

User manual

Automatic Cleaning Unit for Pitot 5RB and 5RD sensors

FAMILY: **UNIT**
SUB-FAMILY: **DEV200**
MODEL: **DEV200 UNIT**



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1. Function

The system injects compressed air at a rate that may be adjusted by a clock for a duration that may be modified from 1 to 59s in the 5RB or 5RD type Pitot tube.

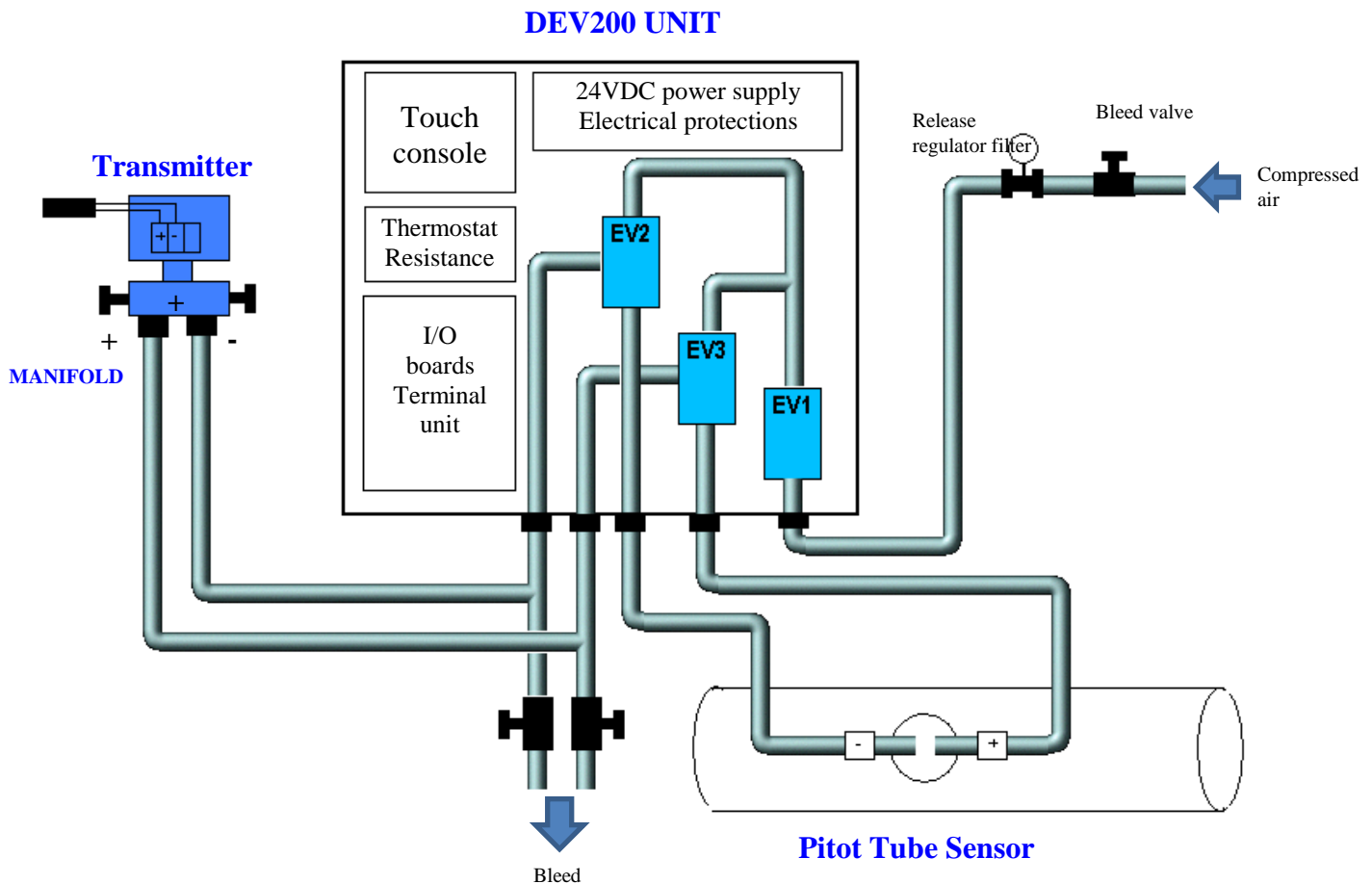
The "DEV200" system is composed of:

- 1 IP66 steel unit – 500 x 405 x 233mm
- 1 5.7" black and white operator console
- 2 3-channel solenoid valves (EV2 and EV3)
- 1 1-channel solenoid valve (EV1)
- 1 24VDC power supply, electrical protections and I/O boards
- An optional heating resistance with a thermostat

Usage conditions

Operating temperature: 0-45°C (standard) -10-45°C (with heating resistance option)

Representation of the integrated system



Comment: **NON EXAT EQUIPMENT**

2. EU declaration of conformity.

We **Fuji Electric France S.A.S.** under our sole responsibility, declare via this document that the products designated below:

Automatic cleaning unit for Pitot 5RB and 5RD sensors
FAMILY: **UNIT**, SUB-FAMILY: **DEV200** MODEL: **DEV200 UNIT**
References: **DEV200-YY, DEV200-YA, DEV200-AY and DEV200AA**

Manufactured by **Fuji Electric France S.A.S.** in CLERMONT-FERRAND (France), conform to the essential requirements of the following European directives:

2014/35/EU Directive of the European Parliament and Council of 26th February 2014 relative to the harmonisation of Member States' legislation concerning the provision on the market of the electrical equipment intended to be used within certain voltage limits.

2014/30/EU Directive of the European Parliament and Council of 26th February 2014 relative to the harmonisation of Member States' legislation concerning Electromagnetic Compatibility.

2014/68/EU Directive of the European Parliament and Council of 15th May 2014 relative to the harmonisation of Member States' legislation concerning provision on the market of Pressurised Equipment.

2006/42/EC The directive relative to machines, directive 2006/42/EC, entered into force on 29th June 2009 and has been compulsory since 29th December 2009 (replacing definitively the previous directive 98/37/EC).

