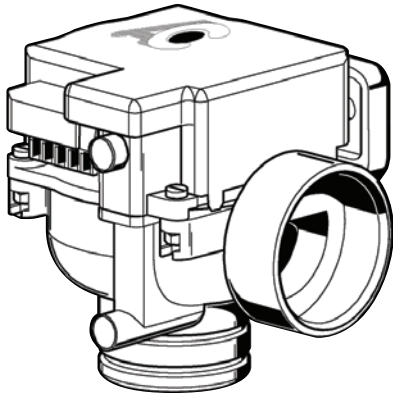


# INSTALLATION MANUAL

## Electro-Pneumatic EP Valve (1PH)

025140 (C-0039C0)



### CONTROL SPECIFICATIONS

Power:	24V AC/DC 50/60Hz 0.12A 3W
Output:	24VAC 3W
Working Temp:	+5°C to +35°C
Insulation:	Class I
Device:	Type B
Operation:	Continuous operation
Max. Pressure:	-350mBar
Dimensions:	68mm (H) x 84.5mm (L) x 70mm (W)

**Protection:** **Type B**  
**Normal (Liquid) Protection against direct or indirect contact.**

### RISKS

Electrical Shock – 24V AC/DC can cause harm.

### HAZARDS

Waste fluids in the dental suction pipeline and exhaust air emitted by the suction unit are contaminated.

Appropriate personal protective equipment (PPE, such as gloves, mask and eye protection) MUST be worn.

### IMPORTANT NOTE

To comply with regional electrical standards the wiring required for the installation of this item must be performed by a suitably qualified and licensed electrical contractor.

### INTENDED PURPOSE

The intended purpose of Electro-Pneumatic (EP) Valves are designed to open and close the main suction pipeline from each dental chair in a multi-chair surgery installation when serviced by a centralised suction unit.

**PRODUCT OVERVIEW**

Single EP Valve sealed in plastic wrap supplied with  
 1× Double o-ring connectors  
 1× 25mm Straight hose connector  
 2× 30mm Straight hose connector  
 Available as single item or pack of 4.

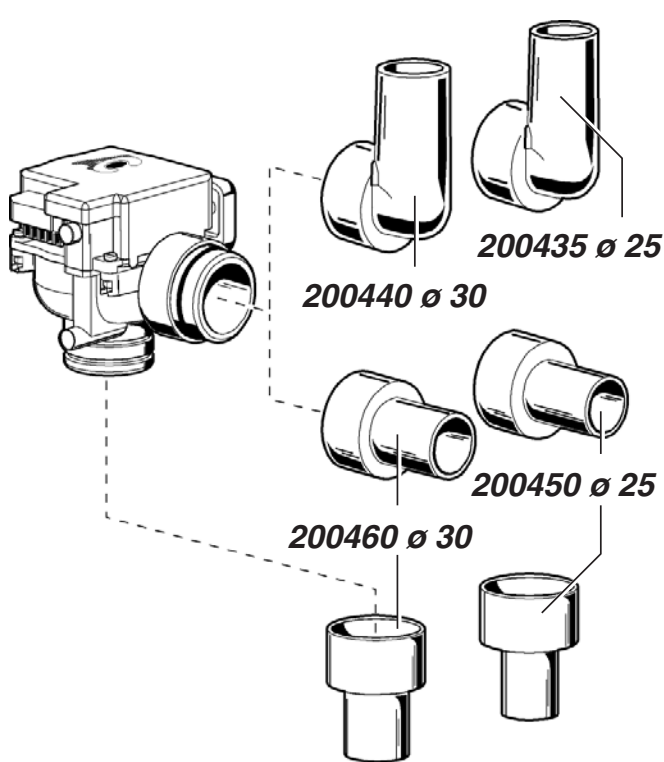


**OPTIONAL ACCESSORY**

(Australia & New Zealand)

- F-AEP400 Adapter for EP Suction Isolating Valve (Qty 1)**
- F-AEP40010 Adapter for EP Suction Isolating Valve (Qty 10)**

Reduction bush – glues into 40mm DWV PVC pipe (pipe may need to be heated to fit the bush). Reduces internal diameter to 32mm to accept EP Suction Isolating Valve or 32mm coupling connector (C-0040D0).



