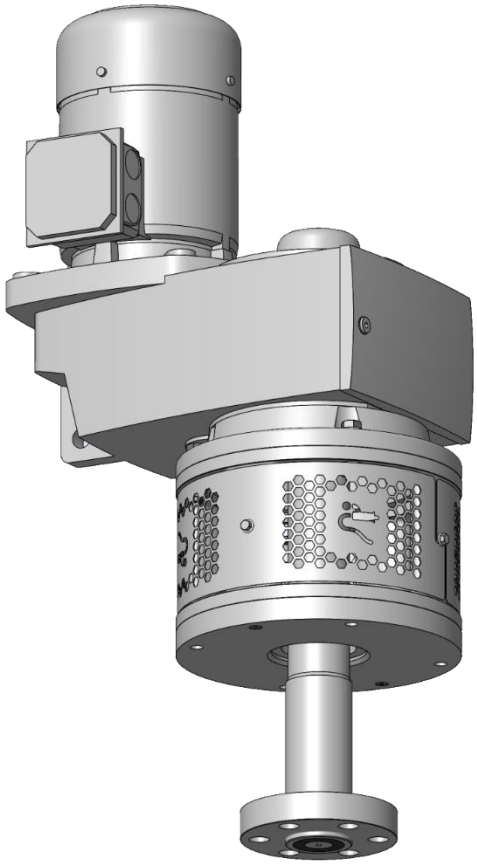
INSTALLATION, SERVICE AND MAINTENANCE INSTRUCTIONS

ANNEX FOR CE MARKED EQUIPMENT ACCORDING TO THE ATEX DIRECTIVE 2014/34/EU:

VERTICAL AGITATOR CRC Ex

The content of this Annex supplements the information in the instruction manual. The instructions in this Annex must be taken into account in conjunction with the equipment marked according to Directive 2014/34/EU.

This Annex is complemented by the manuals of the ATEX-certified components comprising the assembly (e.g. drives, etc).



20.067.32.0017

Original Manual
20.067.30.01EN
(B) 2023/05

EU Declaration of Conformity

We:

INOXPA, S.A.U.
Telers, 60
17820 - Banyoles (Girona)

Hereby declare under Our sole responsibility that the machine

VERTICAL AGITATOR

Model

CRC

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

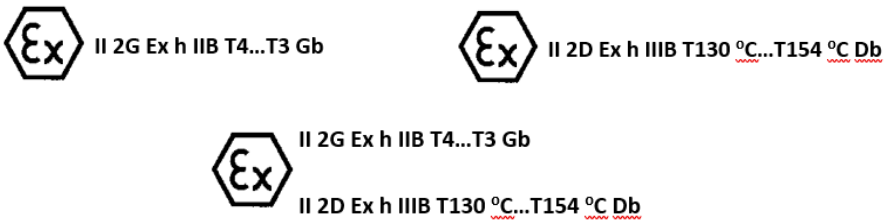
is in compliance (2) with all applicable provisions of the following directive:

Directive ATEX 2014/34/UE

Harmonized technicals norms applicable:

EN ISO 80079-36:2016
EN ISO 80079-37:2016
EN 1127-1:2019
EN 13237:2012
EN 15198:2007
EN IEC 60079-0:2018

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



This agitator working with the blades submerged in liquid is suitable for operating in closed tanks or reservoirs whose internal volume located above the liquid level is considered as **zone 0**.

The technical documentation referenced 174324-771316 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.

(1) where X is a numeric character
(2) coated gearmotor option

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

David Reyero Brunet
Technical Office Manager

Banyoles, 2023

(1) where X is a numeric character
(2) coated gearmotor option

1. Table of Contents

2. Generalities

2.1. INSTRUCTIONS MANUAL

In addition to the instruction manual, this annex to the manual contains basic guidelines which must be followed during the installation, start-up, and maintenance of this machine. Therefore, it is essential that both the installers and technical staff responsible for the plant read this annex to the instruction manual prior to the installation, and to ensure that it is permanently available next to the agitator or corresponding installation.

Not only the safety instructions detailed in this chapter must be complied with or respected, but also the special measures and recommendations added in the other chapters of this annex..

