



**TUTHILL**  
Transfer Systems

www.tuthill.com

8825 Aviation Drive  
Fort Wayne, Indiana USA 46809  
Tel 260 747-7524 Fax 260 747-3159

## EC-DECLARATION OF CONFORMITY

Models: FR700 Series Pumps

This product has been reviewed to comply with the following European Community Directives and Standards:

<u>Regulation</u>	<u>Number</u>	<u>Amendment</u>
Explosive Atmospheres	94/9/EC	
Machinery Directive	98/37/EC	
Machinery - Electrical Equipment	EN 60204-1	NA 1993
Safety of Machinery	EN 292-2: Part 2-1991	1: 1995 2: 1997
Pressure Equipment	97/23/EC	
Non-electrical for Explosive Area	EN 13463-1: 2001	
Non-electrical for Explosive Area	prEN 13463-5: 2000	
Electromagnetic Compatibility	EN 55014-1: 2000	A1: 2001
Electrical Emissions	EN 61000-3-2: 2000	A1: 1998 A2: 1998 A14: 2000
Electrical Flicker	EN 61000-3-3:1995	A1: 2001
Immunity	EN 50082-1, -2	

Approved on 30 January, 2004 by:

  
Maurice J Forkert  
Approval Engineer mforkert@tuthill.com



**TUTHILL**  
EUROPE S.A.

Wavre  
1300  
Belgium

Bernard Gilson  
European Representative  
bgilson@tuthill.com



## 1. CERTIFICATE OF CONFORMITY

2. DEMKO No. **99E. 124438X**
3. This certificate is issued for **Dispenser Pump Motor**  
type **FR700E and FR770**
- 4a. Manufactured by **Fill-Rite Div.**  
**Tuthill Corp.**  
**8825 Aviation Dr.**  
**Fort Wayne, IN 46809**  
**USA**
- 4b. and submitted by **Manufacturer**

5. This electrical apparatus and any acceptable variation thereto is specified in the Appendix to this certificate and the documents therein referred to.
6. DEMKO being an Approval Certification Body in accordance with Article 14 of the Council Directive of the European Communities of 18th December 1975, document 76/117/EEC, confirms that the apparatus has been found to comply with the harmonized European Standards:


**EN 50014, 2. Edition December 1992**

**EN 50018, 2. Edition August 1994**

7. The apparatus marking shall include the code:  
**EEx d IIA T4 or EEx d IIA T3**
8. The supplier of the electrical apparatus referred to in this certificate has the responsibility to ensure that the apparatus conforms to the specification laid down in the Appendix to this certificate and has satisfied routine verifications and tests specified therein.
9. The apparatus may be marked with the Distinctive Community Mark specified in Annex II to the Council Directive of 16 January 1984, document 84/47/EEC. A facsimile of this mark is printed at the top of this certificate. The marking of the equipment shall be visible, legible and durable.

For and on behalf of DEMKO

Herlev, 1999-03-23

  
Jakob Nittegaard  
Department Manager



This certificate is only allowed to be rendered in entirety and without alterations.



## APPENDIX I

to Certificate of Conformity No. 99E.124438X

### THIS APPROVAL APPLIES TO

#### **Dispenser Pump Motor**

Supply: 220 V AC, 50 Hz or 230 V AC, 50 Hz

Ambient temperature range:  $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +50^{\circ}\text{C}$

Marked: "Tuthill Corp."

01) Type: FR700E Dispenser Pump Motor rated 220 V AC, 50 Hz, EEx d IIA T3 for  $T_{\text{amb}} +50^{\circ}\text{C}$

02) Type: FR770 Dispenser Pump Motor rated 230 V AC, 50 Hz, EEx d IIA T4, for  $T_{\text{amb}} +50^{\circ}\text{C}$

Protected for Use in Potentially Explosive Atmospheres (Flameproof)

Manufactured by:

**Fill-Rite Div.**

**Tuthill Corp.**

**8825 Aviation Dr.**

**Fort Wayne, IN 46809**

**USA**

Submitted by:

**Fill-Rite Div.**

**Tuthill Corp.**

**8825 Aviation Dr.**

**Fort Wayne, IN 46809**

**USA**

The product type has been tested in accordance with the European Standard EN 50014 2. Edition December 1992 and EN 50018 2. Edition August 1994.

The approval applies to products, strictly identical with the submitted and approved product type. If you make any alteration of the product, including the marking, you are obliged to inform DEMKO about this by letter.

### DESCRIPTION OF THE APPARATUS

The type FR700E and FR770 rotary vane pumps are used for the transfer of petroleum products in construction and agricultural environments.

