



Hydromet

Pipes, valves and fittings

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MiniMet & MetCheck Valves



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We are pleased to advise Hydromet in recent times commissioned AWQC to carry out an updated and significant testing program of sampled components supplied into the marketplace on behalf of Hydromet, with the result of this testing program conforming with the requirements of AS/NZS 4020.

WaterMark Certification – NATA approved test reports form part of the conditions of WaterMark certification which is maintained for over 40 models of backflow prevention valves under the MiniMet and MetCheck ranges. These valves are certified on the Hydromet WM license WM-022473 and Hydromet are subject to annual surveillance by IAPMO Oceania for continued compliance with the WaterMark Certification Scheme.

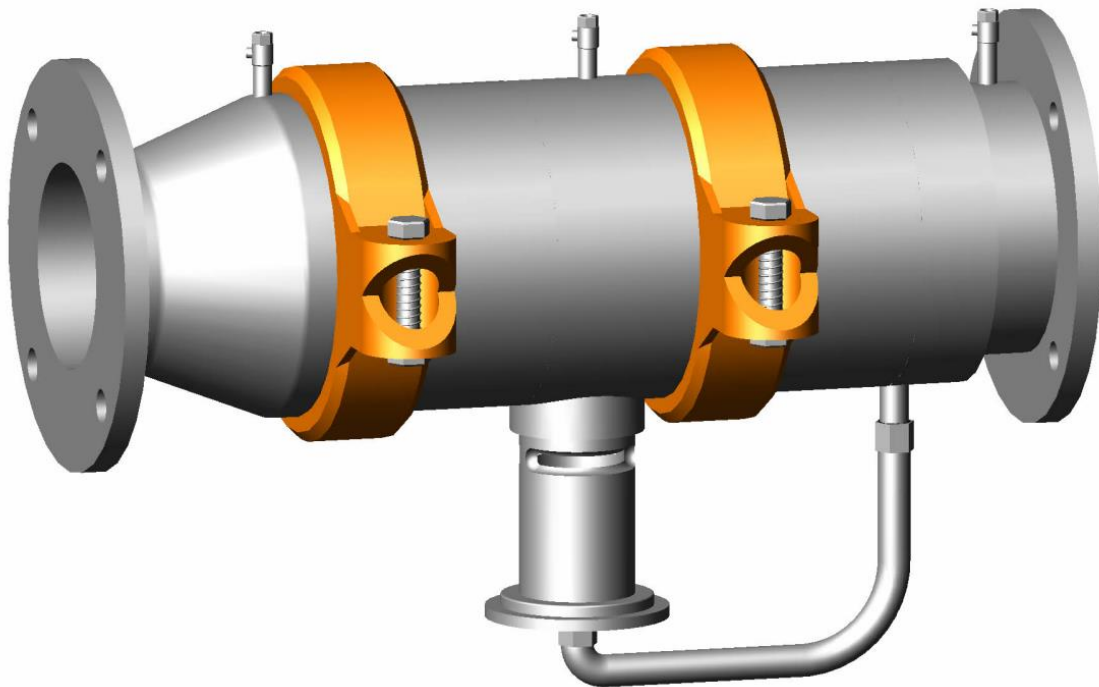
AS/NZS 2845.1 – All MiniMet and MetCheck valves have been tested to, and conform with, the requirements of AS/NZS 2845.1. All MiniMet and MetCheck valves have a classification of either a low, medium or High hazard rating, as defined in AS/NZS 3500, the Plumbing and Drainage standards.

Flanged stainless steel pipework – The AS/NZS 4020 test reports also extend to cover the various SS316 flanged pipes manufactured by Hydromet, with these components being available to suit the installation of any backflow prevention valve or water meter assemblies.

Why Choose a MetCheck Valve

- The valve Body is made from 316 Sch10 Stainless Steel to ensure the maximum resistance to corrosion with no rusting internal debris or blistering paint passing through checks, damaging seals, or causing severe damage to the internal componentry.
- Earth support tags can be supplied if current is suspected to be within the valve assembly of the pipe line. Earth leakage can reduce the life span of any valve assembly due to osmosis which will attack the valves close to weld lines.
- Full back up technical support from the Manufacturer.
- Made in Australia with quick access to all spare parts and accessories for every application.
- All Hydromet Valves are highly rated to PN16 in all models.
- Valves come with optional strainer boxes, valve support stands, Met-Coated Nuts and Bolts anti-galling specific for high tension applications, and numerous J & S -Pipe rises all in 316 Stainless Steel to accommodate a full assembly.
- Ribbed seal anti-slip gaskets purposely designed by Hydromet.
- Due to the lightweight 316 Sch10 Stainless Steel design the Hydromet Valves are among the lightest Backflow preventers on the Market.
- The Valves are designed for ease of access and adjustment, having been built with roll groove couplings. This enables the plumber to completely pull apart and reassemble the Valve with just a Spanner.
- 5 year warranty on main body and 12months warrant on all moving parts that are shown to be not damaged by debris or incorrect installation.

MetCheck RPZ



MetCheck RPZ Dimensions

Valve Size (DN)	Length (mm)	Width (mm)	Height (mm)
65	535	280	475
80	535	280	475
100	535	280	475
150	685	420	920

MetCheck RPZ valves are designed to the following parameters:

- Manufactured to AS/NZS 2845.1
- Size Range: 65mm, 80mm, 100mm, & 150mm.
- Temperature Range: +1C to +60C.
- End Connections: Flanged to AS4087 **PN16** rated minimum.
- Max Working Pressure: 1600kpa
- Flange Options:
 - Flanged T/D to AS4087 PN16: 1600kpa
 - Flanged T/E to AS4087 PN16: 1600kpa
- Max Shell Pressure, and Back Pressure: 1.5 times Max Working Pressure above.

Installation Instructions:

- MetCheck & MiniMet Valves should be installed by a licensed plumber. Appropriate PPE (Personal Protection Equipment), should be worn by those installing.
- All site risk assessment should be carried out before attempting to install. Installation should be carried out in accordance with AS/NZS 3500.1 Plumbing and drainage, Part 1: Water services.
- The MetCheck & MiniMet should be installed in accordance with the direction of flow arrow, relative to the direction of flow of the water. All end connection bolts should be tightened appropriately, to overcome leaks.
- Minimum clearance: - sufficient space around the valve
- Isolation valves should be installed immediately upstream and downstream of MetCheck's and MiniMet's.
- Strainers are not normally used in main pipelines for fire situations.
- Dual use fire and domestic installs may have an option inline strainer to protect the check valve componentry.

Commissioning Instruction:

- MetCheck & MiniMet Valves should be installed by a licensed plumber, & Commissioned by an accredited backflow tester.
- Commissioning and testing should be conducted in accordance with AS2845.3 Backflow Prevention Devices Field Test.
- Commissioning should be carried out after installation and prior to allowing normal water flow through the valve for consumption use.

Maintenance Instructions:

MetCheck & MiniMet Valves should be maintained by a licensed plumber, with a license endorsed for backflow prevention.

Any commissioning and testing after maintenance, should be conducted in accordance with AS2845.3- 2010, by a licensed plumber

Maintenance is based upon the need for maintenance determined by the annual testing standards as per AS2845.3- 2010.

If the main check valve does not meet the minimum test requirements as per AS2845.3- 2010, then the fault should be found and rectified.

Fault Finding:

If the differential pressure is holding, but below the differential pressure pass rate, typically the check module spring has become weak. If the differential pressure drops to zero, typically the check module rubber seals are leaking.

Identifying which check valve needs maintenance, the individual check module should be removed, and parts cleaned or replaced as necessary.

Often a good flush at high flow will clear any lingering debris, and may fix the problem. Retest after flushing.

Maintaining the 1st & 2nd Check Modules:

When performing maintenance on the Metcheck RPZ valves, it is important to first remove the Relief valve hose connection, to allow the bodies to move separately.

For maintenance on the main check modules, remove the Victaulic roll groove fittings.

Once the couplings are removed, slide the sealing ring to one side of the joint.

Inside the MetCheck RPZ, the center vessel and inlet sides contain the check modules. It is crucial to support the valve during this process so that the centre vessel does not drop to the ground and cause any damage.

By removing the Centre vessel this will expose both the 1st & 2nd check modules.

Locate the circlip and spacer at the back end of the module, and remove both.

Pull out the check module. This should come out by hand but may require a slight tap from the front of the check body.

If the check module needs to be maintained, remove the four nuts at the back of the check module using a **ring spanner** (A This will prevent the nuts from distortion and allow for them to be re-installed once maintenance is complete).

Once the four nuts have been removed, maintenance can now be performed on the check module.

Reassembly is the opposite of disassembly.

Maintaining the relief module

When removing the relief module, it is important that you **do not** wrench on the RV housing, place wrench on flange and cover only.

Once the Relief has been removed, you can remove the cover bolts.

Remove piston and sleeve by sliding them out through the flange side of the RV housing.

The RV seat is a machined part of the housing, to replace the seat you must replace the housing.

Remove sleeve from the piston assembly, please note the piston assembly is spring loaded.

Hold the piston firmly in one hand and unscrew the hex head bolt.

Carefully inspect the disc holder and O-rings for damage or debris and Replace the RV disc holder, and the O-rings on the hex head bolt where required.

Reassemble the disc holder and spring to the diaphragm / piston assembly.

Slide the sleeve over the diaphragm.

Position the bead of the diaphragm over the edge of the sleeve.

While holding the sleeve in one hand, place the bolt end of the assembly on a flat surface. Using the other hand, cup the palm slightly over the diaphragm to form an air trap.

Rapidly slap the diaphragm down over the piston assembly and inside the sleeve. If the diaphragm is wrinkled then it is not in the correct position. Repeat this step if necessary.

Lastly slide the piston assembly and sleeve into the housing in reverse order.

Spare Parts:

1st & 2nd Checks:

- 1st or 2nd Check Rubber Rebuild Kit Includes: Check Disc, Seat O-Ring and Cover O-Ring
- O-Ring seals for Check Modules.
- Complete module, 15kpa nominal
- Complete module, 50kpa nominal
- Circlip
- Spacer

Relief Valve:

- Relief Valve Module
- RV Rebuild kit Includes: Diaphragm, Piston, RV Disc, RV Disc O-Ring, and Lube

Licensing & Watermarks

IAPMO OCEANIA

7-11 Fullard Road, Narre Warren, Victoria 3806, Australia /info@iapmooceania.org



CERTIFICATE OF CONFORMITY

IAPMO Oceania hereby grants to:

**S&J Property Trust discretionary Trading trust for SBH Enterprises Pty Ltd T/A
Hydromet**

A.B.N.: 83 185 316 113

Unit 3, 34 Cessna Drive, Caboolture, QLD 4510 Australia

Email: steve@hydromet.net.au

the right to use the WaterMark in accordance with the ABCB Manual for the WaterMark Certification Scheme; Australian Standards; WaterMark Technical Specifications; and the Plumbing Code of Australia; only in respect of the certified product as described in the WaterMark Certificate of Conformity – Schedule of Certified Product (Refer also IAPMO Product Listing Directory). The Certificate is granted subject to the rules governing the WaterMark Certification Scheme and the Terms and Conditions of the Approved User Agreement and IAPMO Oceania's WaterMark Governance Rules.

Evaluated to:

AS/NZS 2845.1:2022

Water supply - Backflow prevention devices, Part 1: Materials, design and performance requirements

Manufacturer:

Refer to Licence Holder

Licence No.: WM-022473

First Certified: 14 Oct 2015

Certification Date: 13 Dec 2024

Expiry Date: 13 Oct 2025

David Viola

Chief Executive Officer of the IAPMO Group

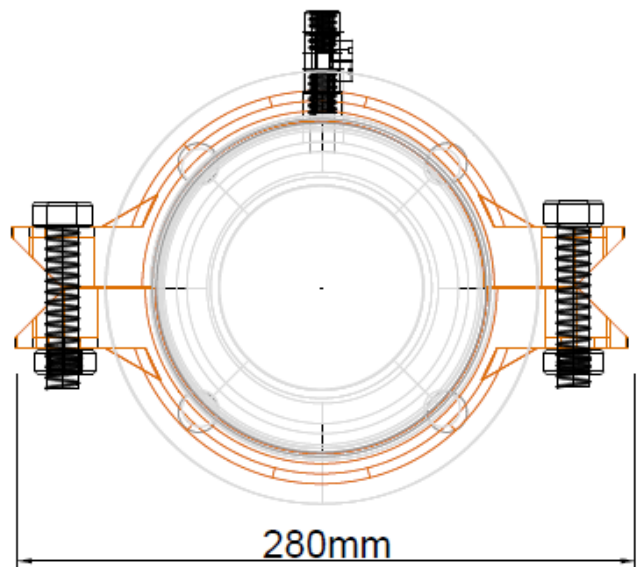
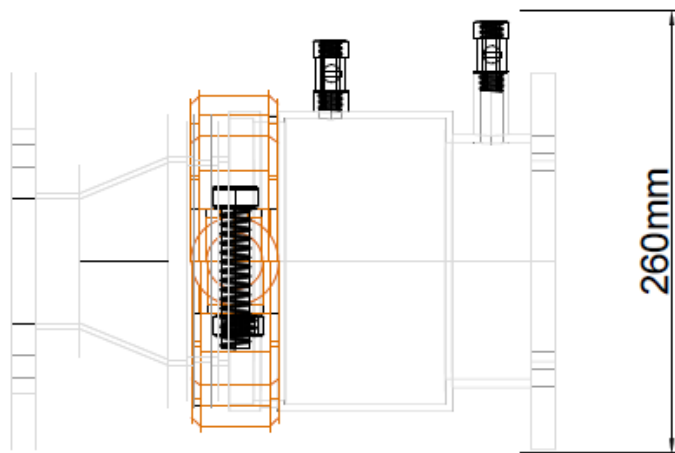
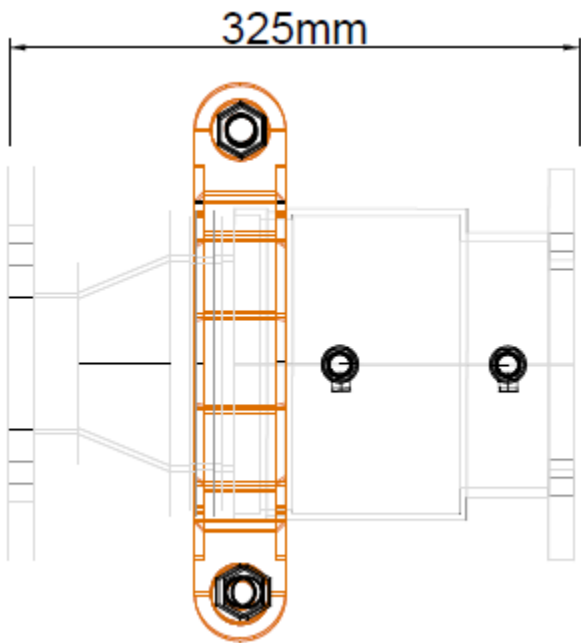
This WaterMark certification is for the period indicated herein and is void after the date shown above. Any change in material, manufacturing process, marking or design without having first obtained the approval of IAPMO Oceania, or any evidence of non-compliance with applicable Standards, Specifications or of inferior workmanship, may be deemed sufficient cause for revocation of this certification. Reproduction of or reference to this certificate for advertising purposes may be made only by specific written permission of IAPMO Oceania. This certificate can only be reproduced in its entirety. Any alteration of this certificate could be grounds for revocation of this certification.

