/2
female/female



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

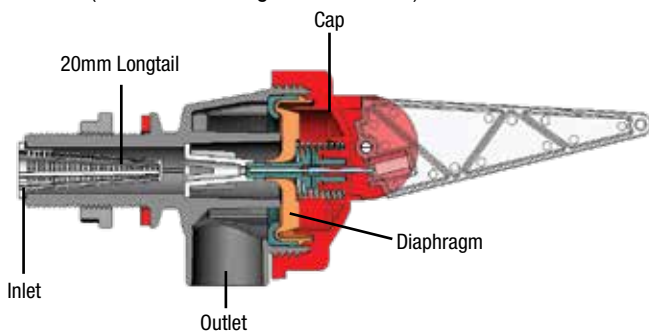
- Watermark approved

PATENTS

- 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. (40mm when height is horizontal)



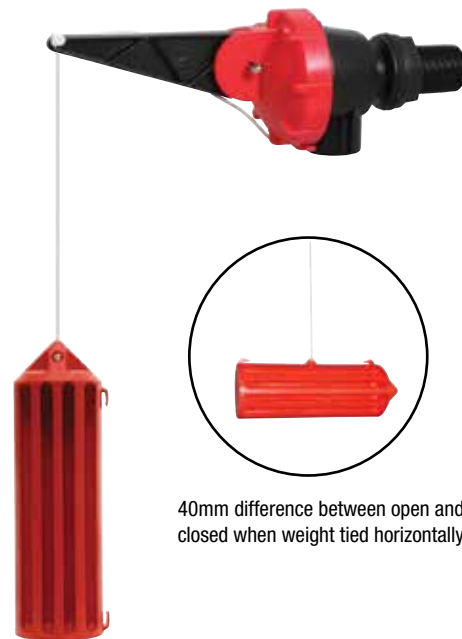
SPECIFICATIONS

- Inlet 20mm 3/4" BSP (male)
- Cold mains pressure water connection
- Working Pressure: RATF 0-1200 kPa (0-175 psi)
RA20 55-1200 kPa (8-175 psi)
- Maximum water temperature 60°C
- Minimum water temperature 1°C
- Supplied with inlet strainer

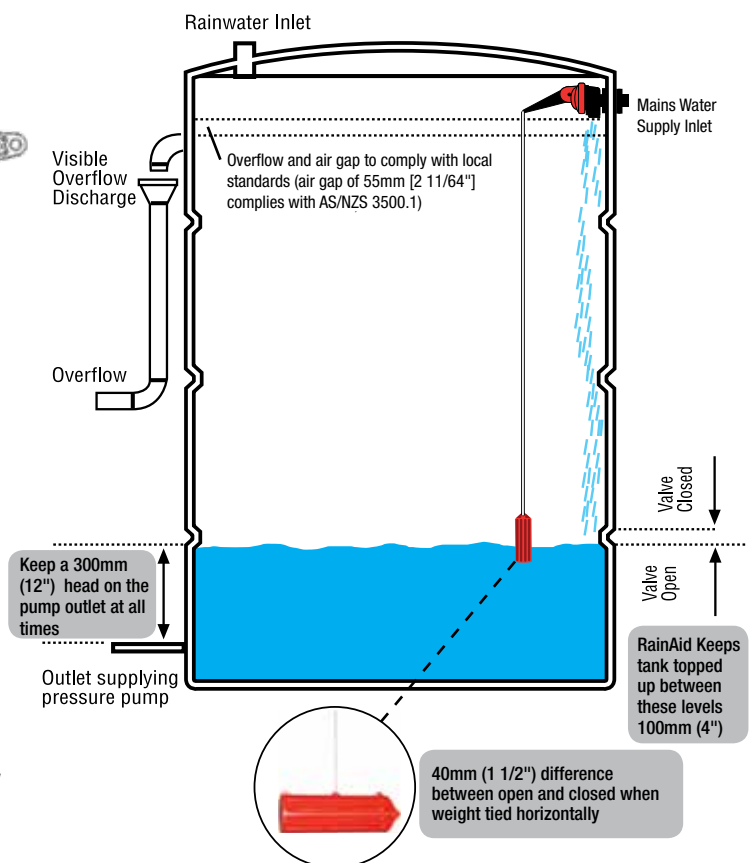
INSTALLATION

- Valve must be installed horizontally
- Do not install on an angle
- Do not restrict inlet water flow. Use RATF if trickle fed supply
- Not to be modified
- Not to be used in dual purpose tanks used for stormwater detention
- 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.
- 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).**

