



INSTALLATION, SERVICE AND MAINTENANCE INSTRUCTIONS

**ANNEX FOR CE-MARKED ATEX EQUIPMENT IN ACCORDANCE WITH
DIRECTIVE 2014/34/EU:**

UL Ex

The content of this annex supplements the information provided in the instruction manual. The instructions in this annex must be followed at all times, as supplemental guidelines for equipment marked in accordance with Directive 2014/34/EU. This annex will be supplemented by the manuals for the ATEX-certified components that form part of the assembly (motors, etc.).



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Original Manual

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EU Declaration of Conformity

We,

INOXPA, S.A.U.

Telers, 60

17820 – Banyoles (Girona)

Hereby declare under our sole responsibility that the machine

ROTARY LOBE PUMP

Model

ULTILOBE

Type

UL-12, UL-13, UL-22, UL-23, UL-32, UL-33, UL-42, UL-43

From serial number **IXXXXXXXXXX** to **IXXXXXXXXXX** ⁽¹⁾

Is in compliance with applicable provisions of the following directive:

Directive ATEX 2014/34/EU

Applicable harmonized standards:

EN ISO 80079-36:2016

EN ISO 80079-37:2016

EN 1127-1:2019

EN 13237:2012

EN15198:2007

EN IEC 60079-0:2018

This Declaration of Conformity covers equipment with the following ATEX marking:



II 2G Ex h IIB T4...T3 Gb



II 2D Ex h IIIB T130 °C...T154 °C Db



II 2G Ex h IIB T4...T3 Gb

II 2D Ex h IIIB T130 °C...T154 °C Db

⁽¹⁾ Where X is a numeric character

The technical documentation referenced 33866647-827321 is on file with the notified body LABORATOIRE CENTRAL DES INDUSTRIES ELECTRIQUES (LCIE), 33, Av. du Général Leclerc BP 8, 92266 Fontenay-aux-Roses, France. Reference num. 0081.

The person authorized to compile the technical documentation is the signer of this document.

Banyoles, 2026

A handwritten signature in black ink, consisting of stylized, overlapping loops and strokes, likely representing the name David Reyero Brunet.

David Reyero Brunet
Technical Office Manager

⁽¹⁾ Where X is a numeric character



1. General considerations

1.1. INSTRUCTION MANUAL

Alongside the manual itself, this instruction manual contains the basic guidelines that must be followed during installation, commissioning and maintenance. Consequently, it is essential that the installer and the technical personnel responsible for the plant read this annex to the instruction manual before installation. This document must be kept permanently available near the corresponding pump or installation.

Both the safety instructions detailed in this chapter and the special measures and recommendations included in the other chapters of this annex must be followed or observed.

1.2. COMPLIANCE WITH THE INSTRUCTIONS

Failing to comply with the instructions may prove hazardous for operators, the environment and the machine, and may lead to a loss of rights for damage claims.

Such non-compliance could entail the following risks (in addition to those already indicated in the manual):

- Formation of explosive atmospheres and risk of explosion.

1.3. WARRANTY

Any warranty shall be immediately and fully void, and INOXPA shall also be indemnified for any product civil liability claim submitted by third parties, in the following cases (in addition to the conditions already specified in the manual):

- The equipment has been used incorrectly or negligently, or has not been used in accordance with the operating conditions for the classified area, has been operated in a different classified area, under different temperature or pressure conditions, and/or using a different substance.

RESPONSIBILITY FOR ATEX CERTIFICATION

If INOXPA S.A.U. supplies a bare-shaft pump, the explosion protection certification mark applies only to the pump. All equipment fitted must have a separate certification issued by the equipment manufacturer, which provides at least equivalent (or higher) protection as the pump. The entire unit must be certified separately by the equipment manufacturer and must include a nameplate that is different from the pump's nameplate.

If INOXPA S.A.U. supplies the complete unit, the explosion protection certification and the marking on the nameplate affixed to the pump itself will apply to that specific unit.

3. Safety

3.1 WARNING SYMBOLS

The safety instructions contained in this annex are expressed using the symbols indicated below. Failure to follow these instructions could pose a risk of injury to people or of damage to the machine and its operation:



This symbol will be used to identify the safety instructions provided in this annex that relate to the risk of formation of explosive atmospheres and creation of ignition sources in potentially explosive atmospheres. Failure to comply with these instructions could endanger your safety.