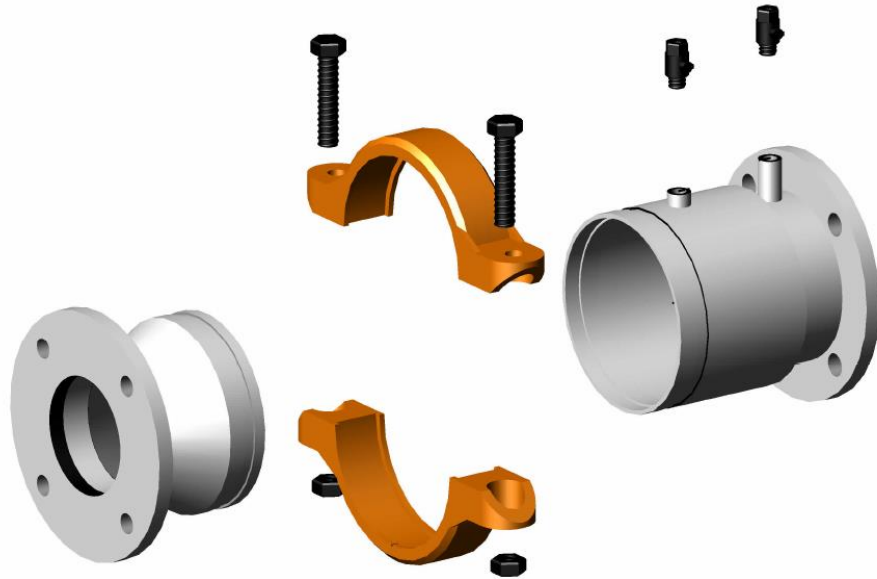
This certificate is issued by a JAS-ANZ accredited Conformity Assessment Body. The ABCB and JAS-ANZ do not in any way warrant, guarantee or represent that the product the subject of this Certificate conforms to the WaterMark Certification Scheme Rules, nor accepts any liability arising out of the use of the product. The ABCB disclaims to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages and costs arising as a result of the use of the product(s) referred to in this Certificate.

MiniMet 100 & 150mm Valves

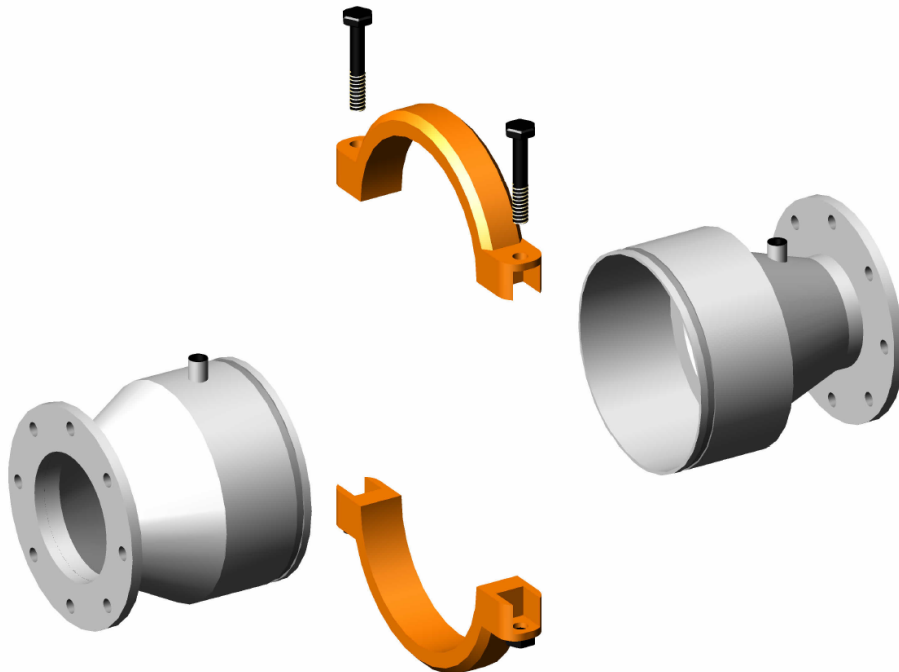


100mm MiniMet



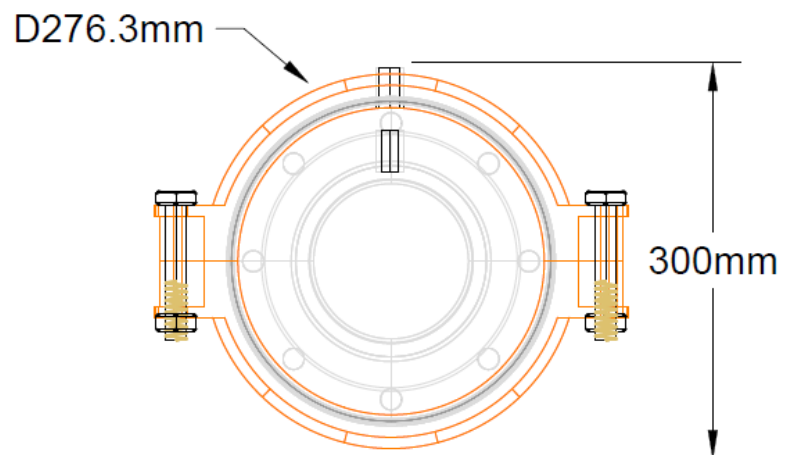
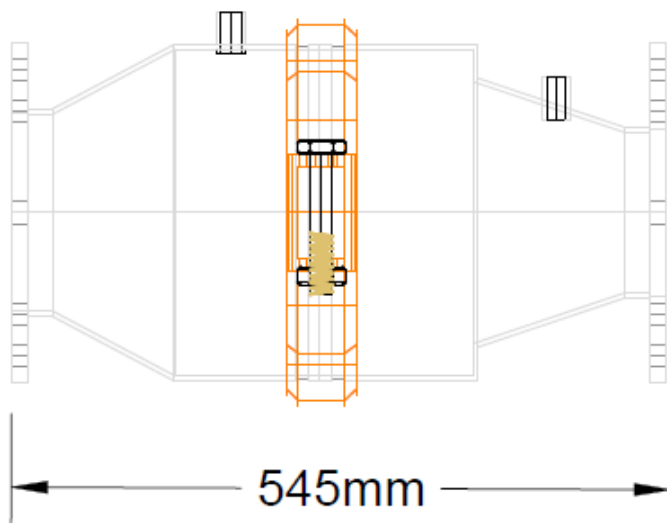
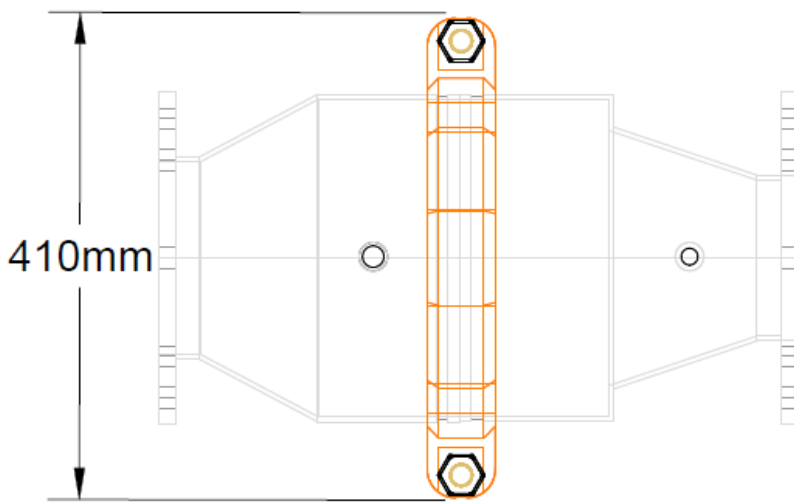


100mm MiniMet Assembly



150mm MiniMet Assembly

150mm MiniMet



Design Standards

MetCheck & MiniMet valves are designed to the following parameters:

- Manufactured to AS2845.1 2010
- Size Range: 100mm to 150mm. Other sizes by negotiation.
- Temperature Range: +1°C to +60°C.
- End Connections: Flanged to AS4087 PN16 rated minimum.
- Max Working Pressure: Standard options: -
 - o Flanged T/D to AS4087 PN16: 1600kpa
 - o Flanged T/E to AS4087 PN16: 1600kpa
- Max Shell Pressure, and Back Pressure: 1.5 times Max Working Pressure above.

Installation Instructions:

- MetCheck & MiniMet Valves should be installed by a licensed plumber. Appropriate PPE (Personal Protection Equipment), should be worn by those installing.
- All site risk assessment should be carried out before attempting to install. Installation should be carried out in accordance with AS3500 of the plumbing code.
- The MetCheck & MiniMet should be installed in accordance with the direction of flow arrow, relative to the direction of flow of the water. All end connection bolts should be tightened appropriately, to overcome leaks.
- Minimum clearance: - sufficient space around the valve
- Isolation valves should be installed immediately upstream and downstream of MetChecks and MiniMets.
- Strainers are not normally used in main pipelines, in fire situations.

Commissioning Instruction:

- MetCheck & MiniMet Valves should be installed by a licensed plumber, with a license endorsed for backflow prevention.
- Commissioning and testing should be conducted in accordance with AS2845.3 2010
- Commissioning should be carried out after installation and prior to allowing normal water flow through the valve.

Maintenance Instructions:

MetCheck & MiniMet Valves should be maintained by a licensed plumber, with a license endorsed for backflow prevention.

Alternatively, MetCheck & MiniMet Valves should be maintained by a person, as authorized by the manufacturer.

Any commissioning and testing after maintenance, should be conducted in accordance with AS/NZS 2845.1: 2010, by a licensed plumber

Maintenance is based upon the need for maintenance determined by the annual testing standards as per AS/NZS 2845.1: 2010.

If the main check valve does not meet the minimum test requirements as per AS2845.1: 2010, then the fault should be found and rectified.

Fault Finding:

If the differential pressure is holding, but below the differential pressure pass rate, typically the check module spring has become weak. If the differential pressure drops to zero, typically the check module rubber seals are leaking.

Identifying which check valve needs maintenance, the individual check module should be removed, and parts cleaned or replaced as necessary.

Often a good flush at high flow will clear any lingering debris, and may fix the problem. Retest after flushing.

Maintaining the Main Check Modules:

For the main check module, remove the Victaulic roll groove fittings. In the MetCheck detector this valve has four bolts and two couplings. In the MiniMet, this valve has two bolts and one coupling.

Once the couplings are removed, slide the sealing ring to one side. In the MetCheck detector, the vessel containing the check module should be supported during this process so that it does not drop to the ground and cause any damage. This will expose the back end of the check module.

Locate the circlip and spacer at the back end of the module, and remove both.

Pull out the check module. This should come out by hand or with a slight tap from the front of the Check body.

If the check module needs to be serviced by replacing the orange rubber seal, remove the four nuts at the back of the check module, and disassemble the module.

Maintenance can now proceed on the module.

Reassembly is the opposite of disassembly.

Spare Parts:

- Check module rubber seal.
- Module to body O-Ring
- Complete module, 15kpa nominal
- Complete module, 50kpa nominal
- Circlip
- Spacer

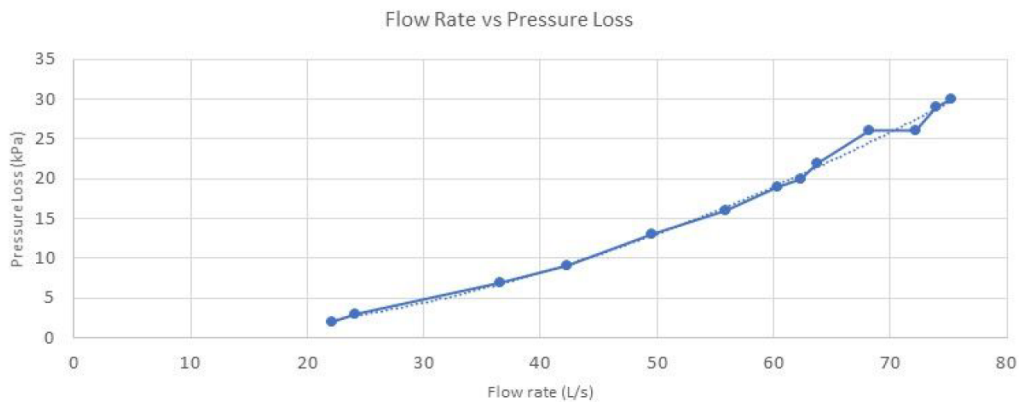
MiniMet 150AT Flow & Pressure Loss

DN150 Single Check Detector Assembly (Testable) (SCAT) – Pressure loss curve applicable standard: AS/NZS2845.1 Clause 18.1 General Requirements.

General: Test specified in 17, other than 17.5.3

Scope: The testing below is outside of the applicable requirements for a SCDAT.

Test Method: Appendices K & Z



Requirements	
A maximum pressure loss across the device of 35kPa, the rated flow shall be as given in Table 17.1	
Test Conditions	Observation
<u>Test Rig</u> Pressure loss across rig = 3kPa <u>Testing</u> Flow rate (L/s) = 63kPa Upstream (kPa) = 250 Downstream (kPa) = 225	Pressure loss (kPa) = 22

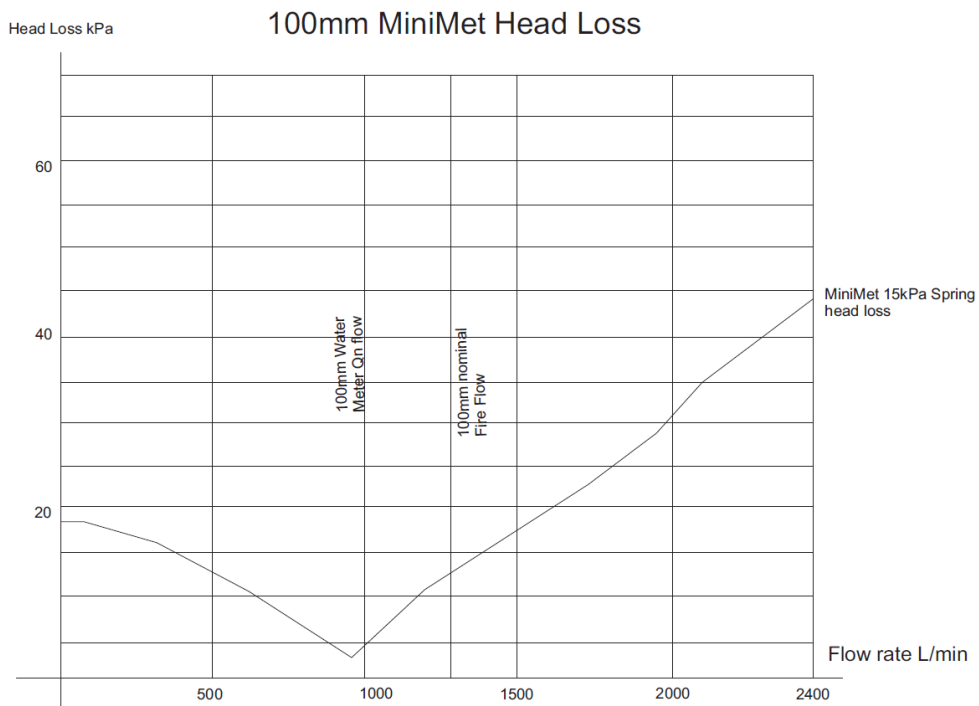
MiniMet 100AT Flow & Pressure Loss

Tested in accordance with AS/NZS 2845.1 Clause 18.4.2

Test Method: Appendix U as per Australian Standards

COMPLIES

Test Requirements	Observations
When tested in accordance with Appendix K, with a maximum pressure loss across the device of 175kPa, the rated flow shall be as given in Tabke 7.1.	Pressure loss Across the Rig = 1kPa Pressure Loss (kPa) = 30



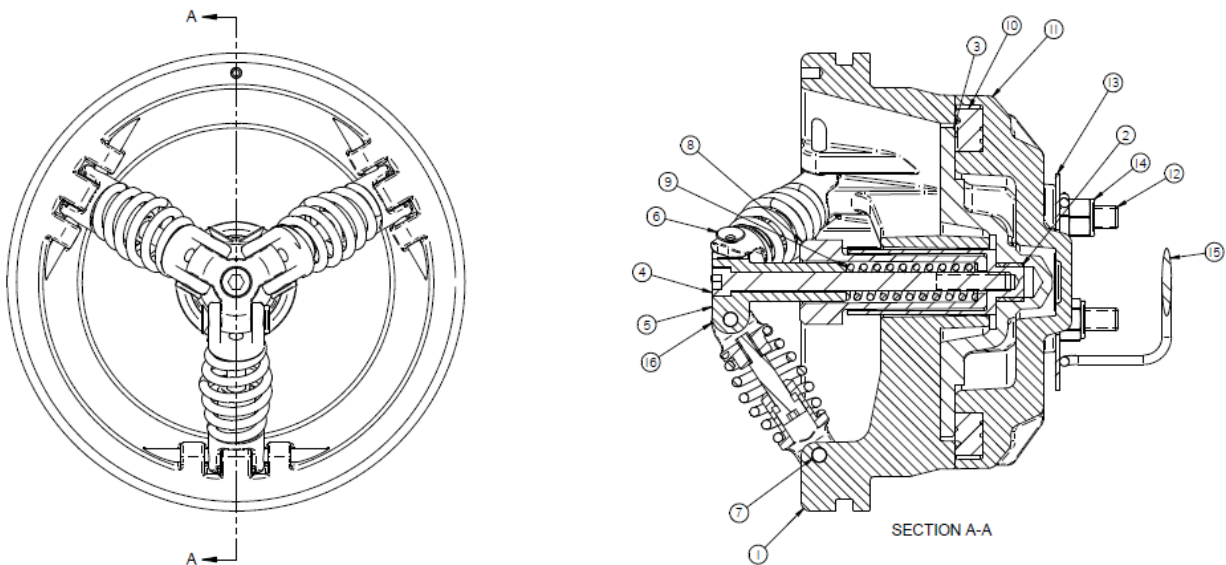
Tri-Force Check

The Hydromet Valves both MiniMet and MetCheck valves utilise the Apollo made Tri-Force check. It is a smart design which utilises three pistons to evenly distribute the pressure load.

