

## 2020 TOILET

### intelligent™ Electronic Toilet Control, Flush Mount



#### Product Description

- In-wall flush mount.
- Electronic module detects the presence of the user and enters its 'stand-by' mode. The toilet flushes when the user leaves the detection area.
- Computer based micro controller w/specially designed infra red sensors to detect within a required distance.
- All non-corrosive materials.
- Auto-courtesy flush every 12 hrs.

#### Features

- Vacuum breaker supplied
- Manual 'Safety-Flush' button
- All Stainless Steel / Waterproof
- Vandal Proof / Tamper cycle
- Remote control re-programmable / Non-interrupt / Detect Range / Detect Frequency

#### Certification

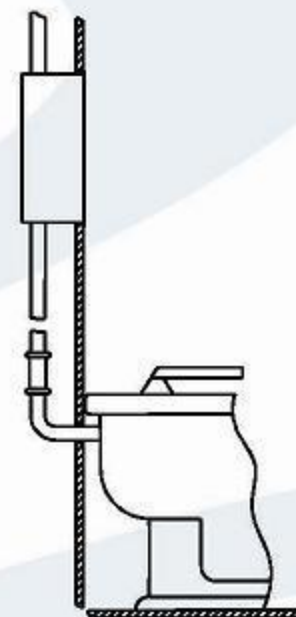
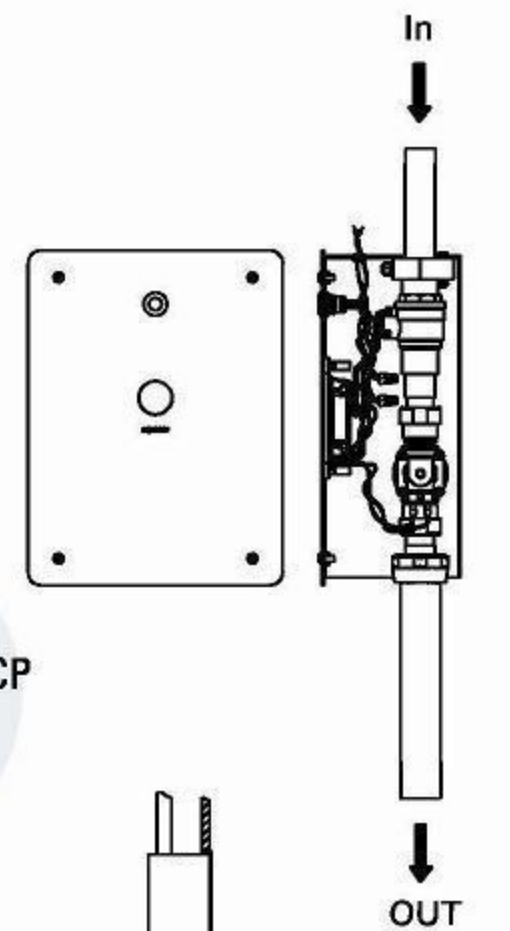
IAPMO cUPC  
ADA / ANSI Compliant

#### Model Choice :

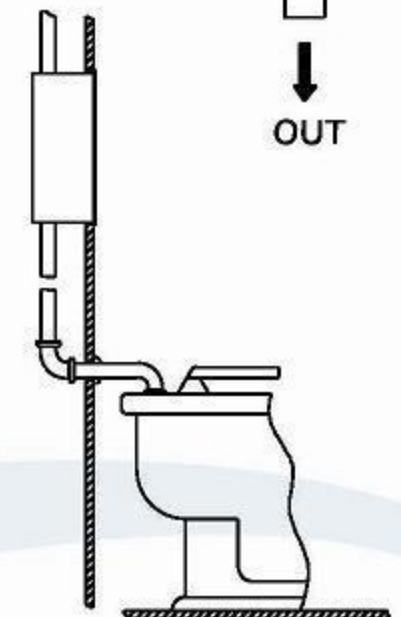
2020 without pipe kit  
2020R e/w 1 1/2" Rear entry pipe kit  
2020T e/w 1 1/2" Top entry pipe kit, CP