3.2 GENERAL SAFETY INSTRUCTIONS

3.2.1. During installation



To reduce the risk posed by static electricity, the assembly must be earthed to ensure electrical continuity between the pipes and the pump.

3.2.2. During operation



The limit values for operating conditions in explosive atmospheres must not be exceeded.



The pump was selected based on the operating conditions specified by the user. Therefore, INOXPA is not liable for any damage that could result from use of the pump under conditions other than those stated in the order.

3.2.3. During maintenance



Danger! Important instructions for protection against explosions.



An explosive atmosphere could be present or generated during disassembly of the pump. Safe-work permits must therefore be issued, and these tasks must be performed only by qualified or trained personnel.

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4. General information

4.1 DESCRIPTION

For UL Ex series lobe pumps, the motors must be suitable for operation in explosive atmospheres.

4.3 APPLICATION



The pump was selected for a given set of pumping conditions and operating conditions in explosive atmospheres when the order was placed. INOXPA will not be liable for any damage that could arise if the information provided by the purchaser is incomplete or incorrect (fluid type, viscosity, RPM, classification of the potentially explosive area, gas generated by the potentially explosive atmosphere, etc.).



If the customer wishes to fit the external bypass pumps with overflow valves, these valves must comply with Directive 2014/34/EU, and the bypass must be electrically connected (equipotential) with the rest of the equipment.

5. Installation

5.1 ACCEPTANCE OF THE PUMP



Check that the pump received is suitable for the operating conditions in the classified area and complies with the terms of the order.

5.2 IDENTIFICATION OF THE PUMP

Check the consignment in accordance with the instructions provided in the user manual and the ATEX marking on the equipment as stated on the manufacturer's nameplate, ensuring that it complies with the terms of the order.



II 2G Ex h IIB T4...T3 Gb



II 2D Ex h IIB T130 °C...T154 °C Db



II 2G Ex h IIB T4...T3 Gb

II 2D Ex h IIB T130 °C...T154 °C Db

ATEX CE marking on the manufacturer's nameplate

If the marking on the equipment does not match the order, INOXPA should be informed immediately of the situation.

The temperature class and maximum surface temperature depend on the temperature of the product to be pumped and the ambient temperature.

Temperature class for explosive gas atmospheres

Temperature class	Product temperature (cleaning or process)	Ambient temperature
T3	Will be T3 if the SIP temperature $\leq 140^{\circ}\text{C}$	-20°C to $+40^{\circ}\text{C}$
T4	Will be T4 of the product temperature $\leq 120^{\circ}\text{C}$	-20°C to $+40^{\circ}\text{C}$

Maximum surface temperature for explosive dust atmospheres

Maximum surface temperature	Product temperature (cleaning or process)	Ambient temperature
T154°C	Will be T154°C if the SIP temperature $\leq 140^{\circ}\text{C}$	-20°C to $+40^{\circ}\text{C}$
T130°C	Will be T130°C if the product temperature $\leq 120^{\circ}\text{C}$	-20°C to $+40^{\circ}\text{C}$

Notations

- The sterilisation-in-place (SIP) cleaning process must be carried out with the pump switched off.

- For explosive dust atmospheres, the temperature limitations indicated in Standard EN 60079-14:2014 must be applied: the maximum surface temperature of the equipment must not exceed two-thirds of the minimum ignition temperature in °C of the dust-air mixture in question:
$$T_{\max} \leq 2/3 \text{ TCL}$$
where TCL is the minimum ignition temperature of an explosive dust cloud.
- For explosive dust atmospheres, the dust layer thickness limitations indicated in Standard EN 60079-14:2014 must be applied: where the equipment is not marked with a dust layer thickness as part of its T-classification, a safety factor must be applied, taking the dust layer thickness into account, as follows:
up to 5 mm in thickness:
The maximum surface temperature of the equipment must not exceed a value of 75°C below the minimum ignition temperature for a 5 mm-thick layer of the dust in question:
$$T_{\max} \leq T5 \text{ mm} - 75^{\circ}\text{C}$$
where T5 mm is the minimum ignition temperature of the 5 mm layer of dust.

5.3 TRANSPORT AND STORAGE

If the pump is not intended to be used immediately, it must be repositioned twice a week in order to prevent the impeller and mechanical seal from seizing.