The directive 2006/42/CE is a reorganisation of the directive 98/37/EC relative to machines and modifies the directive 95/16/CE relative to elevators.

2011/65/EC Directive of the European Parliament and Council of 8th June 2011 relative to the limitation on the use of certain hazardous substances in electrical and electronic equipment.

Regulation (EC) No. 1907/2006 of the European Parliament and Council of 18th December 2006 concerning the registration, evaluation and authorisation of chemicals and the restrictions applicable to these substances (REACH), instituting a European chemicals agency.

The directive 2002/96/EC of the European Parliament and Council of 27th January 2003 relative to waste electrical and electronic equipment (WEEE).

In conformity with the following standards:

EN 61010-1 2010

EN 61010-2-030 2010

NF/EN 60204

EMC product standard NF/EN61326-1 (2013)


Date: 27/03/2018

Name: DURIEZ PIERRE

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For and on behalf of **Fuji Electric France S.A.S.**

Signed:


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3. Safety instructions

All authorisations on the product must be carried out by authorised, trained and qualified personnel with perfect knowledge of the installation, usage and maintenance in service procedures and methods.

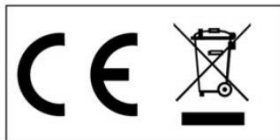
The protection provided by the appliance may be compromised if the appliance, or the complete product, is used in a way which is not specified by the manufacturer.

Symbols used:

	DANGER, consult the manual of the appliances which display this symbol
	PROTECTION EARTH terminal
	Caution, possibility of electric shock
	Caution, Hot surface (Only the version of the unit with heating resistance)

**DANGEROUS VOLTAGE INSIDE THE CABINET
ACCESS TO AUTHORISED PERSONNEL ONLY**

WEEE waste for product end of life



The equipment must be eliminated in conformity with regulatory requirements.

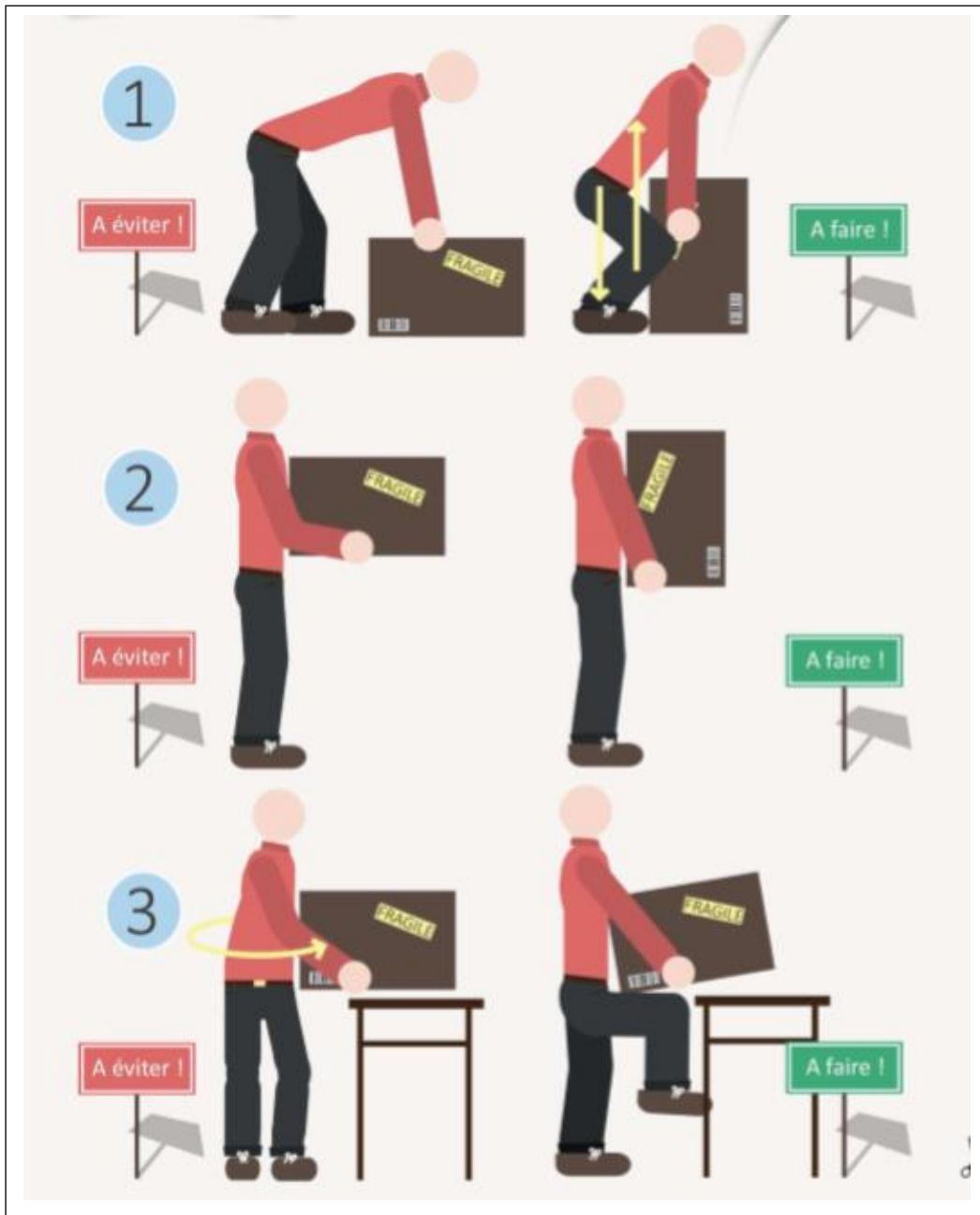
4. Technical and Performance Data

Product technical characteristics: **DEV200 UNIT**

Electricity supply	110VAC or 230Vac +/- 10% L+N+PE (50-60Hz) - Maw power: 100W
Usage ambient temperature	(optional heating resistance) -10 to 45°C (standard) 0 to 45°C
Storage temperature	-20°C to 50°C
Usage altitude	0-2000m
Protection index	IP 66
Dimensions	500 x 405 x 233mm
Weight	20 Kg
Humidity	< 80% RH without condensation
Pressure	The pressure in the solenoid valve circuits must not exceed 10 bars
Network overvoltage category	OVC II

