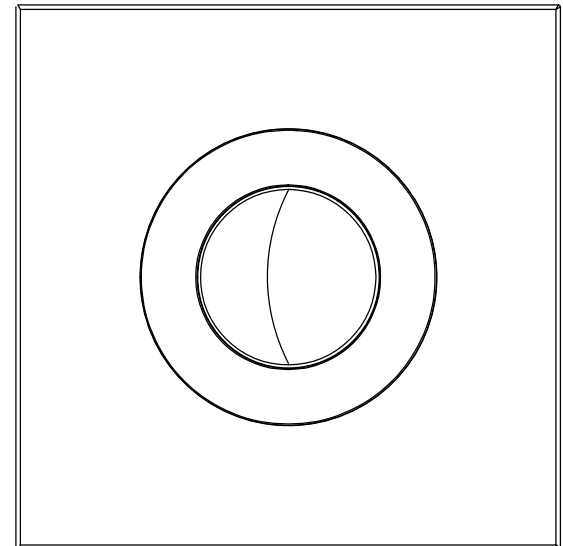


**RIGEL®**

# **INSTRUCTION MANUAL**

**RL-AFS101DOMKISDF<sub>e</sub>**

**WC SENSOR FLUSH VALVE DUAL  
FLUSH, DUCT BOX**



## IMPORTANT SAFETY INFORMATION

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The instructions contained herein are for the safe and correct use, care and maintenance of the product, to minimize the risk of injury and damage to yourself, other persons, or property.

Please read the following safety information thoroughly and retain this document for future use and reference.



### WARNING

Instructions accompanied by this symbol could lead to death or serious injury if they are ignored or followed improperly.

### IMPORTANT SAFETY, INSTALLATION AND OPERATING INSTRUCTIONS

Please read this manual and ensure that you understand the instructions and procedures stated within before installing or operating the product.



### WARNING

Dangerous Voltage Inside

Do not expose the unit to rain or moisture to prevent shock and fire hazard.

Rigel products have been designed and tested to be safe and risk-free when installed, operated and maintained in good working order, in accordance with the instructions and recommendations found in this document.

There are no user-serviceable parts in this product. Please contact a qualified and licensed tradesperson should the product require dismantling and/or repairs.

Supervision should be given to any persons who may have difficulty understanding or operating the controls of the product. Extra consideration should be given to the young, infirm, elderly, or any person inexperienced in the correct operation of the product's controls.

Regular cleaning of the sensor eyes is recommended to remove dirt and stains which may impede the sensor's functionality.

## DISCLAIMER

While every effort has been made to ensure that the information contained within this document was accurate and complete at the time of printing, Rigel Technology (S) Pte Ltd shall not be held responsible for any errors, omissions or inaccuracies. By installing or using the product, the user agrees that no responsibility for the consequences resulting from any misinformation shall be incurred on Rigel Technology (S) Pte Ltd. Rigel Technology (S) Pte Ltd reserves the right to change the specifications and functions of the product described herein at any time without prior notice.

No part of this guide may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, recording, or otherwise, without the prior written permission of Rigel Technology (S) Pte Ltd.

## CUSTOMER SUPPORT

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### AFTER SALES SERVICE

Rigel's Customer Support Team can provide you with service visits, sale of spare parts, and general product help and advice.

### SPARE PARTS

Spare parts for all Rigel products are available for up to 10 years after the product's date of final manufacture. You should only purchase spare parts directly from our Customer Support Department, or from Rigel's approved stockists or merchants to ensure authenticity and to maintain validity of your warranty.

NOTE: As a safety precaution, spare parts that require exposure to voltage from the power grid mains will only be sent to qualified personnel.

### SERVICE GUARANTEE

All servicing provided by Rigel will be performed by a trained technician or agent, with genuine spare parts, and will come with a 6-month warranty on the repair. Servicing outside of the product's warranty will be charged at a reasonable cost.