#### Options

04-186 Transformer 120/24Vac  
01-035 Pipe kit, 1-1/2" Top entry, CP  
01-036 Pipe kit, 1-1/2" Rear entry



2020R e/w 1 1/2"  
Rear entry pipe kit

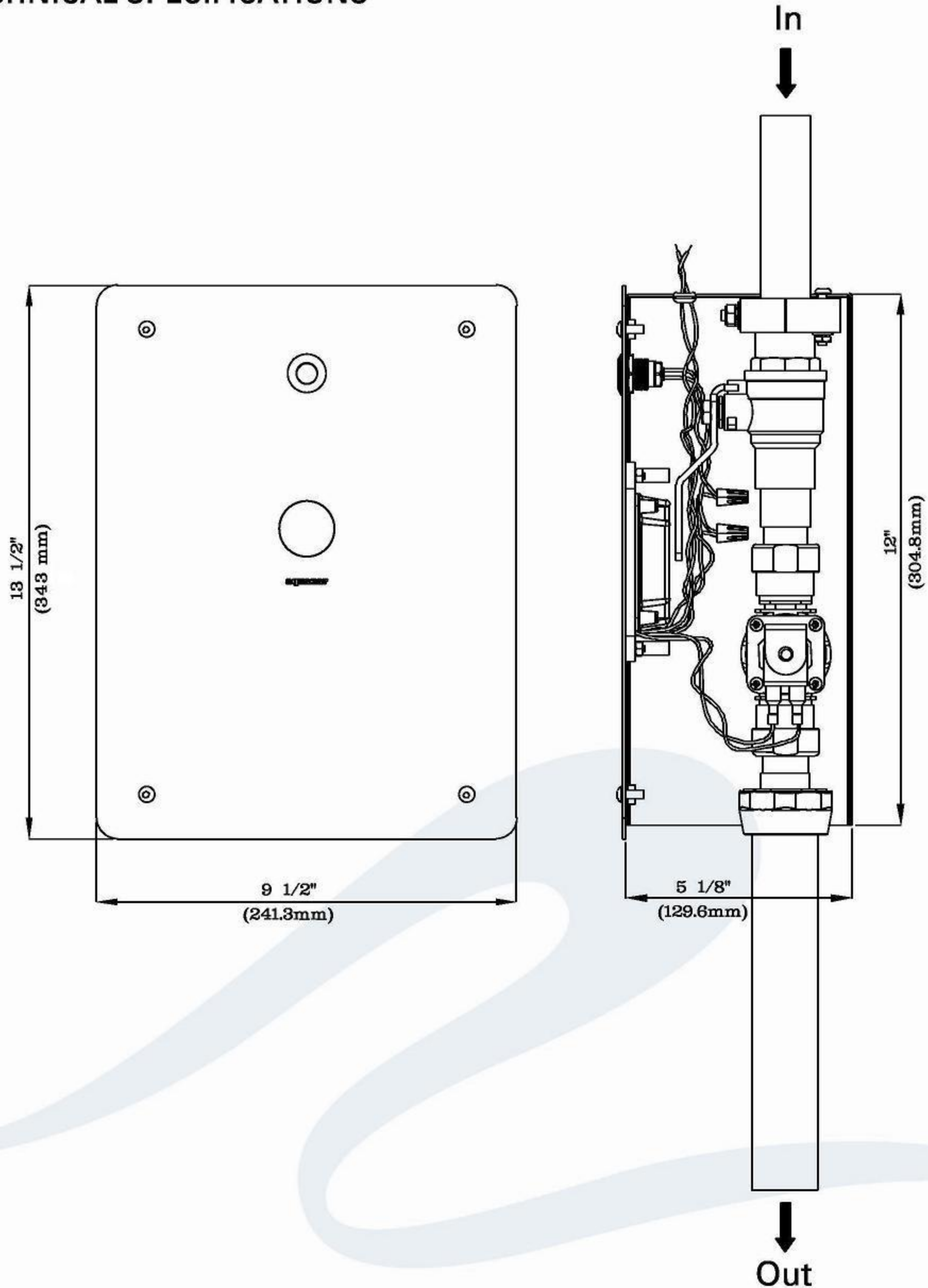


2020T e/w 1 1/2"  
Top entry pipe kit, CP

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*intelligent™* Electronic Toilet Control, Flush Mount

