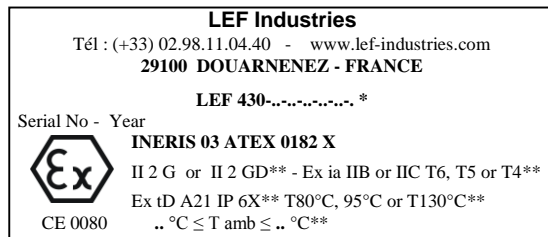


1 – REFERENCE :

European directive 2014/34/UE
EN 60079-0, EN60079-11, EN61241-0, EN61241-2

2 – MARKING:

According to European Directive 2014/34/UE



*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 430.

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 2),

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,
or -40°C and +80°C,

depending on to the equipment and component including in the LEF 1.. and the LE F3..

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 to the equipment and component including in the LEF 1.. and the LE F3..

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 430 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.
- Or - Place the flat seal (54x104mm - Accessories kit) to the actuator
- 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 provided
- 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)

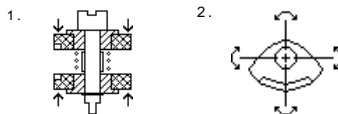
- ✓ Cable entry slots : See page 2

3.4 – Adjustment :

Be careful with the microswitch levers when adjusting the cams!

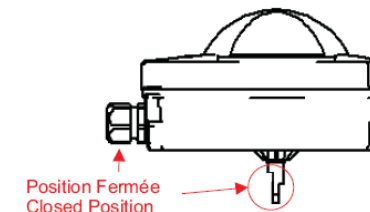
The detection cams must be adjusted as follows:

- 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.



In exit of workshop, regulating is the following:

cable gland to the left + big meplat to the left = Closed Position



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..

Voltage : according to electrovalve and/or sensor

- Intrinsic safety "i"

Protection factor:

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

Maximum surface temperature :

- T6 → 80°C or T5 → 95°C or T4 → 130°C

Maximum compressed air temperature : 40°C

5 – SPECIAL CONDITIONS AND RESTRICTIONS OF USE :

The control, command and junction box for motorized valve must be supplied by a voltage source of a certified type for a use in the explosive atmospheres of the group IIB or IIC whose output circuit is recognize of intrinsic safety.

The maximum characteristics of this source are those indicated in the documents of certification of the established devices.

The ambient temperature range of use is function of the elements installed.

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

INSTRUCTIONS MANUAL

**CONTROL, COMMAND AND CONNECTION BOX FOR MOTOR-OPERATED VALVE
TYPE : LEF 430**

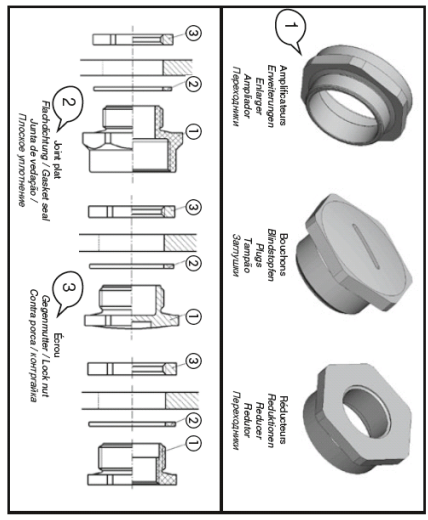


SIB Cable Gland :
 TYPE : WADI-TEC GSE / ECEA PELABLE MULTIFILILAIRE / PLATS EN PLASTIQUE
 ATEX certificate : LCIE 99 ATEX 6030 X
 Marking : II 2 GD Ex eb IIC / Ex tb IIC/ IP 6X
 Range of ambient temperatures : -20°C, +55°C
 Sealing : IP 54 without sealing ring
 IP 66 & 68 with sealing ring
WARNING : For size PG09 / M16, the mechanical shock resistance is 4 joules.