### CONTACT US

#### RIGEL TECHNOLOGY (S) PTE LTD

#### RIGEL INNOVATION CENTRE (HEADQUARTER & SHOWROOM)

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8:30am - 5.30pm (Friday)

E-mail: [sales@rigel.com.sg](mailto:sales@rigel.com.sg)

Website: [www.rigel.com.sg](http://www.rigel.com.sg)

#### RIGEL TECHNOLOGY (M) SDN BHD

Wisma Rigel, 16 & 18, Jalan 3 / 33B, MWE Commercial Park, 6 1/2 Miles, Off Jalan Kepong, 52000 Kuala Lumpur, Malaysia

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#### RIGEL TECHNOLOGY (NINGBO) CO. LTD

No 6, Chuangye Road, West Of Bonded Zone, Beilun, Ningbo, Zhejiang, China

Tel: (86) 574 5626 1688 Fax: (86) 574 5626 1588

#### RIGEL TECHNOLOGY CERAMICS (SICHUAN) CO. LTD

Shuanghechang, Anfu Town, Naxi District, 646300 Luzhou City, Sichuan, China

Tel: (86) 830 4270 155 Fax: (86) 830 4270 636

## WARRANTY

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Please read the following warranty information thoroughly and retain this document for future use and reference.

Rigel Technology (S) Pte Ltd ("Rigel") warrants the products against any defect of materials or workmanship for a period of 1 year from the date of purchase.

Within the warranty period, all defective parts will be repaired and/or replaced free of charge.

To be eligible for free repair and/or replacement, any service work on the product must be undertaken by Rigel or our approved agents.

Service under this warranty will not affect the warranty expiry date, and any warranty on exchanged parts or products will end when the warranty expires.

This warranty is only applicable for products properly installed and operated in accordance to the operating procedures stated in the instruction manual.

This warranty does not extend to washroom accessories or other peripheral items.

Rigel's responsibility under this warranty does not apply to damage/defects caused by:

- Misuse, negligence, or accidents.
- Public abuse or vandalism.
- Repairs or alterations not authorized by or performed without consultation from Rigel.
- Repairs or alterations that do not comply with Rigel's installation instruction.
- Repairs or alterations that were not performed with genuine parts supplied by Rigel.

Rigel will not be held liable for any incidental or consequential damages, including loss of profits or savings, arising from the use or misuse of the products.

The terms in this warranty are only valid after:

- Full payment has been made.
- The official Warranty Card is completely and correctly filled out in ink and returned to Rigel within 14 days of purchase. Loss or misplacement of the Warranty Card, or unauthorized amendments to the Warranty Card, shall render the warranty null and void.

This warranty is in addition to your statutory and other legal rights.

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## ELECTRICAL INSTALLATION REQUIREMENTS