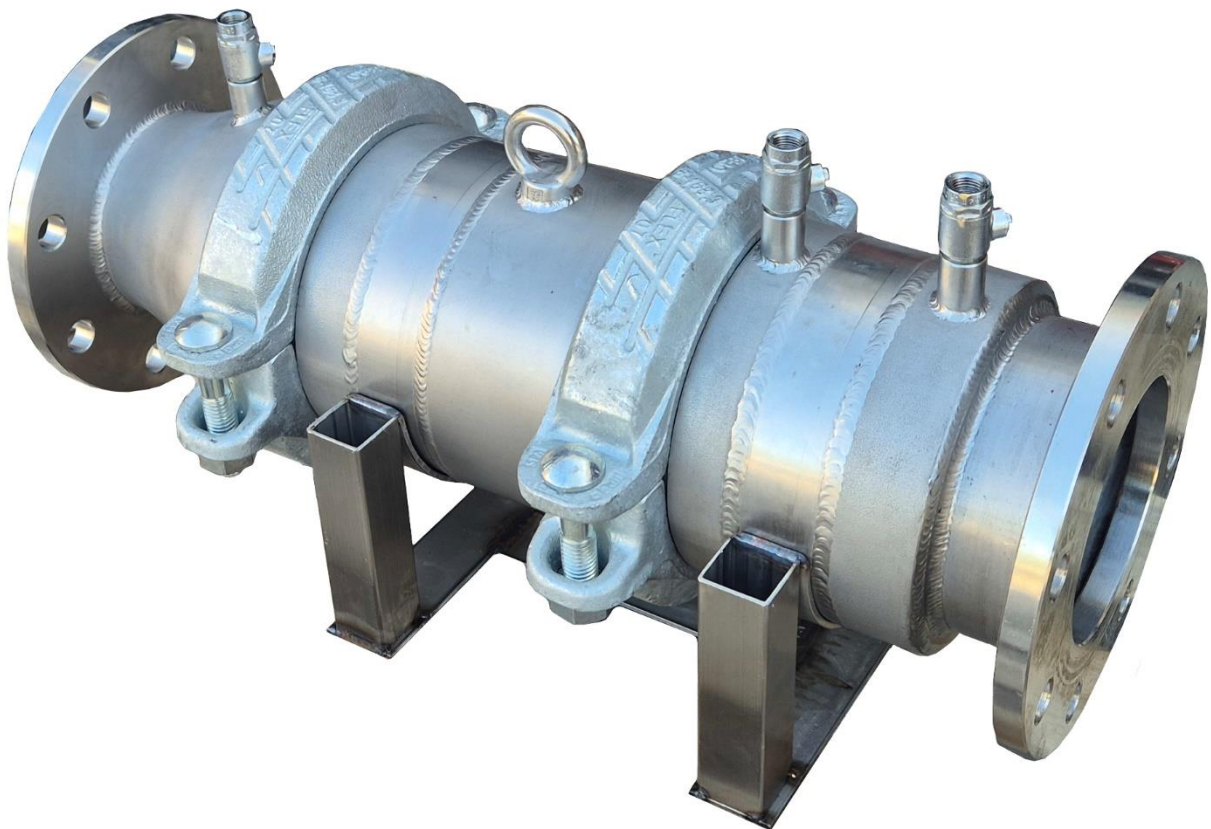
The Check module operates with an open point slightly past centre. This allows the check module to remain in the open position at 6kpa rather than the standard 50kpa, in turn this creates less flow restriction.

The rubber disc inside the check is robust in design and can be flipped for minor abrasions.

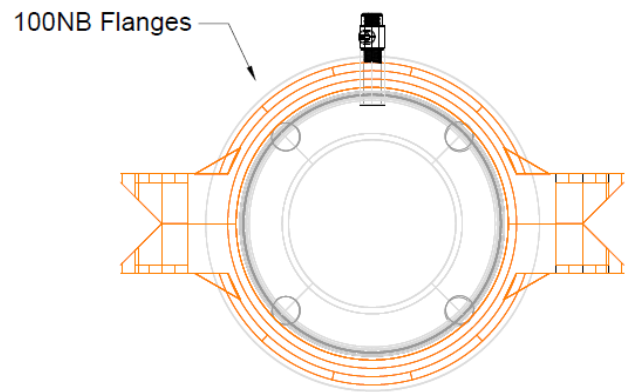
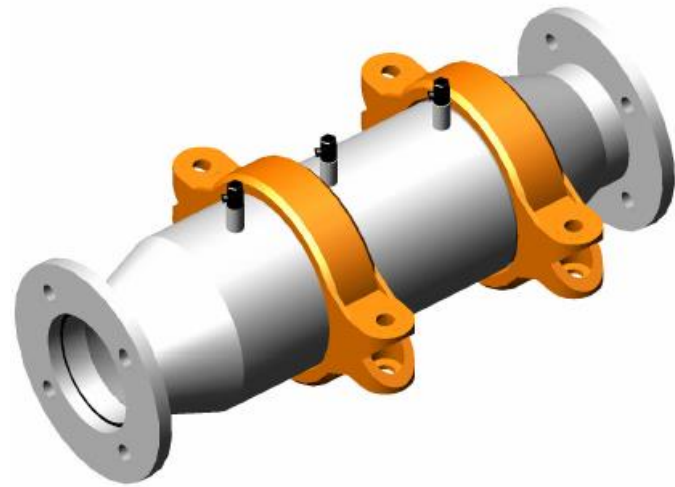
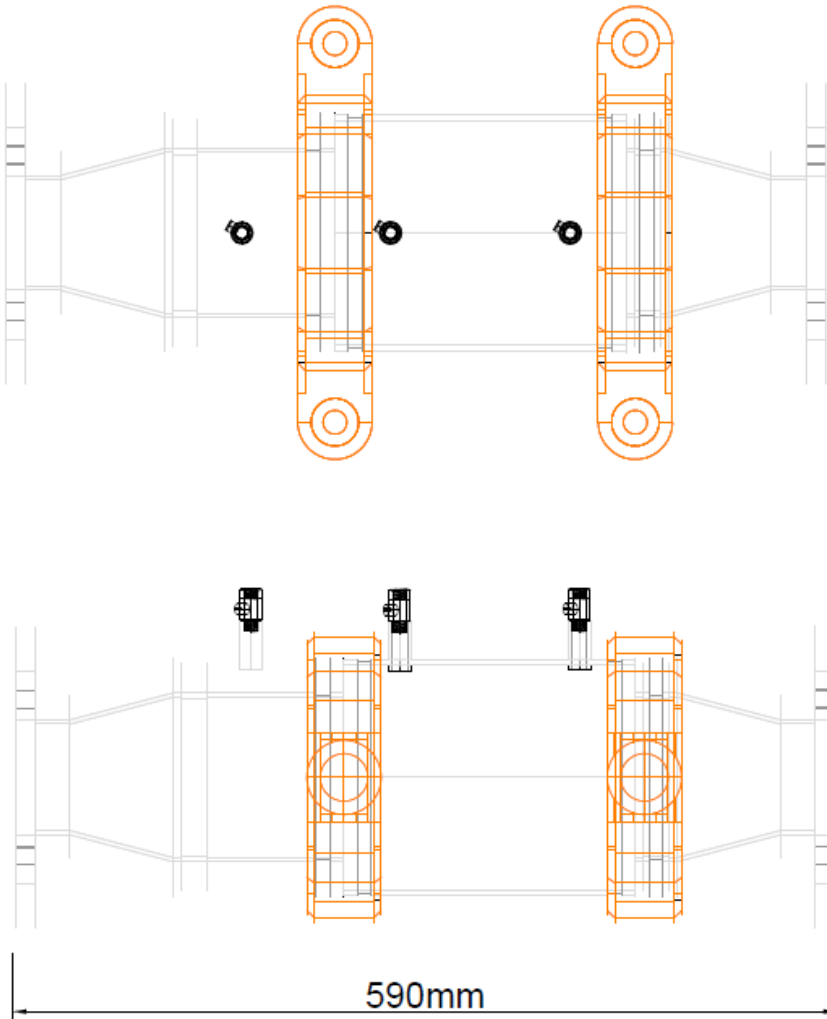
Lastly to service the check it is as simple as removing the 4 locking nuts on the back. It allows for the back portion of the check to be removed without being under load.



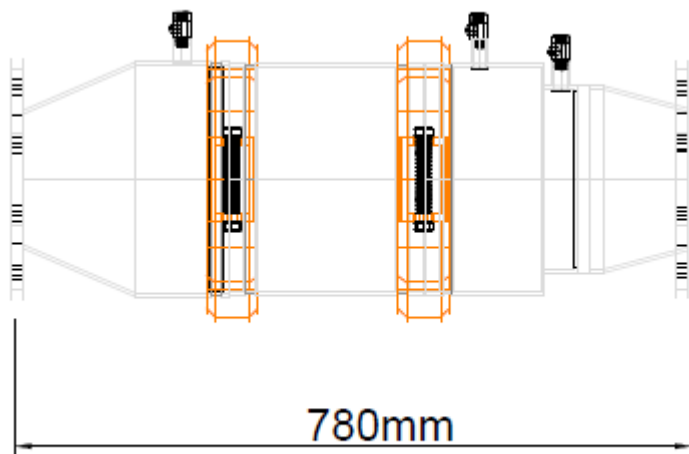
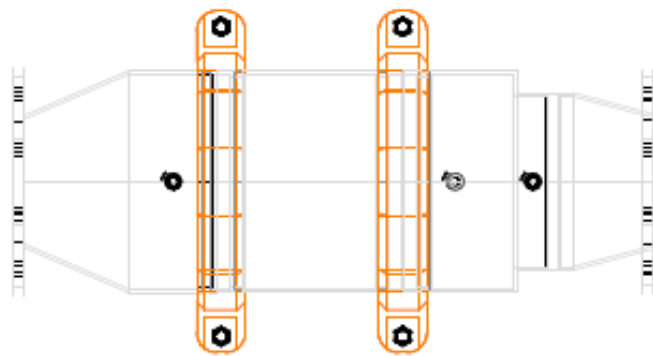
MetCheck Double Check Valves