### TECHNICAL SPECIFICATIONS



## 2020 TOILET

### *intelligent*<sup>™</sup> Electronic Toilet Control, Flush Mount PRODUCT DESCRIPTION

**Function:**

The electronic module detects the presence of the user and sets the circuit on stand-by mode (non-flushing). The computer based micro-processor with specially designed sensors is programmed to detect the presence of a user within a pre-determined distance and time to eliminate unnecessary flushing. After usage, the circuit detects the absence of the user and flushes automatically. The duration of flushing action and operating cycles are adjustable. Included is a button for a manual flushing convenience.

**Packaging:**

The entire unit is constructed of non-corrosive materials. The faceplate is 16 ga. stainless steel to withstand abuse and maintain a good appearance. The wall housing is constructed of 16 ga. corrosion resistant steel for lifetime durability. The electronic module enclosure is made of high impact plastic and is sealed. There are no electro-mechanical devices (for adjustments) to hinder sealing or which may require troublesome disassembly.

**Adjustments:**

Adjustments are pre-set by the factory for normal-usage; reprogramming the control unit to suit special conditions is possible with an optional remote reprogrammer module. This user-friendly module permits easy function changes ( without dismantling the unit ) in the distance and time cycles, for example:

Flush Cycle Duration	1 - 15 seconds
Detect Delay (Acknowledgment)	0 - 14 seconds
Flush Delay	2 seconds
Sensitivity (Detect Range)	1 - 15 level ( 6 to 28 inches )

**Technical Specifications:**

Electrical requirements	24 Vac 15 V.A.
Electro-mechanical Valve	24 Vac 50/60 Hz
Operating Water Pressure	15 to 150 psi
Water Flow Rate	Adjustable
Water Connection	1" copper
** Auto courtesy flush	12 hrs. after last use

## 2020 TOILET

### *intelligent™* Electronic Toilet Control, Flush Mount FUNCTION INFORMATION

<b>A ) Flush Time (Run Time)</b>	<b>1 to 15 seconds</b>
<b>B ) Detect Delay (Detect Time)</b>	<b>0 to 14 seconds</b>
<b>C ) Flush Delay</b>	<b>2 seconds</b>
<b>D ) Sensitivity (Detect Range)</b>	<b>1 to 15 level ( 6 to 28 inches )</b>

#### **A) Flush Time (Run Time)**

The water flush time cycle is normally set to 6 seconds.

*\*\* This flush cycle is reprogrammable from 1 to 15 seconds ( a 1/2 to 1 second longer delay is due to the "slow close" feature the water valve has to prevent water hammer effects ).*

#### **B) Detect Delay (Detect Time)**

The detection delay is set at 6 seconds. This is to prevent unwanted starts.

*\*\* The delay is reprogrammable from 0 to 14 seconds.*

#### **C) Flush Delay**

The flush delay is usually set at 2 seconds. This allows the user to leave before the flush cycle operates and prevents unwanted splash on the user.

#### **D) Detection Range, Sensitivity**

The detection range is adjustable through reprogramming and detects between 6" to 28". ( 72 cm )

Factory- programmed detection range is set at sensitivity level 8.

