This operating instructions contains safety information that if ignored can endanger life or result in serious injury. They are indicated by this icon.

Use of this pump with radioactive chemicals is forbidden!

OPERATING INSTRUCTIONS MANUAL FOR “FAC-EX” AIR COMPRESSED PUMP

Keep the pump protected from sun and water.
Avoid water splashes.

Please read it carefully!

English language

R1-11-02

NORME CE
EC RULES(STANDARD EC)
NORMAS DE LA CE

Direttiva Basso Voltaggio
Low Voltage Directive
Directiva de baja tensión } **2006/95/CE**

Direttiva EMC Compatibilità Elettromagnetica
EMC electromagnetic compatibility directive
EMC directiva de compatibilidad electromagnética } **2004/108/CE**

GENERAL SAFETY GUIDELINES

Attention! In emergencies the pump should be switched off immediately!
Disconnect the power cable from the power supply!

When using pump with aggressive chemicals observe the regulations concerning the transport and storage of aggressive fluids!

When installing always observe national regulations!

Manufacturer is not liable for any unauthorized use or misuse of this product that may cause injury, damage to persons or materials.

Caution! Pump must be accessible at all times for both operating and servicing.
Access must not be obstructed in any way!

Feeder should be interlocked with a no-flow protection device.

Pump and accessories must be serviced and repaired by qualified and authorized personnel only!

Always discharge the liquid end before servicing the pump!

Empty and rinse the liquid end before work on a pump which has been used with hazardous or unknown chemicals!

Always read chemical safety datasheet!

Always wear protective clothing when handling hazardous or unknown chemicals!

GENERAL INFORMATION

"FAC-EX" Series pneumatic membrane metering pumps, are the ideal solution for medium and large dosing systems. Each pump is constituted by the following parts:

Box
Diaphragm
Pump Head

The pump working mode is intermittent: air is introduced into the cylinder each time a pulse reaches the pneumatic valve. The air pushes the piston and the diaphragm (fixed on the piston head) compresses the liquid into the pump head. The liquid gets out through the delivery valves while the suction valves close. When the pulse ends, a spring takes back the piston and the diaphragm. The vacuum created by the diaphragm movement takes the liquid inside the pump head from the suction valve, while the delivery valve is closed. The air in the cylinder is discharged by a spring with a silencer. The pump capacity is proportional to the number of stroke of the pneumatic piston.

Box
"FAC-EX" pump casing is made of reinforced PP with IP65 protection rating. Installation is wall mounting using two screws at a distance of 152mm.

Diaphragm
Diaphragm is made of PTFE ensuring excellent mechanical resistance and the best compatibility with almost the whole range of dosing chemicals.

Pump Head
"FAC-EX" series pump head diameter, made in plastic material PP, is ø64 and it is the dosing chamber. Suction and delivery valves are mounted on it. There is an air bleed valve that help metering pumps priming.

INSTALLATION

The pump is supplied with all the components for the installation. To start up the pump first mount it on a wall or any other vertical surface in a well aerated and easily accessible environment. The distance between the pump head and the suction filter should not be more than 1.5m.
Connect the suction pipe (PVC) to the suction fittings (bottom pump head valve) and fix it with the band provided. Place the suction filter on the bottom of the product tank. The suction pipe should be as short as possible in vertical position without any bends to avoid air bubbles. Install the injection valve. Connect one end of the delivery pipe (PVC) to the delivery fitting on the top of the pump head and the other end to the injection valve previously installed.

To avoid delivery pipe breaking be sure it doesn't touch any other object. When dosing nytric high concentration acid use PVDF or PTFE hoses.