**HOSE CONNECTORS (OPTIONAL ACCESSORIES)**

- 200440 - 30mm 90 Degree elbow hose connector
- 200435 - 25mm 90 Degree elbow hose connector
- 200460 - 30mm Straight hose connector
- 200450 - 25mm Straight hose connector

Hose connectors are used to connect EP Valves to the tip support within the dental unit using flexible spiral tubing.

**D-RZ0000 – CONVERSION SWITCHING SYSTEM (OPTIONAL ACCESSORIES)**

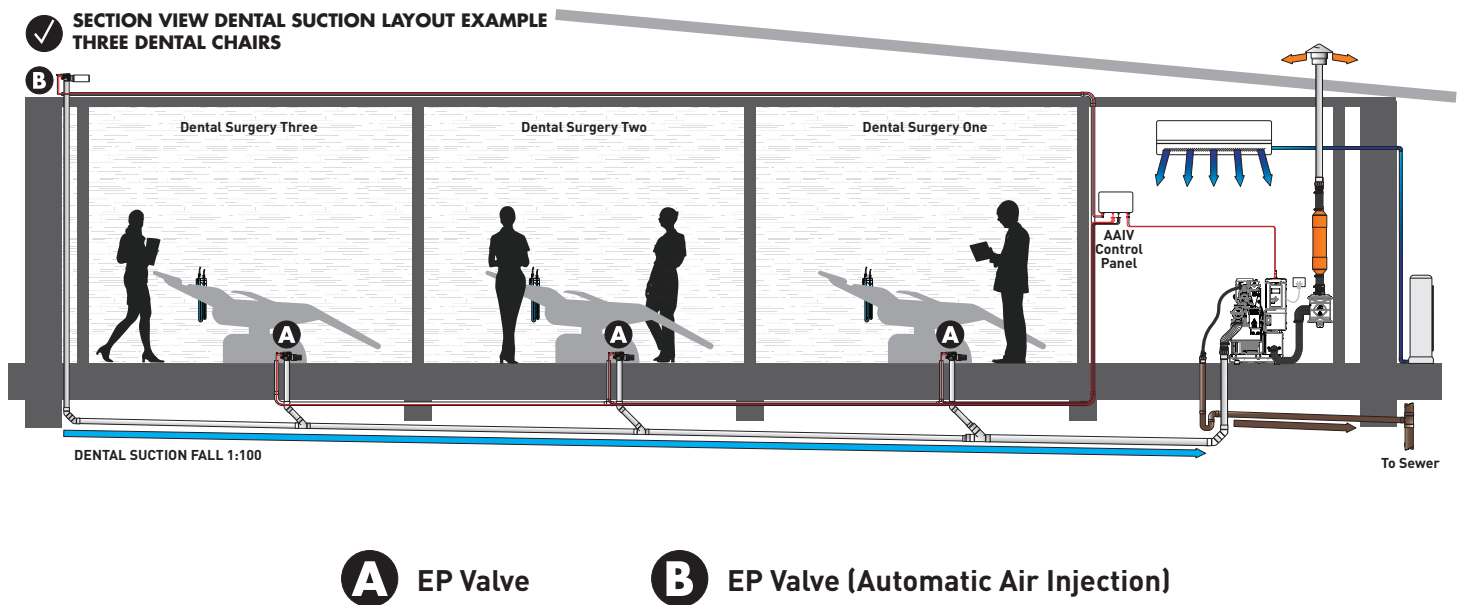
The conversion switching system is a 24V power supply that converts the SMART Suction 2-wire activation system to a 3-wire activation system. This is used to provide 24V power to isolation and spittoon drain valves (30VA / 1.25A). Valves powered by this accessory must not exceed this rating. Higher rated power units can be supplied upon request. Contact our Cattani Technical Team for further information.