2.2. COMPLIANCE WITH THE INSTRUCTIONS

- Read the instructions in this annex in addition to the manual before installing and starting the agitator.
- The installation and use of the agitator must always be carried out in accordance with applicable health and safety regulations.
- All electrical work must be carried out by authorised specialised personnel.
- Check the characteristics of the motor and its control panel, especially in areas with a risk of fire or explosion (classified areas). The technical manager or other responsible person of the company operating the system must define risk areas (zones 0 - 1 - 2).
- When disassembling the agitator, the possible formation of potentially explosive atmospheres must be considered, and the responsible person at the operating site must issue the corresponding safe work permits.
- Do not exceed the agitator's maximum operating conditions. Do not modify the operating parameters initially set for the agitator without prior written authorisation from INOXPA.
- The limit values for the operating conditions in explosive atmospheres shall not be exceeded under any circumstances.
- Standard agitators are not designed to work while filling or emptying tanks. In the event of doing so, it could cause premature deterioration of the motor bearings, which could increase the temperature to unacceptable levels for the classified área.

2.3. WARRANTY

Any warranty will be void immediately and lawfully and, in addition, INOXPA shall be compensated for any product liability claims submitted by third parties in the case of non-compliance with any of the indications given in the attached annex or in the following cases:

The agitator was selected for use in explosive atmospheres at the time of placing the order, according to ATEX form. INOXPA is not liable for any damage that may arise if the information provided by the buyer is incomplete or incorrect (liquid type, viscosity, RPM, classification of the potentially explosive area, gas generated by the potentially explosive atmosphere, etc.)

The General Conditions of Delivery already in your possession are also applicable.

The information published in the instruction manual and this complementary annex is based on updated data.
We reserve the right to modify the design and/or manufacturing specifications of our products as required, devoid of any obligation on our part to adapt any product supplied prior to such alteration.
The technical and technological information made available in this annex, along with any graphs, charts and technical specifications provided, remain our property and shall not be used (except for starting up this machine), copied, photocopied, made available or otherwise communicated to third parties without our prior written consent.
INOXPA reserves the right to modify this annex to the instruction manual without prior notice.

3. Safety

3.1. WARNING SYMBOLS

Danger of formation of explosive atmospheres or generation of ignition sources of potentially explosive atmospheres.

3.2. GENERAL SAFETY INSTRUCTIONS

Read the instruction manual annex carefully before installing and starting the agitator. Contact INOXPA in case of doubt.

3.2.1. DURING THE INSTALLATION

Check the characteristics of the motor and its control panel, especially in areas at risk of fire or explosion.

Do not disassemble the agitator without having previously disconnected the electrical panel. Remove the fuses and disconnect the motor power cable.

All electrical work must be carried out by specialized personnel.

3.2.2. DURING OPERATION

The limit values for working conditions in explosive atmospheres must not be exceeded. INOXPA will not be held responsible for any damages that may be caused by the use of the agitator in conditions other than those expressed in the ATEX form.

3.2.3. DURING MAINTENANCE

Important notes on explosion protection.
Always observe the instructions for explosion protection.
Maintenance must be carried out by qualified personnel.

4. General Information

4.1. DESCRIPTION

For the CRC series agitators fitted with seals, the drives must be suitable for operation in explosive atmospheres.

Mechanical seal suitable for working in classified areas. The installation instructions provided by the seal supplier must be followed.

This series of agitators can have the gear motor covered.

The agitator was selected for use in explosive atmospheres at the time of placing the order, according to ATEX form. INOXPA is not liable for any damage that may arise if the information provided by the buyer is incomplete or incorrect (liquid type, viscosity, RPM, classification of the potentially explosive area, gas generated by the potentially explosive atmosphere, etc)

4.2. OPERATING

Mechanical seal dry work.

Follow the mechanical seal manufacturer's instructions at all times

- Double mechanical seal option. Must be protected by controlling the washing liquid.
    - Check the level of supply reserve.
    - Check the temperature of the washing liquid.
    - Check the pressure.
    - Check the condition of the washing liquid: Change the washing liquid if it has been contaminated by another liquid. Contamination of the liquid means that the pump is not functioning properly and it must be inspected. For example, the sealing system may have leaks in the middle or be open due to insufficient backpressure of the washing liquid.

