

## MODELS

## 'NAUTILUS' WC ELECTRONIC DUAL WC FLUSH VALVE, MAINS PRESSURE

- RBA1882-100-001** 'Nautilus' Dual Flush Valve Incl Large Mounting Plate
- RBA1882-100-002** 'Nautilus' Dual Flush Valve Incl Small Mounting Plate
- RBA1882-100-003** 'Nautilus' Dual Flush Valve Incl Small White Mounting Plate
- RBA1882-100-005** 'Nautilus' Dual Flush Valve Incl Small Black Mounting Plate
- RBA1882-100-007** 'Nautilus' Accessible Dual Flush Valve Incl Large Mounting Plate
- RBA1882-100-008** 'Nautilus' Dual Flush Valve Incl Indicator Rings, No Plate, Tile Fixed



As improvements in the design and performance of RBA products are continuous, specifications may be subject to change without notice. The illustrations and descriptions herein are applicable to production as of the date of this Installation Instructions Sheet. Revised 08/22 © 2022 by RBA Group II/Model RBA1882-100-Series/0822

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## 1.0 Technical Requirements

Installation must be undertaken in accordance with the PCA (Plumbing Code of Australia) and AS/NZS3500.2, especially concerning probable simultaneous demand and correct hydraulic water supply sizing where more than one flushing device is serviced from that water supply. This product is factory set to the identified site conditions to comply with WELS 3 Star 6/3 flush volume as the default.

- Minimum 20mm pipe or equivalent water supply line size.
- Minimum supply pressure of 300kPa. **Note: This valve is pre-set to deliver flush volumes of 6/3 L corresponding at 300 kPa. A product configuration sheet is available for site specific setting.**
- A 40mm loose nut and liner to suit PVC is supplied with each assembly. Flush pipe is not supplied as a part of this assembly.
- It is recommended that **2 x 45° bends may be installed in lieu of the 90° bend. For different configurations consult with RBA Group for flush performance compatibility.**
- The Pipe Interrupter (Vacuum Breaker) must be installed in the vertical position.
- Threaded brass to brass joints on this assembly have been made with Locseal.
- Water temperature range: 5° C - 35° C

## 1.1 Hydraulic Requirements

Inlet Connection:	DN 25 min.
Outlet Connection:	DN 40 to suit DWV
Water Supply Pressure:	300kPa min – 500kPa max.
Flush Pipe:	DN40 (Supplied by others)
Flush Volume:	WELS 3 Star 6/3L or 4 Star 4.5/3L
Flow Rate:	1.4 LPS

## 1.2 Electrical Requirements

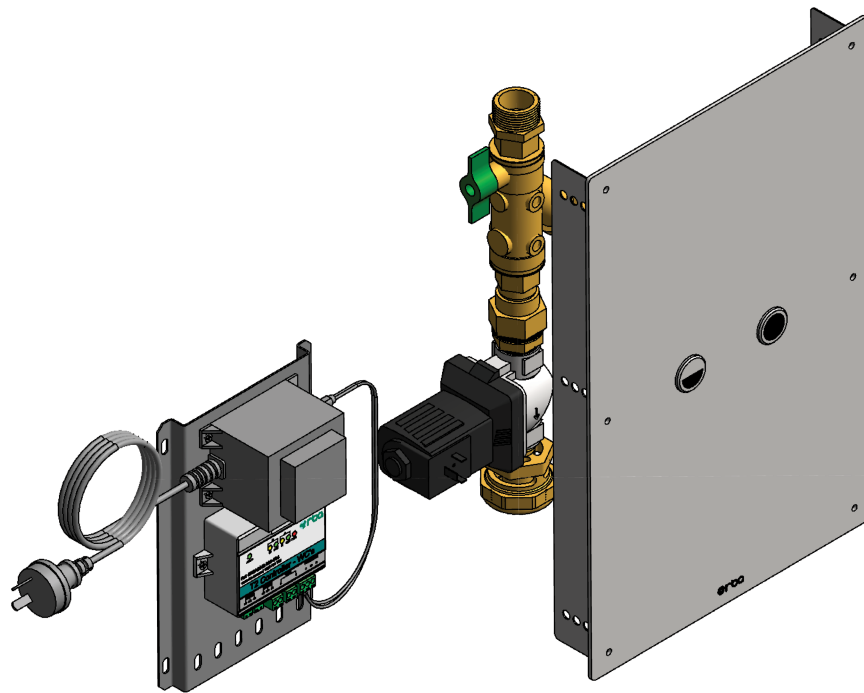
Solenoid Cable:	3m, 24/0.20 0.75mm <sup>2</sup> Figure 8
Piezo Button:	Stainless Steel, 3m Cable
Piezo Cable	5 Core twist connect 24awg
Transformer:	240VAC/24VAC, 3 AMP
Controller:	85mm [W] x 65mm [H] x 33mm [D]
Mains Power Supply:	By Others
Warranty:	1 year

## 2.0 Components

### RBA1882-100-501

'Nautilus' Dual Flush Valve Incl Large, Stainless Steel Mounting Plate

Item #	Part Number	Description
1 x	RBA1882-100	'Nautilus' Flush Valve Assembly
1 x	RBA8012-999-727	T2 Controller for 3 Terminal WC's, 3Amp Transformer Power Supply & Plate Assembly
1 x	RBA8010-999-010	Stainless Steel Piezo WC Full Flush
1 x	RBA8010-999-011	Stainless Steel Piezo WC Half Flush
1 x	RBA1880-999-023	Large Flush Valve Plate, Recess Kit
1 x	RBA7125-999-010	3m, 24/0.20 0.75mm <sup>2</sup> Figure 8