### SPECIAL CONDITIONS FOR SAFE USE

The maximum reference pressure measured in accordance with sub-clause 15.1.2 of EN 50018 for the junction box is 2.21 bars. The junction box has been type tested in accordance with sub-clause 15.1.3.1 by a static pressure of 8.84 bars for 1 minute, which is more than four times the reference pressure. Based on this the routine test on the junction box is not necessary.



## APPENDIX I

to Certificate of Conformity No. 99E.124438X

The motor shell contains a welded joint and shall be subjected to a routine test of 5.27 bars (1.5 times maximum reference pressure of 3.52 bars) in accordance with the manufacturer's specifications.

The motors are provided with two flameproof spigot joints between the end bells and the motor frame. These joints can have an interference fit based on the tolerances of the parts. Instructions describing how to assemble and disassemble the motors shall be provided in the owner's manual. Motors that need repair must be taken to an authorised repair shop or returned to the factory for service.

The lower yield stress of the bolts securing flameproof components are 640 N/mm<sup>2</sup> and 9640 N/mm<sup>2</sup> which are greater than 240 N/mm<sup>2</sup> specified in Cl. 11.3 of EN50018: 1994. The apparatus must be marked with an 'X' since the higher strength bolts are required.

A Certified stopping box with setting compound must be provided immediately after the furnished junction box.

## DRAWINGS

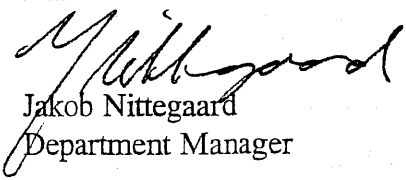
Number	Date	Description
F8813D, Rev. 1, Sheets 1-4	3/17/99	Series FR770 and FR700E Certification Drawings

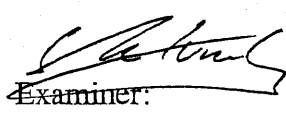
The validity of this Certificate will in accordance with The Council Directive 94/9/EC Articles 14 and 15 expire on 30 June 2003. This means that the equipment is not to be marketed after that day. From 1 July 2003 equipment and protective systems intended for use in potentially explosive atmospheres are to be certified to Directive 94/9/EC.

The approval entitles the licensee to provide the product with the Epsilon-x mark.

For and on behalf of DEMKO

Herlev, 1999-03-23

  
Jakob Nittegaard  
Department Manager

  
Examiner:  
Steen Lumby

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Underwriters Laboratories Inc.®

Northbrook, Illinois • (708) 272-8800  
Melville, New York • (516) 271-6200  
Santa Clara, California • (408) 985-2400  
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North Carolina • (919) 549-1400

## CERTIFICATE OF COMPLIANCE

CERTIFICATE NUMBER: 040494-MH7817

ISSUE DATE: April 4, 1994

Issued to: **Fill-Rite Div., Tuthill Corporation**  
4204 Ferguson Road  
Fort Wayne, Indiana 46809, USA

Report Reference: MH7817, March 16, 1990

This is to Certify that  
representative samples of: **Power Operated Pumps for Flammable Liquids,  
Series 700B, Models FR700, FR701, FR700U and  
FR701U.**


Have been investigated by Underwriters Laboratories Inc. in accordance with the Standard(s)  
indicated on this Certificate.

Standard(s) for Safety: **UL 79, Power-Operated Pumps for Petroleum  
Product Dispensing Systems; and  
UL674, Electric Motors and Generators for  
Use in Hazardous (Classified) Locations**

**Additional Information:**

These are electric motor driven transfer pumps provided with or without a metering device, designed for handling motor fuels other than LP-Gas, at discharge pressures not exceeding 50 psi. The pumps are designed for use on farms or other similar applications, to be installed on skid tanks and other similar containers, or to be directly connected to underground tanks when equipped with supports for surface mounting. These pumps operate at direct motor speed of 1740 R/min at 115 V, 60 Hz or 220 V, 50/60 Hz. They are suitable for outdoor use. The special couplers and adapters for connection to a flanged opening of the tank are furnished with the pumps.

**Only those products bearing the UL Listing Mark should be considered as being covered by UL's Listing and Follow-Up Service.**

The UL Listing Mark generally includes four elements as follows: the name "Underwriters Laboratories Inc." in various forms and type styles, or abbreviations such as "Und. Lab. Inc.", or the symbol "UL in a circle" - ; the word "Listed"; a control number (may be alphanumeric) assigned by UL; and, the product or category name (product identifier) as indicated in the appropriate UL Directory.

**LOOK FOR THE UL LISTING MARK ON THE PRODUCT**

Engineer: *Mark R. Bowen*  
Underwriters Laboratories Inc.

Review Engineer: *Patricia H. Prohler*  
Underwriters Laboratories Inc.



## APPENDIX I

to Certificate of Conformity No. 99E.124438X

The motor shell contains a welded joint and shall be subjected to a routine test of 5.27 bars (1.5 times maximum reference pressure of 3.52 bars) in accordance with the manufacturer's specifications.