NOTE: All installations must comply with NZBC Clause G12



40mm difference between open and closed when weight tied horizontally



PRODUCT CODES

RA20
RA2L
RATF

2 L/min
Trickle feed - Not Watermarked



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.

PRODUCT CODES

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



Vacuum Breaks (Tundish)

APPLICATION

- Air gap for hot water systems.
- For combined or over length drains, refer page 31.
- Safeguards cylinders in the event of a blocked drain
- Provides visual check of power and water waste from thermostat or valve malfunction (not VBN)

STANDARDS

- Complies with NZS 4608:1992.

SPECIFICATIONS

- SVB & RAVB - 20mm air gap
- VBN has 15mm F inlet
- VBN has 15 & 20mm outlet options
- VBN may be installed horizontally or vertically
- Acetal plastic

Notes:

1. First number inlet size, second number outlet size.
2. M= Male thread, F= Female thread.

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
SVB 20M 25F	
SVB 22M 25F	



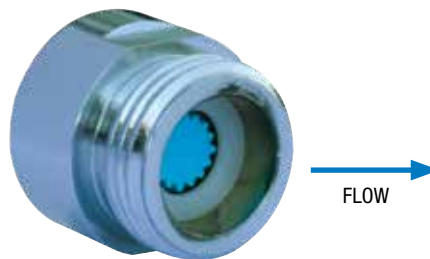
Flow Regulators

APPLICATION

To reduce water use

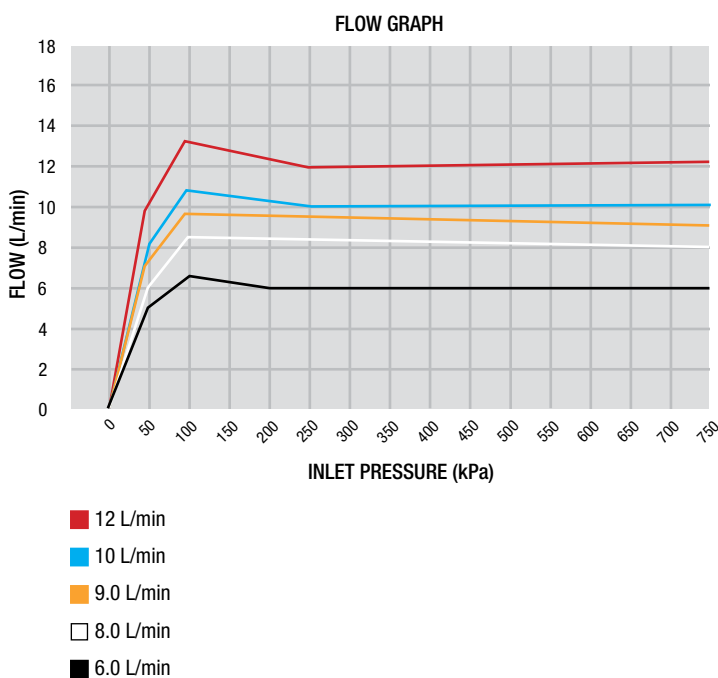
SPECIFICATIONS

- **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



FR 15

(Must only be installed on flat faced sealing surface)