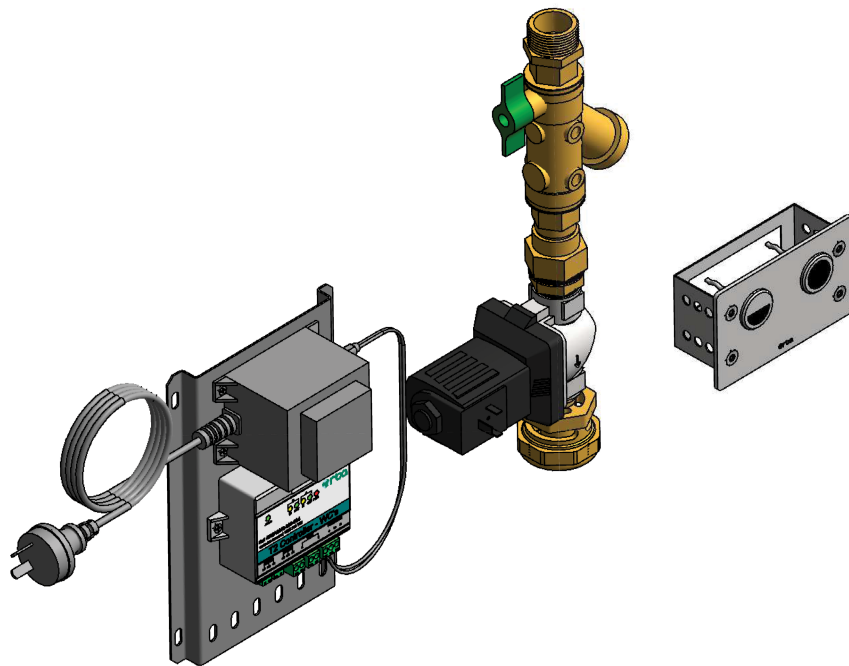




## RBA1882-100-002

'Nautilus' Dual Flush Valve Incl Small, Stainless Steel Mounting Plate

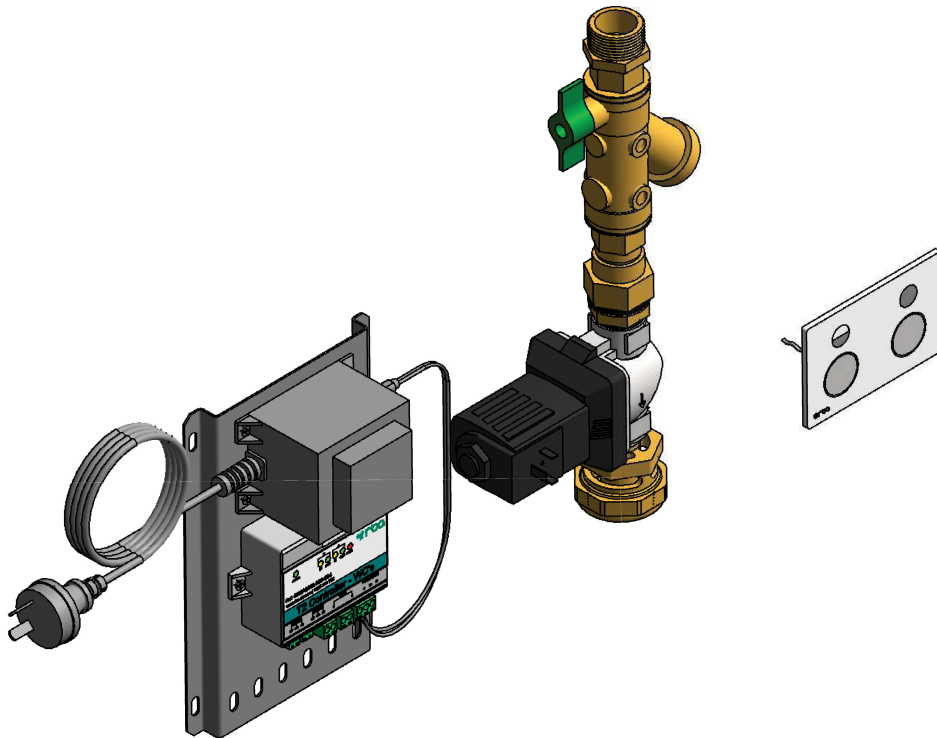
Item #	Part Number	Description
1 x	RBA1882-100	'Nautilus' Flush Valve Assembly
1 x	RBA8012-999-727	T2 Controller for 3 Terminal WC's, 3Amp Transformer Power Supply & Plate Assembly
1 x	RBA8010-999-010	Stainless Steel Piezo WC Full Flush
1 x	RBA8010-999-011	Stainless Steel Piezo WC Half Flush
1 x	RBA1880-999-023	Large Flush Valve Plate, Recess Kit
1 x	RBA7125-999-010	3m, 24/0.20 0.75mm <sup>2</sup> Figure 8