- To decrease range, re-program sensitivity from level 7 to 1. ( 1 for a shorter range )
- To increase range, re-program sensitivity from level 9 to 15. ( 15 for a longer range )

*\* The sensitivity cycle is re-programmable from level 1 to 15.*

#### **E) Address - Detect Frequency**

This feature eliminates possible problems of oppositely ( face to face) mounted systems. Such installation can trigger oppositely mounted units. This is easily remedied by simply re-programming a different detection frequency with the remote. The change of frequency, address 1 to 4, makes it impossible for one unit to be inadvertently triggered by another.

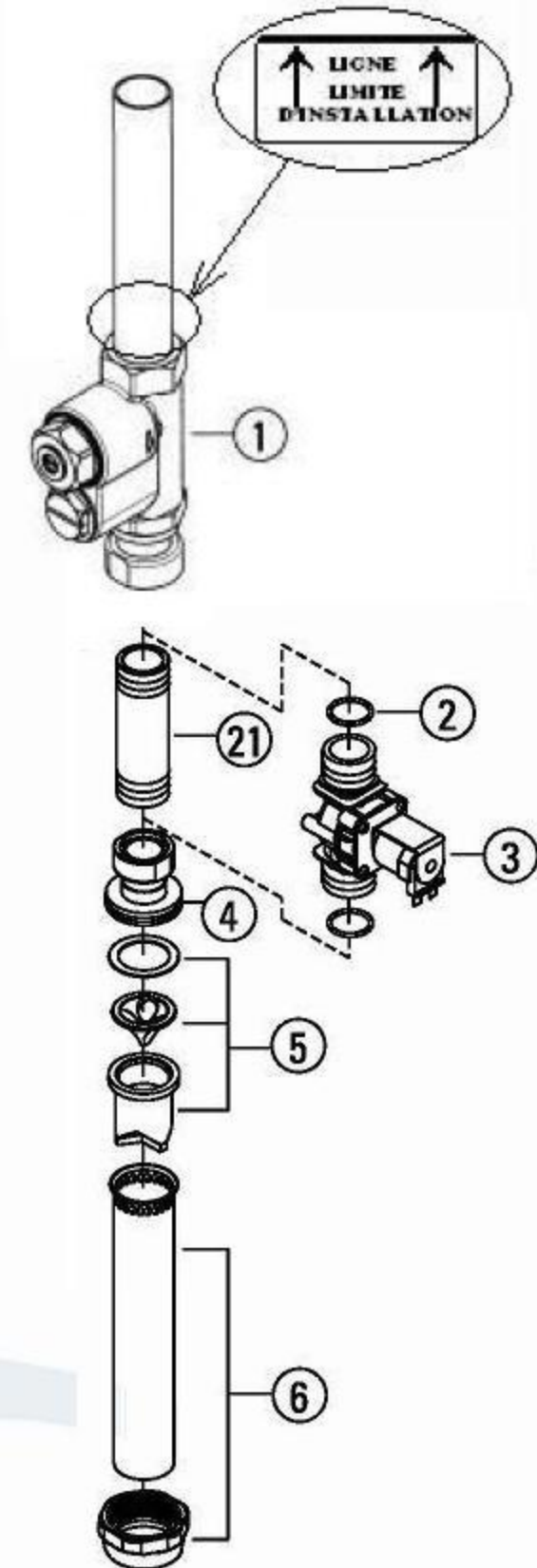
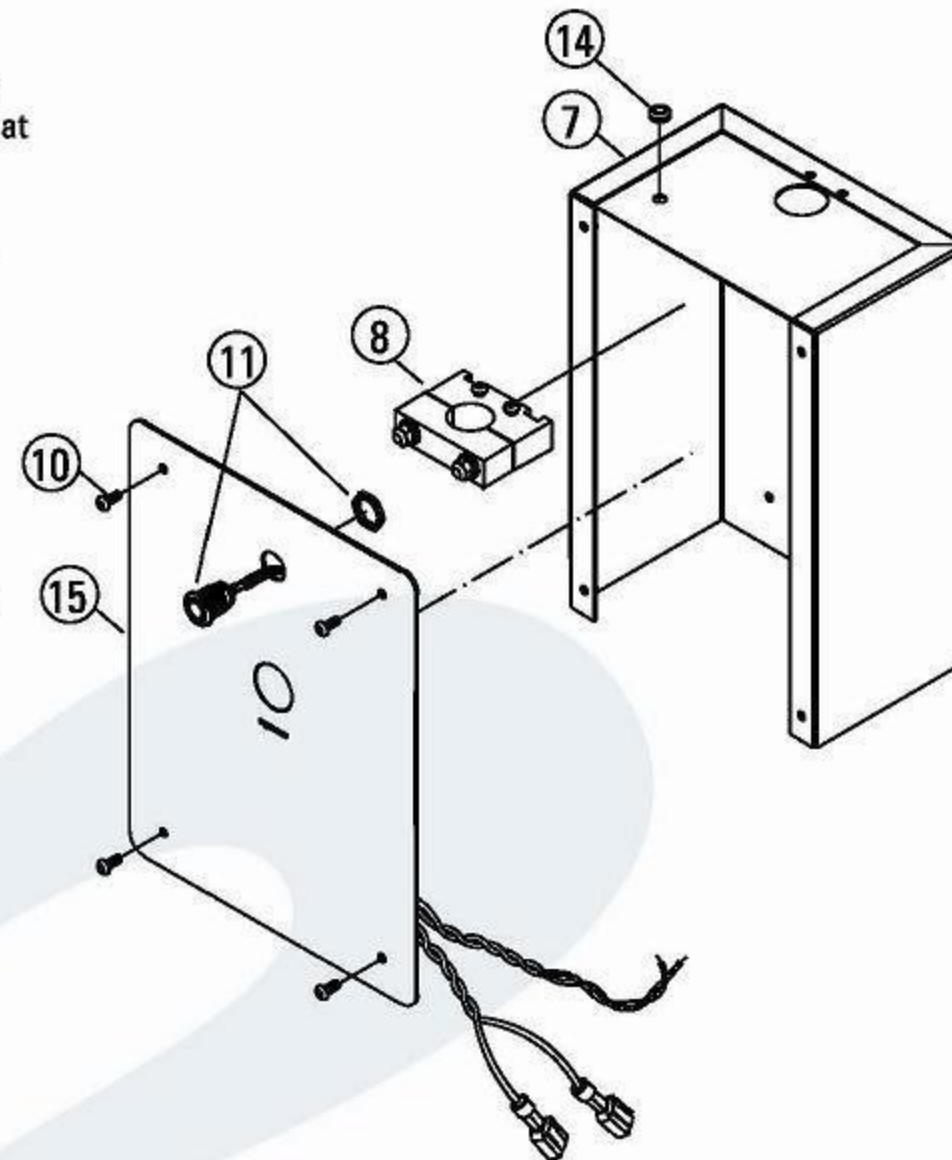
*\*The address frequency is factory programmed at 1 and is reprogrammable from 1 to 4.*