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

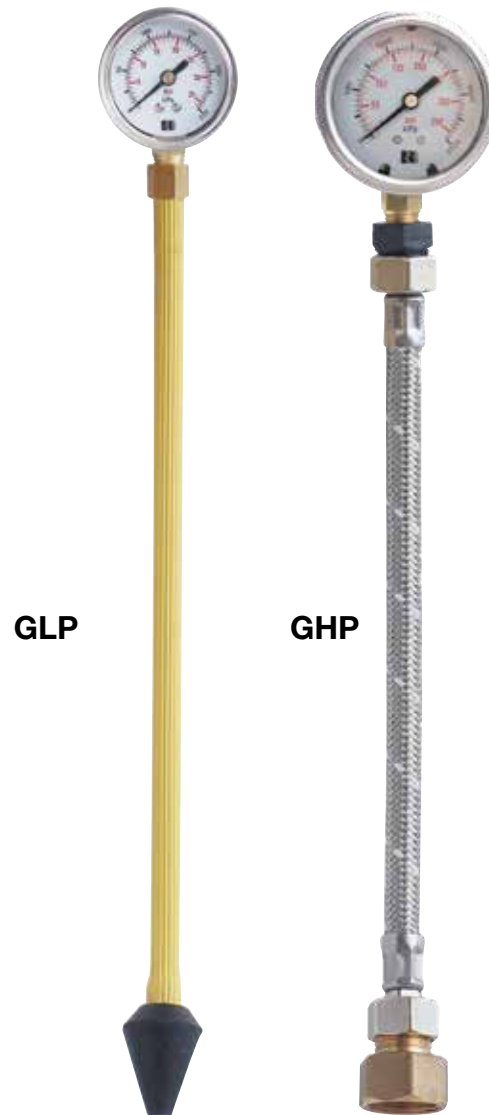
Pressure testing of high and low pressure plumbing systems

SPECIFICATIONS

- **GHP:** 0 - 2500 kPa (367 psi) pressure range
Supplied with 15mm and 20mm female connectors
Oil filled
- **GLP:** 0 - 250kPa (35 psi) pressure range
Supplied with tapered rubber plug
Exceeding 250 kPa will void warranty

PRODUCT CODES

GHP Gauge High pressure
GLP Gauge Low pressure



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

SERVICE PARTS

UTD Urn Tap Diaphragm
UTT ASSY Urn Tap Top Assembly



Installation Guides

Installation MUST Comply with NZBC Clause G12 (2007) or NZS 4607:1989.