## RBA1882-100-003

'Nautilus' Dual Flush Valve Incl Small, White Mounting Plate

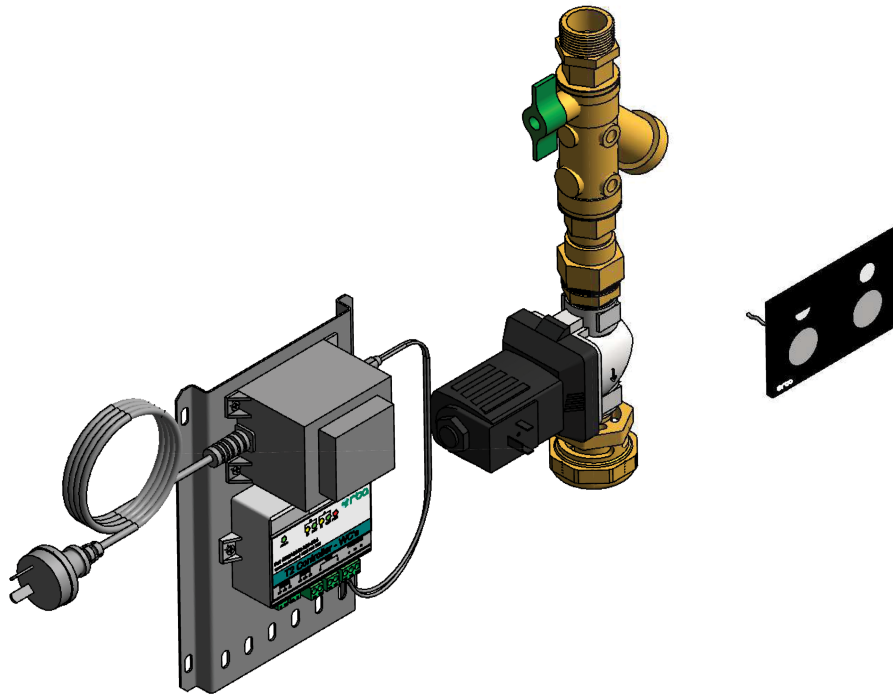
Item #	Part Number	Description
1 x	RBA1882-100	'Nautilus' Flush Valve Assembly
1 x	RBA8012-999-727	T2 Controller for 3 Terminal WC's, 3Amp Transformer Power Supply & Plate Assembly
1 x	RBA1880-99-005	Small White Acrylic Flush Valve Plate
2 x	RBA8010-999-003	Stainless Steel Piezo - no etchings chamfer
1 x	RBA7125-999-010	3m, 24/0.20 0.75mm <sup>2</sup> Figure 8



## RBA1882-100-005

'Nautilus' Dual Flush Valve Incl Small, Black Mounting Plate

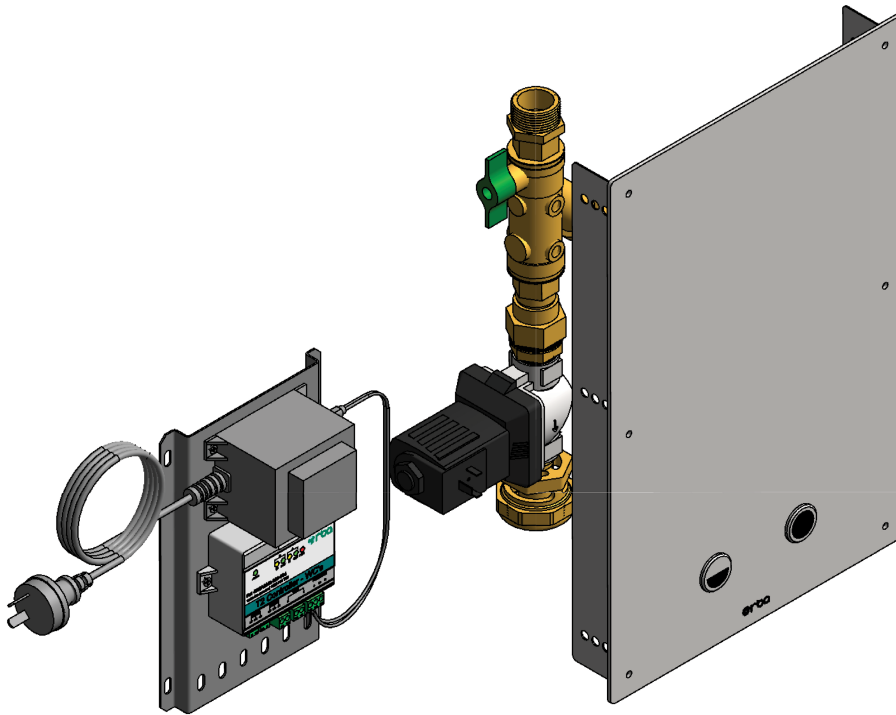
Item #	Part Number	Description
1 x	RBA1882-100	'Nautilus' Flush Valve Assembly
1 x	RBA8012-999-727	T2 Controller for 3 Terminal WC's, 3Amp Transformer Power Supply & Plate Assembly
1 x	RBA1880-99-005	Small White Acrylic Flush Valve Plate
2 x	RBA8010-999-003	Stainless Steel Piezo - no etchings chamfer
1 x	RBA7125-999-010	3m, 24/0.20 0.75mm <sup>2</sup> Figure 8