5. Handling

The unit does not require to be lifted with a lifting appliance or carriage; it may be lifted manually as long as the person lifting it wears PPE (safety shoes and gloves) and respects the posture rules below:



6. Assembly and connection

6.1 Unit characteristics



Principales

Gamme	Spacial
Nom du produit	Spacial S3D
Fonction de l'appareil	Polyvalent
Fonction produit	Enveloppe compact
Hauteur nominale de l'enveloppe	500 mm
Largeur nominale de l'enveloppe	400 mm
Profondeur nominale de l'enveloppe	200 mm
Type de porte	Pleine
Type de châssis plein	Pleine
Type de plaque passe-câbles	Standard
Type d'accessoire d'installation	Montage mural
Composition de l'appareil	Corps 1 Châssis plein 1 Porte avec serrure 1 Plaque passe-câbles 1

6.2 Technical characteristics

Unit dimensions	500 x 405 x 233mm
Operating temperature	(optional heating resistance) -10 to 45°C (standard) 0 to 45°C
Weight	Approx. 20kg
Power supply voltage	According to coding 110 or 230V AC (50-60Hz)
Consumption	96 W
Protection index	IP 65
Colour	Grey RAL7035
Unit material	Painted steel
Solenoid valve	3-channel qty 2 1-channel qty 1
Cleaning information	Potential-free dry contact Nominal I 6A
Cable entry/exit	3 PG09 stuffing boxes 1 PG11 stuffing box
Pneumatic entry/exit	2 6mm partition passageways 3 8 mm partition passageways
Installation environment	Interior/exterior assembly

6.3 Assembly / Installation

The cleaning unit is made of painted steel. Its colour code is RAL 7035. It is fitted with a protective cover, a 455 locking system and a set of 4 attachment feet. The unit's overall dimensions expressed in mm are:

- height 500
- width 405
- depth 233

During operation, the unit is mounted vertically on a wall at a height accessible to adults. However, handling and storage may move the unit to any position. The unit must be installed on a support which presents the least possible vibration. Provide enough space for the door to open fully.

The unit has attachment feet for wall-mounted installation. The feet may be mounted on the unit horizontally or vertically. M8 diameter screws must be used to attach the unit to a wall.

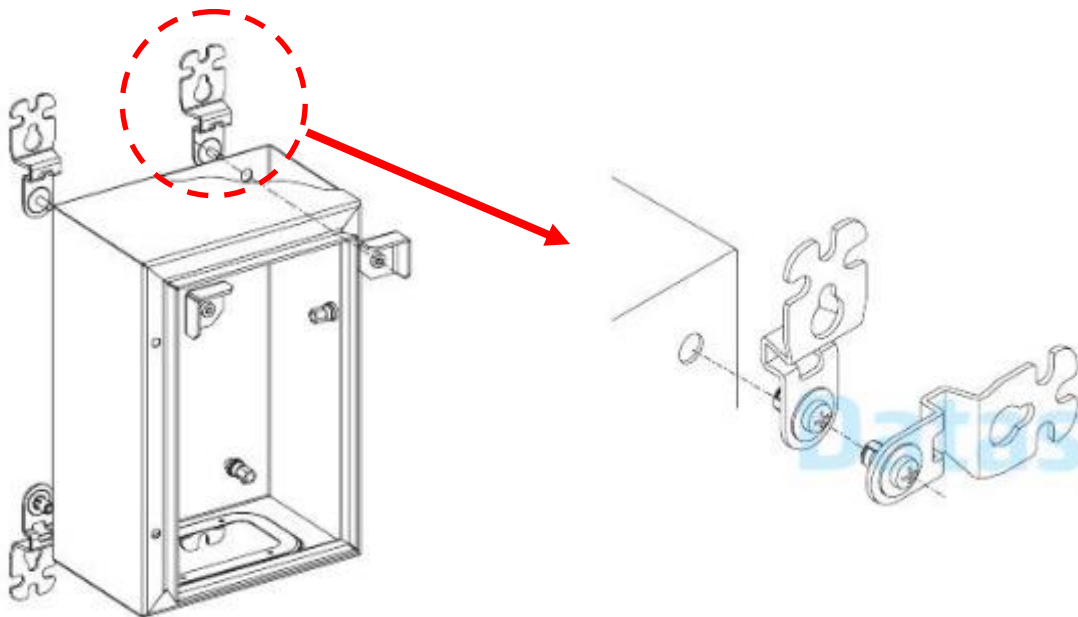
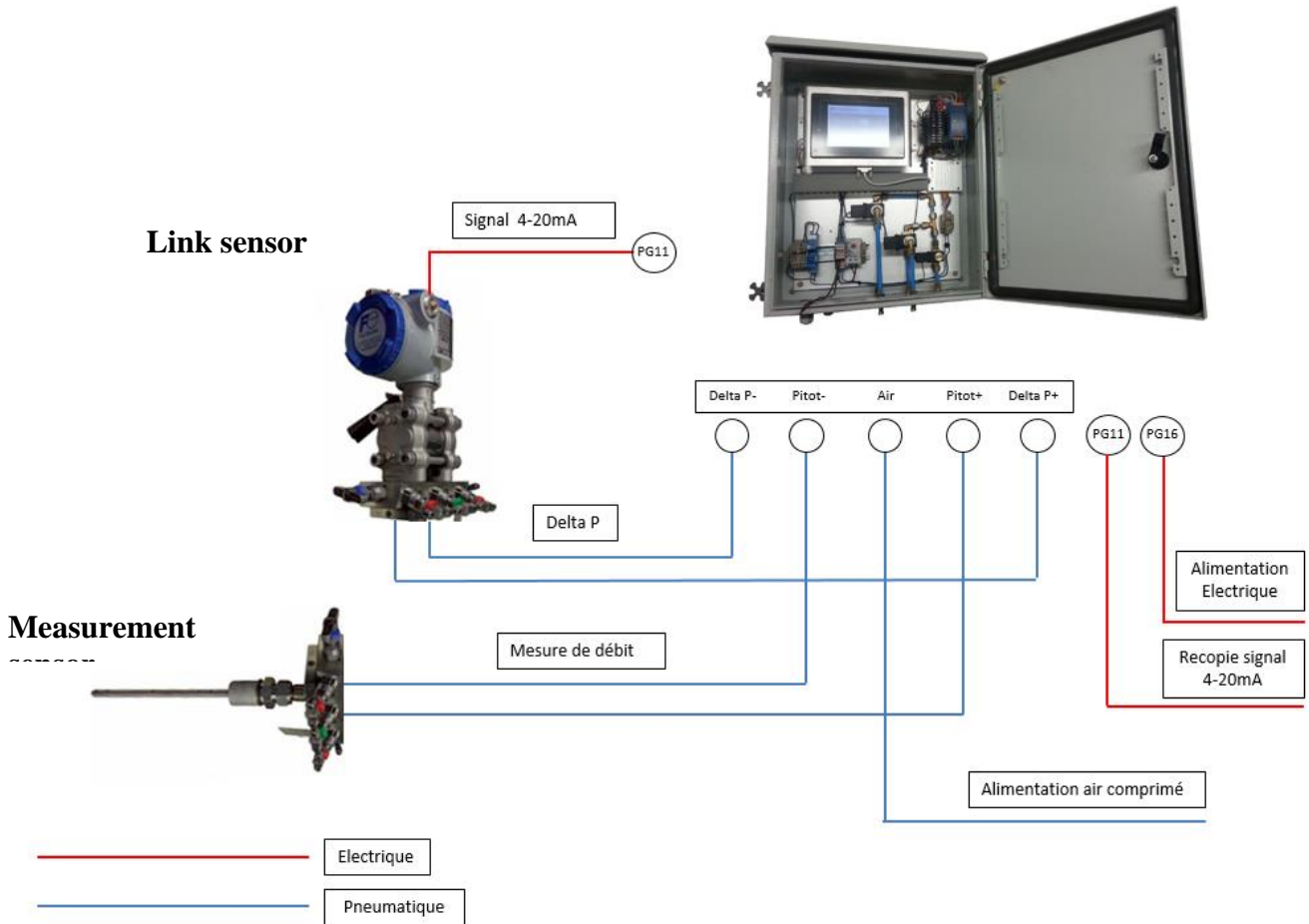