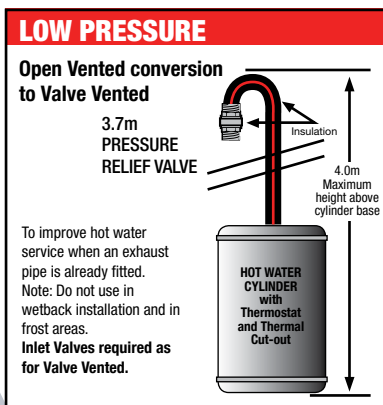
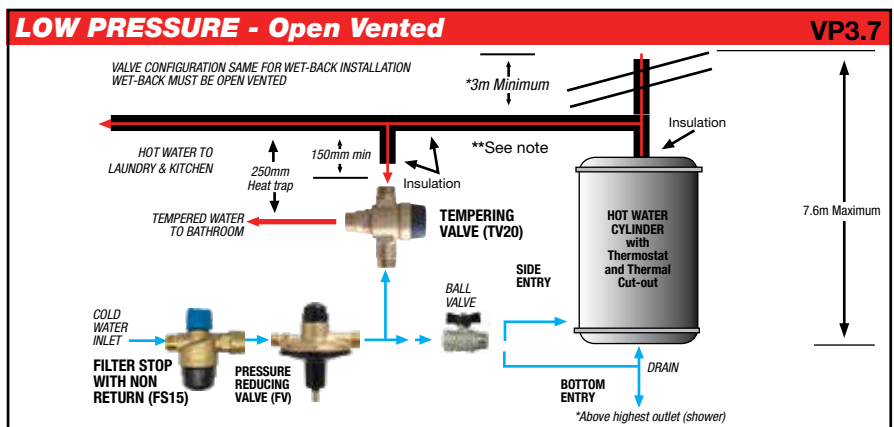
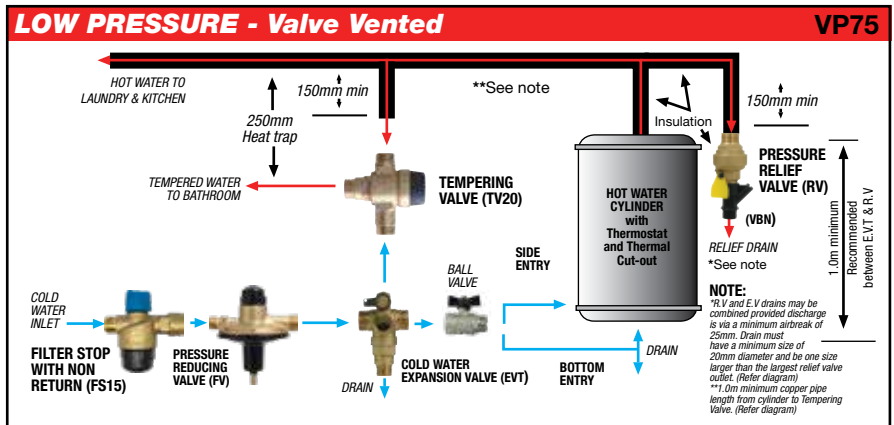
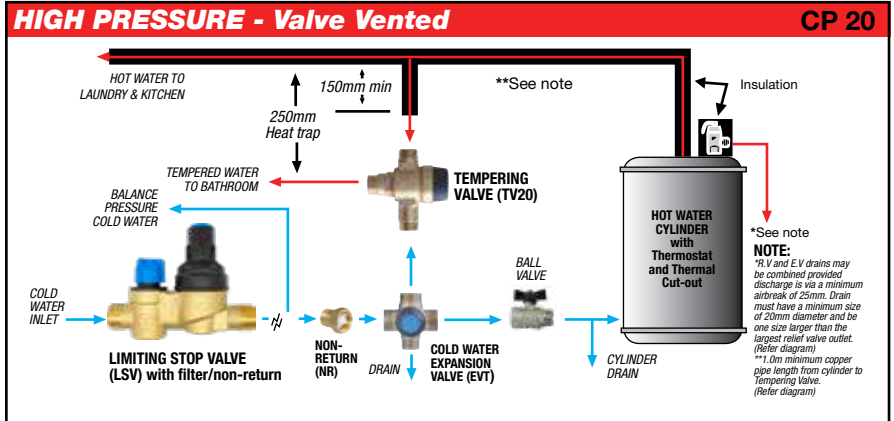
- Valves must NOT be installed in ground.
- Valves must be installed in a position where reasonable access is provided for maintenance and/or replacement.
- Caution:** do not apply heat near valves during installation.

DRAIN LINES

- IMPORTANT:** TAPS, VALVES OR OTHER SHUT-OFF DEVICES MUST NOT BE INSTALLED IN THE RELIEF OR EXPANSIONS DRAIN LINES.
- Drain line shall 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 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 250mm vertical 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.28)



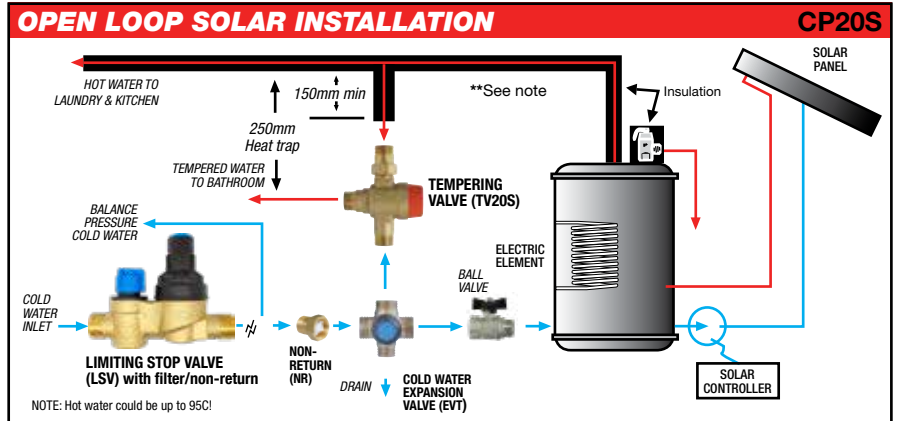
RECOMMENDED

- 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.