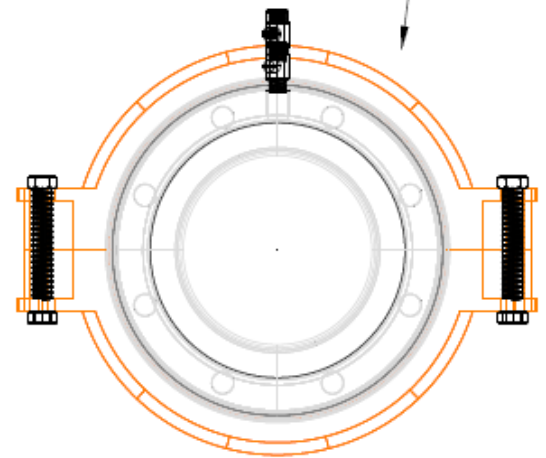
MetCheck100ATDC

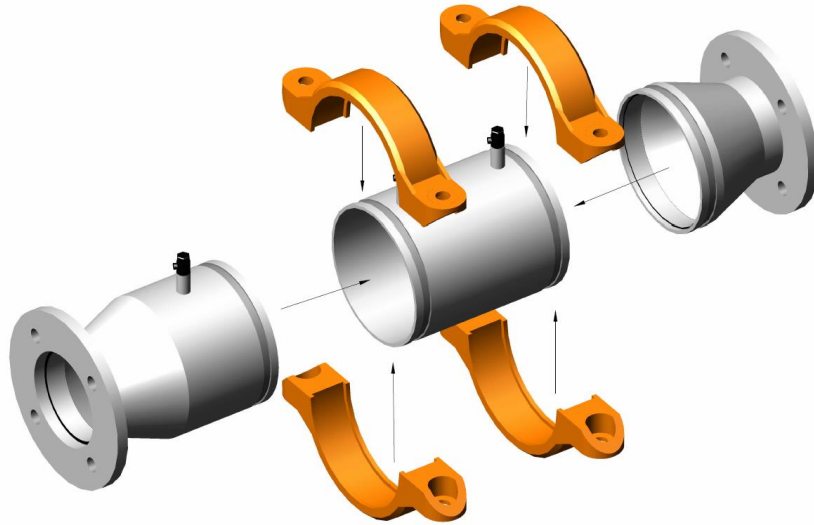


Technical Drawings & Specifications

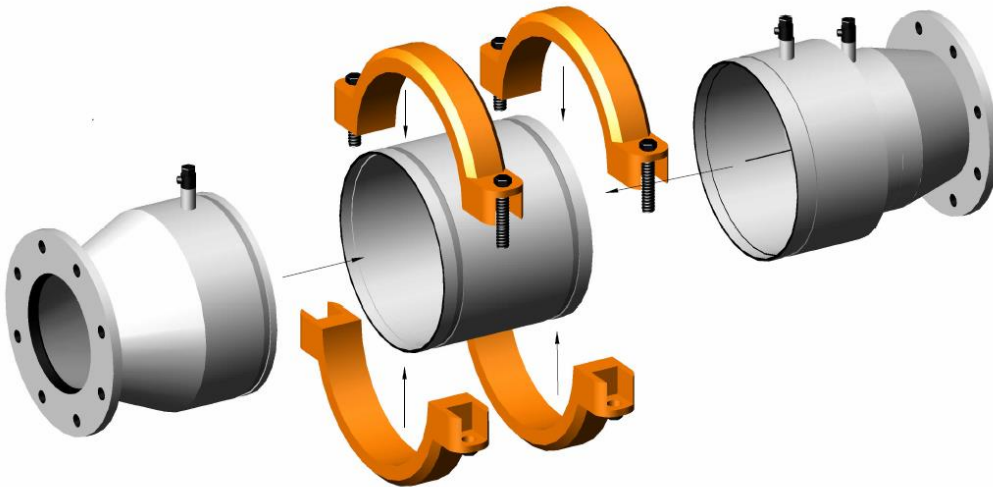


DN150 Flanges





100mm MetCheck Double Check



150mm MetCheck Double Check

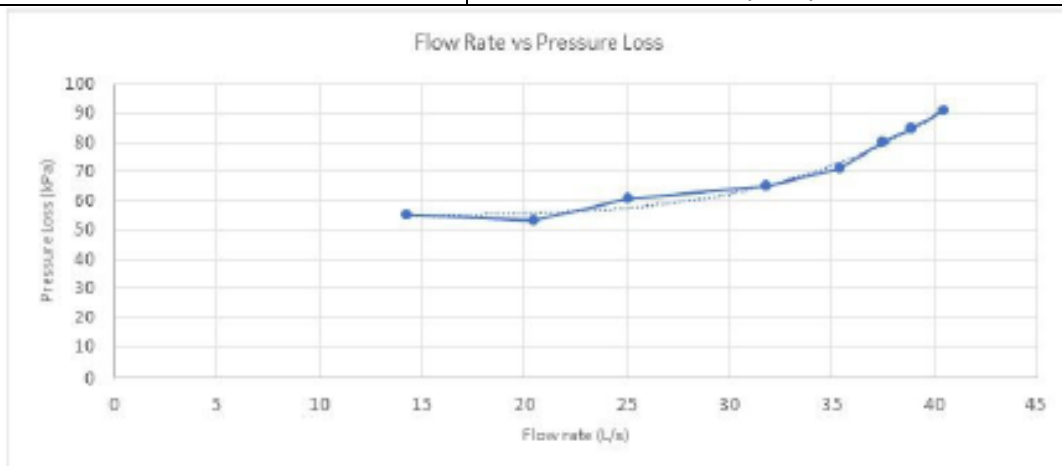
MetCheck100ATDC Pressure Drop

Tested in accordance with AS/NZS 2845.1 Clause 10.5.3

Test Method: Appendix U as per Australian Standards

COMPLIES

Requirements	
When tested in accordance with Appendix K, with a maximum pressure loss across the device of 70kPa, the rated flow shall be given in the below table.	
Test Conditions	Observation
<p><u>Test Rig</u> Pressure loss across rig = 3kPa</p> <p><u>Testing</u> Flow rate (L/s) = 63 Upstream (kPa) = 259 Downstream (kPa) = 188</p>	<p>After adjustment to pressure loss in the piping in accordance with Appendix K4(d).</p> <p><u>Testing with bypass valves closed</u> Pressure loss (kPa) = 68</p> <p><u>Testing with DN32 bypass valve opened</u> Pressure Loss (kPa) = 68</p> <p><u>Testing with DN40 bypass valve opened</u> Pressure Loss (kPa) = 69</p>

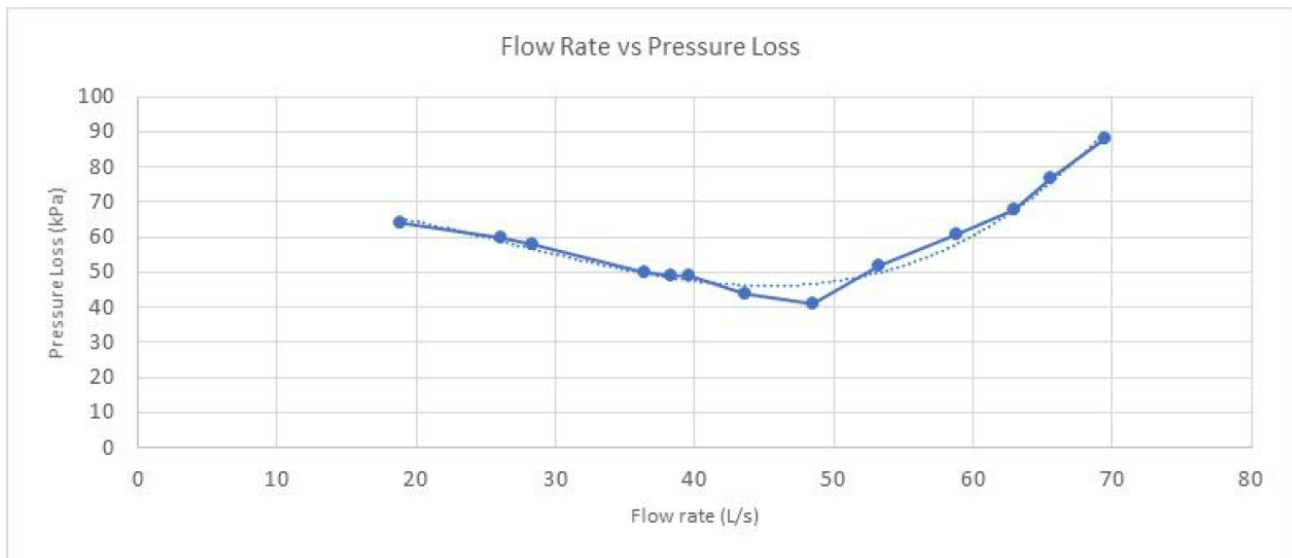


MetCheck150ATDC Pressure Drop

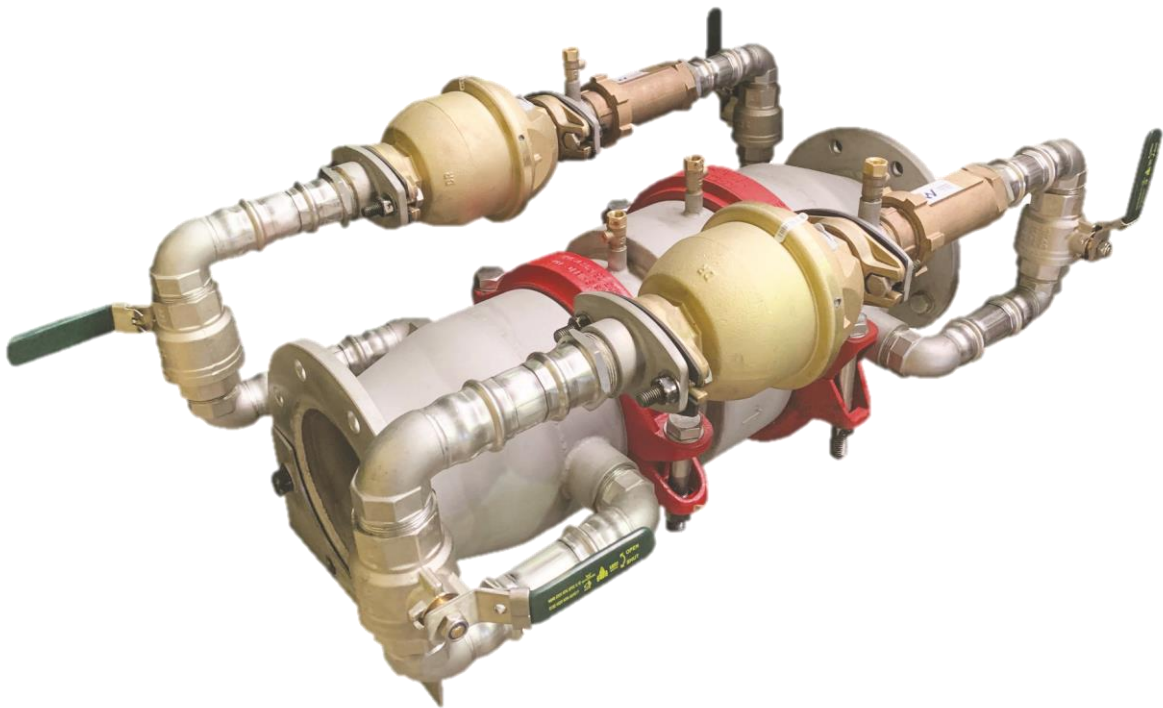
Tested in accordance with AS/NZS 2845.1 Clause 10.5.3
 Test Method: Appendix U as per Australian Standards

COMPLIES

Requirements	
When tested in accordance with Appendix K, with a maximum pressure loss across the device of 70kPa, the rated flow shall be given in the below table.	
Test Conditions	Observation
<u>Test rig</u> Pressure loss across rig = 1 kPa	<u>Testing with bypass valves closed</u> Pressure loss (kPa) = 65
<u>Testing</u> Flow rate (L/s) = 32 Upstream (kPa) = 250 Downstream (kPa) = 184	<u>Testing with DN20 bypass valves opened</u> Pressure loss (kPa) = 62
	<u>Testing with DN25 bypass valve opened</u> Pressure Loss (kPa) = 67



MetCheck Single Check Detectors



The Single Check Metchecks come in several different offerings ensuring you have the ability to choose an assembly best suited to your application. What this means is that the trusted Stainless steel body remains the same across the board in both the 100 or 150 models, however the bypass assembly/s can be altered to suit.

We provide both single and dual by pass assemblies, of which can be made in either Copper tubing or 316 Stainless Steel tubing.

The assemblies include WaterMark Certified lockable ball valves, a dual-checkvalve and AS3565.1 certified Elster water Meter.

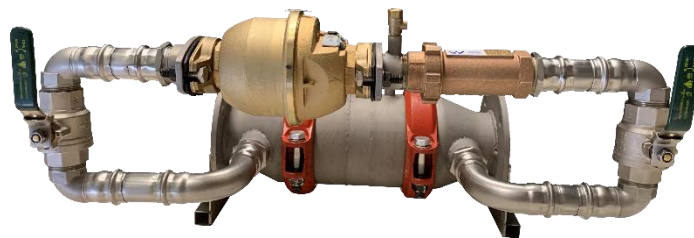
The by-pass assemblies come in a range of sizes being;

20mm

25mm

32mm

40mm



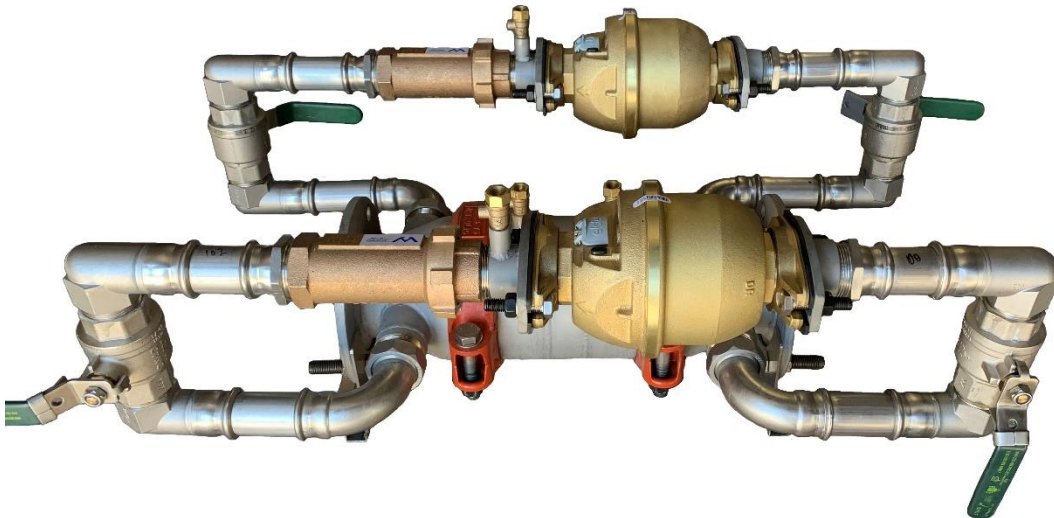
Optional Copper Arrangement



MetCheck 100AT

Designed and manufactured in our Australian workshops. Using 316 stainless steel components, the MetCheck detector valves combine a check valve and a water meter.

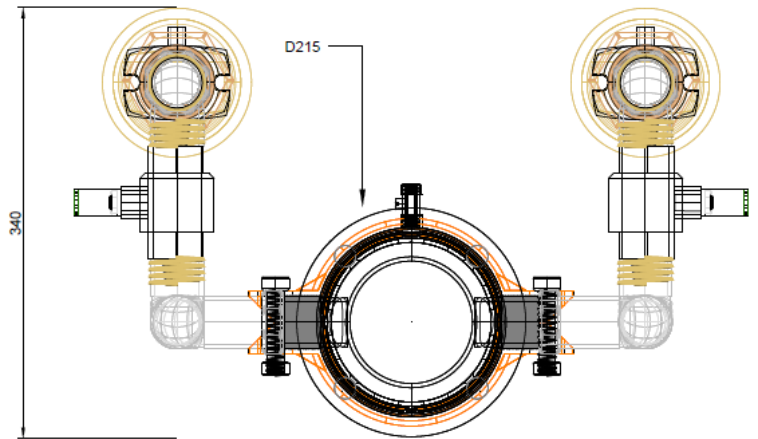
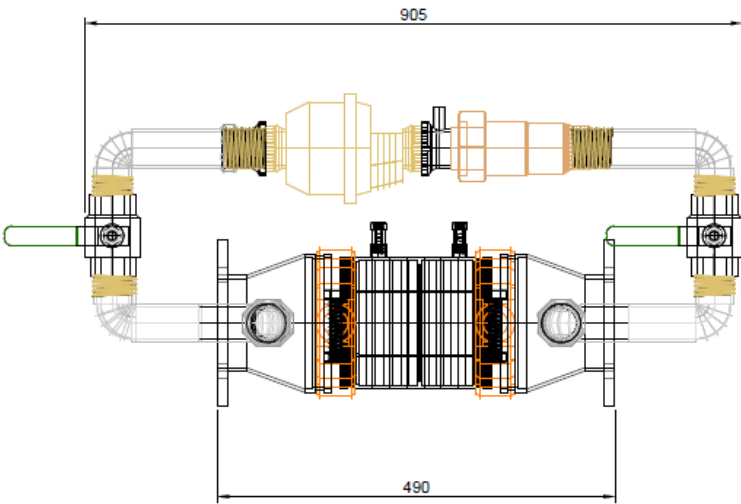
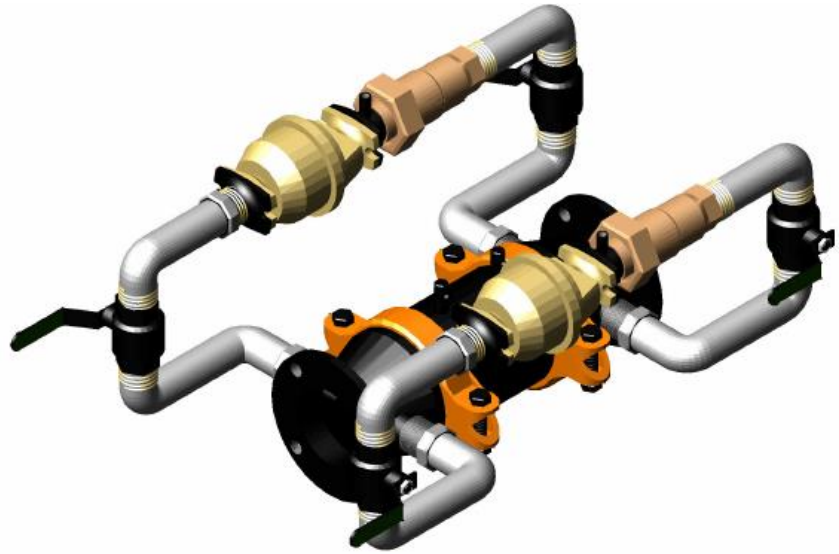
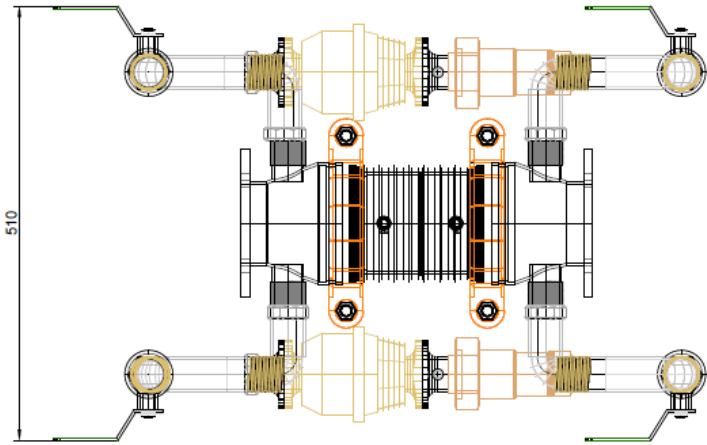
Used mostly in commercial, industrial and group title premises, the MetCheck measures everyday potable water flows to the premises. Should excessively high-water flow be required the main valve will open, allowing unrestricted water flow to fight the fire.