The motors are provided with two flameproof spigot joints between the end bells and the motor frame. These joints can have an interference fit based on the tolerances of the parts. Instructions describing how to assemble and disassemble the motors shall be provided in the owner's manual. Motors that need repair must be taken to an authorised repair shop or returned to the factory for service.

The lower yield stress of the bolts securing flameproof components are 640 N/mm<sup>2</sup> and 9640 N/mm<sup>2</sup> which are greater than 240 N/mm<sup>2</sup> specified in Cl. 11.3 of EN50018: 1994. The apparatus must be marked with an 'X' since the higher strength bolts are required.

A Certified stopping box with setting compound must be provided immediately after the furnished junction box.

## DRAWINGS

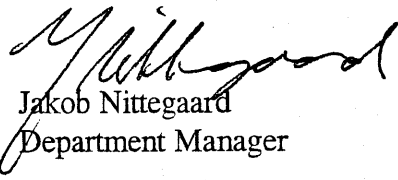
Number	Date	Description
F8813D, Rev. 1, Sheets 1-4	3/17/99	Series FR770 and FR700E Certification Drawings

The validity of this Certificate will in accordance with The Council Directive 94/9/EC Articles 14 and 15 expire on 30 June 2003. This means that the equipment is not to be marketed after that day. From 1 July 2003 equipment and protective systems intended for use in potentially explosive atmospheres are to be certified to Directive 94/9/EC.

The approval entitles the licensee to provide the product with the Epsilon-x mark.

For and on behalf of DEMKO

Herlev, 1999-03-23

  
Jakob Nittegaard  
Department Manager

  
Examiner:

Steen Lumby

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## APPENDIX I

### to Certificate of Conformity No. 99E.124438X

THIS APPROVAL APPLIES TO

#### Dispenser Pump Motor

Supply: 220 V AC, 50 Hz or 230 V AC, 50 Hz

Ambient temperature range:  $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +50^{\circ}\text{C}$

Marked: "Tuthill Corp."

01) Type: FR700E Dispenser Pump Motor rated 220 V AC, 50 Hz, **EEx d IIA T3** for  $T_{\text{amb}} + 50^{\circ}\text{C}$

02) Type: FR770 Dispenser Pump Motor rated 230 V AC, 50 Hz, **EEx d IIA T4**, for  $T_{\text{amb}} + 50^{\circ}\text{C}$

Protected for Use in Potentially Explosive Atmospheres (Flameproof)

Manufactured by:

**Fill-Rite Div.**

**Tuthill Corp.**

**8825 Aviation Dr.**

**Fort Wayne, IN 46809**

**USA**

Submitted by:

**Fill-Rite Div.**

**Tuthill Corp.**

**8825 Aviation Dr.**

**Fort Wayne, IN 46809**

**USA**

The product type has been tested in accordance with the European Standard EN 50014 2. Edition December 1992 and EN 50018 2. Edition August 1994.

The approval applies to products, strictly identical with the submitted and approved product type. If you make any alteration of the product, including the marking, you are obliged to inform DEMKO about this by letter.

#### DESCRIPTION OF THE APPARATUS

The type FR700E and FR770 rotary vane pumps are used for the transfer of petroleum products in construction and agricultural environments.

#### SPECIAL CONDITIONS FOR SAFE USE

The maximum reference pressure measured in accordance with sub-clause 15.1.2 of EN 50018 for the junction box is 2.21 bars. The junction box has been type tested in accordance with sub-clause 15.1.3.1 by a static pressure of 8.84 bars for 1 minute, which is more than four times the reference pressure. Based on this the routine test on the junction box is not necessary.




## CERTIFICATE OF CONFORMITY

- 1.
2. DEMKO No. **99E. 124438X**
3. This certificate is issued for **Dispenser Pump Motor**  
type **FR700E and FR770**
- 4a. Manufactured by **Fill-Rite Div.**  
**Tuthill Corp.**  
**8825 Aviation Dr.**  
**Fort Wayne, IN 46809**  
**USA**
- 4b. and submitted by **Manufacturer**
5. This electrical apparatus and any acceptable variation thereto is specified in the Appendix to this certificate and the documents therein referred to.
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**EN 50014, 2. Edition December 1992**  
**EN 50018, 2. Edition August 1994**
7. The apparatus marking shall include the code:  
**EEx d IIA T4 or EEx d IIA T3**
8. The supplier of the electrical apparatus referred to in this certificate has the responsibility to ensure that the apparatus conforms to the specification laid down in the Appendix to this certificate and has satisfied routine verifications and tests specified therein.
9. The apparatus may be marked with the Distinctive Community Mark specified in Annex II to the Council Directive of 16 January 1984, document 84/47/EEC. A facsimile of this mark is printed at the top of this certificate. The marking of the equipment shall be visible, legible and durable.