Refer to p.10 for electrical circuit diagram

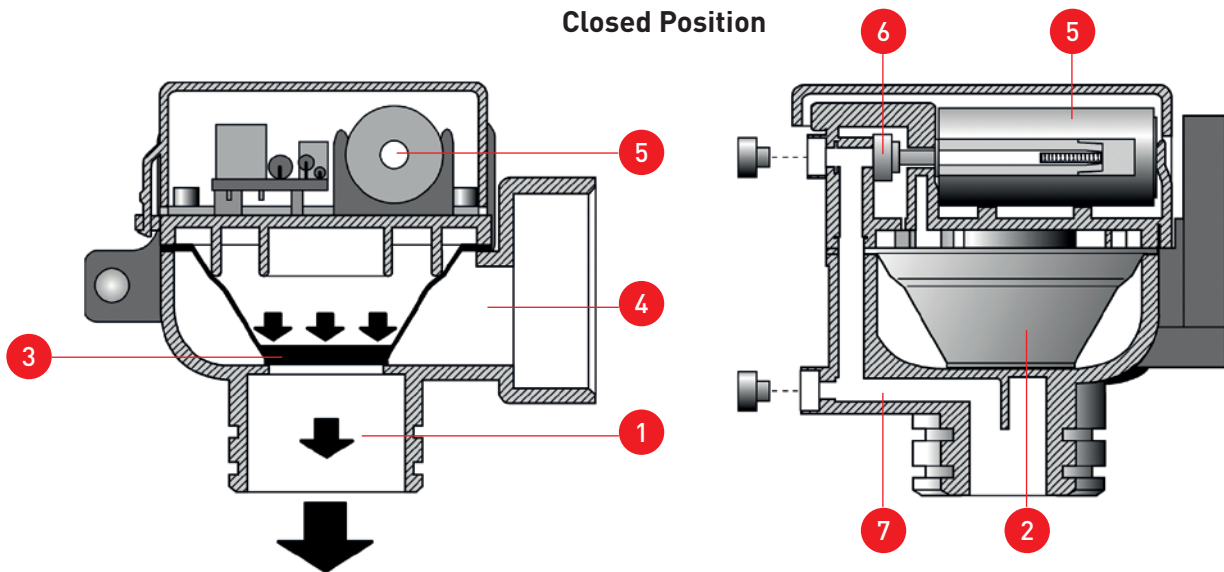
## SCHEMATIC DIAGRAM

### Representation of installed EP Valve

- EP Valves **MUST** be installed at a minimum height of 100mm above the main suction line.
- The valve **MUST** be fixed in the upright position (ONLY).
- 24V AC/DC feed required for activation switch wiring signal.
- Fluids entering the EP Valve must be filtered at the tip support to remove any solids.
- EP Valves will be cleaned and disinfected at the end of each day automatically when the daily disinfection process is completed using Puli-Jet Gentle 2.0 disinfectant.



## OPERATION

**The CLOSED position**

EP valves which are de-activated (no suction tip lifted), are in the “Normally Closed” valve position.

When the centralised suction unit is activated, the negative pressure in the main suction pipeline **(1)** draws the membrane **(2)** of each EP valve down, sealing the air passage **(3)** and isolating the chair from suction airflow **(4)**.