5.4 LOCATION

Place the pump near a floor drain. Please note that the handling of flammable liquids could result in the drain being classified as Zone 0. All appropriate safety guidelines must therefore be followed.

The motors used must be CE-marked in accordance with ATEX Directive 2014/34/EU and in accordance with the manufacturer's instructions and the applicable national and local regulations.



When flammable or explosive liquids are being pumped, use a suitable connection. Connect the components of the unit with the earth connections to reduce the risk posed by static electricity.

Temperatures inside and around the pump may become high depending on the fluid being pumped.



Please note that the surface temperature of the pump under normal operating conditions is determined by the fluid it pumps. The temperature range stated in Section 5.2 must therefore be applied.

The pump must be installed in a horizontal position to ensure correct operation, particularly in the mechanical seal chamber.



Ensure that air can circulate to cool the pump motor. Ensure that there is no other equipment or surface near the motor that could transfer additional heat or affect the cooling of the motor. See the instruction manual for the motor.

The baseplate must in all cases have an earthing switch. The earth connection must be correctly secured to the baseplate.

5.6 PIPES



Ensure that the pump's suction and discharge valves are open before starting the pump.



Ensure that the pump is switched off before closing the suction and discharge valves.



Take care to allow for thermal expansion when pumping hot liquids. In this case, use expansion joints, taking particular care to ensure that the equipment remains electrically connected (electrical equipotentiality) to the rest of the assembly.

5.6.1. Shut-off valves



Use CE-marked valves in accordance with the ATEX Directive 2014/34/EU and in accordance with the manufacturer's instructions and both national and local regulations.



If a filter is fitted to the suction side, it must comply with Directive 2014/34/EU, and regular inspections must be carried out to ensure that it does not become blocked and cause the pump to run dry.

5.8 AUXILIARY SYSTEM FOR MECHANICAL SEALS

5.8.1 Buffer fluid: cooled mechanical seal (quench)

- Check the level of the supply reserve.
- Check the temperature of the cleaning fluid.
- Check the condition of the cleaning fluid through inspection: replace the cleaning fluid if it is contaminated with any foreign liquid.

Frequent contamination indicates an unacceptable leak in the sealing system, which must be addressed.

5.8.2 Barrier fluid: double mechanical seal

- Check the level of the supply reserve.
- Check the temperature of the cleaning fluid.
- Check the pressure.

Please note: the cleaning fluid must always be under pressure when the pump is running

- Check the condition of the cleaning fluid: replace the cleaning fluid if it is contaminated with any foreign liquid.

Contamination of the fluid indicates irregular or incorrect operation and must be investigated. For example, the sealing system could be leaking on the medium side or could be open due to insufficient back pressure of the cleaning fluid.

Single mechanical seal

If this single mechanical seal is working under dry conditions, the maximum temperature for the operating area could be exceeded. This is why a simple mechanical seal must not operate **under any circumstances** under dry conditions.

- Check regularly that the single mechanical seal is functioning correctly.
- Check that the hydraulic part of the pump is always primed with fluid during operation.
- Avoid pumping fluids that contain large quantities of gas.

The end user must use a flow detector, flow meter or any other device fitted to the pump's suction side to ensure a constant flow into the pump, in order to prevent any increase in the surface temperature. Another option is to fit a temperature sensor to the mechanical seal.

5.9 EXTERNAL PRESSURE BYPASS



If the customer wishes to fit the external bypass pumps with relief valves, these valves must comply with Directive 2014/34/EU, and the bypass must be electrically connected (equipotential) with the rest of the equipment.

5.10 ELECTRICAL INSTALLATION

Before connecting an electric motor to the mains, check local electrical safety regulations, as well as the standards UNE-EN 60204-1:2007 CORR:2010 and UNE-EN 60079-14:2010/AC:2012. Also check the supplier's instruction manual. This motor must be ATEX-certified and must provide adequate protection for the working environment in which it is to operate.



Follow the motor manufacturer's instructions at all times

The possibility that circuit breakers might need to operate in a potentially explosive atmosphere must be considered. The circuit breakers selected must therefore be ATEX CE-marked in accordance with Directive 2014/34/EU, where necessary.



The operating equipment must comply with the applicable electrical safety regulations, and with the instructions provided by the ATEX motor manufacturer.