Installation Guides

PRODUCT CODES

Limiting Stop Valve (LSV), Non-return (NR), Cold water expansion valve (EVT and Tempering Valve Solar (TV20S). See CP20S Page 22.

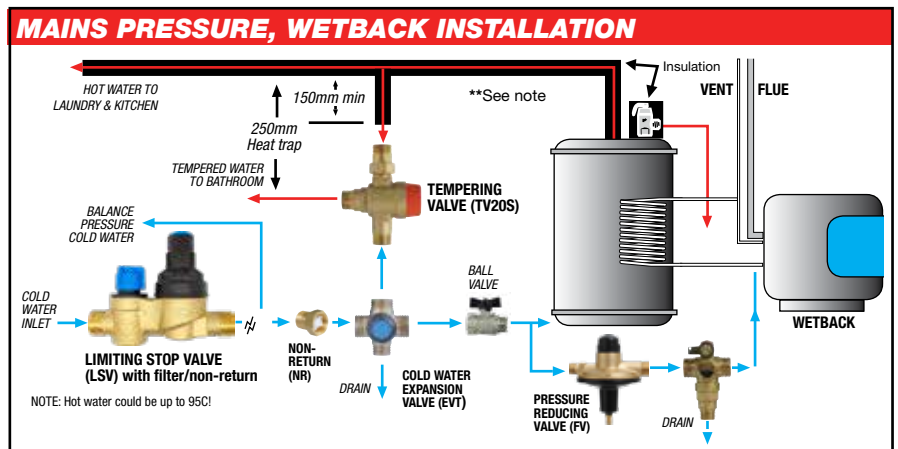


PRODUCT CODES

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 systems and FV.



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).

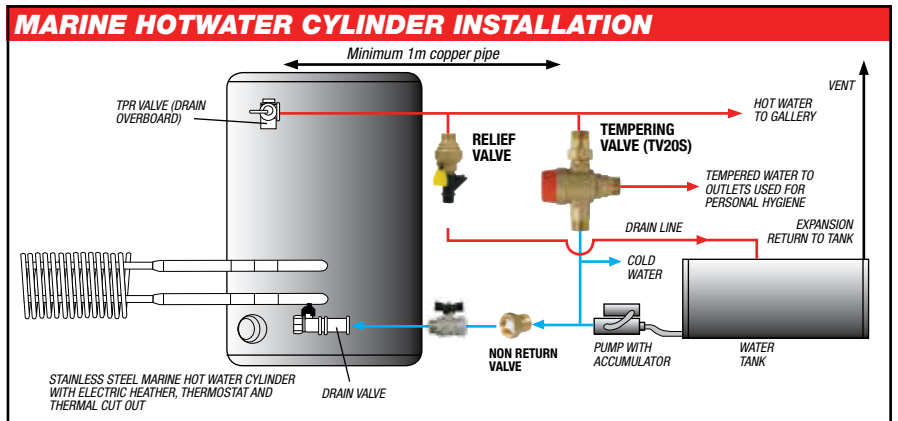
It is important that the relief valve is set about 70 kPa (10 psi) above the pump outlet pressure.