## RBA1882-100-007

'Nautilus' Accessible Dual Flush Valve Incl Large Mounting Plate

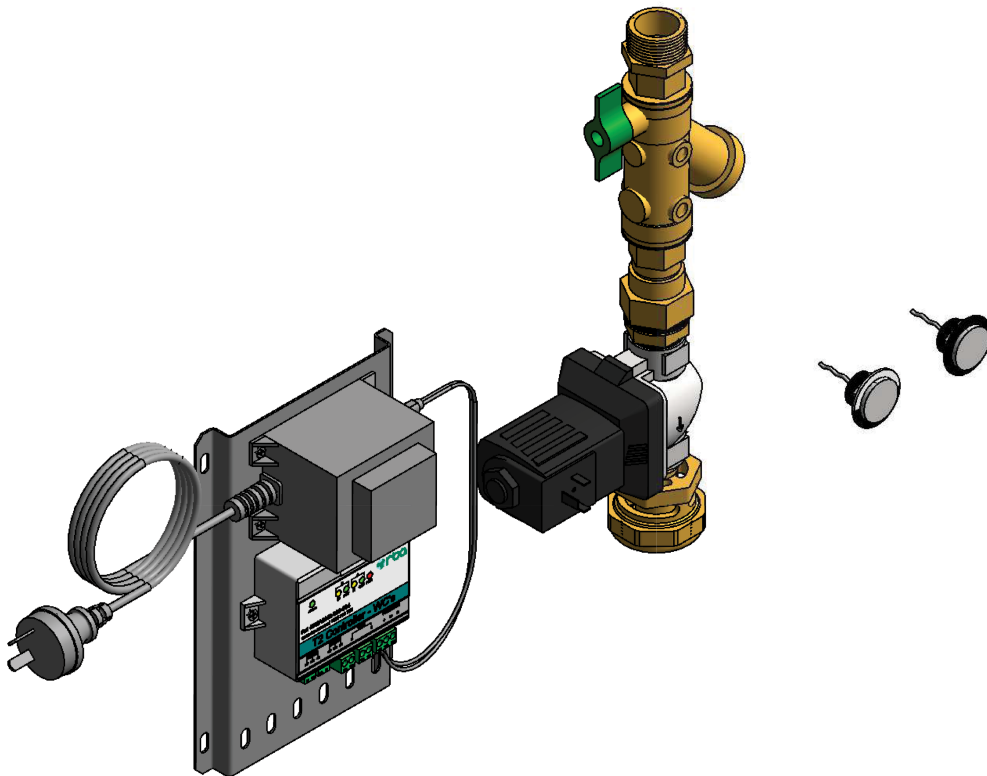
Item #	Part Number	Description
1 x	RBA1883-100	'Nautilus' Flush Valve Assembly
1 x	RBA8012-999-727	T2 Controller for 3 Terminal WC's, 3 Amp Transformer Power Pack & Plate Assembly
1 x	RBA1880-999-025	Large SS Flush Valve Plate & Recess Kit to AS1428.1
1 x	RBA8010-999-010	Stainless Steel Piezo WC Full Flush
1 x	RBA8010-999-011	Stainless Steel Piezo WC Half Flush
1 x	RBA7125-999-010	3m, 24/0.20 0.75mm <sup>2</sup> Figure 8



## RBA1882-100-008

'Nautilus' Dual Flush Valve Incl Flush Indicator Rings, No Plate

Item #	Part Number	Description
1 x	RBA1883-100	'Nautilus' Flush Valve Assembly
1 x	RBA8012-999-727	T2 Controller for 3 Terminal WC's, 3 Amp Transformer Power Pack & Plate Assembly
1 x	RBA8012-999-002	Half/Full Flush Indicator Rings Kit
2 x	RBA8012-999-003	SS Peizo, no etchings, no chamfer
1 x	RBA7125-999-010	3m, 24/0.20 0.75mm <sup>2</sup> Figure 8



## 2.1 Installing the Flush Valve Assembly

- Identify that all components are in the packaging. Three components are included in the packaging:
  - i) An isolating ball valve and strainer combination with fitted 'Nautilus' Solenoid;
  - ii) Connecting nut and vacuum breaker assembly;
  - iii) PVC loose nut cap and lining.
- Flush the water supply lines thoroughly to remove any dirt or debris.
- Fit the flush valve in the required position maintaining a minimum 700mm distance between the outlet of the vacuum breaker and the centre line of the flush pipe connected to the WC pan inlet.
- It is recommended that a loose nut or union connection be used at the inlet ball valve to facilitate ease of assembly removal should this be required.
- Once installation heights have been established, fit the Connecting Nut and vacuum breaker assembly to the ball valve and 'Nautilus' Solenoid.
- Fit the PVC cap and lining to the flush pipe, tightening the loose nut onto the male outlet thread of the vacuum breaker. Ensure rubber seal is seated on PVC pipe.
- Connect flush pipe to the WC fixture.
- Turn water supply on and check for leaks. Note: A small amount of water may pass through the 'Nautilus' Solenoid valve when power is not connected to it. The correct function of the 'Nautilus' solenoid should see pressure equalise across the diaphragm causing the valve to remain closed.
- Connect 'Nautilus' Solenoid to the piezo's for half and full flush along with Electronic Controller and Power Pack is required to complete the installation
- Once commissioning has been completed, test the system by pressing the half flush piezo and checking that the valve closes off.
- Repeat this test with the full flush piezo by pressing the full flush piezo and checking that the valve closes off.

