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## INSTRUCTIONS MANUAL

# CONTROL, COMMAND AND CONNECTION BOX FOR MOTOR-OPERATED VALVE TYPE : LEF 730

Réf. Document :

DQ.37.J

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### 1 – REFERENCE :

European Directive 2014/34/UE  
EN 60079-0, EN60079-1, EN 60079-7, EN 60079-18,  
EN 13463-1, EN 61241-0, EN 61241-1

### 2 – MARKING:

According to European Directive 2014/34/UE

**LEF Industries**  
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**LEF 730**.....\*

Serial No. - Year of Manufacture

**INERIS 03 ATEX 0183 X**  
II 2 G ou II 2 GD\*\* - Ex e II ou Ex e d IIC ou Ex e mb d IIC T6,  
T5 ou T4\*\* - Ex tD A21 IP6X T85°C, T100°C ou T135°C\*\*  
**250 V - 5 A Do not open when ON**  
.. °C ≤ T amb ≤ .. °C\*\*

CE 0080

\* The points are replaced by a code defining the type of the electrical material.  
\*\*The type of protection, the temperature class and the ambient operating temperature are defined according to the equipment and component including in the LEF 730.

### 3 – INSTRUCTIONS FOR USE :

Our equipment is designed to be operated in explosive atmospheres in the presence of gas and/or dust particles.

**group II, category 2, G (zone 1) or GD (zones 1 and 21),**

in the range of ambient temperatures between

**-20 °C and +40°C**  
or **-10°C and +40°C**  
or **-20°C and +60°C**

or -10°C and +60°C, depending on the equipment and component including in the LEF 730.

Check to ensure the compatibility between the indications specified on the identification plate, the explosive atmosphere present, the area of use and the ambient and surface temperatures, according to the equipment and component including in the LEF 730.

### 3.1 – Commissioning and Installation :

Equipment should be installed by qualified and experienced personnel.

- Check the condition of the equipment (after storage)
- It is strictly prohibited to make any additional drill-holes or alterations.

### 3.2 - Use :

The LEF 730 equipment is designed for the position control and the remote control of a manual or motor-operated valve.

### 3.3 – Mounting and dismantling:

#### ✓ Assembly with the actuator :

- Attach the pneumatic couplings to the actuator (Accessories Kit)
- Attach the box to the actuator:

#### Flange mount box LC3:

- Place the o-ring seal (Accessories kit) in the spot-facing provided under the box.

- Place the flat nylon seals on the screws M5 x12 (Accessories Kit) and attach the box to the actuator. Check the cleanliness and the condition of the actuator before positioning the box (no chips, filings, dents, etc)

- Place the cam-holder pin on the actuator pin and attach them together using the M6 screws (Accessories Kit).

#### Box on VDI/VDE support :

- Attach the box support onto the actuator using the 4 CHC M5x10 screws (Accessories Kit)

- Connect the cables

#### ✓ Connection:

- Connection of the terminals according to the cable drawings
- Pneumatic coupling according to the cable drawings provided
- Grounding (if option)

#### ✓ Opening / Closing the box :

- Remove / Replace the screws covers
- Loosen / Tighten the 4 screws holding the cover.
- LC box: Before closing the box, check to ensure the cover pin is fitted into the base pin slot by turning the pointer: there should be slight play
- Check the cleanliness and the condition of the sealing surface before closing the box (no chips, filings, dents, etc)

#### ✓ Cable entry slots : See page 2

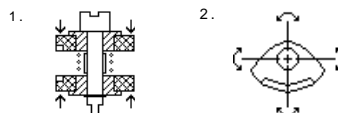
**DO NOT OPEN WHEN THE EQUIPMENT IS SWITCHED ON**

### 3.4 – Adjustment :

Be careful with the microswitch levers when adjusting the cams!

The detection cams must be adjusted as follows:

- 1- Disengage the detection cam by pressing the points as shown in figure 1
- 2- Adjust the detection parameters by rotating the cam (figure 2).
- 3- Engage the cam on the cam-holder.



### 3.5 – Maintenance :

This check must be performed at least once a year:

- The outer components (cable entry slots) and the seals must not be damaged.
- The attachment screws must be tightened to the appropriate torque

### 3.6 – Repairs:

Repairs must only be carried out by the manufacturer or by personnel authorized by the manufacturer.

### 4 – CHARACTERISTICS :

Pressure : 6 Bars max..

#### Microswitches and connection terminals:

Maximum voltage: 250V  
Maximum intensity: 5 A

#### Electrovalve PARKER LUCIFER 482606 :

-Power : 3 W  
- Power supply voltage: 12V to 110V (DC)  
24V to 230V (AC)

#### Electrovalve ASCO JOUCOMATIC 430... or PV :

-Power : 4 W  
- Power supply voltage: 12V to 110V (DC)  
- II 2 GD EEx m T5 - max amb T° : +60°C

#### Protection factor:

If the box is fitted with a GORE vent, the protection factor is equal to IP 65.

#### Maximum surface temperature :

- T6 → 85°C or T5 → 100°C

#### Maximum compressed air temperature : 40°C

### 5 – SPECIAL CONDITIONS AND RESTRICTIONS OF USE :

The range of ambient operating temperatures must be checked on the identification plate and strictly adhered to.

Each electrovalve must feature an adapted device for protection against short circuits, as defined in the respective instructions, located upstream of and outside of the danger zone.

The instructions manuals for the components used are available on request.