Always install the injection valve at the end of the rigid delivery hose. The injection valve should never be installed lower then the product tank to avoid that injection valve breaking lets the product flow freely into the system. If the only way to install the injection valve is lower than the tank, then it is recommended to use an anti-syphon valve (code 108.136.1) on the delivery side. This valve prevents vacuum on the pump. Feeder should be interlocked with a no-flow protection device to automatically shut-off the pump when there is no flow. Check regularly the delivery valve and immediately change it if inoperable or broken. Do not install tanks with chemical beneath: vapours may damage the pump.

PNEUMATIC MOUNTING

Connect the metering pump to the pneumatic setting by a Rilsan (6x8) hose. FAC Series metering pumps work only with compressed air without lubrificant and/or condensed water. Air supply pressure range must be from 6 bar to 10 bar with an air consumption of 2000l/h at maximum speed.

COMMISSIONING / PRIMING THE PUMP

Read carefully and understand the safety data sheet and all information concerning also the chemical product to be pumped before start up (check also safety data sheet provided by chemical manufacturer). Take all the necessary precautions to avoid personal injuries!

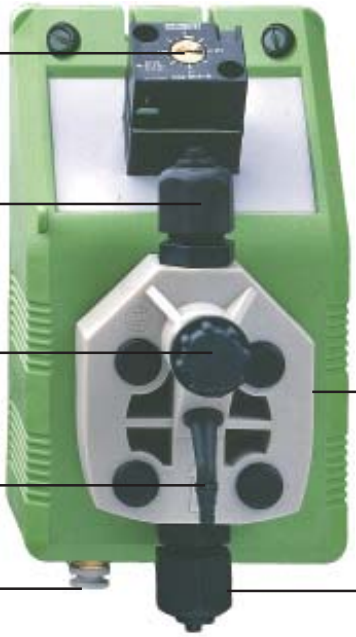
When priming the pump:

- avoid direct contact with additive
- connect suction hose (transparent) to air bleed valve fittings on the left of pump head and insert the other end of the hose into the tank
- open air bleed valve turning the knob counter-clockwise and then close it.
- let pump work at 50% of capacity

The pump head includes Air Bleed valve: to prime the pump air into the pump head shall be expelled through air bleed fittings. When additive starts to pass through air bleed valve outlet then shut it off turning knob clockwise. For viscous liquids or in case of difficulties, it's recommended to use a 20 cc syringe: connect a short piece of suction hose to the syringe and other end of the hose to discharge valve and suck liquid until it clearly passes through the pump head and primed.

PUMP METERING SPECIFICATION LABELS

FAC series pump characteristics are shown into the label placed on the pump casing. They include: max working pressure Kpa/bar (backpressure) and pump flow l/h (delivery output). Pump dosing characteristics are referred to water at 20 C° temperature against label maximum counterpressure.



FAC EX
Constant dosing pump with stroke speed adjustment between 20 and 100% of indicated capacity

MAINTENANCE

The operations shown below should only be carried out by qualified personnel. The Manufacturer does NOT accept liability for any damage caused to people or things deriving from the lack of experience of the operator who performs these operations.

Before proceeding with maintenance and servicing the pump:

- ***wear recommended protection glasses, gloves, etc (see safety data sheet)***
- ***empty discharge hose and vent it to ATM pressure***
- ***empty suction hose and vent it to ATM pressure***

Remove pump unscrewing it from the wall or pump holding support and turn pump upside-down to let out all left product inside the pump head. Rinse pump head with clean tap water. In the event pump shall be shipped for repairs, connect suction and discharge valve using a piece of hose.

When entering in contact with the liquid, follow safety data sheet provided by chemical product Manufacturer.

"FAC-EX" series dosing pumps need almost no maintenance except for cleaning once a year ball check valves and foot valve/filter. When dosing chemicals with high crystallizing coefficient, perform maintenance periodically (about once a month) and in case the pump has not operated for long time, wash out ball check valves, foot valve/filter and pump head. To remove crystals sediments:

- unscrew injection valve connection and dip discharge hose and foot valve into water
- prime the pump with water and let pump work for five minute
- replace water with crystal solvent product and let pump work for ten minute
- repeat operation again with water for five minute
- install back in place injection valve connection and prime the pump

It is important to tight well and safely the hose couplingnut to avoid chemical leakage damaging the pump. In case of leakage, tight well couplingnut and rinse the pump casing with fresh water.

