Alfa Laval Clariot™

Condition monitoring

2070-0043

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Instruction Manual

BRITISH ENGLISH

Published by
Alfa Laval Kolding A/S
Albuen 31
DK-6000 Kolding, Denmark
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The original instructions are in English

Contents

1 Declarations of Conformity

1.1 EU Declaration of Conformity, Clariot™ VX

The designated company

Alfa Laval Kolding A/S, Albuen 31, DK-6000 Kolding, Denmark, +45 79 32 22 00

Company name, address and phone number

Hereby declare that

Wireless vibration sensor

Designation

Clariot™ VX

Type

Serial number from ACB 000 100 000 to ACB 000 999 999 (900k)

is in conformity with the following directives with amendments:

- ETSI EN 300 328 V2.2.2
- IEC 62311 (2019)
- EN 55014-1:2021
- EN 61000-6-2: 2019
- EN 61000 6-4: 2019
- EN 301 489-1 V2.2.3 (General)
- EN 301 489-17 V3.2.4 (BT)
- EN 301 489-1 V2.2.3 (General)
- Safety std. EN 62368-1 (4th edition) with a risk assessment.

The person authorised to compile the technical file is the signer of this document.

Vice President BU Hygienic Fluid Handling Head of Product Management	Mikkel Nordkvist	
Title	Name	
Kolding, Denmark	2025-06-01	
Place	Date (YYYY-MM-DD)	Signature

DoC Revison_ 01_062025

1.2 EU Declaration of Conformity, Clariot™ Connect

The designated company

Alfa Laval Kolding A/S, Albuen 31, DK-6000 Kolding, Denmark, +45 79 32 22 00

Company name, address and phone number

Hereby declare that

Field gateway

Designation

Clariot™ Connect

Type

Serial number from ACB 000 000 001 to ACB 000 099 999 (100k)

is in conformity with the following directives with amendments:

- ETSI EN 300 328 V2.2.2
- ETSI EN 301 511 V.12.5.1 (2017-03), EN 301 908-1 V15-2-1(2023-01), EN 301 908-13 V13-2-1(2022-02)
- IEC 62311 (2019)
- EN 61000-6-2: 2019
- EN 61000 6-4: 2019
- EN 55014-1:2021
- EN 301 489-1 V2.2.3 (General)
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Title		Name
Kolding, Denmark	2025-06-01	
Place	Date (YYYY-MM-DD)	Signature

01_062025

2 Safety

Read this first

This Instruction Manual is designed for operators and service engineers working with the supplied Alfa Laval product.

Operators must read and understand the ***Safety, Installation and Operating*** instructions of the supplied Alfa Laval product before carrying out any work or before you put the supplied Alfa Laval product into service!

Not following the instructions can result in serious accidents.

This documentation describes the authorized way to use the supplied Alfa Laval product. Alfa Laval will take no responsibility for injury or damage if the equipment is used in any other way.

This Instruction Manual is designed to provide the user with the information to perform tasks safely for all phases in the lifetime of the supplied Alfa Laval product.

The operator shall always read the chapter ***Safety*** first. Hereafter the operator can skip to the relevant section for the task to be carried out or for the information needed.

Always read the chapter ***Technical Data*** thoroughly.

This is the complete Instruction Manual for the supplied Alfa Laval product.

NOTE

The illustrations and specifications in this Instruction Manual were effective at the date of printing. However, as continuous improvements are our policy, we reserve the right to alter or modify the Instruction Manual without prior notice or any obligation.

The English version of the Instruction Manual is the original manual. Alfa Laval cannot be held responsible for incorrect translations. In case of doubt, the English version applies.

2.1 Safety signs

Mandatory action signs

	General mandatory action sign.
	Refer to instruction manual.

Warning signs

	General warning.

2.2 Safety precautions

All warnings in the Instruction Manual are summarised on these pages. Pay special attention to the instructions below so that severe personal injury and/or damage to the supplied Alfa Laval product is avoided.

General

	Contains batteries.

Transportation and lifting

	Transport the components in the original packaging supplied by Alfa Laval.

Installation

	This product should only be installed/commissioned by instructed or otherwise competent personnel.
	Live switching of batteries!

Maintenance

Seal-protected enclosure!

Always ensure correct re-closure of the battery compartment after service.

Always dispose of batteries according to your local regulations of handling and disposal of used batteries.

Storage

Alfa Laval recommend:

- Store the supplied Alfa Laval product as supplied in original packaging
- Port opening(s) should be protected against any ingress
- Bare steel (not stainless) should be lightly oiled/greased
- Store in a clean, dry place without direct sunlight or UV light
- Temperature range -5 °C to 40 °C (23 °F - 104 °F)
- Relative humidity less than 60%
- No exposure to corrosive substances (including contained air)

Safety check

A visual inspection of any protective device (shield, guard, cover or other) on the supplied Alfa Laval product shall be carried out at least every 12 months. If the protective device is lost or damaged, especially when this leads to deterioration of safety performance, it shall be replaced. The fixing of the protective device should only be replaced with fixings of the same or an equivalent type.