**Open Position****The OPEN position**

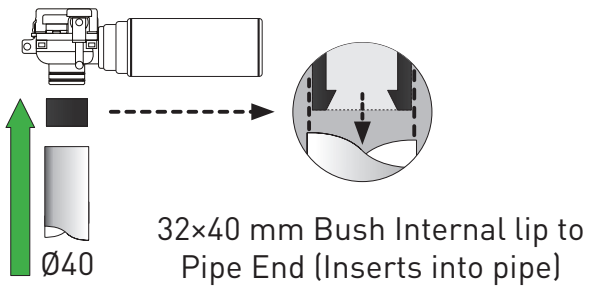
When the suction tip is lifted from the tip support, a voltage is applied to the solenoid valve **(5)**. When activated the solenoid moves a plunger **(6)** which opens a small passage **(7)** to the main suction line. The negative pressure draws the rubber valve membrane upwards and opens the main pipeline to the chair **(8)** allowing aspiration to the suction tip.



## INSTALLATION

### Adaptor for EP Suction Isolating Valve F-AEP400

Reduction bush – glues into 40mm DWV pipe (pipe may need to be heated to fit the bush). Reduces internal diameter to 32mm to accept EP suction isolation valve or coupling connector – 32mm (C-0040D0).

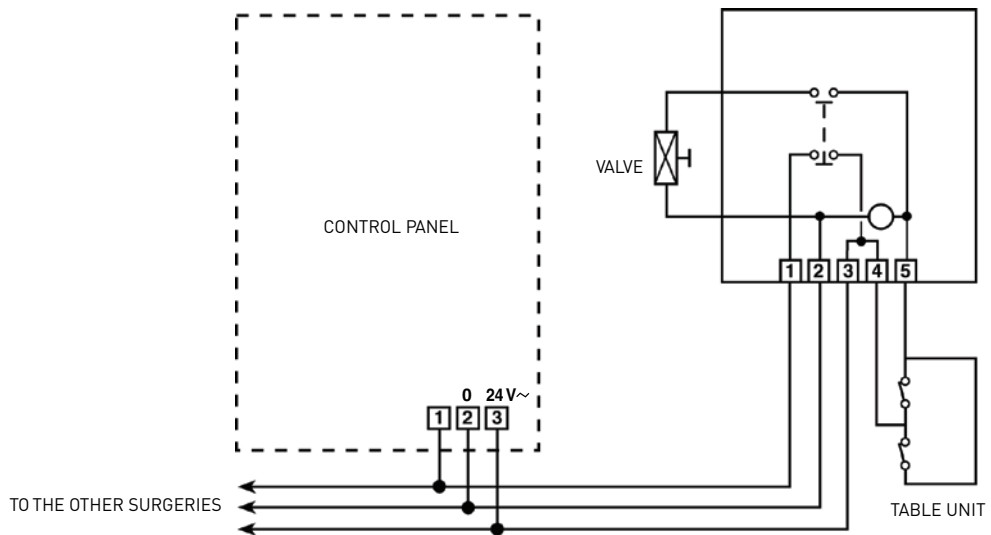
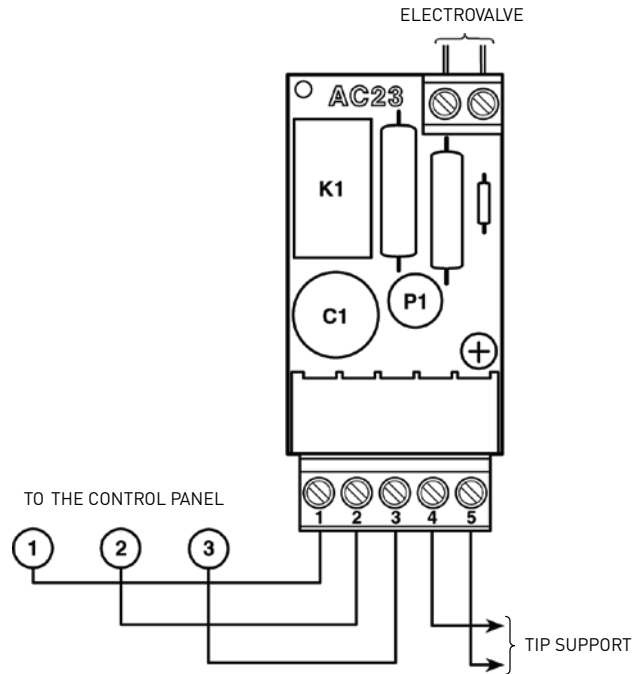


### AUTOMATIC AIR INJECTION VALVE INSTALLATION

Refer to separate Automatic Air Injection (C-AAIV00) Installation Manual for specification, site planning and installation instructions of this product which utilises the Cattani EP Valve to inject air into the main suction pipeline to facilitate efficient evacuation of fluids to the suction unit.