| PG | | GSE | | ECEA PELABLE | | |
|----------|-----|---------|------------|--------------|------------|-------------|
| ISO | Ep | m (MkN) | A (mm) | B (mm) | Ø Cable k | Ø Glandes k |
| 09 / 29 | M16 | 3 | 4,5 / 8 | 6,5 / 10,5 | 6,5 / 8 | 3,5 / 5,5 |
| 11 / 31 | M20 | 3,5 | 5,5 / 10,5 | 8,5 / 12,5 | 8,5 / 10,5 | 4 / 6,5 |
| 13 / 31 | M20 | 3,5 | 07 / 12 | 08 / 12,5 | 08 / 10,8 | |
| 16 / 31 | 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 | |
| 26 / 51 | M32 | 4,5 | 16 / 24,5 | 18 / 24,5 | 10 / 18 | |
| 39 / 51 | M40 | 4,5 | | 24 / 34 | | |
| 42 / 51 | M50 | 5,5 | | 34 / 42 | | |
| 48N / 61 | M63 | 6 | | 40 / 48 | | |
| 48D / 56 | | | | 40 / 48 | | |

| PE Type EEK modèle Wadi-tec GSE | | PE Type EEK modèle Wadi-tec PELABLE | |
|---------------------------------|---|-------------------------------------|---|
| 1 | 2 | 1 | 2 |
| | | | |

SIB Accessories :
 TYPE : COMPOSANTS EN PLASTIQUE
 ATEX certificate : LCIE 03 ATEX 0033 U
 Marking : II 2 GD Ex eb IIC / Ex tb IIC/ IP 6X
 Range of ambient temperatures :
 Polycarbonate material : -35°C, +95°C
 Polyamide 6 material : -35°C, +90°C
 Sealing : IP 66 & 68 with sealing ring
WARNING : The mechanical shock resistance is 4 joules.



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.

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 – IP68 with sealing ring

| Couple de serrage | Pg | N° | | | | | | | | | |
|--------------------------|-----------|---------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| ISO 12 | 7 | 9 | 11 | 13,5 | 16 | 21 | 29 | 36 | 42 | 48 | 63 |
| Capacité de serrage | Ø3,5 à Ø6 | Ø6 à Ø8 | Ø8 à Ø10 | Ø10 à Ø13 | Ø13 à Ø17 | Ø17 à Ø24 | Ø24 à Ø34 | Ø34 à Ø44 | Ø44 à Ø56 | Ø56 à Ø72 | Ø72 à Ø90 |
| Corps / body (mm) | 1 | 1,5 | 2 | 2,5 | 3 | 3,5 | 4 | 5 | 6 | 7 | 8 |
| Chapeau / gland nut (mm) | 1 | 1,5 | 2 | 2,5 | 3 | 3,5 | 4 | 5 | 6 | 7 | 8 |

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 (mm) | 7,5 | 10 | 15 | 25 | 30 | 50 | 75 | 105 | |
| Chapeau interne / Internal cap-nut (mm) | 20 | 35 | 40 | 65 | 95 | 185 | 275 | 650 | |
| Chapeau externe / External cap-nut (mm) 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.