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- 1) The installation must comply with the "Requirements for Electrical Installation" commonly referred to as the IEE Wiring Regulations, or any particular regulations and practices, specified by the local electricity supply company in force at the time of installation.
  - 2) In accordance with the current edition of "The Plugs and Sockets etc (Safety) Regulations" in force at the time of installation, the appliance is intended to be permanently connected to the fixed wiring of the electrical mains system.
  - 3) In domestic installation, the rating of the electricity supply company fuse and the consumer unit must be adequate for the additional demand required for the unit. As this is a high powered unit, it is essential to contact your electricity supply company to ensure that the existing supply is adequate for the additional load. Voltage drop due to high local demand will reduce the product performance.
  - 4) The unit **must be earthed** by connecting the supply cable earth conductor to the earth terminal. Within the washroom, all accessible conductive parts of electrical equipment and extraneous conductive (metal) parts that are likely to introduce earth potential, must be electrically bonded to earth using a minimum 4mm<sup>2</sup> cable if unprotected and 2.5mm<sup>2</sup> cable if protected.
  - 5) To obtain full advantage of the performance from the unit, it is advisable to have the shortest possible route for the cable from the consumer unit to the product. Long cable runs will increase the voltage drop and affect the performance of the unit. The maximum permissible length is dependent upon current demand, voltage drop and cable size, refer to IEE Wiring regulations for further information.
  - 6) The current rating to the cable will be reduced if it is bunched with other cables, surrounded by thermal loft or wall insulation or placed in areas where the ambient temperature exceeds 30°. Under these conditions, de-rating factors apply and it is necessary to select a larger cable size.
  - 7) In the majority of installations, one or more of the above conditions will apply and it is recommended that a 10mm<sup>2</sup> cable be installed. The minimum recommended cable size in ideal conditions is 6mm<sup>2</sup>.
  - 8) A separate, permanently connected supply must be taken from the consumer unit through a double pole switch, which has at least 3mm minimum contact gap. The switch may be a ceiling mounted pull cord type within the washroom or a wall mounted switch in an adjacent room.
  - 9) A 30mA residual current device (RCD) must be fitted. This may be a part of the consumer unit or a separate unit.
  - 10) The product circuit must be protected by either a miniature circuit breaker (MCB) or cartridge fuse of rating 10 amps installed at the Consumer Unit or Fuse Board.
  - 11) When installing the cable, individual cores must not be twisted before entering the terminal block. Care should be taken that no strains are exerted on the terminal block when connected to the cable cores. Ensure all connections are tight to prevent overheating.
  - 12) Do not turn on the electrical supply until the installation is complete and the unit is ready to be operated.
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## PART LIST

NO.	PART NO.	DESCRIPTION	QTY
①	AK-505	SUCTION CUP	2
②	SA-FPN101DOMKISDFE	FRONT PANEL ASSEMBLY AFS101DOMKISDFE	1SET
③	RM-SCM4X25PP	M4 X 25 PAN HEAD SCREW	4
④	RM-TMP130X130	COVER PLATE, 130X130MM	1
⑤	RM-FCV101DGIS (AFS101DGIS-102)	FRONT COVER, 160X180MM	1
⑥	SA-PS18V-IS (PS181A-2)	POWER SUPPLY FOR FC104DF-AC-1	1
⑦	RM-CAS160X180X90 (AFS101DAIS-101)	CASING_160X180X90MM (REFER TO SA-CAS101DOMKISE<< MAIN BOM)	1
⑧	SA-FC101AC-SLBT (FC101-AC_LBT)	FLUSH VALVE ASSEMBLY-70MM, WC C/W AC SOLENOID VALVE, LONG SINGLE BUTTON	1

## TROUBLE SHOOTING GUIDE

Problem	Cause	Phenomenon	Remedy
No flush	Inlet blocked;	No water in pipe;	Check inlet condition;
	Power supply failure;	Circuit not working	Check and repair adapter and control circuit;
	Stop valve closed tightly		Check and fully open the top valve
	Sensor is not in stand-by mode	Person is within the set sensing distance range	Ensure that the person moves away after yellow light is on. Wait for 5 sec when light changes from steady to blink.
	No water supply;		Check water supply or ensure that valve stopcock T-handle is open
	Sensor eye unit is defective		Replace sensor unit.
Sensor light is off	Power supply failure;	-	Check AC adaptor, connections, power, outlet and switch; Turn on power or replace AC adaptor
	Sensing distance is too short; Sensor eye unit is defective		Adjust sensing distance** Replace sensor unit.
Continuous blinking of sensor light	Wrong connection of solenoid connector	-	Ensure that solenoid connector (black/white) is connected to solenoid and not to push button connector.
Manual push button pressed long time, water flushing short time	Microswitch activate;	Water Pressure is not enough	Adjust discharge timing setting (same as quick stop flushing);
	Hydraulic switch activate;		Check and clean hydraulic bypass (switch, tubing and fitting)
	Direct trigger	Water Pressure is not enough	Replace by non-returnable piston or increase water pressure.

### OUT-OF-BOX FAILURE

If the product does not function as specified or reasonably expected upon first use after installation, please contact your contractor or trades person to check if the installation and commissioning are performed satisfactorily and in accordance with the instructions in the Installation Manual. You or your Installer may contact Rigel for any advice and we will be glad to be of assistance. Should this still not resolve the Issue, please contact our Customer Support Department and we will arrange for a visit by a Rigel service technician if necessary.