## 2.2 Installing The Controller

- Mount controller on wall so piezo wire can easily reach unit.



- Make electrical connections: Connect wires of
- **Half Flush** piezo to the **GND** and **SIG** terminals
- of Sensor A. Connect wires of **Full Flush** piezo to
- the **GND** and **SIG** terminals of **Sensor B**. Connect
- Solenoid valve to **Valve A**. Connect the Power
- Pack to **Power 24VAC**, + and **N** terminals



- Din-plug wiring connection has been completed in house to allow for batch test release. The unit is low voltage, 24VAC, so polarity is not critical. Ensure cable is wired to neutral and active terminals.



## 2.3 Controller Settings & Runtime

Output A (1/2 Flush) Dial A				Output A (Full Flush) Dial B			
Position	Time (s)	Position	Time (s)	Position	Time (s)	Position	Time (s)
0	0.2	8	1.0	0	1.5	8	2.3
1	0.3	9	1.1	1	1.6	9	2.4
2	0.4	A	1.2	2	1.7	A	2.5
3	0.5	B	1.3	3	1.8	B	2.6
4	0.6	C	1.4	4	1.9	C	2.7
5	0.7	D	1.5	5	2.0	D	2.8
6	0.8	E	1.6	6	2.1	E	2.9
7	0.9	F	1.7	7	2.2	F	3.0

Time Settings can be changed by using a small flat bladed screwdriver so that the arrow points to a number or letter, as per the above table.



Dial A settings adjust Half Flush Timing and Dial B settings adjust Full Flush Timing.

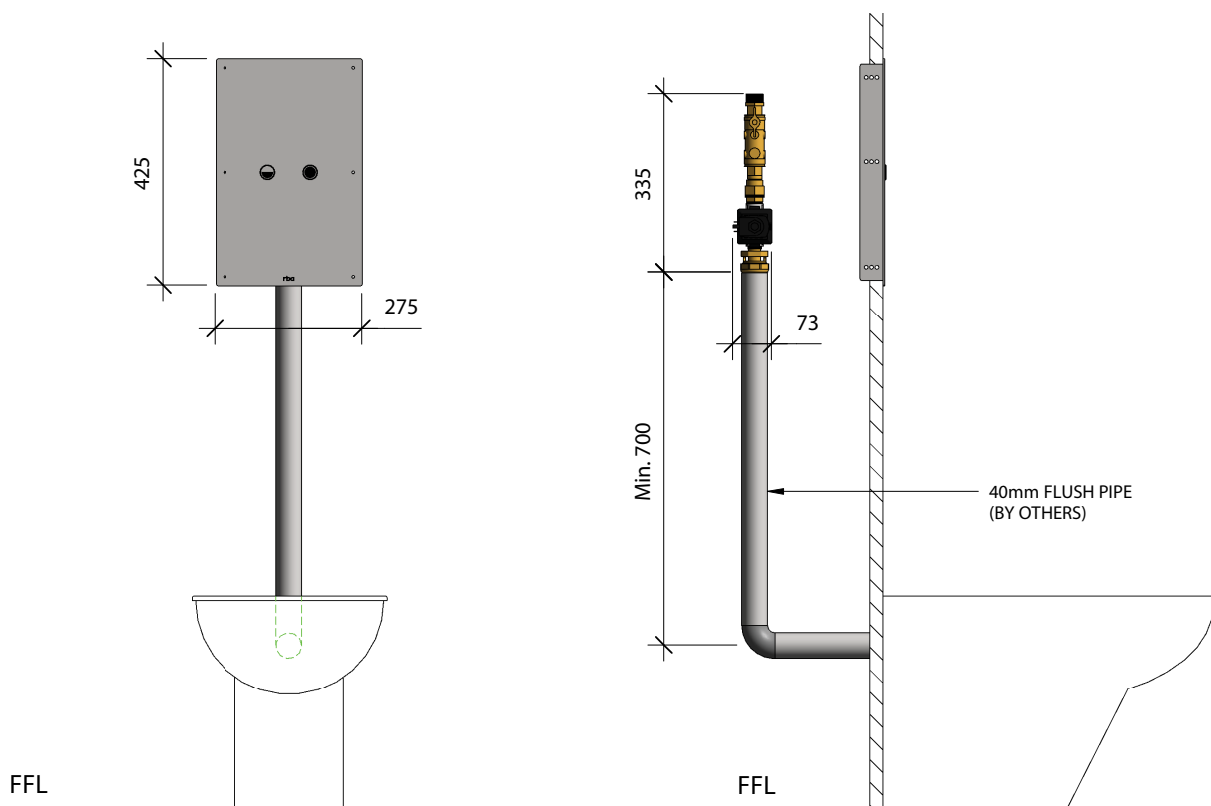


## 3.0 Installation

### RBA1882-100-001 Installation

**Rough Wall Opening for plate:** 230mm W x 410mm H x 45mm D

**Note:** When mounting flush valve assembly in the ceiling or restricted space, vacuum breaker must be installed in the vertical plane. Consult RBA or a qualified hydraulic consultant for advice.