**ELECTRICAL CONNECTIONS**

**AC23 EP Valve PCB**

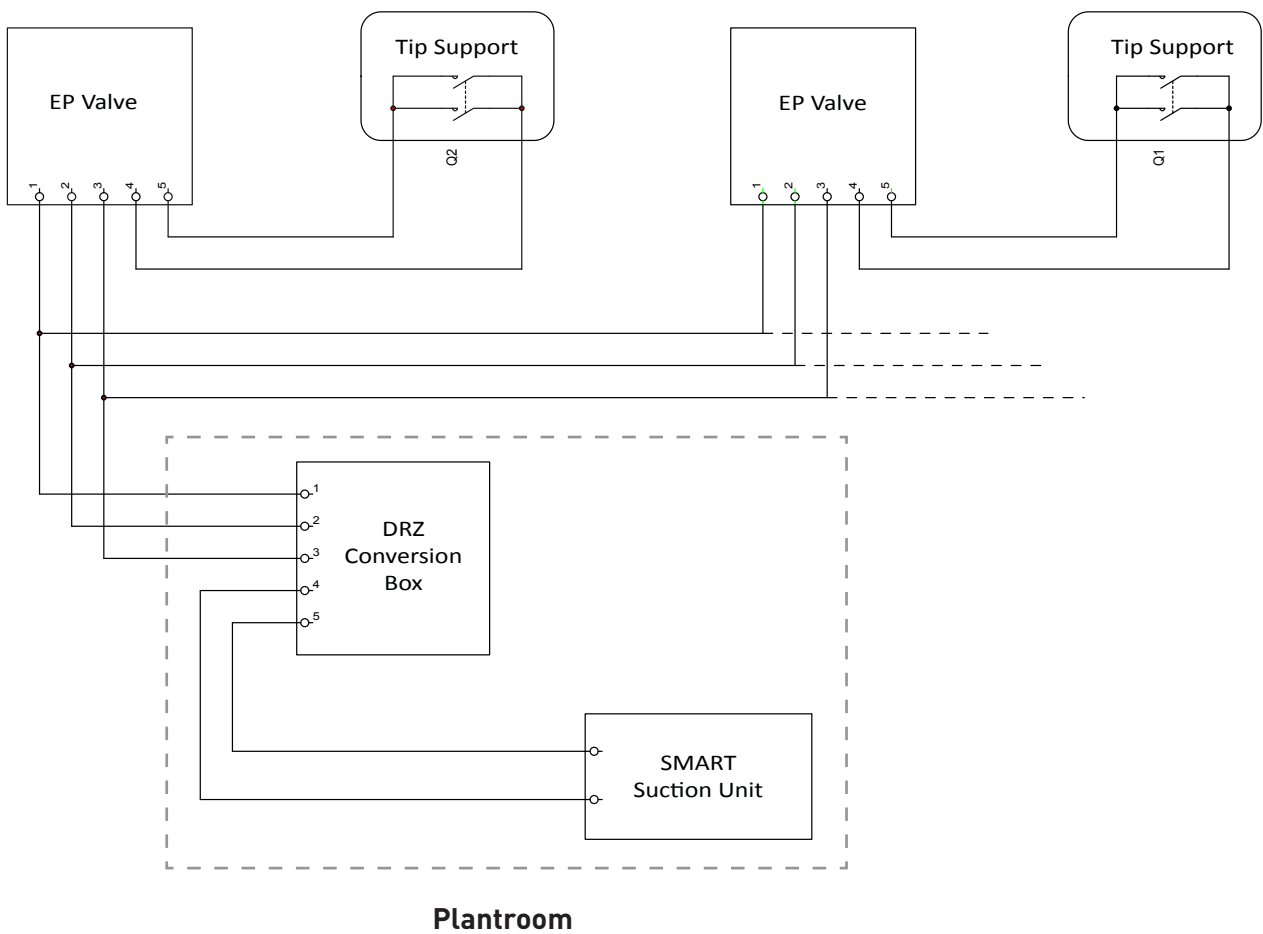


**ELECTRICAL CONNECTIONS**

**3-Wire System (Remote 24V Supply)**

Connection of EP Isolation Valve to Cattani Suction Units (24V supplied by suction unit or D-RZ Switch Box)

It is always recommended to install EP isolation valves in any surgery setup to provide a complete vacuum isolation to the dental chair. This diagram depicts the EP valves being powered from the plant room via the DRZ control box (optional Accessory) connected to a SMART suction unit. The DRZ control box is needed in this example, as the SMART suction unit does not have the 24 volt output required to power the EP valves. The DRZ conversion box is usually connected within the plant room in close proximity to the SMART suction unit.