### PERFORMANCE DECLINE

If the product is exhibiting a noticeable decline in performance after substantial use, please refer to the Product Care and Cleaning section of this Manual to check if simple home maintenance is required. Should product performance not improve after simple home maintenance is performed as per the instructions in the Product Care and Cleaning section, please contact our Customer Support Department to discuss the issue you are facing, and to request for service under warranty if applicable.

## TROUBLE SHOOTING GUIDE

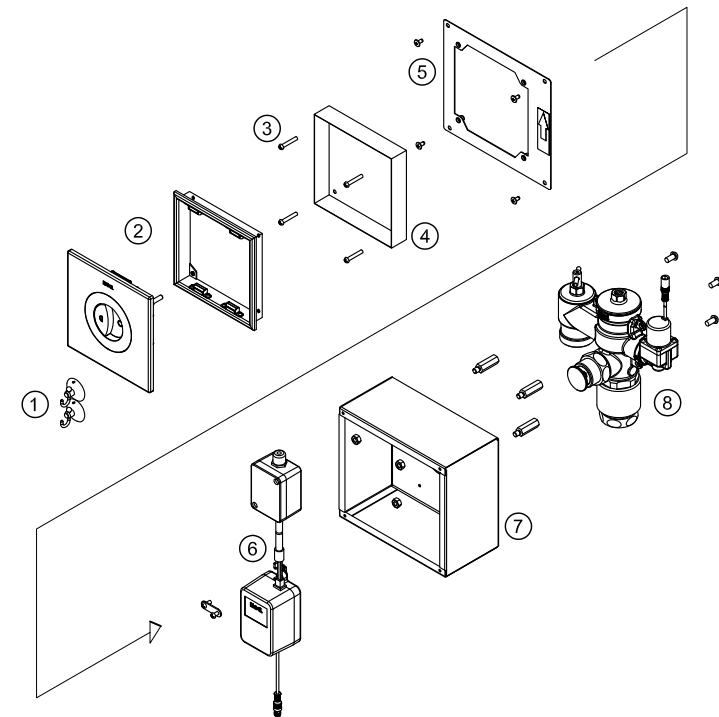
### AC POWERED - AFS101 (WC)

Normal operation

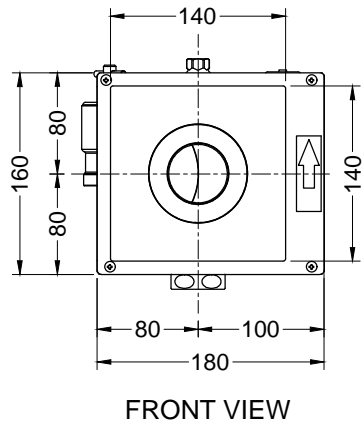
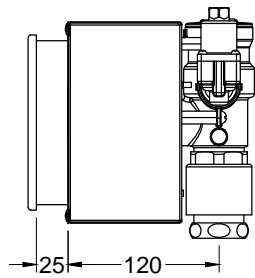
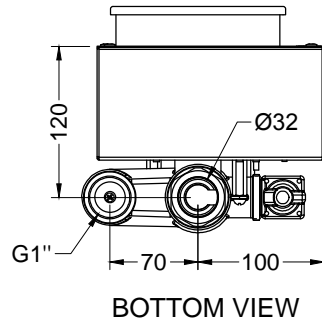
Red blinking light indicates user detection which stops after 5 blinks. System in standby mode and flushing begins when person is no longer within the set sensing distance range.