Diagram for installing the attachment feet on the unit.

Comments: The attachment feet and the assembly screws are supplied

6.4 Installation // General connection diagram

The diagram below describes the overall connection architecture for the system.



Important : The DEV200 cleaning unit must be installed as close as possible to and above **the measurement sensor**.
The link sensor must be as close as possible to the unit with a bleed at the low point where applicable.

1.1 Electrical connection of the power supply

The unit must be connected electrically by a trained and qualified person who must have the relevant electrical authorisation.

Refer to the specific electrical diagram "*EN_Décol_pitot_v4.*" supplied with the cabinet for the electrical connection of the different cables.

The main power supply must be connected using a minimum **3G 1.5** and maximum **3G 2.5** cable, with a section adapted to the power taking account of the drop in voltage.

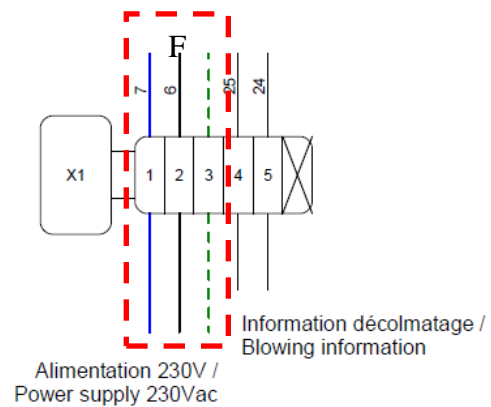
- The connection terminals are provided for wires with section up to 2.5 mm²
- All the cables pass through stuffing boxes

The equipment must be connected to a low voltage (LV) electricity distribution in accordance with standard NFC 15-100 (IEC60364). The DEV200 system is protected against short-circuits and overintensities to 2A calibre. Its disconnection power is 50kA. Its consumption is 96W maximum.

The unit's protection earth must be connected to the installation before it is switched on.

The power supply cable enters the unit via a PG11 stuffing box at the bottom right and is connected to the "push in" type **terminal unit identified X1**.

See visual below



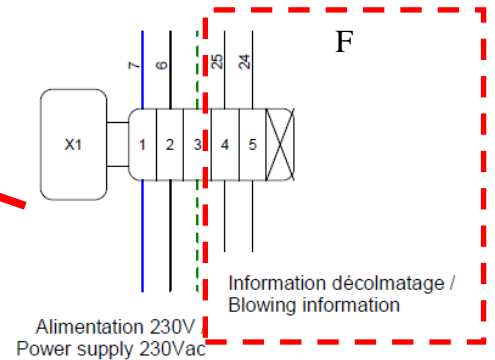
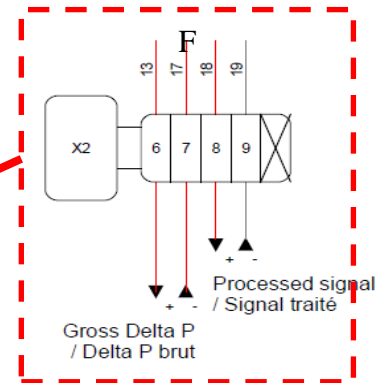
1.2 Information and signal electrical connection

The unit must be connected electrically by a trained and qualified person who must have the relevant electrical authorisation.

The cleaning, raw Delta P and processed signal information signals must be connected using **2-conductor cables with connectors**, with a maximum section of 2.5mm². The PG09 stuffing boxes provided for this purpose must be tightened to a torque of 2.1 Nm.

The "delta P information" and "Processed rate signal" cables must be connected to the "push in" type **terminal unit identified X2**.

The "cleaning information" cable must be connected to the "push in" type **terminal unit identified X1**.