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

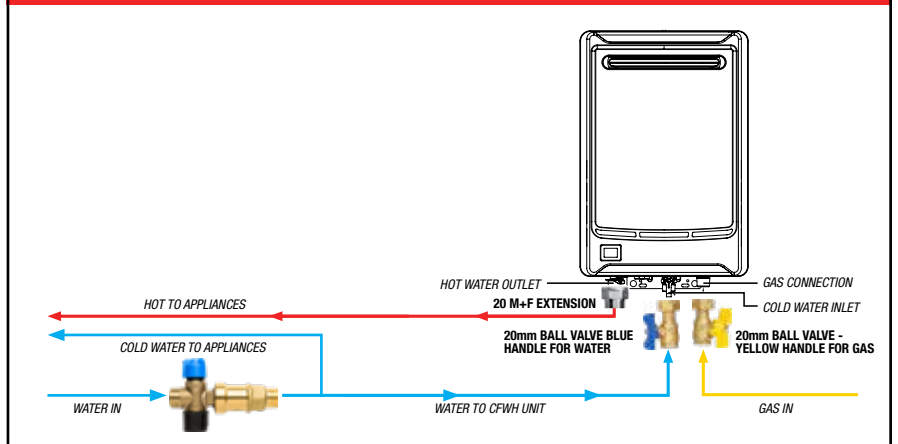
The TPR drain is plumbed overboard, otherwise if the valve discharges the complete contents of the hot water cylinder, due to an overheating fault, the cold water tank could be damaged.

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.


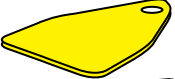



GAS CONTINUOUS FLOW INSTALLATION CP20G





STANDARD PRESSURE SETTINGS AND CONVERSION TABLES

LOW PRESSURE - up to 120kPa

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

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	12.3	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

HIGH PRESSURE - above 120kPa

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.
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 psi = 6.89 kPa (7 nominal)
1 bar = 100 kPa
1 kPa = 0.145 psi