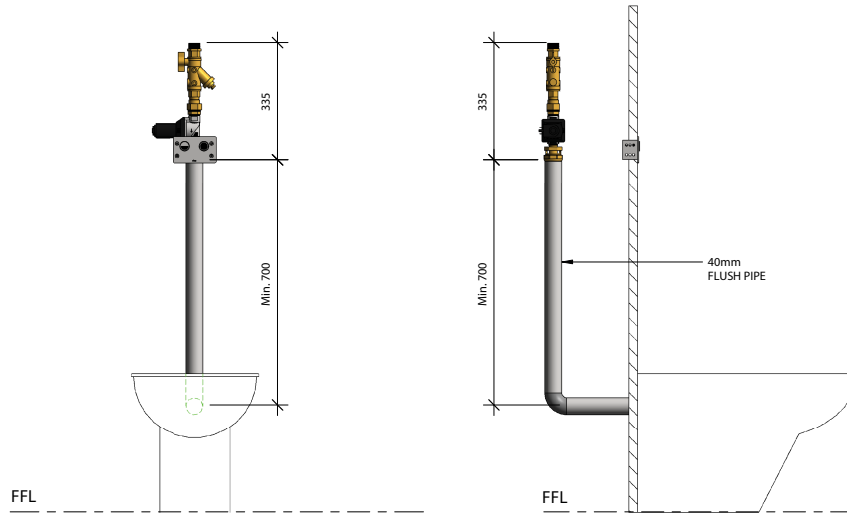


- Fit the flush valve in the required position maintaining a **minimum 700mm distance between the outlet of the vacuum breaker and the centre line of the flush pipe connected to the WC pan inlet.**
- Remove face plate from mounting bracket.
- Install mounting bracket into noggins. Ensure fixing height allows direct access to Flush Valve as shown in above image.
- Install Piezo buttons in face plate.
- Make electrical connections: Connect Half Flush piezo to **Sensor A**. Connect Full Flush piezo to **Sensor B**. Connect Solenoid valve to **Valve A**. Connect the Power Pack to **Power 24VAC**.
- Secure plate to mounting bracket using screws provided.

## RBA1882-100-002 Installation

**Rough Wall Opening for plate:** 115mm W x 60mm H x 45mm D

**Note:** When mounting flush valve assembly in the ceiling or restricted space, vacuum breaker must be installed in the vertical plane.

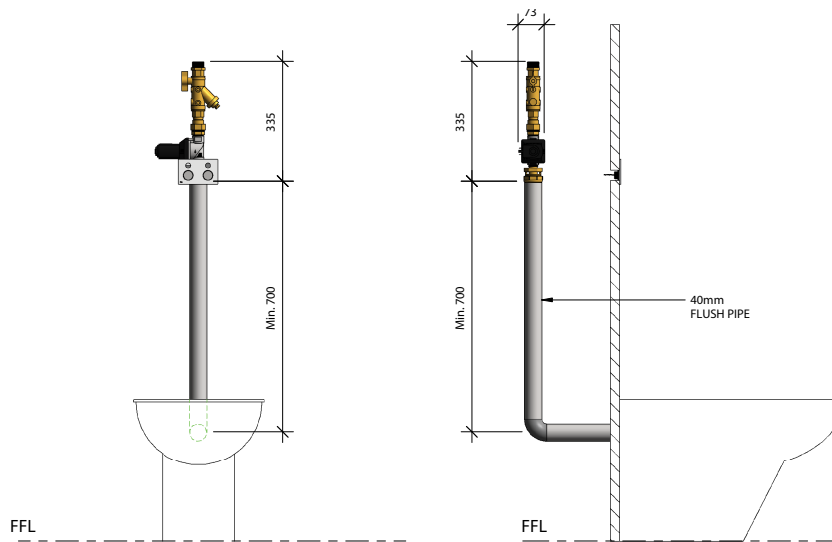


- Fit the flush valve in the required position maintaining a **minimum 700mm distance between the outlet of the vacuum breaker and the centre line of the flush pipe connected to the WC pan inlet.**
- Remove face plate from mounting bracket.
- Install mounting bracket into noggins.
- Install Piezo buttons in face plate.
- Make electrical connections: Connect Half Flush piezo to **Sensor A**. Connect Full Flush piezo to **Sensor B**. Connect Solenoid valve to **Valve A**. Connect the Power Pack to **Power 24VAC**.
- Secure plate to mounting bracket using screws provided.

## RBA1882-100-003 & -005 Installation

**Rough Wall Opening for plate:** 85mm W x 38mm H x 25mm D

**Note:** When mounting flush valve assembly in the ceiling or restricted space, vacuum breaker must be installed in the vertical plane and consult RBA or a qualified hydraulic consultant for advice.