1.3 Pneumatic connection

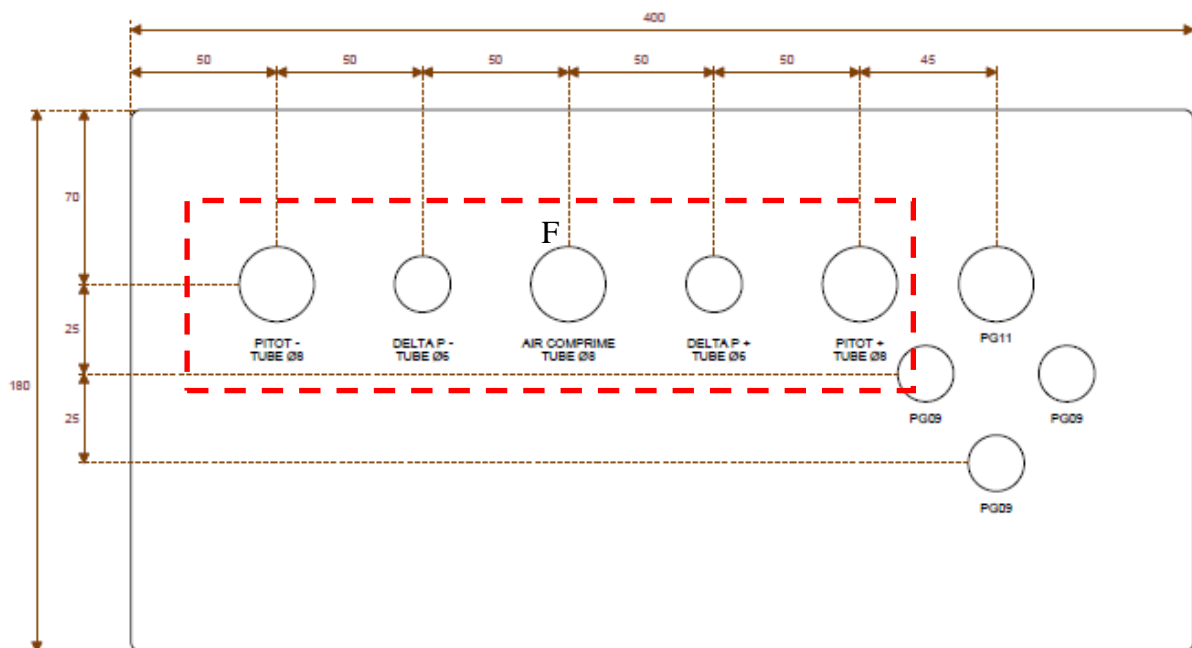
The pneumatic connections are made at the passageways through the partitions. They are made by tightening the ring/nut assembly. The pneumatic ducts may be flexible or stiff. For flexible pipes, a grooved pin must be used to guarantee the seal when connecting to the system. First of all, the assembly is tightened by hand, then must be tightened by a 3/4 turn with a wrench.

The compressed air network must be connected to the unit by a pipe with an external diameter of 8mm. The network's maximum pressure must not exceed 10 bars relative.

The + and – poles which correspond to the pitot tube must be connected by a pipe with an external diameter of 8mm.

The + and – poles which correspond to the sensor must be connected by a pipe with an external diameter of 6mm.

The pneumatic connection layout diagram is provided below.



1.4 Storage

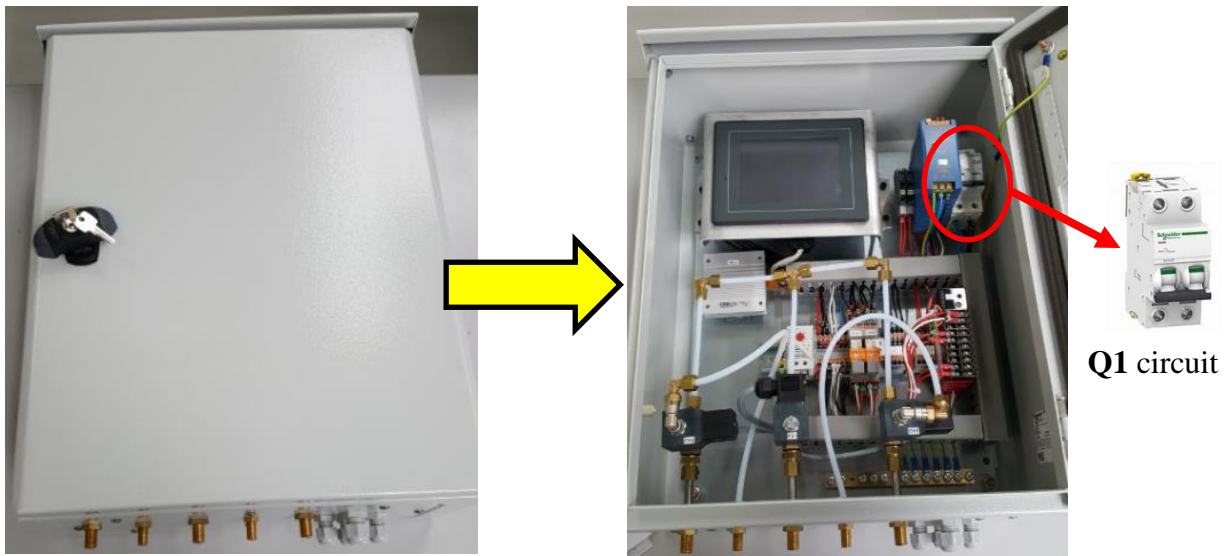
There are no actions to be carried out when the product is taken out of service for an extended period.

2. Powering on the system

The unit must be powered on by a trained and qualified person who must have the relevant electrical authorisation.

After connecting the system, to power it up, unlock the door with the 455 key provided and open it.

Raise the "Q1" circuit breaker identified below by a red circle.