Consult the supplier's instruction manual before connecting the motor to the mains. This motor must be ATEX-certified and must provide adequate protection for the working environment in which it is to operate.



Electrical equipment, terminals and components of control systems could still carry a charge after being disconnected. Contact with these components could endanger the safety of operators and the installation, or cause irreparable damage to the equipment. The supplier's instructions for safe opening of the motor must be followed at all times.



Safe-work permits must be issued for any handling of the equipment in the presence of potentially explosive atmospheres, and it is recommended that work of this type be carried out in non-classified atmospheres (where there is no explosive atmosphere at the pump's location while it is being handled).



The inverter or gear reducer must comply with the specifications laid down in the ATEX Directive 2014/34/EU.



Always consult the manual provided by the supplier of the inverter or gear reducer to ensure it is installed correctly.



The direction of rotation must be checked with the pump drive disengaged.

If there is a risk of explosion when checking the direction of rotation, carry out this check with the pump fully primed.

6. Start-up



Special safety measures, such as safe-work permits, etc., must be put in place when any kind of work is to be carried out in a potentially explosive atmosphere.

6.1 CHECKS BEFORE STARTING UP THE PUMP



Before start-up, the persons responsible must be fully briefed about the pump and the safety instructions. This annex and the instruction manual must be available to personnel at all times.



Ensure that the pump's suction and discharge valves are open before starting up the pump.

If there is a risk of the pump running dry, fit a flow detection sensor to the pump's suction side, or any other safety device that prevents the pump from operating under dry conditions.

In the case of a (non-cooled) single seal, the pump and the area around the seal must be flooded with the pumped fluid before the pump is started up.



If the fluids to be drained are flammable, potentially explosive atmospheres could form. Safe-work permits must therefore be issued.

6.2 CHECKS WHEN STARTING UP THE PUMP



Explosive atmospheres could be generated when the pump is started up. Safe-work permits must therefore be issued and such work must only be carried out by qualified or trained personnel, in accordance with the ATEX Directive 2014/34/EU.

8. Maintenance

8.1 GENERAL CONSIDERATIONS



Maintenance work on any equipment intended for use in potentially explosive atmospheres must involve the use of safe-work permits, as specified in the ATEX Directive 2014/34/EU.



Maintenance work may only be carried out by qualified personnel. Wear appropriate clothing. Ensure that personnel read the entire instruction manual and this annex, and, in particular, draw their attention to the sections relating to the tasks to be carried out.

Use tools that are technically suitable for maintenance and repair work. If the area is not unclassified, all tools must be explosion-proof and safe-work permits must be issued.

In addition to the safety instructions set out in the manual, the instructions provided by the motor manufacturer for safely starting the motor must be followed at all times.

When spare parts are ordered for a pump to be used in a classified area, the fact that the pump is an ATEX-certified pump must be explicitly stated in the order and the serial number must be provided.

If the spare parts are not requested in this way, INOXPA will not be liable if the pump is operated with components that are unsuitable for the classified area in which it is installed.

If rust is observed on the painted surface of the support, that area must be repainted to avoid the risk of any defects occurring. The support is made of an alloy containing less than 7.5% light metals.

8.2 CHECKS ON MECHANICAL SEALS

Check areas 1 and 21 daily. Check areas 2 and 22 weekly.

For a double mechanical seal:

- Checks on temperature, level and barrier fluid pressure are essential and it is advisable to install an automatic device that stops the pump when the temperature of the fluid exceeds the temperature class in the classified area or when the fluid is not at the required level.

For single mechanical seal + thermal sensor:



Always follow the instructions provided by the mechanical seal manufacturer, particularly regarding the connection of the temperature sensor.

8.5 LUBRICATION



Check that the oil level is correct every week for areas 2 and 22, and every day for areas 1 and 21. If the level is not correct, add oil up to the required level. The first oil change must be carried out after 150 hours of service. Following this, the oil must be changed after every 2,500 hours of service or at least once a year under normal operating conditions.



Fill the oil reservoir to the level in the centre of the sight glass. NO MORE, NO LESS, as both too much and too little oil can lead to problems associated with increasing temperatures.