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

COMPONENTS CHARACTERISTICS

| Component Type | Maker | Ambient temperature | EC-Type Examination Certificate | Marking | Maximum input values | | | | | | | | | |
|---|--------------------|--|---------------------------------|--|----------------------|-------|-------|--------|-------|---|---|---|---|---|
| | | | | | U (V) | I (A) | P (W) | Ci | Li | | | | | |
| Solenoid valve | SAMSON | -20°C, +60°C (Tb) / +70°C (T5) / +80°C (T4) | PTB 98 ATEX 2047 | I 2 G Ex ia IIC T6 Gb | 32 | 0,15 | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 01...H01... | FAS | -20°C, +60°C (Tb) / +75°C (T5) / +110°C (T4) | NERIS 00 ATEX 0031 X | I 1 G GD Ex ia IIC T6 Gb | 30 | 0,84 | 0,1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 630 00 *** | ASCO, JOURNALMATIC | -20°C, +50°C | BEKUNIA ATEX1060 X | I 1 G Ex ia IIC T6 Gb | 30 | 0,2 | 0,9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 195-LISC | ASCO, JOURNALMATIC | -40°C, +65°C | DEKRA 11 ATEX 0091 X | I 2 G Ex ia IIC T6 Gb | 30 | 0,3 | 1,6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Serie 302 1...A... (version 2AV) | | -20°C, +33°C (Tb) / +48°C (T5) / +80°C (T4) | NERIS 03 ATEX 0249 X | I 1 G Ex ia IIC T6 Gb | 28 | 0,3 | 1,6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ...483550.01... | | -40°C, +65°C | NERIS 03 ATEX 0249 X | I 1 G Ex ia IIC T6 Gb | 28 | 0,3 | 1,6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ...490880... | | -40°C, +65°C | NERIS 03 ATEX 0249 X | I 1 G Ex ia IIC T6 Gb | 28 | 0,11 | 0,77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ...483960.01... | PARKER LUCHER | -40°C, +55°C | LCIE02 ATEX 6066 X | I 1 G Ex ia IIC T6 Gb | 27 | 0,12 | 0,81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ...483987... | | -40°C, +55°C | LCIE02 ATEX 6066 X | I 1 G Ex ia IIC T6 Gb | 26 | 0,14 | 0,88 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ...483987... | | -40°C, +55°C | LCIE02 ATEX 6066 X | I 1 G Ex ia IIC T6 Gb | 25 | 0,15 | 0,94 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 519 34 | CRUZET | -10°C, +50°C | LCIE02 ATEX 6122 X | I 1 G Ex ia IIC T6 Gb | 24 | 0,17 | 1,02 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 519 35 ou 81 519 37 | | -10°C, +50°C | LCIE02 ATEX 6122 X | I 1 G Ex ia IIC T6 Gb | 18 | 0,07 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 519 47 | | -10°C, +50°C | LCIE02 ATEX 6122 X | I 1 G Ex ia IIC T6 Gb | 28 | 0,04 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 519 48 | | -10°C, +50°C | LCIE02 ATEX 6122 X | I 1 G Ex ia IIC T6 Gb | 18 | 0,07 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6144 | BURKERT | de -40°C, +25°C / +40°C, +100°C | PTB 07 ATEX 2048 | I 2 G Ex ia IIC T6 Gb | 35 | 0,9 | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FL...NJ...NB... and NC... | PERFERL & FUCHS | Depending on model : -25°C, +40°C, +100°C | PTB 00 ATEX 2032 X | I 2 G Ex ia IIC T6 Gb | 16 | 0,05 | 0,17 | 220nF | 360µH | | | | | |
| NC... and NU... (max. values) | PERFERL & FUCHS | Depending on model : -25°C, +40°C, +100°C | PTB 00 ATEX 2049 X | I 2 G Ex ia IIC T6 Gb | 16 | 0,07 | 0,24 | 150nF | 140µH | | | | | |
| NJ... and SJ... (max. values) | PERFERL & FUCHS | Depending on model : -25°C, +40°C, +100°C | PTB 00 ATEX 2049 X | I 2 G Ex ia IIC T6 Gb | 16 | 0,07 | 0,24 | 370 nF | 300µH | | | | | |
| NN... (max. values) | IFM | -20°C, +70°C | DMT 02 ATEX E028 | I 1 G Ex ia IIC T6 Gb | 15 | 0,05 | 0,12 | 140nF | 140µH | | | | | |
| NE... NP... NG... (max. values) | IFM | -25°C, +70°C | DMT 01 ATEX 2191 | I 1 G Ex ia IIC T6 Gb | 15 | 0,05 | 0,12 | 145nF | 340µH | | | | | |
| NN... NN... NT... NS... (max. values) | TURCK BANNER | -25°C, +70°C | KEMA 02 ATEX 080 X | I 2 G Ex ia IIC T6 Gb | 20 | 0,06 | 0,2 | 250nF | 350µH | | | | | |
| ...Y1... (max. values) | CELDUC | -40°C, +80°C | NERIS 04A TEX1015X | I 1 G GD Ex ia IIB T6 Ga Ex ia IIB T6 Gb | 60 | 0,4 | - | 200pF | 1µH | | | | | |
| FL...EK, FT...EK, FT-Z...EK, FT-3...EK, FT-9...EK | CELDUC | -40°C, +80°C | NERIS 04A TEX1015X | I 1 G GD Ex ia IIB T6 Ga Ex ia IIB T6 Gb | 60 | 0,4 | - | 200pF | 1µH | | | | | |
| RS...EK | CELDUC | -25°C, +85°C | NERIS 04A TEX1015X | I 1 G GD Ex ia IIB T6 Ga Ex ia IIB T6 Gb | 60 | 0,4 | - | 200pF | 1µH | | | | | |