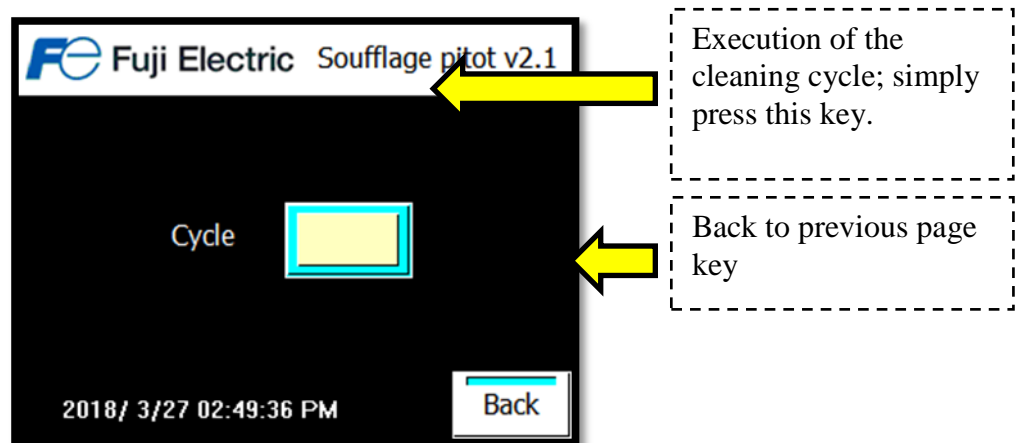
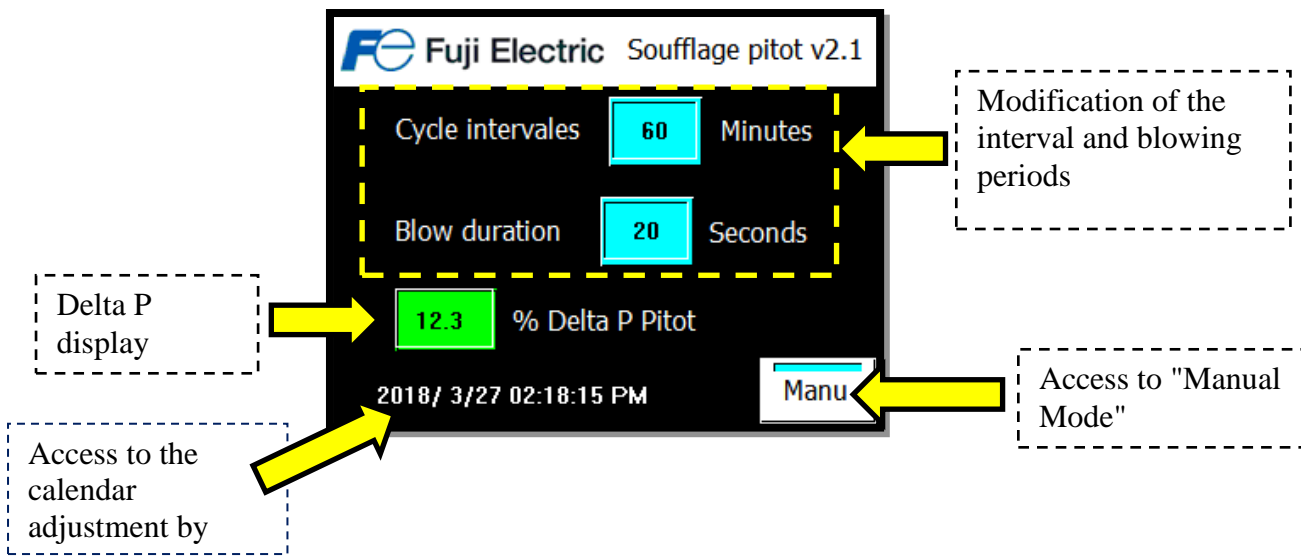


When the system powers up, the touch screen switches on at its home page and the "POWER" LEDs on the red PUMA modules come on.

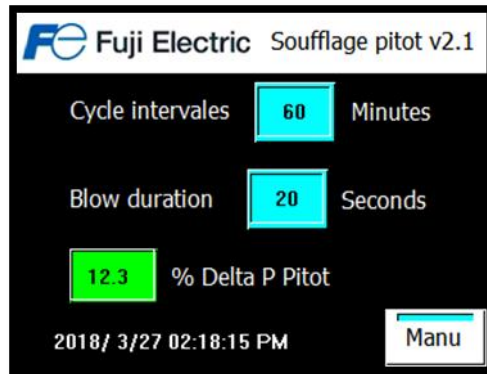
3. Use / Operation

The Pitot tube cleaning system is independent. It may be configured on the main page. The cleaning function may be activated manually through

When the system is powered down, the parameters are stored in the SRAM internal memory. When the system restarts, it continues its functions automatically.