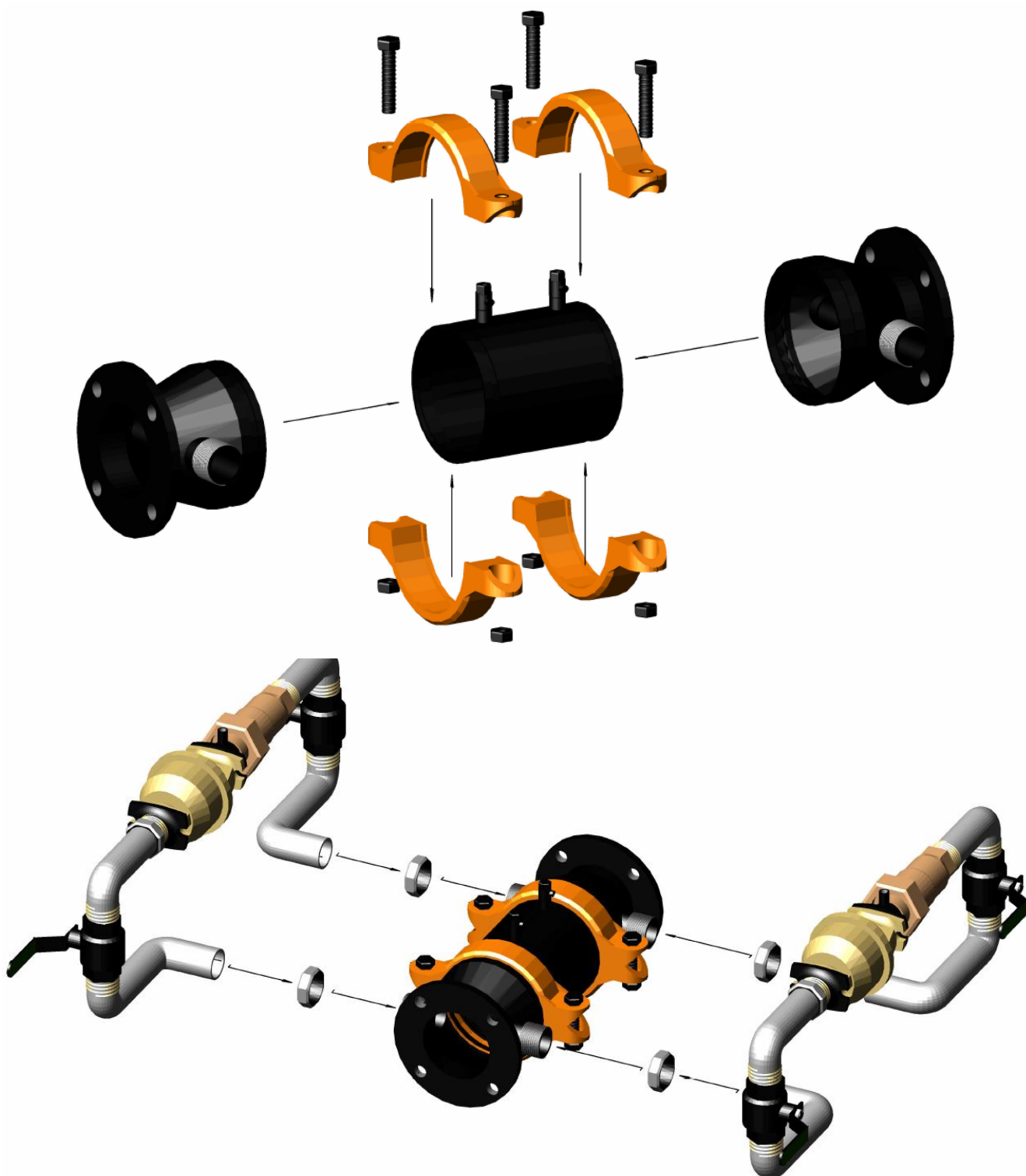


With various configurations of internal springs and water meters the MetCheck can be used in dedicated fire services for counting illegal use of water and water leaks, while preventing the backflow of stagnant water into the main potable system.

Alternatively the MetCheck can be used as a combined fire & potable water measuring system to schools, retirement villages, industrial and commercial sites allowing larger volumes of water to be delivered to more plumbing fixtures or outlets.

Technical Drawings & Specifications

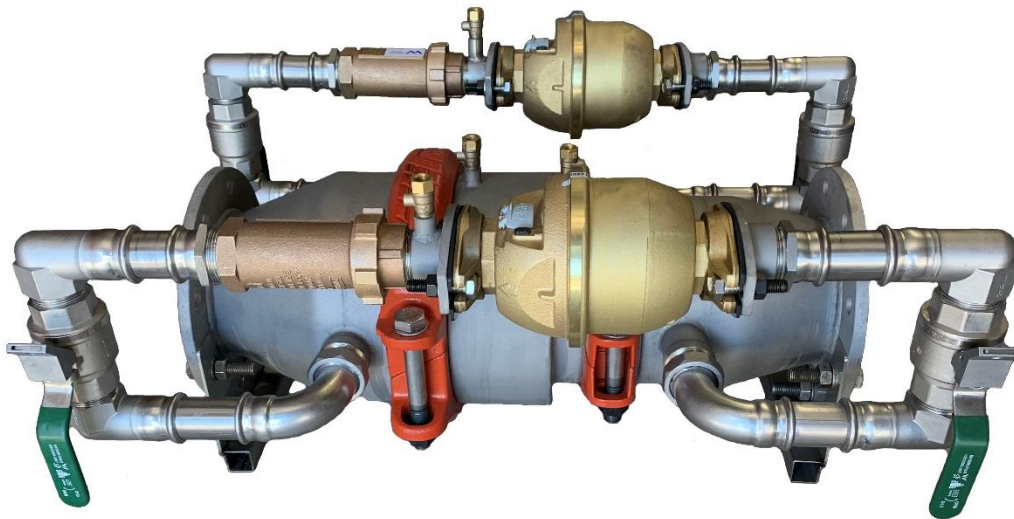




MetCheck 150AT

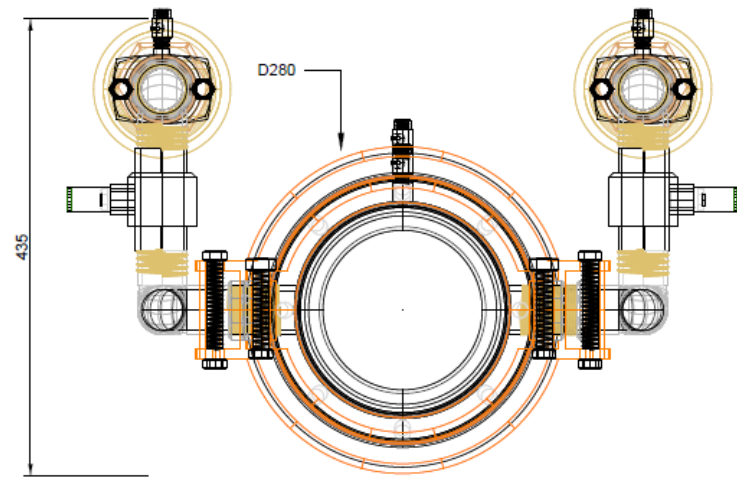
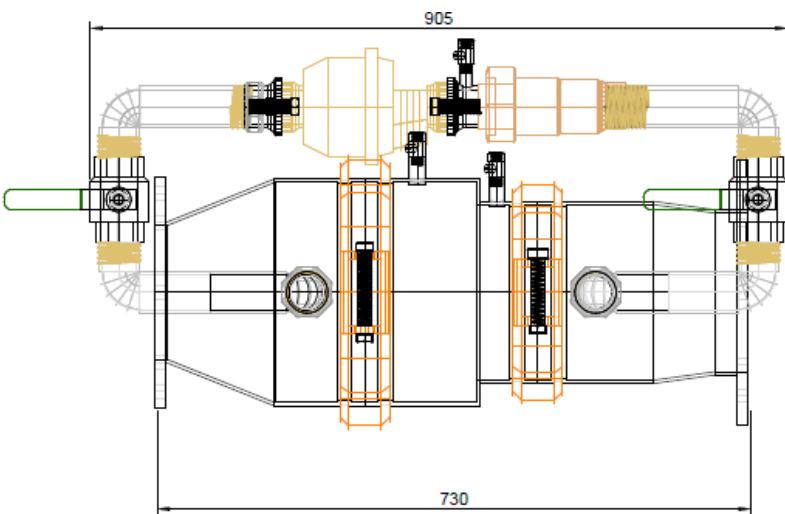
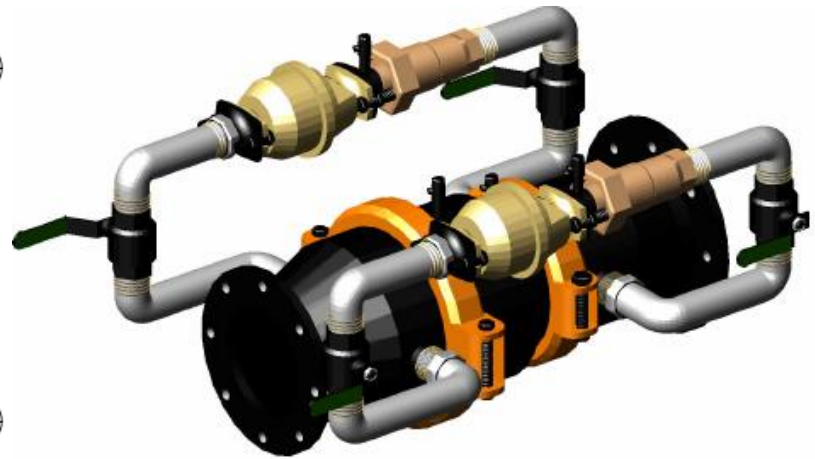
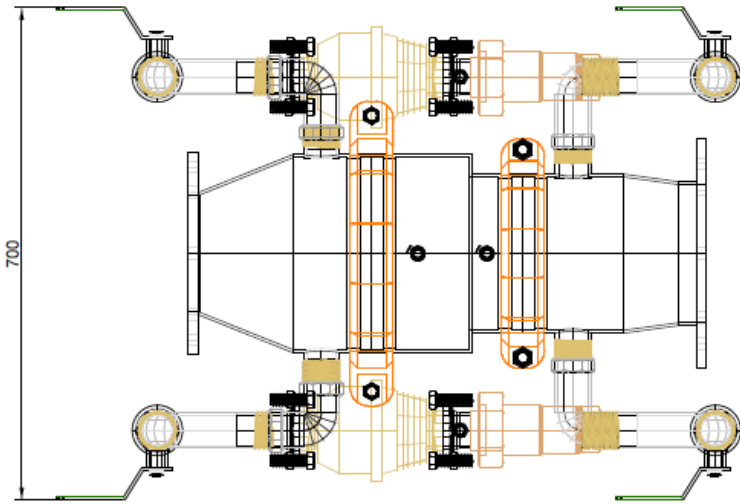
Designed and manufactured in our Australian workshops. Using 316 stainless steel components, the MetCheck detector valves combine a double check valve and a water meter.

Used mostly in commercial, industrial and group title premises, the MetCheck measures everyday potable water flows to the premises. Should excessively high-water flow be required the main valve will open, allowing unrestricted water flow to fight the fire.

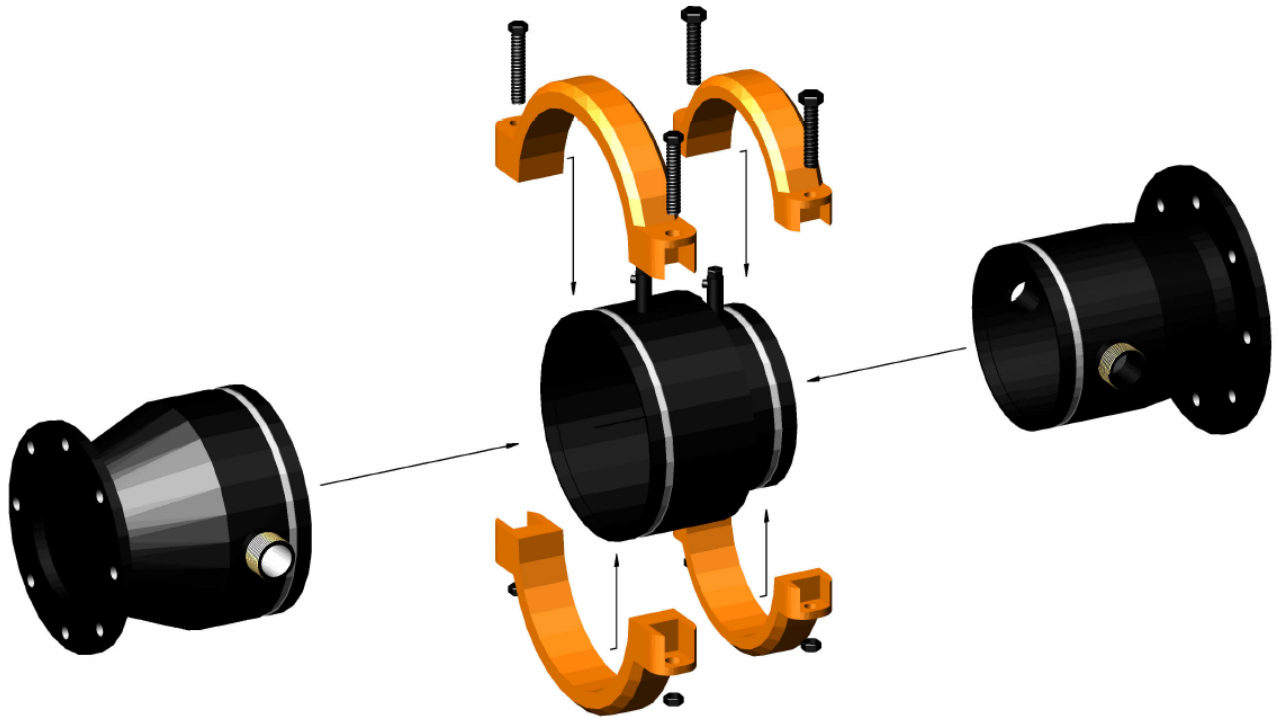
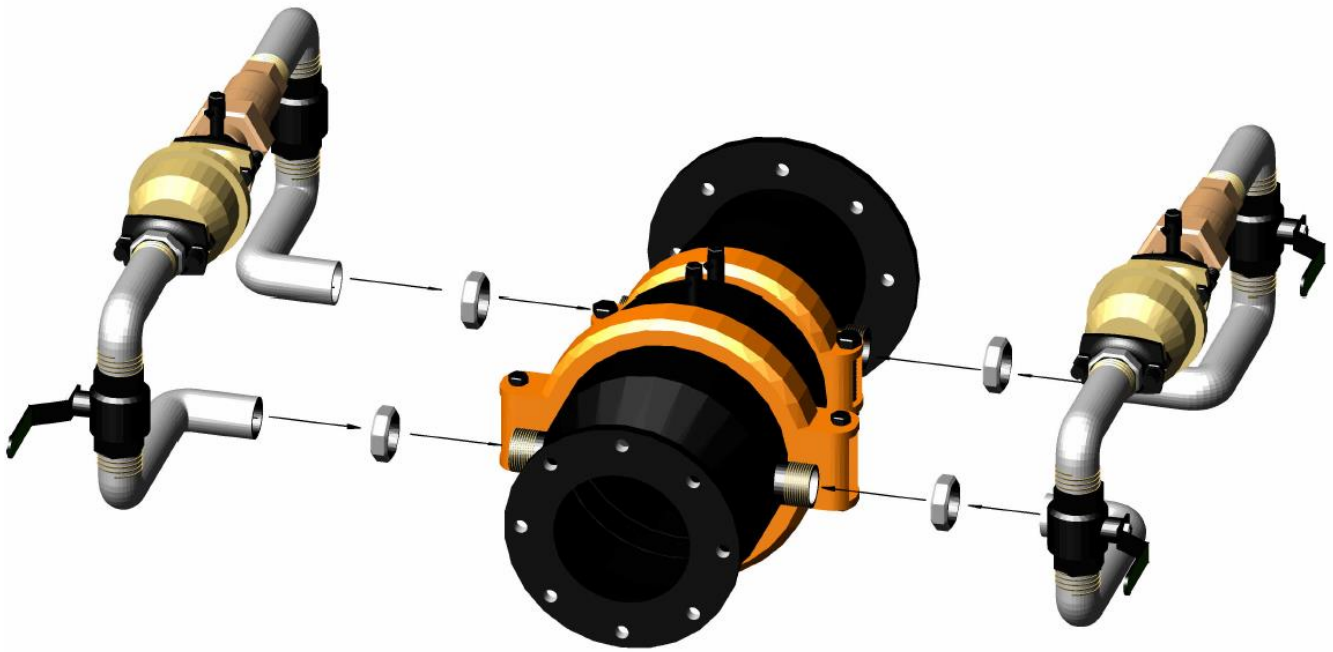