O-RINGS

The valve sealings are provided in 5 different material to satisfy different chemical compatibility issues. The elastomer that will best fit the requested needing can be found on the EMEC compatibility table. Get in touch with customer support if needed. The elastomer used for the o-rings equipping the "FAC" pumps are characterized by different suction/delivery valve colours.

Elastomer	*ISO Code*	*EMEC Code*	*Valve Colour*
Fluorocarbon	FPM	FP	black
Ethylenepropylene	EPDM	EP	grey
Polytetrafluoroethylene	PTFE	PTFE	blue
Nytril	NBR	WAX	green
Sylicon	MVQ	SI	yellow

TECHNICAL FEATURES

Pump strokes per minute:	0 ÷ 120 injection/minute
Max suction pipe length:	1,5 meters
Compressed air consumption:	2000 l/h (suction air)
Environment Temperature:	0 ÷ 45°C (32 ÷ 113°F)
Chemical Temperature:	0 ÷ 50°C (32 ÷ 122°F)

CONSTRUCTION MATERIAL

Box:	PP
Pump Head:	PP/PVDF (on demand)
Diaphragm:	PTFE (on demand)
Balls:	CERAMIC, PTFE (on demand)
Suction hose:	PVC/PE
Delivery hose:	PE
Valve:	PP/PVDF (on demand)
O-ring:	as requested (FP, EP, WAX, SI, PTFE)
Injection valve:	PP/PVDF (glass balls, HASTELLOY C276 spring).
Level probe:	PP/PVDF (on demand)
Level probe cable:	PE
Foot filter:	PP/PVDF (on demand)

PVFD / PTFE furniture can be optionally provided

«CE» referring norms

"FAC-EX" series dosing pumps comply with the following European regulations:

EN60335-1 : 1995, EN55014, EN50081-1/2, EN50082-1/2, EN6055-2, EN60555,3

Technical features and drawings are subject to changes and modifications without any advice.

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DECLARATION OF CONFORMITY

The Company **EMEC s.r.l.**

Company Address **Via Donatori di Sangue 1 - 02100 RIETI - ITALIA**

DECLARES
under its own responsibility, that the product

Description: Diaphragm metering pump, series Fxx

Serial no.: refer to the nameplate on the device

complies to the following standards:

EC RULES (STANDARD EC)

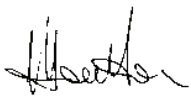
Low Voltage Directive (2006/95/CE)
EMC electromagnetic compatibility directive (2006/42/CE)

EUROPEAN HARMONIZED STANDARDS UNDER DIRECTIVE

EN 12100-1, EN 12100-2, Safety of Machinery
EN 809, Pumps and pumping units for liquids-Safety requirements
UNI 10637, Measuring instruments for temperature, pH, ORP, free and combined chlorine and the isocyanuric acid are within the requirements of standard UNI 10637.
D.M. 7 February 2012 n.25 – D.M. 6 April 2004 n. 174 – Regulation EU 10/2011- Equipment intended to come into contact with food.

The product passed the final test.

Date: 14/06/2012

Signature 

MAURIZIO MANCINI, Presidente EMEC S.r.l.