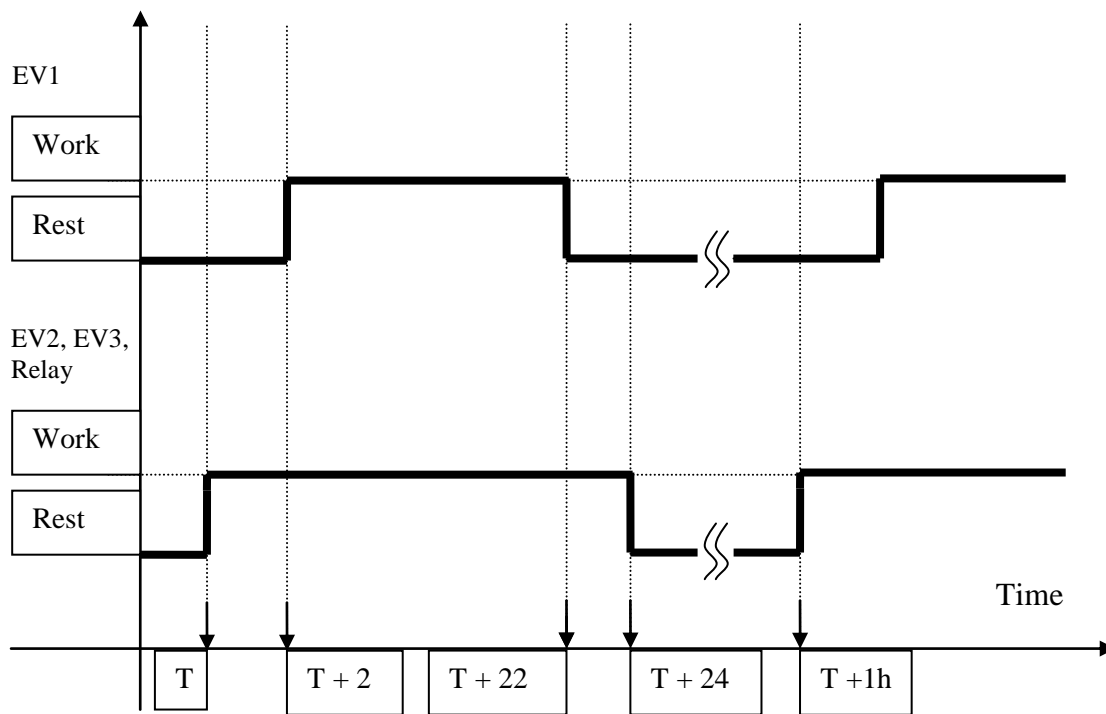


Depending on the values presented in the main page, here is a functional diagram of the system with values set to 60 minute intervals and 20 seconds' air blowing:



The clock commands the cleaning at a frequency that may be set from 1 hour to 1 week. Each cycle comprises 3 phases

- Isolation of the sensor using solenoid valves Ev2 and Ev3 which generate the communication between the measurement sensor and the compressed air intake. Duration: 2 seconds.
- Compressed air injection by opening of EV1. Duration setting on the operator console from 1 to 59 seconds.
- Compressed air stopped by closing EV1. Duration: 2 seconds.
- Return of measurement by closing solenoid valves EV2 and EV3.



4. Maintenance

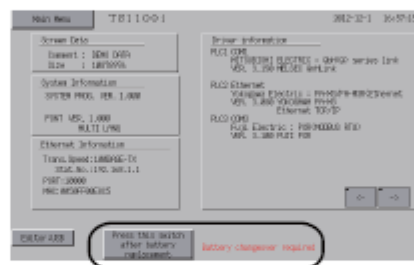
4.1 TS2060i touch screen lithium battery

Durée de vie de la pile

La période de validité de la pile est d'environ trois ans à compter de la date de fabrication.
A l'approche de la nécessité du remplacement de la pile, le commutateur [Press this switch after battery replacement] ainsi que le message "Battery changeover required" apparaissent en bas de l'écran du Menu principal sur l'appareil TS.

* Pour en savoir plus sur l'écran du Menu principal, se reporter à la section "Ecran du Menu principal" (page 5-3).

Ecran du Menu principal



Remplacement de la pile

Pile recommandée

Les fabricants et modèles de pile recommandés sont les suivants :

Fabricant recommandé	Modèle	
Mitsubishi Electric Home Appliance	CR2032	Pile bouton primaire au lithium
Hitachi Maxell		
Panasonic		
FDK		

Instructions relatives à la sécurité pour la manipulation de la pile

Les piles au lithium contiennent des matériaux inflammables, tels que du lithium ou des solvants organiques. Une manipulation incorrecte peut générer de la chaleur et provoquer une explosion ou un départ de feu ayant pour conséquence un incendie ou des blessures. Pour éviter tout accident, prendre les précautions suivantes lors de la manipulation des piles au lithium.



ATTENTION

- Veiller à éliminer l'électricité statique de votre corps avant de remplacer la pile.
- Remplacer par la pile recommandée.
- Une manipulation brutale de la pile peut générer un risque d'incendie ou de brûlure chimique.
- Ne pas démonter, incinérer ni chauffer la pile.
- Etudier les réglementations locales et gouvernementales lors de la mise au rebut des piles usagées.
- Tenir les piles hors de portée des enfants. (Si une pile a été avalée, consulter immédiatement un médecin.)
- Ne jamais recharger la pile.
- Si la pile fuit ou dégage une odeur, l'électrolyte de la batterie est inflammable. Il est donc important de la tenir éloignée de toute source de chaleur ou de flammes.

Procédure de sauvegarde de l'espace SRAM

Avant de remplacer la pile, procéder à une copie de sauvegarde des données stockées sur la SRAM à l'aide de l'éditeur V-SFT-5.


Lors de l'utilisation de l'éditeur V-SFT-5:

- 1) Connexion d'un câble USB
Connecter l'appareil TS et l'ordinateur à l'aide d'un câble USB.
 - 2) Ouverture de l'éditeur V-SFT-5
Ouvrir l'éditeur V-SFT-5 sur l'ordinateur.
 - 3) Affichage de la boîte de dialogue [Transfer]
Cliquer sur l'icône [Transfer]. La boîte de dialogue [Transfer] s'affiche.
 - 4) Sélection des données à transférer
Sélectionner [Transfer Device: Display] et [Transfer Data: SRAM Data].
Ne pas cocher Use Simulator.
 - 5) Lancement du transfert des données de la SRAM
Cliquer sur le bouton [PC <-] dans [Transfer]. Le transfert des données de la SRAM commence.
 - 6) Enregistrement des données de la SRAM
Une fois le transfert des données de la SRAM terminé, la boîte de dialogue [Save As] s'affiche sur l'ordinateur. Enregistrer les données en tant que copie de sauvegarde. L'extension est "*.RAM".
- * Pour transférer les données "*.RAM" enregistrées en tant que sauvegarde vers l'appareil TS, cliquer sur le bouton [PC ->] dans [Transfer] à l'étape 5.

Lors de l'utilisation d'un espace de stockage :

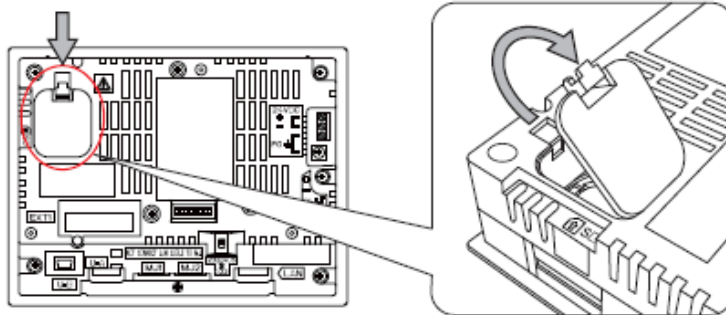
Pour sauvegarder des données sur un espace de stockage tel qu'une mémoire USB, se reporter à la section "Enregistrement des copies de sauvegarde de la zone SRAM" (page 5-25).