With various configurations of internal springs and water meters the MetCheck can be used in dedicated fire services for counting illegal use of water and water leaks, while preventing the backflow of stagnant water into the main potable system.

Alternatively the MetCheck can be used as a combined fire & potable water measuring system to schools, retirement villages, industrial and commercial sites allowing larger volumes of water to be delivered to more plumbing fixtures or outlets.



Technical Drawings & Specifications



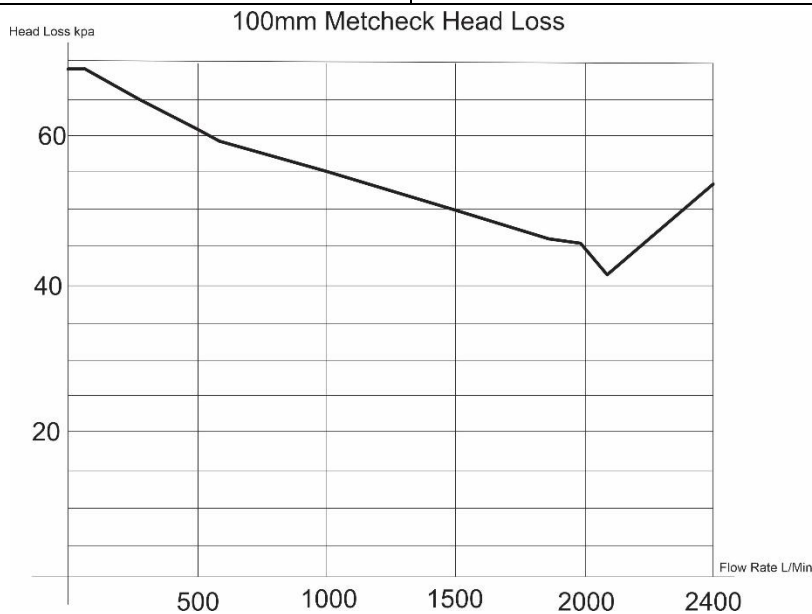
MetCheck 100AT x 40SS Pressure Drop

Tested in accordance with AS/NZS 2845.1 Clause 18.4.2

Test Method: Appendix U as per Australian Standards

COMPLIES

Test Requirements	Observations
<p>When the assembly is tested in accordance with Appendix U, the sum of the pressure drop across the non-return valve of the main single check valve shall be not less than 10kPa higher than the sum of pressure drop across the non-return valves of the secondary dual check device.</p>	<p><u>Main single non-return valve (P1)</u> Initial head of pressure (kPa)= 88.0 Duration (min) = 30 Final head of pressure (kPa) = 51.6</p> <p><u>Secondary dual check device (P2)</u> Initial head of pressure (kPa) = 88 Duration (min) = 30 Final head of pressure (kPa) = 35</p> <p><u>Pressure difference (P1 – P2)</u> Pressure drop difference (kPa) = 16.6</p>



MetCheck 150AT x 40SS

Description: DN150 Flange to Flange Single

Check Detector Assembly (Testable) (SCDAT) Pressure rating PN16

Component Description – Water Bypass meters identification codes as stamped

For example the Elster water meter used in the below test is labeled as follows

Rated Flow and Pressure Loss:

DN40 – 20E002090 the codes are specific to each individual meter.

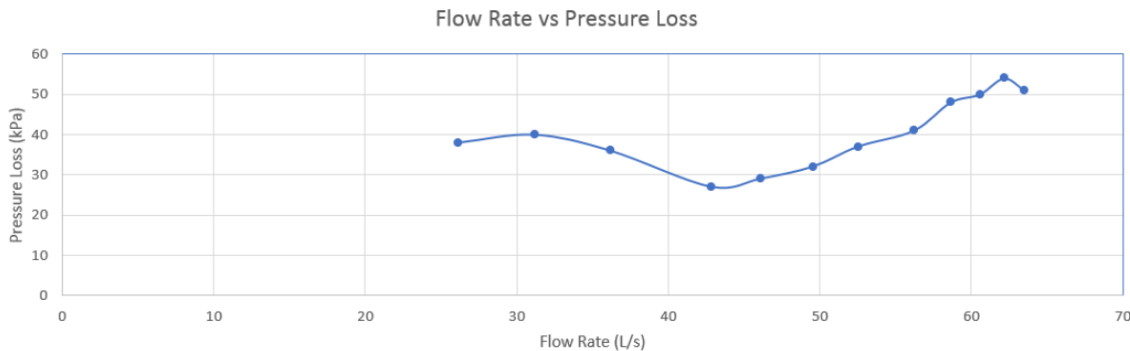
DN150 Single Check Detector Assembly (Testable) (SCDAT) – Pressure loss curve applicable standard: AS/NZS2845.1 Clause 18.1 General Requirements.

General: Test specified in 17, other than 17.5.3

Scope: The testing below is out is outside of the applicable requirements for a SCDAT.

Application: Client requested data

Test Method: Appendices K & Z



Requirement (SCVT)	Observation
AS/NZS 2845.1 Table 17.1 Rated flow (L/s) of DN150 Valve = 63	Rated Flow (L/s) = 63 Pressure Loss (kPa) = 52

Pressure Drop – DN40 Secondary dual check valve

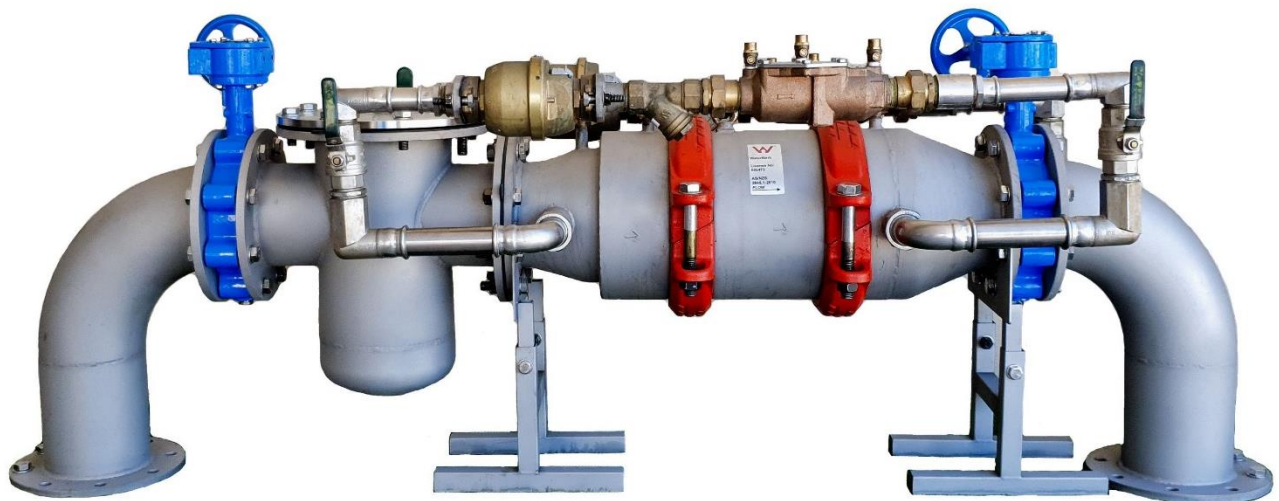
Tested in accordance with AS/NZS 2845.1 Clause 18.4.2

Test Method: Appendix U

COMPLIES

Test Requirement	Observation
<p>When the assembly is tested in accordance with Appendix U, the sum of the pressure drop across the non-return valve of the main single check valve shall be not less than 10kPa higher than the sum of pressure drop across the non-return valves of the secondary dual check device.</p> <p>Note: The secondary dual check valve is not fouled for this test.</p>	<p><u>Main single non-return valve (P1)</u> Closing Pressure (kPa) = 55</p> <p><u>Secondary dual check device (P2)</u> Closing pressure (kPa) = 34</p> <p><u>Pressure drop (P1 – P2)</u> Pressure drop difference (kPa) = 21</p>

MetCheck Double Check Detectors



Valve Offerings

The Double Check Detector Check MetChecks come in several different offerings ensuring you have the ability to choose an assembly best suited to your application. What this means is that the trusted Stainless steel body remains the same across the board in either the 100 or 150 models, however the bypass assembly/s can be altered to suit.

We provide both single and dual by-pass assemblies, of which can be made in either Copper tubing or 316 Stainless Steel tubing.

The assemblies include Watermark Certified lockable ball valves, a dual-checkvalve and AS3565.1 certified Elster water Meter and a Watts Y-strainer.

The by-pass assemblies come in a range of sizes being;

20mm Stainless Steel or Copper assembly

25mm Stainless Steel or Copper assembly

32mm Stainless Steel or Copper assembly

40mm Stainless Steel or Copper assembly

We also offer a matching 316 Stainless Steel Strainer box and Water Marked Gear Operated Butterfly valves to complete your valve assembly to meet the Standards.

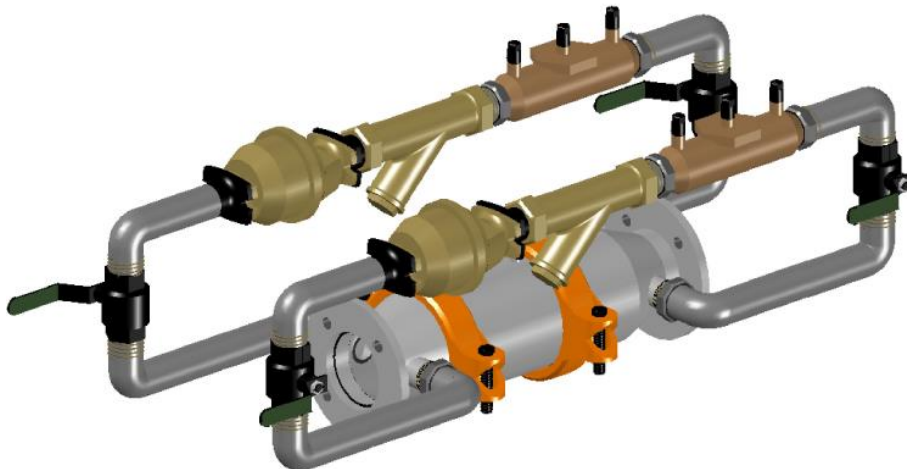
Technical Drawings & Specifications

MetCheck100ATDC x Detector Assembly

Designed and manufactured in our Australian workshops. Using highest quality 316 stainless steel components, the MetCheck detector valves combine a 15Kpa and 50Kpa main check valve and an Elster water meter.

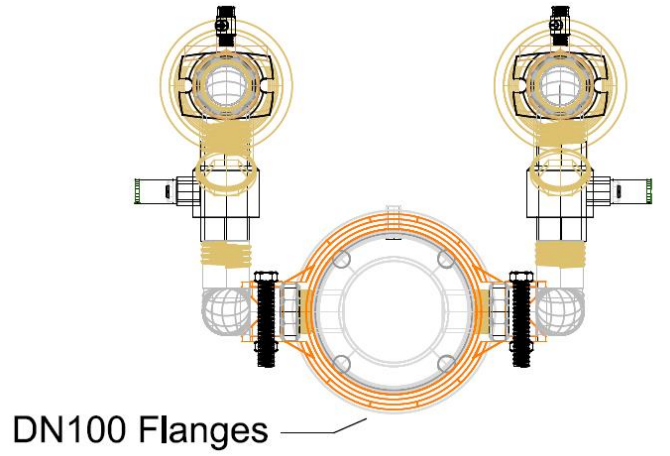
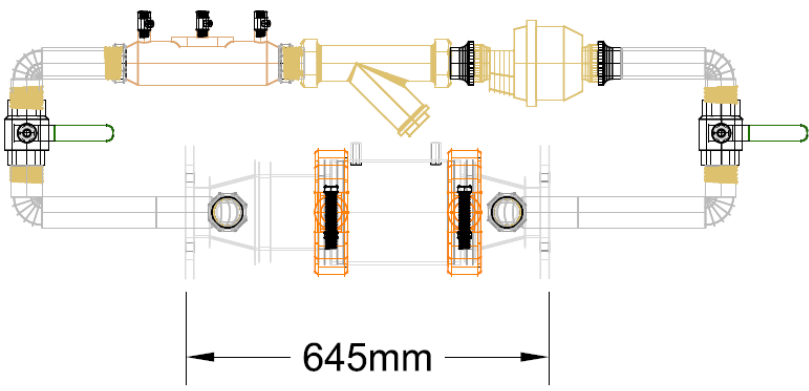
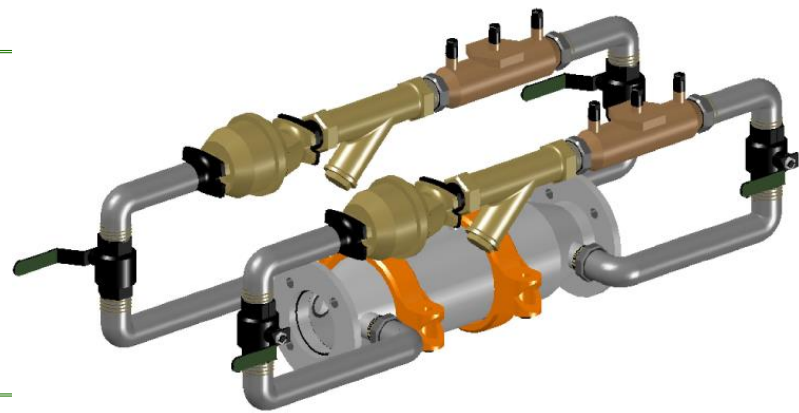
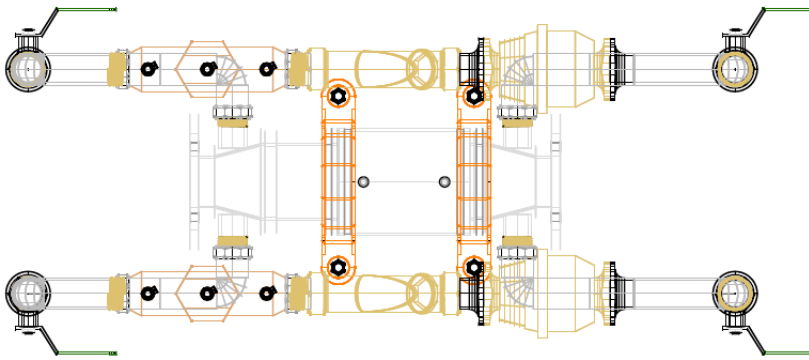
The By-pass assemblies come with a 20Kpa Un-Testable Double Check if used specifically for Firefighting. Dual purpose Fire and Plumbing fixtures general applications come with a Testable 20Kpa Double check and inline strainer assembly.