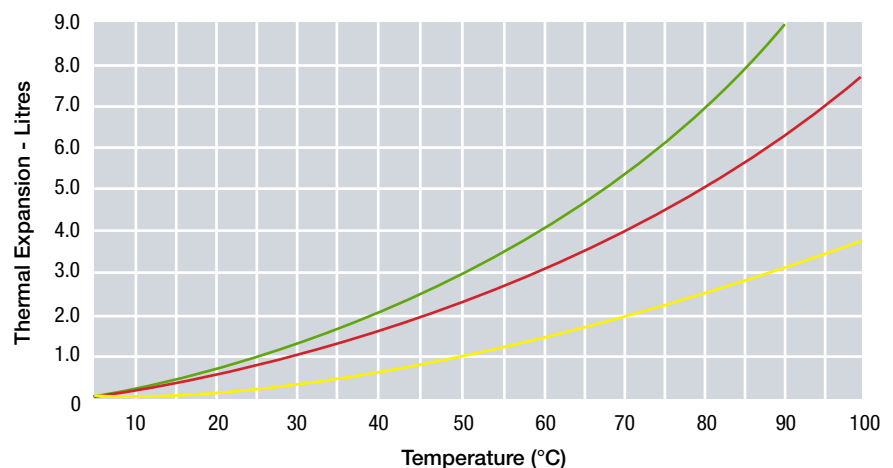
THERMAL EXPANSION

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

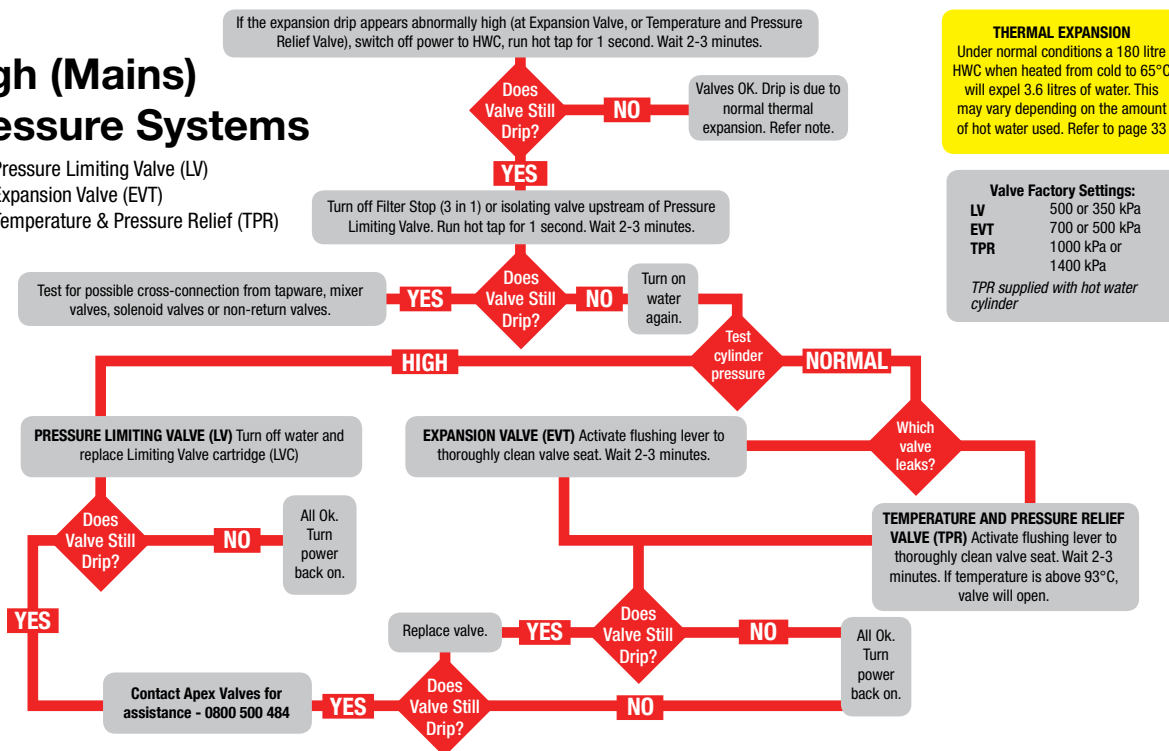
- Normal bucket holds 10 litres



Fault Finding

High (Mains) Pressure Systems

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

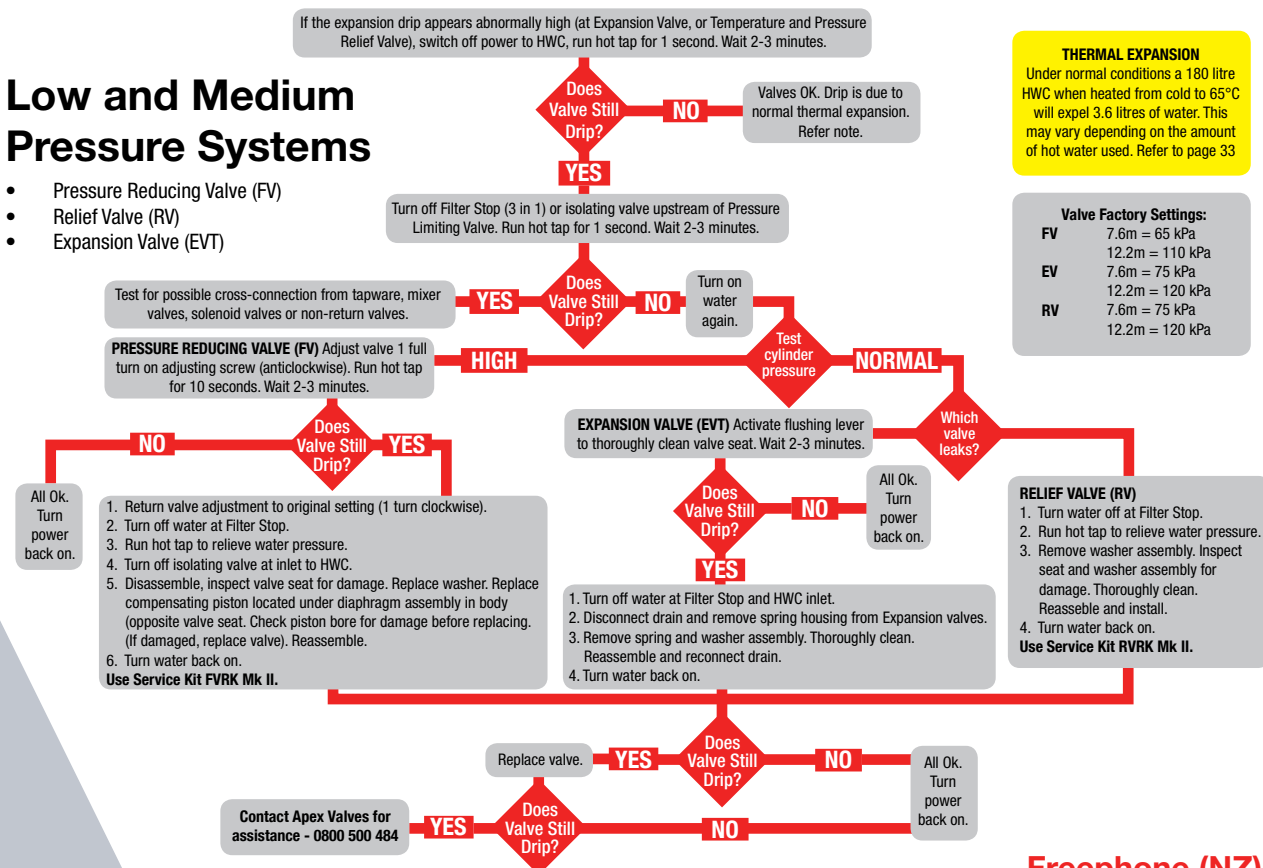


THERMAL EXPANSION
Under normal conditions a 180 litre HWC when heated from cold to 65°C will expel 3.6 litres of water. This may vary depending on the amount of hot water used. Refer to page 33

Valve Factory Settings:
LV 500 or 350 kPa
EVT 700 or 500 kPa
TPR 1000 kPa or 1400 kPa
TPR supplied with hot water cylinder

Low and Medium Pressure Systems

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



THERMAL EXPANSION
Under normal conditions a 180 litre HWC when heated from cold to 65°C will expel 3.6 litres of water. This may vary depending on the amount of hot water used. Refer to page 33

Valve Factory Settings:
FV 7.6m = 65 kPa
12.2m = 110 kPa
EV 7.6m = 75 kPa
12.2m = 120 kPa
RV 7.6m = 75 kPa
12.2m = 120 kPa

Freephone (NZ)
0800 500 484

Warranty (NZ Only)

Apex Valves Product Warranty

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 Manufacturer's 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.

Watts Product Warranty

Watts' voluntary manufacturer's warranty applies only to any fault found in a new valve due to poor workmanship or materials that are returned to Watts within two and a half years from date of manufacture (30 months) unless otherwise stated. The date of manufacture can be found on the valve body. The voluntary manufacturer's 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 AS 3500, 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 Watts.