## 2020 TOILET - intelligent™ Electronic Toilet Control, Flush Mount INSTALLATION STEPS

- 1 - Install the coated steel housing # 7 in the wall cavity to a solid surface ( i.e. plywood ) and ensure it is level.
- 2 - The housing should be recessed 1/8" from the finished surface. By using the main faceplate # 15, use as a guide to have the detection lens 1 1/2" above the toilet seat when in upright position.
- 3 - Install the water inlet, ball valve pipe assembly # 1 in the housing. To the pipe mounting block # 8. Tighten the two 1/4" bolts that are pre-mounted on the block.
- 4 - Inside the housing, screw in the valve jig # 21 to the ball valve pipe # 1. Jig is temporary for 'roughing-in' and purging of the pipes.
- 5 - Screw in the brass V. B. coupler # 4 to the jig #21.
- 6 - Screw in the Vacuum breaker # 6 to the V. B. coupler # 4.
- 7 - Connect the 1 1/2" pipe kit ( Optional Top or Back access ) between the V. B. # 6 and the toilet. Ensure that there is no tension in the pipes to allow jig/solenoid valve removal or future maintenance.
- 8 - With 1" ball valve closed, turn water source on. Open ball valve to flush out pipes and check for leaks.
- 9 - Close the ball valve and replace jig # 21 by the solenoid valve # 3.  
**Note :** Since O-ring seals are used, **Do Not** use teflon tape or sealants. Check for correct **water flow direction** by arrow symbol on solenoid.
- 10 - Re-open ball valve and check for leaks. If solenoid is mounted backwards, water will flow.
- 11 - Install the wiring grommet # 14 in the appropriate hole in housing # 7.