For and on behalf of DEMKO

Herlev, 1999-03-23

  
Jakob Nittegaard  
Department Manager



This certificate is only allowed to be rendered in entirety and without alterations.





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Research Triangle Park,  
North Carolina • (919) 549-1400

## CERTIFICATE OF COMPLIANCE

CERTIFICATE NUMBER: 040494-MH7817  
ISSUE DATE: April 4, 1994

Issued to: Fill-Rite Div., Tuthill Corporation  
4204 Ferguson Road  
Fort Wayne, Indiana 46809, USA

Report Reference: MH7817, March 16, 1990


This is to Certify that representative samples of: Power Operated Pumps for Flammable Liquids, Series 700B, Models FR700, FR701, FR700U and FR701U.

Have been investigated by Underwriters Laboratories Inc. in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 79, Power-Operated Pumps for Petroleum Product Dispensing Systems; and  
UL674, Electric Motors and Generators for Use in Hazardous (Classified) Locations

Additional Information: These are electric motor driven transfer pumps provided with or without a metering device, designed for handling motor fuels other than LP-Gas, at discharge pressures not exceeding 50 psi. The pumps are designed for use on farms or other similar applications, to be installed on skid tanks and other similar containers, or to be directly connected to underground tanks when equipped with supports for surface mounting. These pumps operate at direct motor speed of 1740 R/min at 115 V, 60 Hz or 220 V, 50/60 Hz. They are suitable for outdoor use. The special couplers and adapters for connection to a flanged opening of the tank are furnished with the pumps.

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**LOOK FOR THE UL LISTING MARK ON THE PRODUCT**

Engineer: *And R. Bowen*  
Underwriters Laboratories Inc.

Review Engineer: *Patricia H. Prohaska*  
Underwriters Laboratories Inc.

# FR700E

 <b>TUTHILL</b> Transfer Systems		Fort Wayne Indiana U.S.A.		MADE IN U.S.A. 700G7454			
MODEL: FR700E		VOLT: 230		HZ: 50/60		AMP: 2.4	
KW .25		RPM: 1425/1725		DUTY RATING: 1/2HR		PH: 1	
⊕ Ex d II T4 IP23		TYPE A AUS EX 3620		AMB. TEMP: 40°C		CODE: N ⊕	
 0344		 II 2G c T4 EEx d IIA T4 Sir04ATEX1242X		AC MOTOR: FHT		OPER. TEMP. T4	
				THERMALLY PROTECTED			
				SERIAL NO. XXXXXX		INSB 130°C	

Stamped date: WK-YR

## Materials of Construction

Materials of construction of the external surface of the unit are: painted steel; painted cast iron; painted aluminum; zinc plated steel.

Materials of construction of the wetted parts are: cast iron; steel; zinc plated steel; 300 series stainless steel; bronze; carbon; ceramic; polyester; fiber; fluorocarbon; buna; 400 series stainless steel; aluminum.

## Repair and Maintenance

Contact the place of purchase for warranty repair and maintenance.

## Special Conditions for Safe Use

The M8 fasteners used for securing the stator housing shall be Class 10.9. The M6 fasteners used for securing the terminal compartments cover shall be Class 8.8.

An electrically conductive hose and nozzle must be used with flammable liquids. To minimize static electricity buildup, keep nozzle in contact with container being filled.

## Installation

Pump must be installed in compliance with EN 60079-14.

# FILL-RITE®

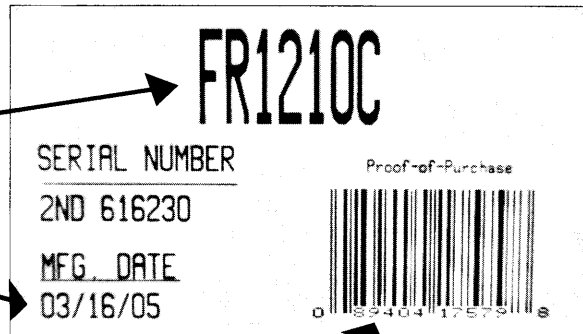
## IMPORTANT INFORMATION ABOUT YOUR WARRANTY

Thank you for your purchase of a Fill-Rite product. To activate your product warranty, go to <http://fillrite.com/warranty> to register within 10 days\*. See below for the information you will need to complete your warranty registration.

To complete your registration, look for a label like this on the outside of the carton. You will need:

Model Number  
Manufacture Date  
UPC Bar Code Number

If you have any questions about your warranty registration, please call Fill-Rite Customer Service toll-free at 800.634.2695.



\*If you are unable to complete your warranty registration online, you may register by calling Fill-Rite Customer Service toll-free at 800-634-2695.

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