Problem	Cause	Phenomenon	Remedy
Non-stop discharging	Control circuit failure;	Non-stop and leaking outside	Disconnect circuit form solenoid valve to stop flow; Replace sensor unit; Check discharge volume control.
	Broken tubing or fitting;		Stop water supply by turning the stopcock T handle clockwise; replace tubing and fitting; disassemble valve, check and clean plungers and diaphragm
	Solenoid valve failure; Flush valve failure;	Non-stop and no leaking	Take out piston from flush valve, check and clean especially the filter and orifice, if problem continues, check the rubber parts in no damage, replace piston
	Hydraulic bypass failure;	Check hydraulic switch (optional).	
Quick stop on flushing	Very high pressure;	-	Check the dynamic flow pressure; Adjust screw set on top of the flush valve cap
	Control timing is very short		Adjust discharge volume setting;
Slow stop on flushing	Inlet jammed; Stop valve strainer stuck; Dirty piston, stuffed orifice; Broken piston seal; Broken tubing or fitting; Control timing is too long	Leaking outside	Check inlet; Shut off water from inlet, take out and clean stop valve; Check and replace piston sealing; Check and replace tubing or fitting; Adjust control timing setting.

## PART LIST ILLUSTRATION



## PRODUCT DIMENSION



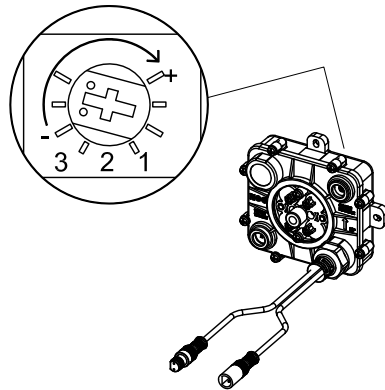
## GENERAL SPECIFICATIONS

Description	WC flush valve	
Material - body	Brass	
Inlet pipe size	G1" BSPT	
Outlet pipe size	Diameter 32mm	
Operating(dynamic) water pressure	1~5 bar (min ~max. range) 1~3bar (recommended range)	
Discharge water volume per flush	Default	Adjustable
Singapore	4.5L/flush	3.5L~ 4.5L/flush
Export	6L/flush	N/A
Input voltage	AC source AC 230 ~ 240V @ 50Hz	
Output voltage @ solenoid valve	12V	
Output power	7.5W	
Sensing range (mm) Default 900±50 mm	Adjustable 500~1200mm	
Detection and standby duration	5 sec	
Flushing start duration	After 5 sec delay	

## FINE TUNING OF SENSOR UNIT

### SENSING DISTANCE ADJUSTMENT

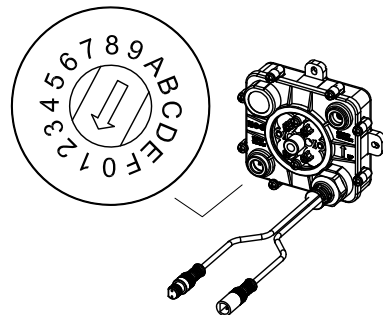
\*\*To increase the sensing distance, turn the trimpot clockwise. To reduce, counterclockwise.