See the table below for the amount of oil to put in each reservoir:

Type	Amount of oil in the reservoir (l) Horizontal connections	Amount of oil in the reservoir (l) Vertical connections
UL-1	0.38	0.36
UL-2	1.0	0.9
UL-3	1.4	1.3
UL-4	2.6	2.5

8.6 STORAGE



Explosive atmospheres could be present or could form when the pump is drained. Safe-work permits must therefore be issued and any potential sources of ignition in the vicinity of the equipment or workplace must be eliminated.

8.7 CLEANING

The user is responsible for establishing a cleaning or disinfection plan that suits its needs. This plan should take into account all applicable laws, regulations and standards related to protection of public health and safety in the use and disposal of chemical products.



Do not spray the hot parts of the pump with water, as some components might crack and pump fluid could spill into the environment, thereby generating a potentially explosive atmosphere.



External cleaning of the equipment must be carried out to prevent excessive accumulation of combustible or explosive dust on the outer surfaces of the unit. The accumulated dust must never exceed 2 mm.

Ensure that the workplace is kept clean, as some parts are very delicate and others have tight tolerances.



The possible presence of explosive atmospheres must also be considered. Safe-work permits must therefore be issued.

8.7.3 Automatic sterilisation-in-place (SIP)

The pump must be switched off when this type of cleaning is carried out.

8.8 DISASSEMBLING AND ASSEMBLING THE PUMP. GENERAL CONSIDERATIONS



Incorrect assembly or disassembly could impair the pump's operation, leading to high repair costs and prolonged downtime, and could even render the equipment's protection systems ineffective.

INOXPA accepts no liability for accidents or damage caused by failure to comply with the instruction manual and this annex.

In addition to the instructions provided in the manual, the possible presence of explosive atmospheres must be considered. Safe-work permits must therefore be issued.

Use tools that are technically suitable for maintenance and repair work. If the area is not unclassified, all tools must be explosion-proof and safe-work permits must be issued.

The pump must be cleaned both inside and out before being disassembled. The possible presence or formation of explosive atmospheres must also be considered. Safe-work permits must therefore be issued.



The possible presence or formation of explosive atmospheres must be considered. Safe-work permits must therefore be issued and any potential sources of ignition in the vicinity of the equipment must be eliminated.

In addition to the safety instructions set out in the manual, the instructions provided by the motor manufacturer regarding the safe opening and interlocking of the motor must be followed at all times.

Disassembling and assembling the pump cover



ATTENTION! Fluid could spill when the pump casing is removed and a potentially explosive atmosphere could be generated.

9. Technical specifications

Temperature range. See Section 5.2.

Materials

Parts in contact with the product	1.4404 (AISI 316L)
Other steel parts	1.4307 (AISI 304L)
Gaskets in contact with the product	EPDM - standard
Other seal materials	consult the supplier
Surface finish	$Ra \leq 0.8$

Mechanical seal

Type	Single seal
Material of rotating part	Carbon (C)
Material of stationary part	Silicon carbide (SiC)
Gasket material	EPDM - standard

If this single mechanical seal is working under dry conditions, the maximum temperature for the operating area could be exceeded. This is why a simple mechanical seal must not operate **under any circumstances** under dry conditions.

- Check regularly that the single mechanical seal is functioning correctly.
- Check that the hydraulic part of the pump is always full of fluid during operation.
- Avoid pumping fluids that contain large quantities of gas.



The end user must use a flow meter, flow detector or any other safety device to ensure that there is a constant flow to the pump and prevent it from operating under dry conditions.

- a. **Double mechanical seal, balanced.** The seal must be protected by monitoring the cleaning fluid.

- Check the level of the supply reserve.
- Check the temperature of the cleaning fluid.
- Check the pressure.



Attention! The cleaning fluid must always be under pressure when the pump is running.

- Check the condition of the cleaning fluid: replace the cleaning fluid if it is contaminated with any foreign liquid. Contamination of the cleaning fluid indicates irregular or incorrect operation and must be investigated. For example, the sealing system could be leaking on the medium side or could be open due to insufficient back pressure of the cleaning fluid.

- b. **Cooled mechanical seal (quench).**

- Check the level of the supply reserve.
- Check the temperature of the cleaning fluid.
- Check the condition of the cleaning fluid through inspection: replace the cleaning fluid if it is contaminated with any foreign liquid.

Frequent contamination indicates an unacceptable leak in the sealing system, which must be addressed.

How to get in touch with INOXPA S.A.U.:

details for all countries are continuously
updated on our website.

Go to www.inoxpa.com to access the information.



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