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#### CAPRI Cable Gland & Accessories :

Type : ECDEP

ATEX certificate : LCIE 97 ATEX 6007 X

Marking : II 2 GD Ex e II / Ex tD

Temperature : -20°C, +80°C

Sealing : IP66 without sealing ring – IP68 with sealing ring

Couple de serrage	N°	1	2	3	4	5	6	7	8	9	10
	ISO	12	16	..	20	..	25	32	40	50	63
	Pg	7	9	11	13,5	16	21	29	36	42	48
Capacité de serrage		Ø3.5 à Ø6	Ø5 à Ø8	Ø6 à Ø10	Ø8 à Ø13	Ø10 à Ø15	Ø13 à Ø19	Ø17 à Ø25	Ø24 à Ø32	Ø28 à Ø38	Ø34 à Ø44
Corps / body (Nm)		1	1,5	2	2,5	3	5,5	10	16	16	16
Chapeau / gland nut (Nm)		1	1	1,5	2	2,5	4,5	8	13	13	13

Type : ADL

ATEX certificate : LCIE 97 ATEX 6006 X

Marking : II 2 GD Ex d IIC / Ex e II / Ex tD

Temperature : -40°C, +100°C ou -70°C, +220°C

Sealing : IP68 10 bars maxi.

Couple de serrage	N°	5	6	7	8	9	10	11	12
Corps / body (Nm)		7,5	10	15	25	30	50	75	105
Chapeau interne / Internal cap-nut (Nm)		20	35	40	65	95	185	275	650
Chapeau externe / External cap-nut (Nm) ADL 4F		10	15	20	30	35	55	80	110

Type : ADE

ATEX certificate : LCIE 97 ATEX 6008 X

Marking : II 2 GD Ex d IIC

Temperature : -40°C, +100°C ou -70°C, +220°C

Sealing : IP68 10 bars maxi.

INERIS 12 ATEX 0032 X

II 2 GD Ex db / eb IIC

-30°C, +80°C ou -60°C, +140°C

IP68 10 bars maxi.

Couple de serrage	N°	4	5	6	7	8	9	10	11
Corps / body (Nm)		4,5	7	11,5	18	34	45	60	80
Chapeau interne / Internal cap-nut (Nm) ADE 4F			12,5	17,5	25	35	45	60	80
Chapeau externe / External cap-nut (Nm)		7,5	12,5	17,5	25	35	45	60	80

#### SIB-ADR Cable Gland :

Type : WADI-TEC GSE / ECEA PELABLE

MULTIFILAIRE / PLATS EN PLASTIQUE

ATEX certificate : LCIE 99 ATEX 6030 X

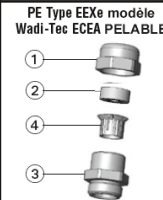
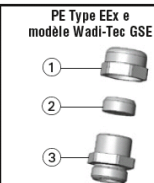
Marking : II 2 G/D Ex e II tD A21 IP 66/68

Range of ambient temperatures : -20°C, +55°C

Sealing : IP 54 without sealing ring  
IP 66 & 68 with sealing ring

PG	Lc Ecrous	ISO	Ep Ecrous	GSE >  Ø Câbles  < mini/MAXI	ECEA PELABLE >  Ø Câbles  <	
					A (mm)	B (mm)
09	2,9	M16	3	4,5 / 8	5,5 / 8	3,5 / 5,5
11	3,1			5,5 / 10,5	6,5 / 10,5	04 / 6,5
13	3,1	M20	3,5	07 / 12	08 / 12,5	05 / 08
16	3,1	M20	3,5	09 / 14	10 / 14	6,5 / 10
21	3,6	M25	3,5	11,5 / 18	12,5 / 18	08 / 12,5
29	4,1	M32	4,5	16 / 24,5	18 / 24,5	10 / 18
36	5,1	M40	4,5		24 / 34	
42	5,1	M50	5,5		34 / 42	
48N	6,1	M63	6		40 / 48	
48D	5,6				40 / 48	

48N = PE48 NFC / 48D = PG48 DIN  
 ① = Chapeau / Druckschrauben / Pressing-screw /  
 Porca de aperto / НАЖИМНОЙ БОЛТ  
 ② = Garniture / Dichtung / Seal /  
 Vedação / УПЛОТНИТЕЛЬНАЯ ВТУЛКА  
 ③ = Corps / Zwischenstützen / Lower part /  
 Corpo inferior / КОРПУС  
 ④ = Griffe / Klemmring / Clamping device /  
 Anel de crimpagem / ПРИЖИМНОЕ КОЛЬЦО



#### SIB-ADR Accessories :

Type : COMPOSANTS EN PLASTIQUE

ATEX certificate : LCIE 03 ATEX 0033 U

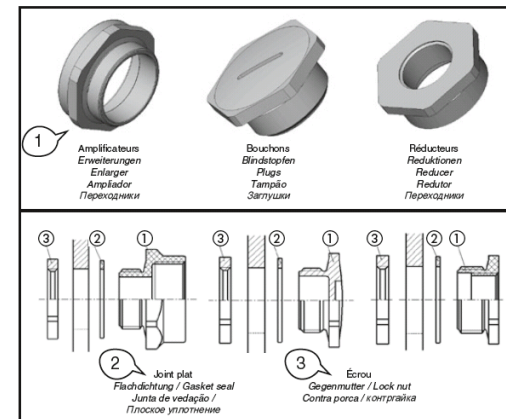
Marking : II 2 G/D Ex e II tD A21 IP 66/68

Range of ambient temperatures :

Polycarbonate material : -35°C, +95°C

Polyamide 6 material : -35°C, +90°C

Sealing : IP 66 & 68 with sealing ring



#### HUMMEL Cable Gland :

Type : HSK-K-Ex

ATEX certificate : DMT 02 ATEX E 047 X

Marking : II 2G 1D Ex e II tD A20

Range of ambient temperatures : -20°C, +95°C

Sealing : IP68 10bars maxi.