Caution! The washing liquid must always be under pressure when the pump is operating.

4.3. APPLICATION

5. Installation

5.1. RECEPTION OF THE AGITATOR

Check the ATEX CE marking on the nameplate of the machine and verify that it meets the conditions of the order.

The CE ATEX marking of the equipment registered on the manufacturer's plate must be checked, verifying that it complies with the conditions of the order.

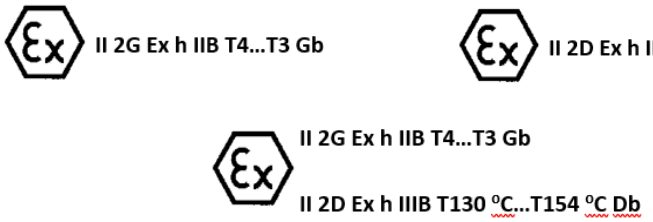


Figure 1.1.: ATEX CE marking on the nameplate.

Should the marking on the machine not correspond with the order, please contact INOXPA immediately to explain the situation.

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

Temperature class for explosive gas atmospheres

Temperature class	Product temperature	Room temperature
T4	≤ 130 °C	-20 °C to +40 °C
T3	≤ 154 °C	-20 °C to +40 °C

Maximum surface temperature for explosive dust atmospheres

Maximum surface temperature	Product temperature	Room temperature
T130 °C	≤ 130 °C	-20 °C to +40 °C
T154 °C	≤ 154 °C	-20 °C to +40 °C

5.2. IDENTIFICATION OF THE AGITATOR

The agitator is identified using a rating plate fixed onto the motor. The type of agitator and the serial number appear on the nameplate.

In addition to the indications contained in the manual, it must be taken into account that ATEX equipment will have the corresponding marking.

5.3. TRANSPORT AND STORAGE

5.4. LOCATION

It is very important to be able to access the electrical wiring and connections on the agitator, even when it is in operation.

Please be aware that while handling any equipment with an electrical connection, a potentially explosive atmosphere may be present, and for this reason safe work permits should be issued

Some type of air recirculation for cooling the gear motor on the agitator must be provided.

Make sure that there are no other systems or surfaces close to the gear motor which may radiate additional heat or may affect its cooling capacity. See instruction manual of the gear motor

Install a separate fan, if necessary, taking into account the atmosphere in which the fan should be operating (potentially explosive atmosphere).

Excessive temperatures

Depending on the fluid being agitated, high temperatures can be reached within and around the agitator:

It should be taken into account that, under normal conditions, the surface temperature of the agitator is a function of the temperature of the fluid being agitated, therefore the table of temperature classes and maximum surface temperature in section 5.1 must be taken into account

Pressurization tank

A pressurization tank for a double mechanical seal, it must be ensured that the tank is always at a height of between 1 and 2 meters with respect to the entrance and exit of the mechanical seal. See the instruction manual for the mechanical seal and pressurization bottle. Verify that the instrumentation that the pressurization tank has is suitable for the work area. Prevent the cooling circuit from running out of liquid.

5.4.1. ELECTRICAL INSTALLATION

Before connecting the gear motor to the power supply, consult the supplier’s instruction manual. The gear motor must be ATEX certified and with adequate protection for the work environment in which it is intended to operate.

Before connecting a gear motor to the mains, check the local electrical safety regulations, as well as the specifications of standards EN 60204-1 and EN 60079-14 currents of the moment.

Electrical equipment, terminals and components of the control systems may still bear electrical current when they are disconnected. Making physical contact with them can endanger the safety of the operators and the installation or cause irreparable damage to the equipment; the supplier’s instructions for the safe opening of the gear motor must be carefully followed at all times

Follow the gear motor manufacturer's instructions at all times

In addition, overload protections suitable for the gear motor power rating must be installed on the gear motor

Safe work permits shall be issued if the system is to be handled in the presence of potentially explosive atmospheres; it is recommended to do this kind of work in non-classified atmospheres (no explosive atmosphere can be present at the location of the agitator during its handling)

The switchgear must comply with all applicable regulations, as stipulated in the electrical safety regulations as well as the directions laid down by the manufacturer of the ATEX gear motor

5.5. ASSEMBLY

ATEX agitators are very compact machines and are always supplied together with the drive.