Used mostly in commercial, industrial and group title premises, the MetCheckATDC measures everyday potable water flows to the premises. Should excessively high-water flow be required the main valve will open, allowing unrestricted water flow to fight the fire in dual purpose arrangements.

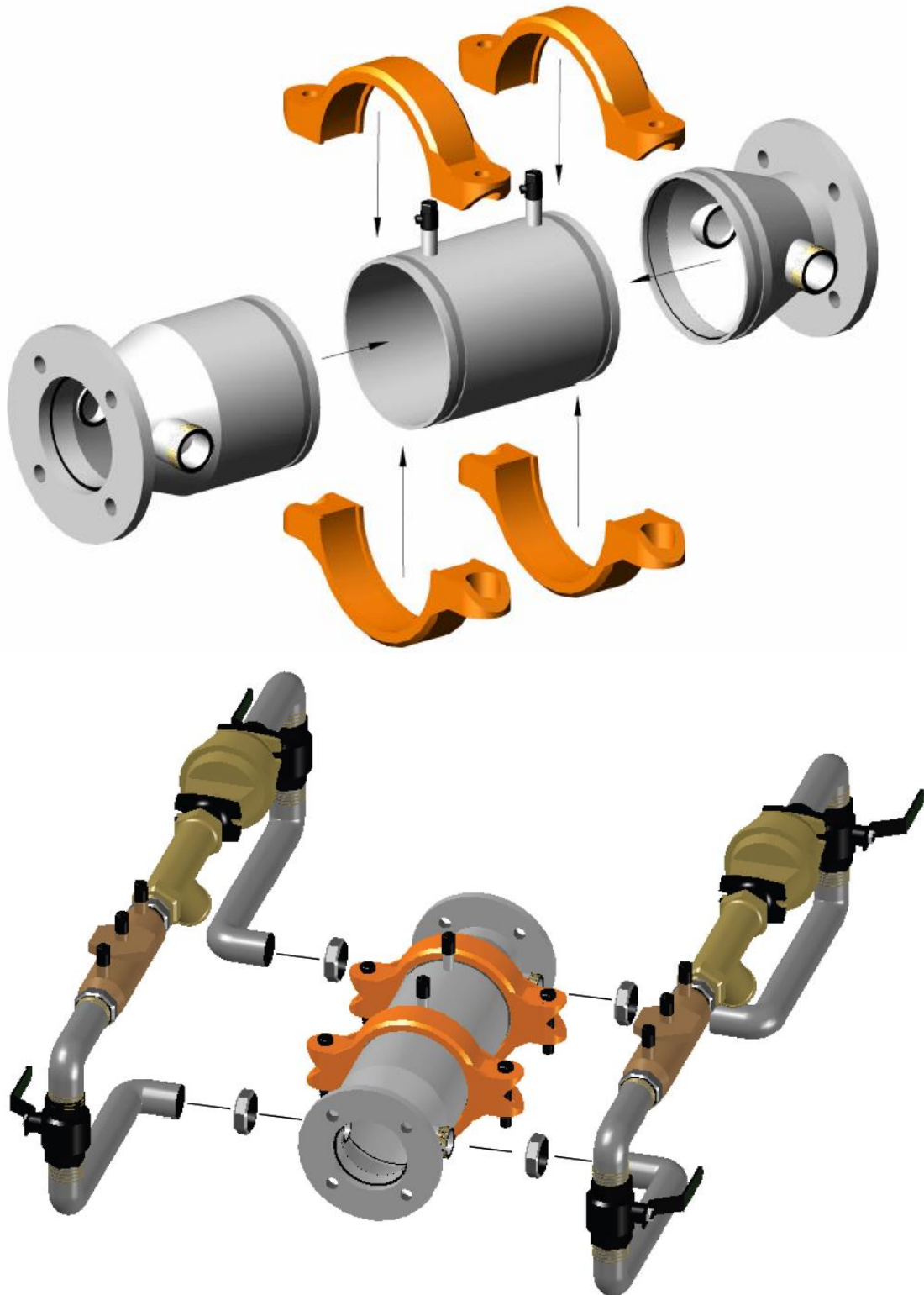


With various configurations of internal springs and water meters the MetCheck can be used in dedicated fire services for counting illegal use of water and water leaks, while preventing the backflow of stagnant water into the main potable system.

Alternatively the MetCheck can be used as a combined fire & potable water measuring system to schools, retirement villages, industrial and commercial sites allowing larger volumes of water to be delivered to more consumers.



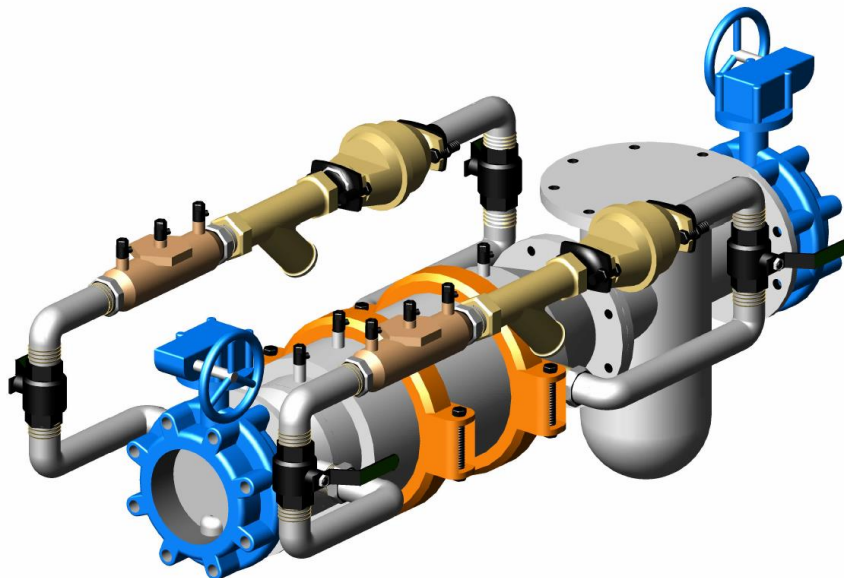
Technical Drawings & Specifications



MetCheckDC 150ATDC Detector Assembly

Designed and manufactured in our Australian Hydromet Factory using 316 stainless steel components, the MetCheck Double Check detector valves combine a Testable Double check valve, strainer and an Elster PN16 rated water meter.

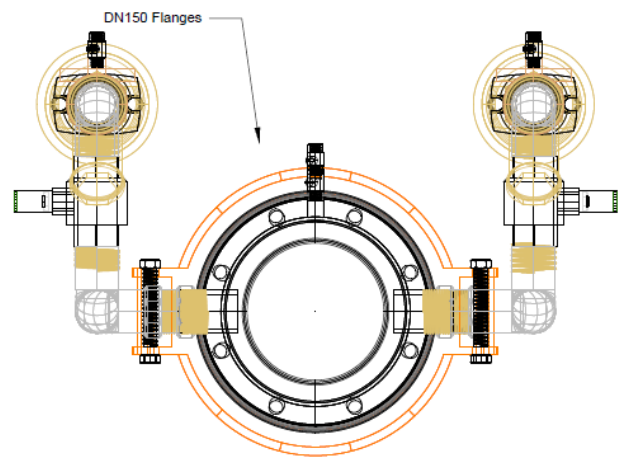
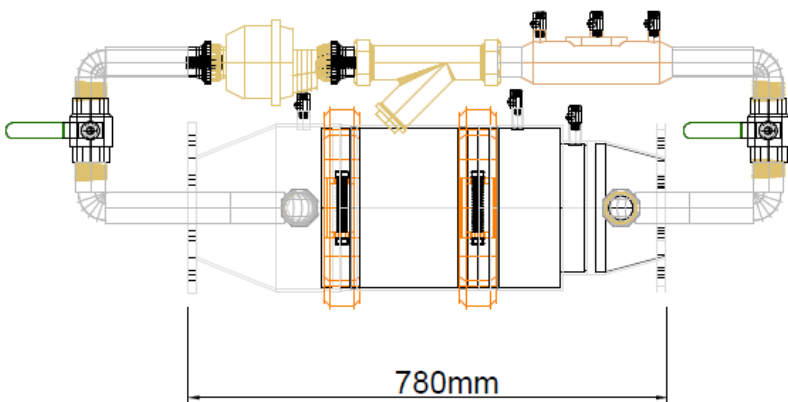
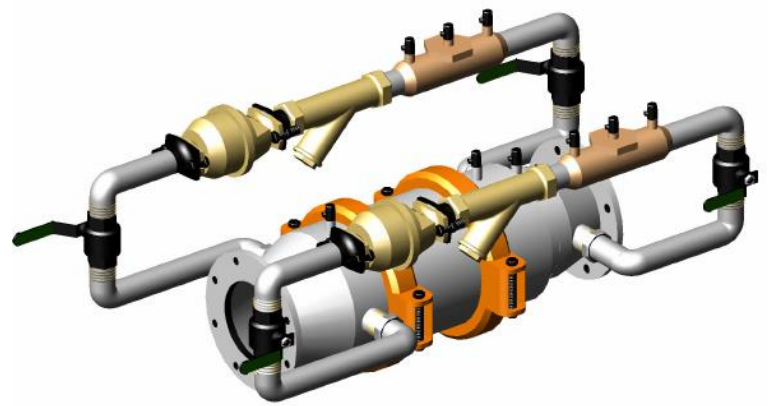
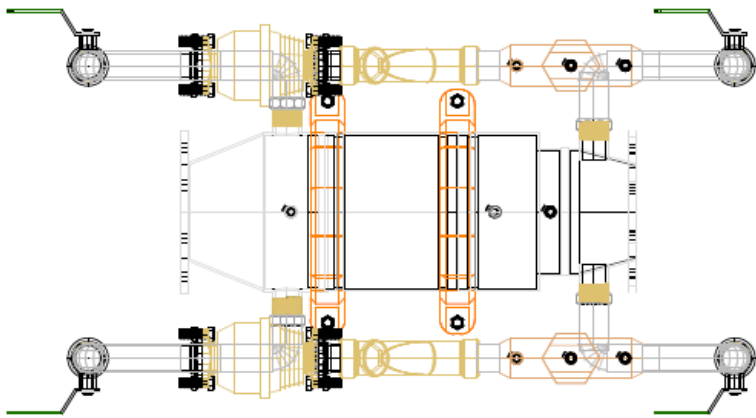
Used mostly in commercial, industrial and group title premises, the MetCheck Detectors measures everyday potable water flows to the premises. Should excessively high-water flow be required the main valve will open, allowing unrestricted water flow to fight the fire.



With various configurations of internal springs and water meters the MetCheck can be used in dedicated fire services for counting illegal use of water and water leaks, while preventing the backflow of stagnant water into the main potable system.

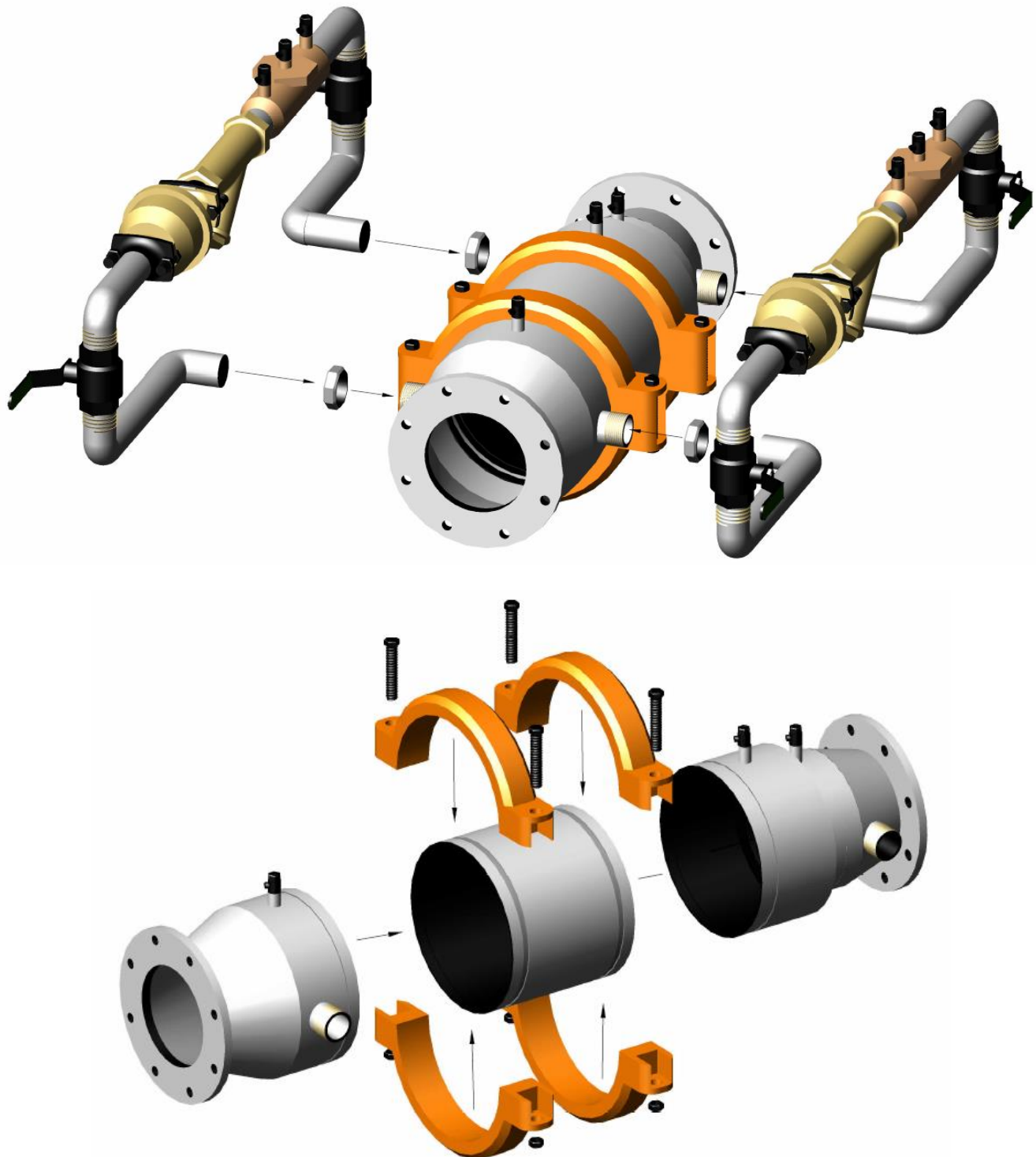
Alternatively the MetCheck can be used as a combined fire & potable water measuring system to schools, retirement villages, industrial and commercial sites allowing larger volumes of water to be delivered to more consumers.