### WIRING INSTALLATION

- 12 - Install the 24Vac wiring power source ( see wire spec sheet ).
- 13 - With **Power Off** and faceplate and electronic module at hand, connect the 24 Vac power wires to electronic module with supplied wire twists. Connect the two wires ( insulated terminals ) from the electronic module to the tabs on the solenoid valve # 3. No polarity is required. Connect the red/yellow wires for the manual ' Push to flush ' button.
- 14 - Using the Pan Head screws # 10, fix faceplate # 15 to the housing # 7.
- 15 - Apply the current to the 24Vac transformer powering circuit module.
- 16 - It takes approx. 5 to 10 seconds to energize the electronic circuit.
- 17 - Test for proper function. A red light in the lens area will indicate power and function. ( Make sure water supply ball valve is open )
- 18 - After this period, place hand in front of the detection lens to begin detection sequence. After the assigned detection time, remove hand to activate flush cycle. A red light in the lens area will indicate power and function. ( Make sure water supply ball valve is open ) Push manual button to test a flush cycle operation



### Tools Required:

- Hex Driver, 1/8"
- Adjustable Wrench
- Soldering Tools

## 2020 TOILET - intelligent™ Electronic Toilet Control, Flush Mount MAINTENANCE

Aquanar products are design and engineered with precision and specially chosen components. Replacement with genuine Aquanar parts are an important factor in product performance. Non genuine parts may void warrenty.

### Maintenance

- Remove power from breaker source.
- Remove faceplate & electronic module.
- Disconnect electrical tabs on the solenoid valve and the two power wires. ( Wire twists )
- Check carefully that corrosion did not form on connections. If corrosion or wire damage is present, repair accordingly.