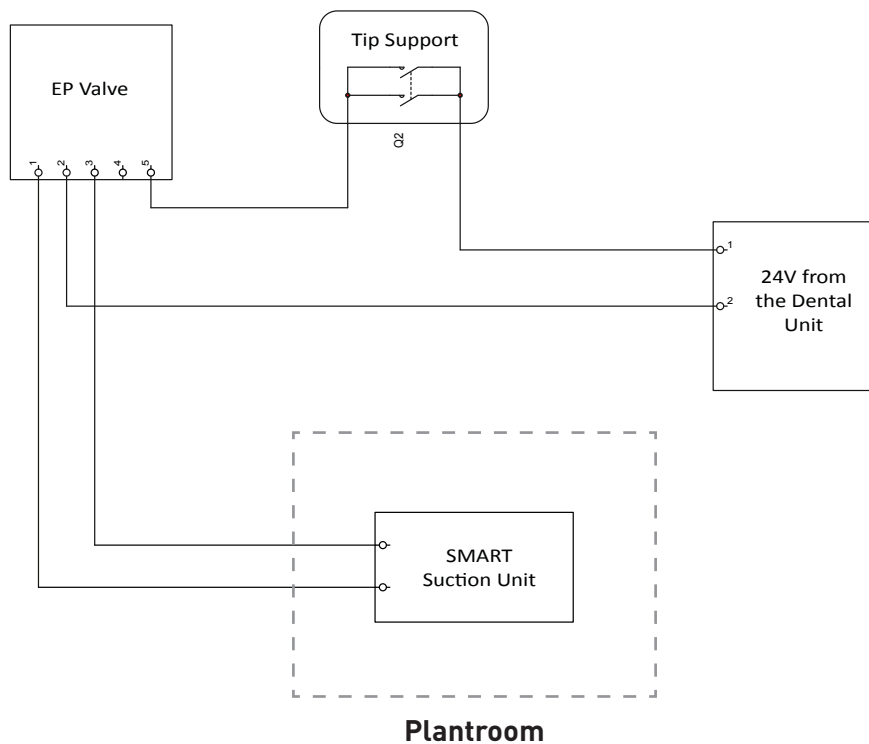


## ELECTRICAL CONNECTIONS

### 2-Wire System (Local 24V Supply)

Connection of EP Isolation Valves to Cattani Suction Units (24V supply in chair).

It is always recommended to install EP isolation valves in any surgery setup to provide a complete vacuum isolation to the dental chair(s). This diagram depicts an EP valve being powered from a 24 volt supply from the dental unit. The isolation valve is activated by the switch wires from the SMART suction unit connecting to terminals 1 and 3. The same wiring configuration can be used with multiple chair installations. Each EP valve will require the 24 volts to be supplied from each dental unit.