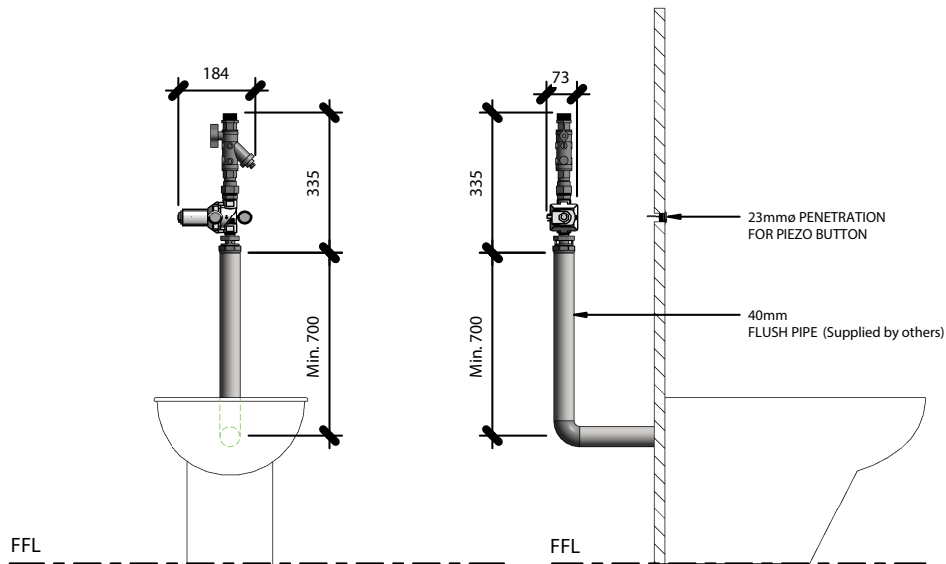


- Fit the flush valve in the required position maintaining a **minimum 700mm distance between the outlet of the vacuum breaker and the centre line of the flush pipe connected to the WC pan inlet.**
- Install Piezo buttons in face plate.
- Install face plate into wall.
- Make electrical connections: Connect Half Flush piezo to **Sensor A**. Connect Full Flush piezo to **Sensor B**. Connect Solenoid valve to **Valve A**. Connect the Power Pack to **Power 24VAC**.

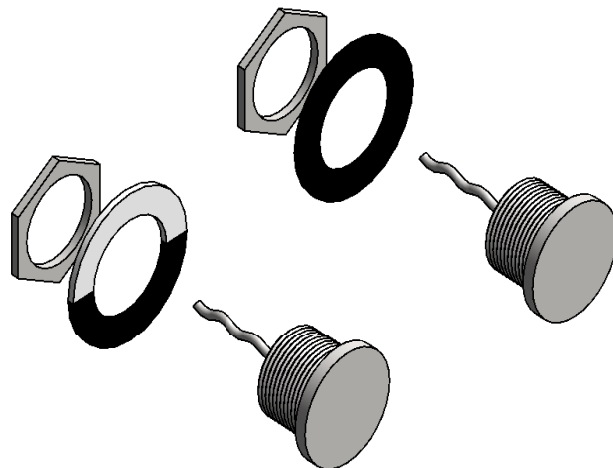
## RBA1882-100-008 Installation

**Rough Wall Opening for button assembly:** 23mm Dia

**Note:** When mounting flush valve assembly in the ceiling or restricted space, vacuum breaker must be installed in the vertical plane. Consult RBA or a qualified hydraulic consultant for advice.



- Assemble Piezo button and Flush ring escutcheon on to Piezo. Ensure all components are securely fastened.

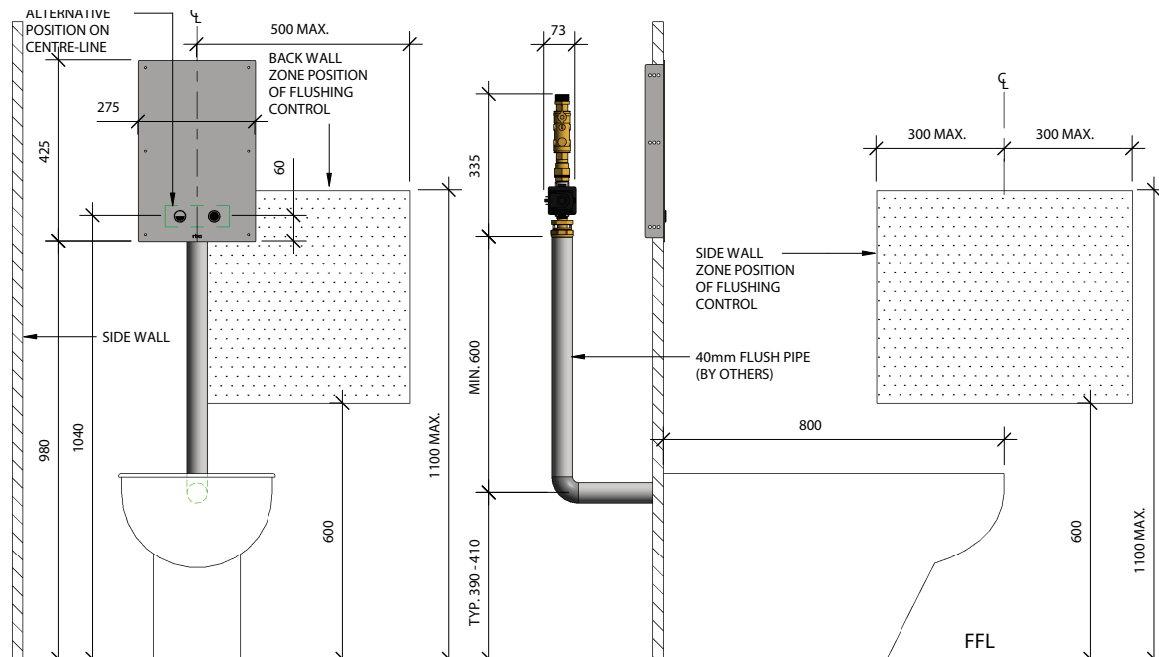


- Pull Piezo cable through conduit from the bottom to the ceiling space where controller is to be mounted.
- Mount Piezo/Indicator ring assembly on the wall with silicone.
- Make electrical connections: Connect Half Flush piezo to **Sensor A**. Connect Full Flush piezo to **Sensor B**. Connect Solenoid valve to **Valve A**. Connect the Power Pack to **Power 24VAC**.