Technical Drawings & Specifications



Technical Drawings & Specifications

150mm Assembly



Maintaining the By-passes:

For bypasses with 20mm and 25mm meter assemblies the double checks are incorporated into the meter body

For bypasses with 32mm and 40mm, remove the dual check valve bodies from the bypass pipe-work.

1. Unscrew the nut on the dual check valve.
2. Push out the check modules. These should come out by hand.
3. Disassemble the check modules
4. Maintenance can now proceed on the modules.
5. Reassemble is the opposite of disassembly.
6. Keep all items spotlessly clean, and use ample lube on "O" rings. After maintenance and assembly, perform testing as per AS2845.3. 2010.
7. After maintenance and assembly, perform testing as per AS2845.3. 2010.

Spare Parts:

Main valve: -

- Check module rubber seal.
- Module to body "O" ring
- Complete module, 15kpa nominal
- Complete module, 50kpa nominal
- Circlip
- Spacer

Dual check valve in bypass, 20mm, 25mm, 32mm and 40mm: -

- Check 1: Complete module.
- Check 2: Complete module.

Roll groove coupling: -

- Rubber seals.
- Bolts, nuts, and washers.

MetCheck150ATDCx Detector Assembly

Description:

DN150 Flange to Flange Double Check Detector Assembly (Testable) (SCDAT)

Component Description – Water Bypass meters identification codes as stamped

For example the meter used in the below test is labeled as follows

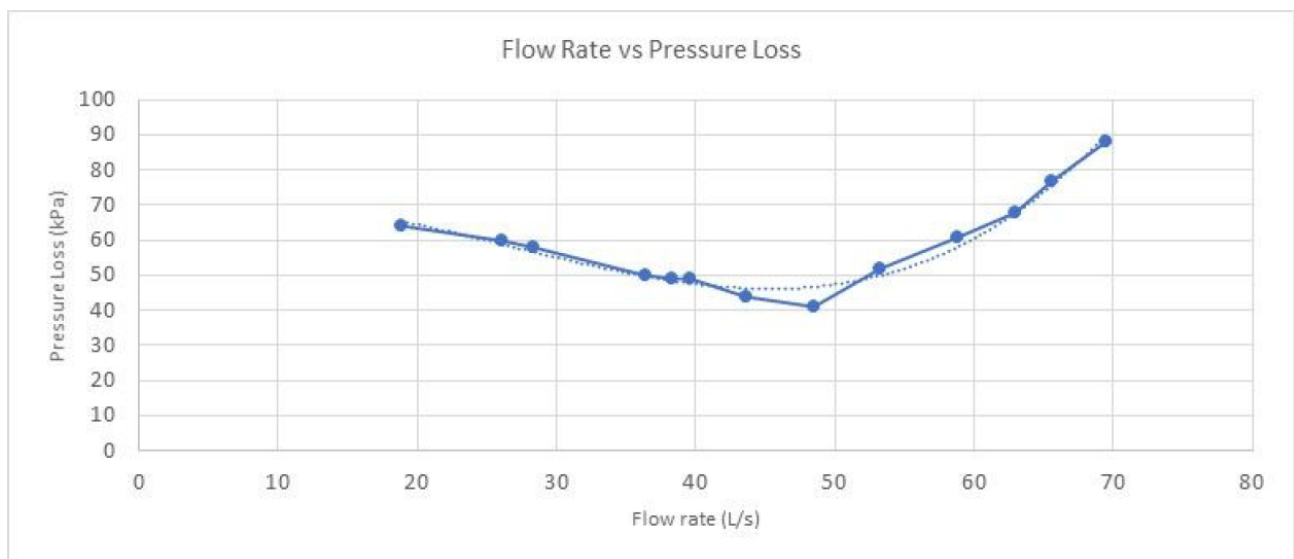
Rated Flow and Pressure Loss:

DN40 – 20E002090 the codes are specific to each individual meter.

MetCheck150ATDA x Detector Assemblies - Pressure loss curve

Applicable standard: AS/NZS 2845.1 Clause 10.5.3.

Test Method: Appendix K



Licensing & Watermarks

Pressure Drop:

Tested in accordance with AS/NZS 2845.1 Clause 10.5.3

Test Method: Appendix U as per Australian Standards

COMPLIES

Requirements	
When tested in accordance with Appendix K, with a maximum pressure loss across the device of 70kPa, the rated flow shall be given in the below table.	
Test Conditions	Observation
<u>Test rig</u> Pressure loss across rig = 1 kPa	<u>Testing with bypass valves closed</u> Pressure loss (kPa) = 65
<u>Testing</u> Flow rate (L/s) = 32 Upstream (kPa) = 250 Downstream (kPa) = 184	<u>Testing with DN20 bypass valves opened</u> Pressure loss (kPa) = 62 <u>Testing with DN25 bypass valve opened</u> Pressure Loss (kPa) = 67

MetCheck100ATDC x Detector Assembly

Tested in accordance with

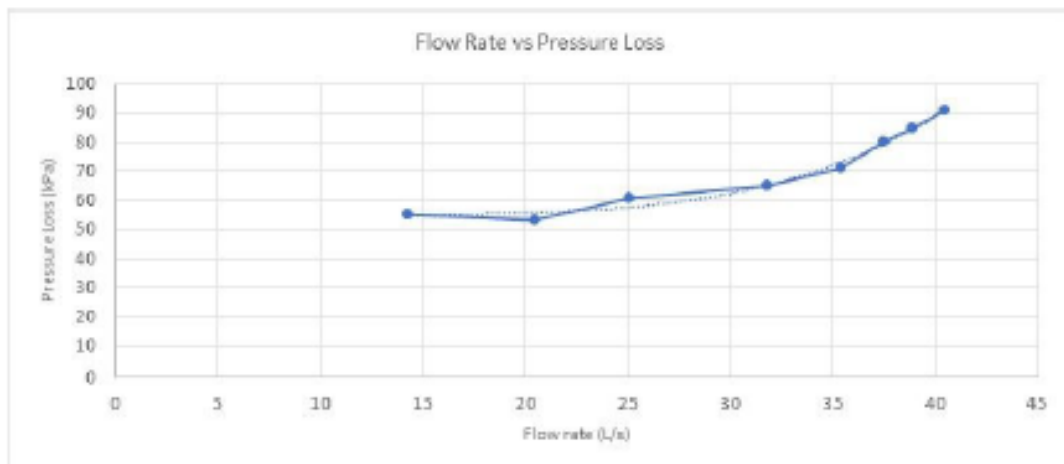
AS/NZS 2845.1 Clause 10.5.3

Pressure Drop:

Test Method: Appendix U as per Australian Standards

COMPLIES

Requirement	
Test Conditions	Observation
<p><u>Test Rig</u> Pressure loss across rig = 3kPa</p> <p><u>Testing</u> Flow rate (L/s) = 63 Upstream (kPa) = 259 Downstream (kPa) = 188</p>	<p>After adjustment to pressure loss in the piping in accordance with Appendix K4(d).</p> <p><u>Testing with bypass valves closed</u> Pressure loss (kPa) = 68</p> <p><u>Testing with DN32 bypass valve opened</u> Pressure Loss (kPa) = 68</p> <p><u>Testing with DN40 bypass valve opened</u> Pressure Loss (kPa) = 69</p>



Licensing & Watermarks

Pressure Drop – DN40 DCV Bypass

Tested in accordance with AS/NZS 2845.1 Clause 11.4.2

Test Method: Appendix U

COMPLIES

Test Requirement	Observation
When the assembly is tested in accordance with Appendix U, the sum of the pressure drop across the upstream and downstream non-return valves of the main single check valve shall be not less than 20kPa higher than the sum of pressure drop across the non-return valves of the secondary double check device.	<u>Main valve (P1)</u> Upstream closing pressure (kPa) = 51 Downstream closing pressure (kPa) = 16 Sum of pressure drops (kPa) = 67
	<u>Secondary double check device (P2)</u> Upstream closing pressure (kPa) = 10 Downstream closing pressure (kPa) = 11 Sum of pressure drops (kPa) = 21
	<u>Pressure drop (P1 – P2)</u> Pressure drop difference (kPa) = 46

Pressure Drop – DN32 DCV Bypass

Tested in accordance with AS/NZS 2845.1 Clause 18.4.2

Test Method: Appendix U

COMPLIES

Test Requirement	Observation
When the assembly is tested in accordance with Appendix U, the sum of the pressure drop across the upstream and downstream non-return valves of the main single check valve shall be not less than 20kPa higher than the sum of pressure drop across the non-return valves of the secondary double check device.	<u>Main valve (P1)</u> Upstream closing pressure (kPa) = 51 Downstream closing pressure (kPa) = 16 Sum of pressure drops (kPa) = 67
	<u>Secondary double check device (P2)</u> Upstream closing pressure (kPa) = 9 Downstream closing pressure (kPa) = 12 Sum of pressure drops (kPa) = 21
	<u>Pressure drop (P1 – P2)</u> Pressure drop difference (kPa) = 46

Pressure Drop – DN20 DCV Bypass

Tested in accordance with AS/NZS 2845.1 Clause 11.4.2

Test Method: Appendix U

COMPLIES

Test Requirement	Observation
<p>When the assembly is tested in accordance with Appendix U, the sum of the pressure drop across the upstream and downstream non-return valves of the main single check valve shall be not less than 20kPa higher than the sum of pressure drop across the non-return valves of the secondary double check device.</p>	<p><u>Main valve (P1)</u> Upstream closing pressure (kPa) = 56 Downstream closing pressure (kPa) = 14 Sum of pressure drops (kPa) = 70</p> <p><u>Secondary double check device (P2)</u> Upstream closing pressure (kPa) = 12 Downstream closing pressure (kPa) = 11 Sum of pressure drops (kPa) = 23</p> <p><u>Pressure drop (P1 – P2)</u> Pressure drop difference (kPa) = 47</p>

Pressure Drop – DN25 DCV Bypass

Tested in accordance with AS/NZS 2845.1 Clause 11.4.2

Test Method: Appendix U

COMPLIES

Test Requirement	Observation
<p>When the assembly is tested in accordance with Appendix U, the sum of the pressure drop across the upstream and downstream non-return valves of the main single check valve shall be not less than 20kPa higher than the sum of pressure drop across the non-return valves of the secondary double check device.</p>	<p><u>Main valve (P1)</u> Upstream closing pressure (kPa) = 56 Downstream closing pressure (kPa) = 14 Sum of pressure drops (kPa) = 70</p> <p><u>Secondary double check device (P2)</u> Upstream closing pressure (kPa) = 11 Downstream closing pressure (kPa) = 120 Sum of pressure drops (kPa) = 23</p> <p><u>Pressure drop (P1 – P2)</u> Pressure drop difference (kPa) = 47</p>

IAPMO R&T OCEANA

7-11 Fullard Road, Narre Warren, Victoria 3805, Australia



IAPMO R&T Oceana is a product certification body which inspects and arranges for the independent laboratory testing of samples taken from the manufacturer's stock or from the market or a combination of both, to verify compliance of the requirements of applicable Standards and Specifications. This activity is coupled with periodic surveillance of the manufacturer's factory and any major subcontractor's site/s as well as the assessment of the manufacturer's Quality Assurance System. This certification is subject to the conditions set forth in the characteristics below and is not to be construed as any recommendation, assurance or guarantee by IAPMO R&T Oceana of the product acceptance by Authorities Having Jurisdiction.

CERTIFICATE OF CONFORMITY

IAPMO R&T Oceana hereby grants to:

**S&J Property Trust discretionary Trading trust for SBH Enterprises Pty Ltd T/A
Hydromet**

A.B.N.: 83 185 316 113

Unit 3, 34 Cessna Drive, Caboolture,, QLD 4510 Australia

the right to use the WaterMark in accordance with the ABCB Manual for the WaterMark Certification Scheme; - Australian Standards; WaterMark Technical Specifications; and the Plumbing Code of Australia; only in respect of the certified product as described in the WaterMark Certificate of Conformity - Schedule of Certified Product (Refer also IAPMO Product Listing Directory). The Certificate is granted subject to the rules governing the WaterMark Certification Scheme and the Terms and Conditions of the Approved User Agreement and IAPMO Oceana's WaterMark Governance Rules.

Evaluated to:

AS/NZS 2845.1-2010 (Inc. Amdt 1)

Water supply - Backflow prevention devices - Materials, design and performance requirements

Manufacturer:

Refer to Licence Holder

Licence No.: WM-022473

First Certified: 14 October 2015

Certification Date: 11 January 2022

Expiry Date: 13 October 2025

CEO, The IAPMO Group

This WaterMark certification is for the period indicated herein and is void after the date shown above. Any change in material, manufacturing process, marking or design without having first obtained the approval of IAPMO R&T Oceana, or any evidence of non-compliance with applicable Standards, Specifications or of inferior workmanship, may be deemed sufficient cause for revocation of this certification. Reproduction of or reference to this certificate for advertising purposes may be made only by specific written permission of IAPMO R&T Oceana. Any alteration of this certificate could be grounds for revocation of this certification.

"This certificate is issued by a JAS-ANZ accredited Conformity Assessment Body. The ABCB and JAS-ANZ do not in any way warrant, guarantee or represent that the product the subject of this Certificate conforms to the WaterMark Certification Scheme Rules, nor accepts any liability arising out of the use of the product. The ABCB disclaims to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages and costs arising as a result of the use of the product(s) referred to in this Certificate."

Certificate of Conformity

This certificate confirms that the company below complies with the following standard(s):

Company Name / Approved User	Elster Metering Pty Ltd	WaterMark WM number:	GM-WM-040243-I01-R05
Company Other Name	Honeywell	Approved User Tel:	0417 287 851
Approved User ABN (if any)	98 004 088 680	Client ID	101680
JAS-ANZ Scheme	WaterMark Certification Scheme 2016		
Certification Standard (s)	AS 3565.1:2010 : Meters for cold and heated drinking and non-drinking water supplies - Technical requirements		
Approved User web site	www.elstermetering.com.au		

CERTIFICATE DATES:

Initial Certification / Re Certification	19/01/2019	Certification Expiry	19/01/2024
Last Certification Decision (current certification)	11/03/2022		

APPROVED COMPANY / SITE ADDRESS(ES):

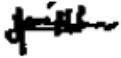
55 Northcorp Boulevard Broadmeadows VIC 3047 Australia

Subject to the following conditions and limitations:

- The Approved Certifier grants the right to use or arrange the use of the WaterMark as shown in the top left corner only in respect of the Products described and detailed on the Product Schedule following which are produced by the Approved User and which comply with the appropriate Applicable Specification referenced below and as amended from time to time. The Licence is granted subject to the rules governing the use of the WaterMark and the terms and conditions for certification. The WaterMark Licensee covenants to comply with all the Rules, technical reference documents and terms and conditions of the WaterMark Certification Scheme.
- This Certificate is issued by a JAS-ANZ accredited certification body. The Scheme Owner, Administering Body and Accreditation Body do not in any way warrant, guarantee or represent that the product the subject of this Certificate conforms to the WaterMark Certification Scheme Rules, nor accepts any liability arising out of the use of the product. The Scheme Owner disclaims to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages and costs arising as a result of the use of the product(s) referred to in this Certificate.
- The WaterMark is a registered certification trademark of the Scheme Owner (ABN 74 599 608 295). The rules of the WaterMark Certification Scheme are available from the ABCB website www.abcb.gov.au
- This certification remains valid until the above mentioned expiry date and subject to the organization's continued compliance with the certification standard, and Global-Mark's Terms and Conditions. This Certificate remains the property of Global-Mark Pty Ltd, Company Number: ACN.108-087-654. The use of the Accreditation Mark indicates accreditation by the Joint Accreditation System of Australia and New Zealand in respect to those activities covered by JAS-ANZ accreditation. Refer to www.jas-anz.org/register for verification. The certificate may only be reproduced in its entirety.



Certification Manager



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