6. Failure due to a lack of maintenance.

This voluntary manufacturer's warranty is provided by Watts Water Equipment Manufacturing (Ningbo) Co., Ltd., with its registered address at No. 536, West Mingzhou Road, Beilun District, Ningbo, Zhejiang, 315824, P. R. China, Tel: +86-574-26892222.

Watts' voluntary manufacturer's warranty is in addition to, and does limit or restrict, any rights and remedies under the Consumer Guarantees Act 1993.

Our goods come with guarantees that cannot be excluded under the New Zealand Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage.

You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

All claims must be filed in a timely manner by sending the valves, a description of the defect and your contact details to the address of our New Zealand distributor detailed on the package. All claims are subject to laboratory appraisal. For claims under the voluntary manufacturer's warranty we will repair or replace your valve/refund you the cost of purchase in our absolute discretion. We may also reimburse reasonable and direct costs associated with the return of your valves under this warranty. To apply for reimbursement, please provide details of costs incurred (including a receipt) for our consideration.

Watts will not otherwise be liable for any loss, damage (direct, indirect or consequential), cost or expense incurred.

Note: Valve specifications change from time to time so please check these before purchase.

MANUFACTURER:



367 Rosebank Road, Avondale, New Zealand

Phone: +64 9 828 3123

Toll Free: 0800 500 484

www.apexvalves.co.nz