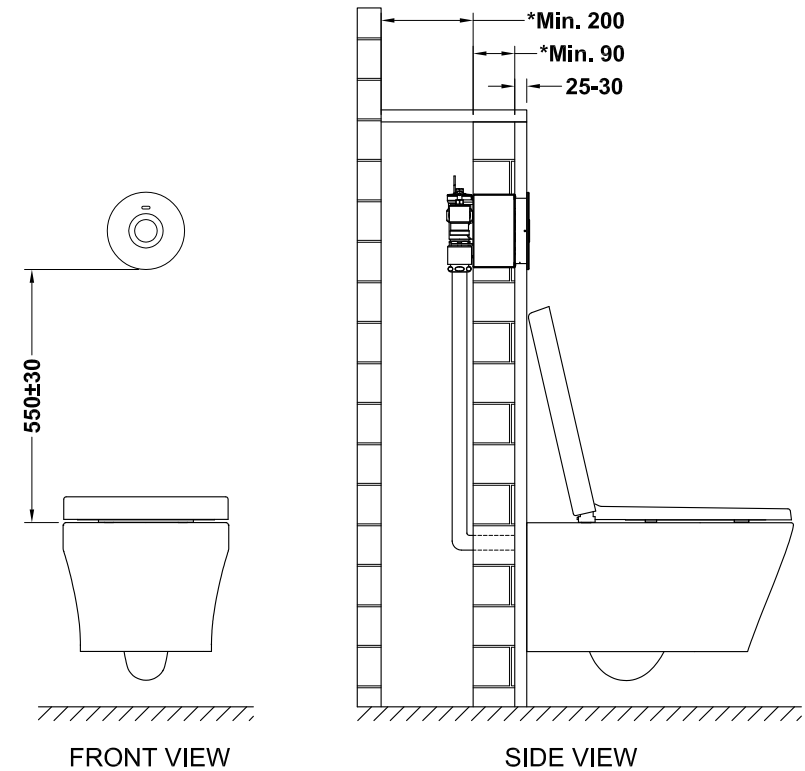
### WATER VOLUME ADJUSTMENT

POSITION \*FLUSHING TIMING/  
WATER VOLUME

8	0.6 sec
9	0.8 sec
A	1.0 sec
B	1.5 sec
C	2.0 sec
D	3.0 sec
E	5.0 sec
F	Test mode (light blinks non stop)

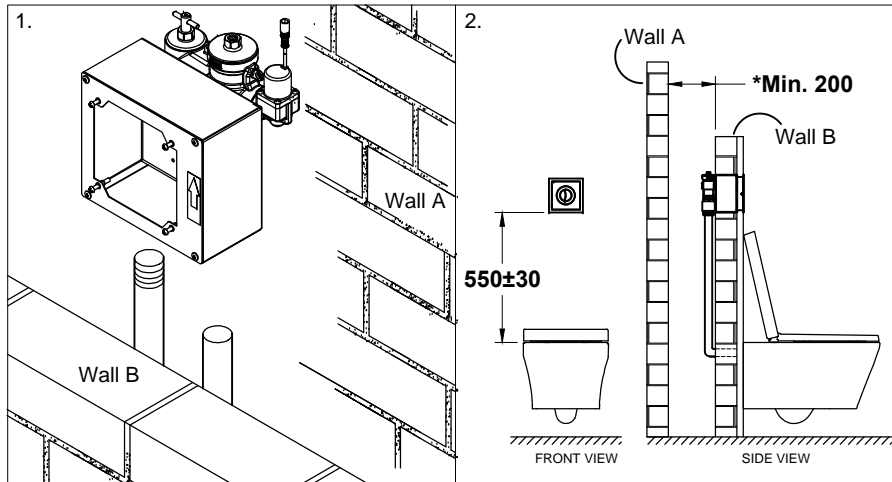


## INSTALLATION DIAGRAM



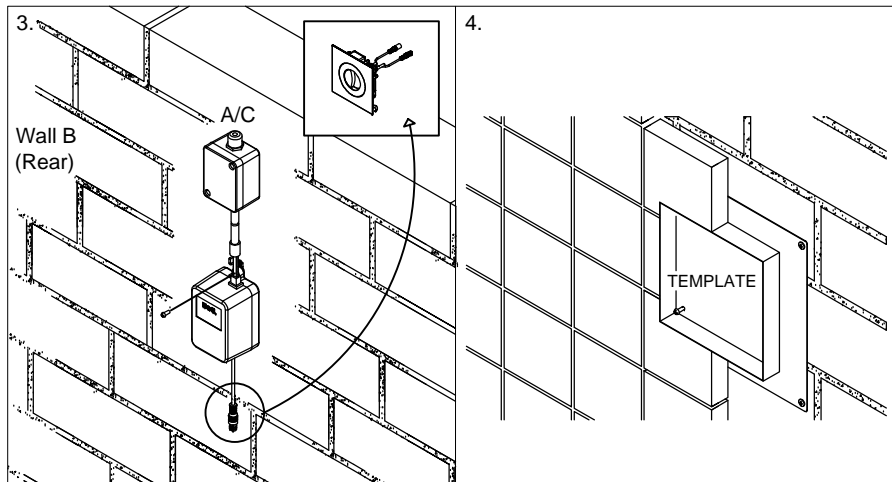
\*550±30 - From bottom edge panel to water closed rim.  
\*Min. 200 - Duct compartment.  
\*Min. 90 - Brink wall.  
\*25-30 - Finished wall.