Procédure de remplacement de la pile

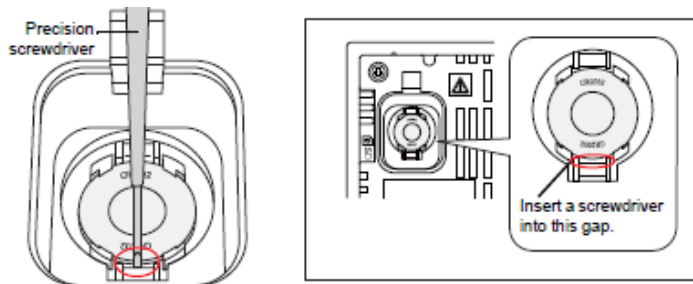
 DANGER	Risque de choc électrique Couper l'alimentation de l'appareil de la série TS avant de procéder aux étapes 3 à 7 ci-dessous.
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Power down the touch screen

Slide the battery compartment cover in the direction of the arrow to open it, then remove the cover.

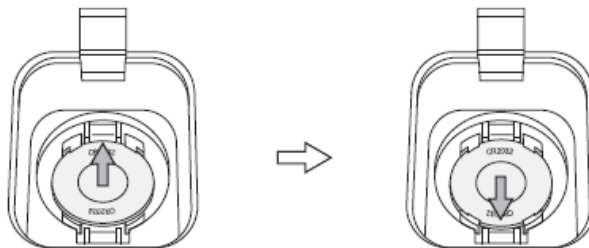


Insert a non-conducting precision screwdriver (flat head screwdriver) into the space and lift the battery.

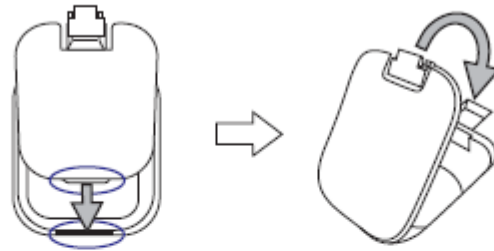


Remove the battery.

Close the battery compartment cover by inserting the tab into the base of the cover in the part of the screen



- Insérer le cran en dessous du cache du support de pile dans l'appareil TS. Appuyer sur le haut du cache jusqu'à entendre un clic.



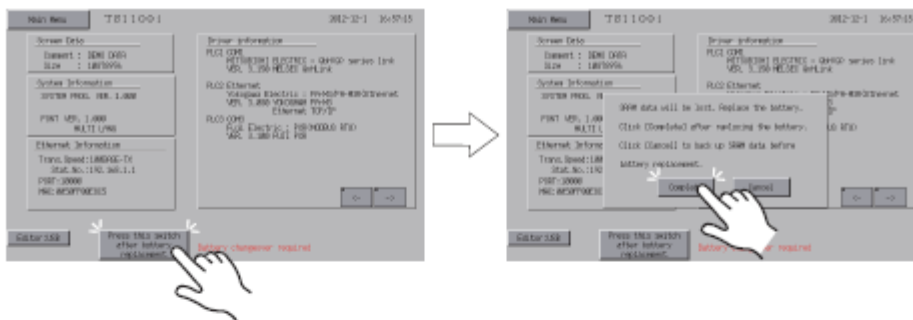
- Allumer l'appareil TS. Accéder à l'écran du Menu principal et appuyer sur le commutateur [Press this switch after battery replacement]. La boîte de dialogue de confirmation suivante apparaît. Appuyer sur [Completed].

* S'il ne s'agit pas d'un remplacement par une nouvelle pile, appuyer sur [Cancel].

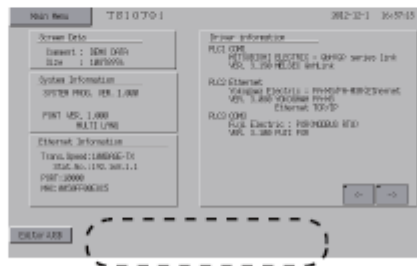


ATTENTION

Si le commutateur [Completed] est actionné alors qu'aucune nouvelle pile n'est installée, aucune alimentation n'est fournie pour maintenir l'horloge et la SRAM actives. Une fois seulement le remplacement par une nouvelle pile terminé, appuyer sur [Completed].



- Vérifier que le commutateur [Press this switch after battery replacement] et le message "Battery changeover required" disparaissent du bas de l'écran du Menu principal.



- Lorsqu'un fichier de sauvegarde "*.RAM" est enregistré, le transférer vers l'appareil de la série TS.

Remarques relatives à la pile: directive européenne 2006/66/EC

Conformément à la directive européenne 2006/66/EC en vigueur dans les pays de l'UE, la pile fournie avec les appareils de la série TS ainsi que leur boîte d'emballage possèdent le marquage indiqué ci-dessous :



ATTENTION

- Le marquage indiqué ci-dessus est en vigueur uniquement dans les pays de l'UE.
- Les détails fournis sur le marquage sont désignés dans l'Article 20 "Information for end-users" et dans l'ANNEXE II de la directive européenne 2006/66/EC.
- Le marquage indique que la pile doit être mise au rebut séparément des déchets ménagers généraux.
- Si des symboles d'éléments sont indiqués en dessous du marquage, cela signifie que la pile contient le métal lourd spécifié avec une concentration excédant la valeur de contrôle.
Se reporter à ce qui suit pour connaître les valeurs de contrôle de concentration.
Hg : mercure (0,0005 %), Cd : cadmium (0,002 %), Pb: plomb (0,004 %)
- L'UE a conçu le programme de séparation pour les piles usagées.
Mettre au rebut les piles de façon appropriée auprès de votre centre local de mise au rebut/recyclage des déchets.

5. Coding

1	2	3	4	5	6	-	7	8	
D	E	V	2	0	0				
									Type
									Retro-blowing unit for 5RB and 5RD series Pitot sensor
									Thermo-regulated unit
									Without
									With
									Power supply voltage
									230Vac - 50/60Hz
									115Vac - 50/60Hz