### Cleaning the Solenoid valve / filter

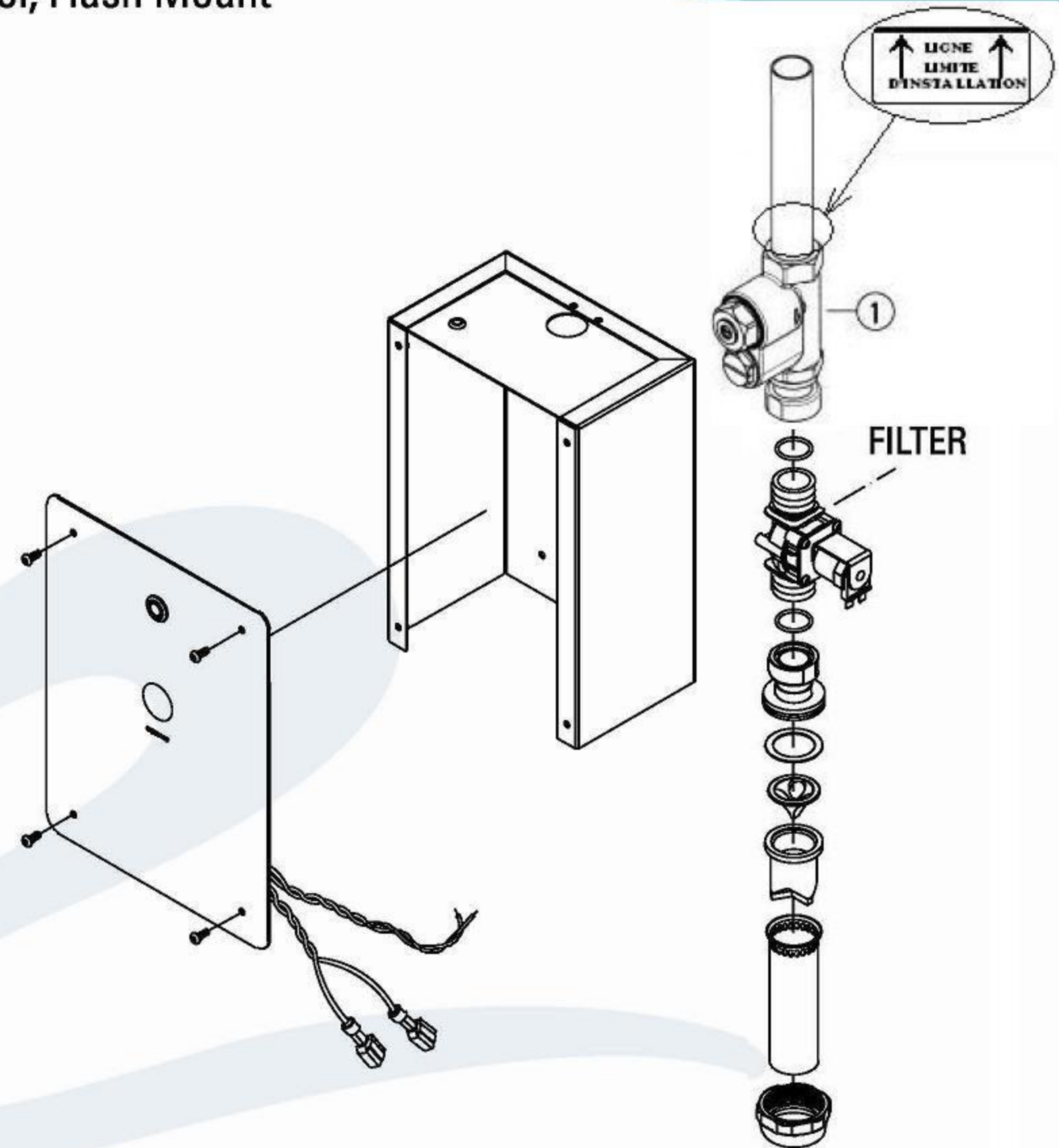
- Close water source at ball valve.
- Remove the solenoid valve and check if filter is clear of debris.
- Remove the V.B. brass flange and inspect the rubber diaphragm. Replace if necessary.
- Remove filter, clean and rinse with warm water. Dry and reassemble.

### Product Care

Aquanar products are constructed of the highest quality materials. Although durable and robust, abrasives and harsh chemicals can damage surfaces. Clean Stainless steel faceplate and lens with a damp soft cloth. Dry with a soft towel.

### Re-assembling

To re-install, reverse the above steps.



## 2020 TOILET - *intelligent*<sup>™</sup> Electronic Toilet Control, Flush Mount PARTS LIST

#	Description	Part Number
1	Ball pipe & 1" Tube assy	01-078
2	O-Ring 15/16" x .09	04-054
3	Magnetic valve 1" 24Vac	04-031
4	Brass adapter Assy, VB	01-079
5	V.B. Duckbill & Rubber kit	01-057
6	Vacuum breaker 1" & Nut kit C.P	01-092
7	Enclosure Toilet	02-135
8	Mounting block & screw assy	01-080
9*	Face plate, s.s.	02-134
10	Screw s.s. BHHS # 10-32x.50	08-003
11	Switch safety button	04-038
12*	Electronic Module	AQN-2020-2
13*	Nylon locknut, # 6-32	08-005
14	Rubber grommet	04-018
15*	Consists of # 9, 12 & 13	AQN-2020-1
16	Nut	08-053