## INSTALLATION GUIDE



1. CONNECT THE INLET AND OUTLET PIPES TO THE FLUSH VALVE.

2. ENSURE THAT THE DISTANCE BETWEEN THE FLUSH VALVE PANEL BOTTOM EDGE AND THE WC RIM AS ABOVE.

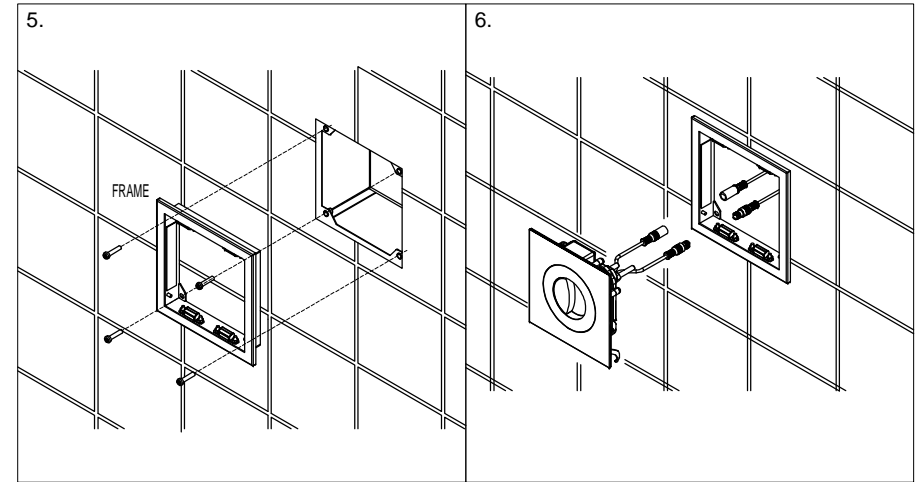


3. MOUNT THE TRANSFORMER ON THE BEHIND CEILING 'WALL B'. CONNECT AC INPUT TO AC POWER SUPPLY. CONNECT OUTPUT CONNECTOR TO FRONT PANEL CONNECTOR.

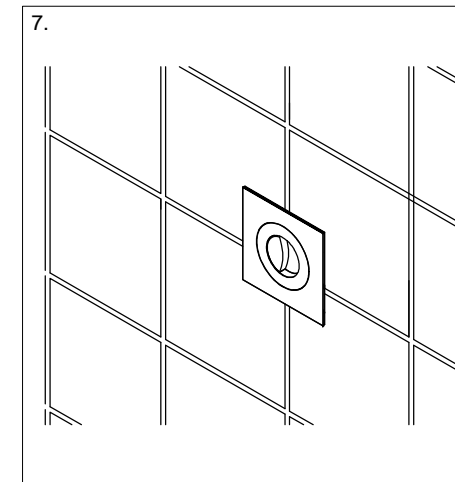
4. APPLY TILES OR GRANITE TO COVER THE BRICK WALL OUTSIDE THE TEMPLATE. WALL FINISHING MUST BE AT LEAST 30mm THICK FROM BRICK WALL.

-Item shown are illustrations only, and therefore may not reflect actual model supplied.  
-Please read the instructions carefully before doing any installations

## INSTALLATION GUIDE



5. REMOVE THE TEMPLATE AND INSTALL THE FRAME BY USING THE SAME SCREW. SOLENOID AND POWER SUPPLY.



7. FRONT VIEW OF THE COMPLETE FLUSHING SYSTEM.

\*Note : Tiling thickness must not be shallower than the top rim of the template/ cover plate provided. Rigel will not be held responsible for any non-compliance to this clause.