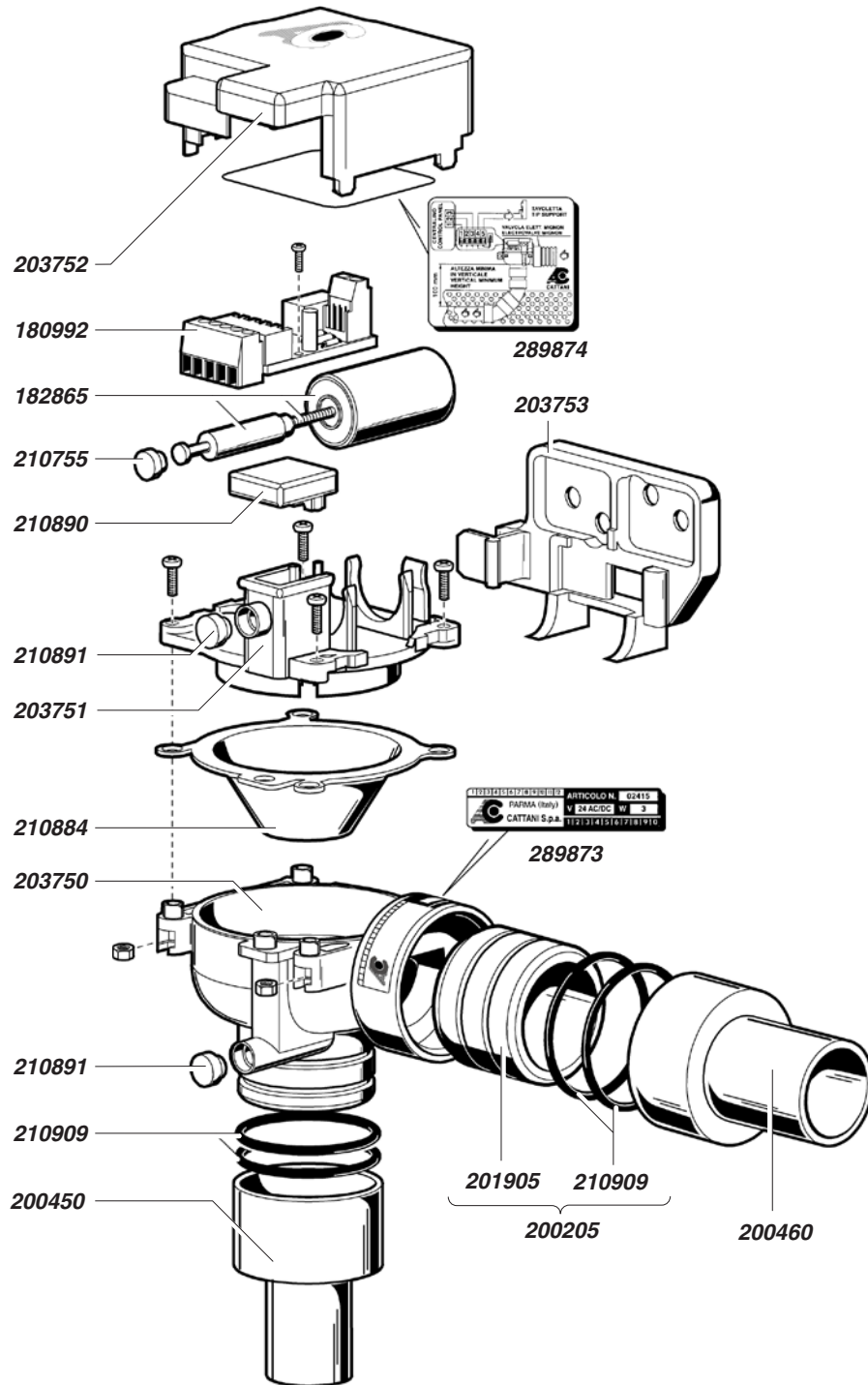
## MAINTENANCE

At the end of each working day, flush the suction lines with a solution of Puli-Jet GENTLE 2.0 disinfectant in accordance with its instructions. Using a Cattani Pulse Cleaner dispenser, aspirate disinfectant through the suction hoses first and then pour the remaining disinfectant directly into the spittoon drain.