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DICHIARAZIONE DI CONFORMITÀ

La società **EMEC s.r.l.**

con indirizzo **Via Donatori di Sangue 1 - 02100 RIETI - ITALIA**

DICHIARA
sotto la propria responsabilità, che il prodotto

Descrizione: pompa dosatrice a membrana, serie Fxx

Seriale n.: fare riferimento all'etichetta riportata sul prodotto

è conforme alle seguenti norme:

NORME CE

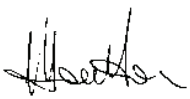
Direttiva Basso Voltaggio (2006/95/CE)
Direttiva EMC Compatibilità Elettromagnetica (2006/42/CE)

NORME ARMONIZZATE EUROPEE NELL'AMBITO DELLA DIRETTIVA

EN 12100-1, EN 12100-2, Sicurezza sul macchinario
EN 809, Pompe e gruppi di pompaggio per liquidi - Requisiti di sicurezza
UNI 10637, Gli strumenti di misura per la temperatura, il pH, il potenziale redox, il cloro attivo libero, il cloro attivo combinato e l'acido isocianurico rientrano nei requisiti della norma UNI 10637.
D.M. 7 febbraio 2012 n.25 – D.M. 6 Aprile 2004 n. 174 – Reg. UE 10/2011 - Apparecchiature finalizzate al trattamento dell'acqua destinata al consumo umano

Il prodotto ha superato il collaudo finale.

Data: 14/06/2012

Firma: 

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DÉCLARATION DE CONFORMITÉ

La societé **EMEC s.r.l.**

usine de production **Via Donatori di Sangue 1 - 02100 RIETI - ITALIA**

DÉCLARE
que le produit mentionné ci-dessous

Description: pompe doseuse , serie Fxx

Série n.: veuillez Reportez-vous à l'étiquette du produit

est conforme aux normes suivantes:

NORME CE

Directive sur les basses tension (2006/95/CE)
Directive sur la compatibilité électromagnétique (2006/42/CE)

NORMES EUROPÉENNES HARMONISÉES

EN 12100-1, EN 12100-2, Sécurité des machines
EN 809, Pompes et groupes motopompes pour liquides - Pompes et groupes motopompes pour liquides
UNI 10637, Le notre systèmes de contrôle de température, pH, Redox, Chlore active libre et combinée et l'acide hypochloreux sont conformes avec UNI 10637
D.M. 7 febbraio 2012 n.25 – D.M. 6 Aprile 2004 n. 174 –
Règlement (UE) n° 10/2011 de la Commission du 14 janvier 2011 concernant les matériaux et objets en matière plastique destinés à entrer en contact avec des denrées alimentaires

Le produit a passé le test final.

Date: 14/06/201

Signé: _____

MAURIZIO MANCINI, Presidente EMEC S.r.l.

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DECLARACIÓN DE CONFORMIDAD

Sociedad **EMEC s.r.l.**

Dirección de la empresa **Via Donatori di Sangue 1 - 02100 RIETI - ITALIA**

DECLARA
bajo su responsabilidad, que el producto

Description: bombas de membrane serie de Fxx

Serial nombre: Consulte la etiqueta de producto

Se ajustan a las normas seguientes:

NORMAS DE LA CE

Directiva de baja tensión (2006/95/CE)
EMC directiva de compatibilidad electromagnética (2004/108/CE)

NORMAS EUROPEAS ARMONIZADAS CONFORME A LA DIRECTIVA

EN 12100-1, EN 12100-2, Seguridad de las màquinas
EN 809, Bombas y unidades de bombeo para liquidos-los requisitos de seguridad
UNI 10637, Instrumentos de medición de temperatura, pH, potencial redox, cloro activo libre, cloro combinado y el ácido isocianúrico están dentro de los requisitos de la norma UNI 10637.
Reglamento (UE) nº 10/2011 de la Comisión, de 14 de enero de 2011, sobre materiales y objetos plásticos destinados a entrar en contacto con alimentos.

El producto ha superado la prueba final.

Data: 14/06/2012

Fecha:

MAURIZIO MANCINI, Presidente EMEC S.r.l.

When dismantling a pump please separate material types and send them according to local recycling disposal requirements.
We appreciate your efforts in supporting your local Recycle Environmental Program.
Working together we'll form an active union to assure the world's invaluable resources are conserved.