## 3.1 AS1428.1 Installation

### RBA1882-100-007

Rough Wall Opening for plate:



- Fit the flush valve in the required position maintaining a **minimum 700mm distance between the outlet of the vacuum breaker and the centre line of the flush pipe connected to the WC pan inlet.**
- Remove face plate from mounting bracket.
- Install mounting bracket into noggins. Ensure fixing height allows direct access to Flush Valve as shown in image above.
- Install Piezo buttons in face plate.
- Make electrical connections: Connect Half Flush piezo to **Sensor A**. Connect Full Flush piezo to **Sensor B**. Connect Solenoid valve to **Valve A**. Connect the Power Pack to **Power 24VAC**.

## 4.0 Has the product configuration sheet been submitted, if required?

**Product Configuration Request:**

Note: Default factory setting for the RBA1882-100 Series is as WELS 3 Star 6/3 flush volume at 300kPa inlet pressure. This product may be configured to suit water supply pressures from 300 – 500kPa and WELS Star ratings of 3 Star and 4 Star to suit comparable Watermark and WELS rated WC pans.

**Please complete the following details for custom configuration of the RBA1882-100 to suit site conditions and WC pan flush volume choice:**

**Customer Name:** .....  
**Customer Number:** .....  
**Delivery Address:** .....  
**Project Name or Site Address of Installation:** .....  
.....  
**Quantity of RBA1882-100 Required:** .....  
**Water Supply Inlet Pressure on site:** .....  
**WELS Rating Required to match WC pans:** .....

I request that the RBA1882-100's are configured for this project and to suit the site information as stated above.

**Name:** .....  
**Email:** .....  
**Mobile:** .....

**Signature**

.....

## 5.0 Troubleshooting

Problem	Probable Cause	Solution
Piezo button pressed – no water flow	Loose connection on leads connected to Master-Trol	Reconnect lead connections.
	Piezo switch not working	<b>Replace piezo switch.</b>
	Filter blocked	<b>Remove debris from ball valve filter</b> Check that water is available to the inlet water supply.
	Water supply pressure issue	Check inlet water supply pressure and that a minimum of 300kPa and a maximum of 500kPa is available.
Water continues to run from the flush valve	Solenoid seat possibly fouled by debris or scale	Solate the water supply and remove the solenoid valve. Take out the plunger and spring assembly and clean them using a soft brush. Use scale remover if required. Reassemble components ensuring the spring is in the vertical position and reinstall the solenoid.
	Filter blocked	Remove debris from ball valve filter Check inlet water supply.
	Water supply pressure issue	Check inlet water supply pressure and that a minimum of 300kPa and a maximum of 500kPa is available.
Flush pattern not covering the internal section of the WC pan	Water supply pressure issue	Check inlet water supply pressure and that a minimum of 300kPa and a maximum of 500kPa is available.
	Incorrect water supply pipe size	Ensure that a minimum 25mm water supply is connected to the flush valve.  If multiple flush valves are supplied off the same service, refer to the hydraulic design and subsequent pipe sizing to allow for probable simultaneous demand.
	WC pan flush volume issue	Ensure the WELS rating of the WC pan is comparable to the WELS rating of the flush valve.  Incorrect timing setting of flush valve at stated inlet pressure.

Continued..

## Troubleshooting

Problem	Probable Cause	Solution
Insufficient water delivered to WC pan	Water supply pressure issue	Check inlet water supply pressure and that a minimum of 300kPa and a maximum of 500kPa is available.
	Incorrect water supply pipe size	Ensure that a minimum 25mm water supply is connected to the flush valve.  If multiple flush valves are supplied off the same service, refer to the hydraulic design and subsequent pipe sizing to allow for probable simultaneous demand.
	WC pan flush volume issue	Ensure the WELS rating of the WC pan is comparable to the WELS rating of the flush valve.  Incorrect timing setting of flush valve Master-Trol at stated inlet pressure.

## 6.0 Maintenance

### Spare Parts

RBA Code No.	Description
RBA8012-999-004	T2 Controller [2020]
RBA7125-999-010	3m, 24/0.20 0.75mm <sup>2</sup> Figure 8
RBA8010-999-003	Piezo [3m tail]
RBA1882-100	'Nautilus' Flush Valve assembly

**Note:** This product should be installed, by suitably qualified persons, in a fit for purpose application, to suitable materials, using suitable fixings and comply with any relevant codes. It should be inspected periodically for signs of wear and tear that may affect performance or safety.

Dimensions are subject to manufacturer's tolerance of +/-10mm. Rough-in should be completed with each fixture.

**Important:** Installation Instructions are subject to change without notice. Please visit **our websites** for latest revision.