6. Start-up

Explosive atmospheres may be generated during the start-up of the agitator, and safe work permits should be issued for this purpose. These tasks shall only be carried out by qualified or trained personnel

Do not modify the operating parameters initially set for the agitator, according to ATEX Form sheet; since this could result in deterioration and the risk of formation of explosive atmospheres and ignition sources, placing the operator in danger

The agitator cannot operate with no fluid in the tank. Therefore, a safety system is required to ensure a minimum fluid level of 350 mm above the top blade when the agitator is running.

7. Troubleshooting

8. Maintenance

8.1. GENERAL CONSIDERATIONS

Maintenance of any equipment intended for use in potentially explosive atmospheres shall only be carried out in conjunction with the use of safe work permits as specified in Directive 1999/92/EC

8.2. MAINTENANCE

The possible presence or generation of explosive atmospheres should be taken into account during maintenance work, and safe work permits should therefore be used accordingly

Maintenance of the gear motor shall be performed according to the manufacturer's specifications; refer to the manufacturer's instruction manual.

Use tools which are technically suitable for the specific maintenance and repair work involved. If the area is not declassified, all the tools used must be non-sparking and safe work permits shall be required

In the case of painting the parts of the agitator (except drive), the type of paint to be used must be conductive, dissipative or antistatic insulating, so that no accumulation of charges occurs or, if yes, these are controlled (paint must have a surface resistivity < or = 1 Gohm)

8.3. LUBRICATION

The motor and gearbox drive bearings must be greased according to the manufacturer's indications.

8.4. SPARE PARTS

To request spare parts for an agitator intended to work in a classified zone, it is necessary to explicitly indicate in the order that it is an ATEX agitator and include the manufacturing number.

If the spare parts are not requested in this way, Inoxpa shall not be responsible for the case that the agitator may not operate with parts which are not suitable for the classified zone where is installed.

8.5. CONSERVATION

8.6. DISASSEMBLY AND ASSEMBLY OF THE AGITATOR

Disassembly or assembly of any equipment intended for use in potentially explosive atmospheres shall only be carried out in conjunction with the use of safe work permits as specified in the Directive 1999/92/EC.

Both the assembly and disassembly of agitators must be performed by qualified personnel, using only appropriate tools, as well as suitable working methods.

Use tools which are technically suitable for the specific maintenance and repair work involved. If the area is not declassified, all tools must be non-sparking and safe work permits must be issued.

Incorrect assembly or disassembly may cause the agitator to malfunction and lead to high repair costs and a long down-time period, even invalidating the system's protection systems.

INOXPA is not responsible for accidents or damages caused by failure to comply with the instruction manual and with this annex.

Cleaning

Before disassembling the agitator, it must be cleaned both on the outside and on the inside. Furthermore, the possible presence or formation of explosive atmospheres should be taken into account, and safe work permits should therefore be used accordingly.

8.6.1. DISASSEMBLY OF THE AGITATOR

8.6.1.1. DISASSEMBLY OF THE PROPELLER

8.6.1.2. DISASSEMBLY OF THE SCRAPERS

8.6.1.3. DISASSEMBLY OF THE COUPLING FLANGE

8.6.1.4. DISASSEMBLY OF THE HEAD OF THE AGITATOR

8.6.2. ASSEMBLY OF THE AGITATOR

8.6.2.1. ASSEMBLY OF THE HEAD OF THE AGITATOR

8.6.2.2. ASSEMBLY OF THE COUPLING FLANGE

8.6.2.3. ASSEMBLY OF THE SCRAPERS

8.6.2.4. ASSEMBLY OF THE PROPELLER

8.6.2.5. ASSEMBLY OF THE TRIPOD’S BEARING

9. Technical Specifications

Temperature range. See section 5.1.

How to contact INOXPA S.A.U.:
Contact details for all countries are
continually updated on our website.
Please visit www.inoxpa.com to access the information.

20.067.30.01EN · (B) 2023/055