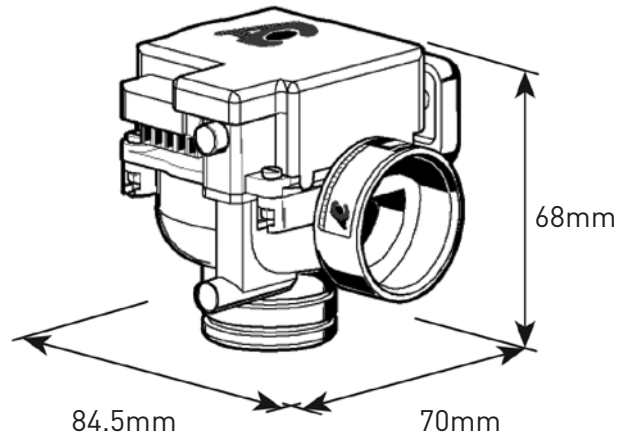
**EXPLODED VIEW DIAGRAM**

025140 (C-0039C0)



**DIMENSIONAL DRAWING**

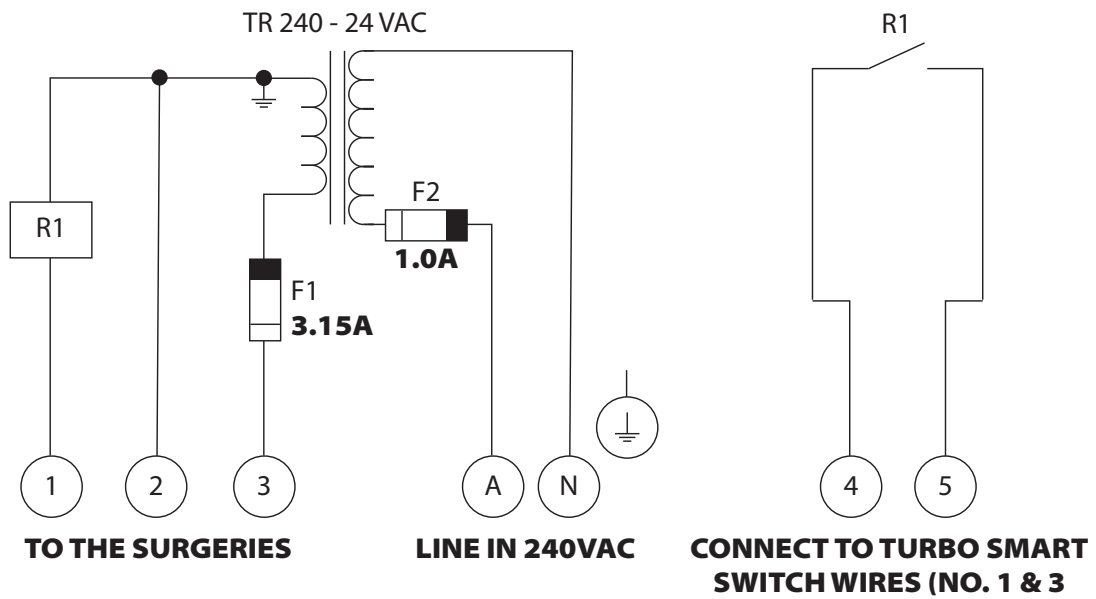
025140 (C-0039C0)



**ELECTRICAL CONNECTIONS**

**DRZ Conversion Switch Box**

To convert an existing 3-wire switching system (with 24V supply) to a 2-wire system as used with Turbo SMART.



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