Inspection acceptance criteria:

- It should not be possible to reach moving parts originally protected by a protective device
- The protective device must be securely mounted
- Ensure that screws for the protective device are securely tightened

Procedure in case of non-acceptance:

- Fix and/or replace the protective device

2.3 Warning Signs in Text

Pay attention to the safety instructions in this Instruction Manual.

Below are definitions of the four grades of warning signs used in the text where there is a risk for injury to personnel or damage to the supplied Alfa Laval product.

DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate damage to the supplied Alfa Laval product.

NOTE

Indicates important information to simplify or clarify procedures.

2.4 Requirements of Personnel

Operators

The operators shall read and understand this Instruction Manual.

Maintenance personnel

The maintenance personnel shall read and understand this Instruction Manual. The maintenance personnel or technicians shall be skilled within the field required to carry out the maintenance work safely.

Trainees

Trainees can perform tasks under the supervision of an experienced employee.

People in general

The public shall not have access to the supplied Alfa Laval product.

In some cases, specially skilled personnel may need to be hired (i.e. electricians, welders). In some cases the personnel has to be certified according to local regulations with experience of similar types of work.

2.5 Recycling Information

Unpacking

Packing material may consist of wood, plastics, cardboard boxes and in some cases metal straps.

- Wood and cardboard boxes can be reused, recycled or used for energy recovery
- Plastics should be recycled or burnt at a licensed waste incineration plant
- Metal straps should be sent for material recycling

Maintenance

During maintenance, oil (if used) and wear parts in the supplied Alfa Laval product should be replaced.

- Oil and all non-metal wear parts must be disposed of in accordance with local regulations
- Rubber and plastics should be burnt at a licensed waste incineration plant. If not available they should be disposed of in accordance with local regulations
- Bearings and other metal parts should be sent to a licensed handler for material recycling
- Seal rings and friction linings should be disposed of to a licensed land fill site. Check your local regulations
- All metal parts should be sent for material recycling
- Worn out or defected electronic parts should be sent to a licensed handler for material recycling

Scrapping

At end of use, the equipment must be recycled in accordance with the relevant local regulations. This includes replacing and scrapping batteries.

Besides the equipment itself, any hazardous residues from the process liquid must be considered and dealt with in a proper manner. When in doubt, or in the absence of local regulations, please contact your local Alfa Laval sales company.

2.6 How to Contact Alfa Laval

Contact details for all countries are continually updated on our website.

Please visit *www.alfalaval.com* to access the information directly.

3 Introduction

Alfa Laval Clariot™ is the latest iteration of our Condition Monitoring solution, designed to seamlessly integrate with Alfa Laval Bluetooth-based sensors such as the Alfa Laval Condition Monitor (CM) and Alfa Laval Clariot™ VX. This innovative product offers users an easy-to-setup, reliable, and secure method for collecting data and transmitting it to the Alfa Laval Clariot™ dashboard, enabling full access to Alfa Laval Clariot™ condition monitoring system.

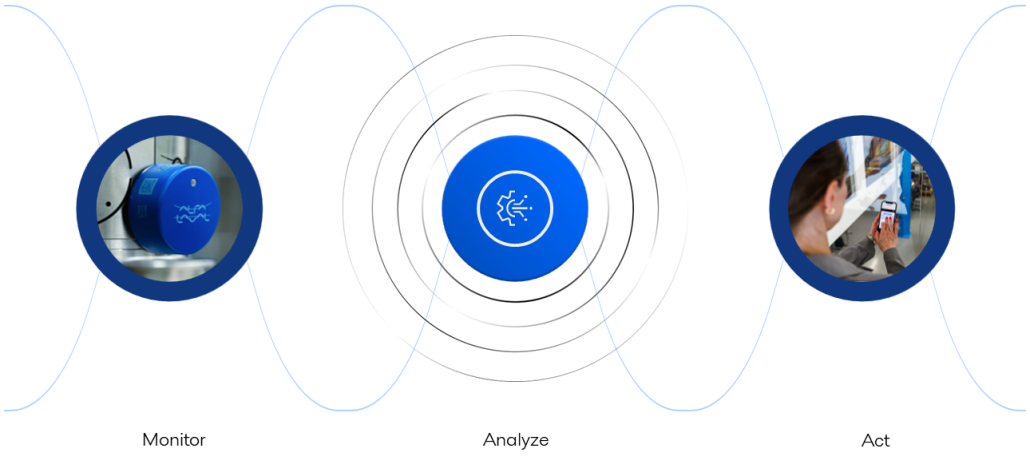
Understanding the current operational status of your equipment and identifying when service or maintenance is required is crucial for maintaining efficient and cost-effective plant operations. With Alfa Laval Clariot™, you can monitor these conditions from your desk or mobile device, eliminating the need to gather data directly from the process floor and thereby enhancing asset- and plant safety.

3.1 Working principles

The Alfa Laval Clariot™ Connect gateway is a compact, user-friendly, cloud-based gateway designed to facilitate remote monitoring of rotating equipment. This gateway leverages LTE technology for wireless communication, ensuring seamless data transmission to the Alfa Laval Clariot™ dashboards.

Clariot™ Connect gateway connects to varius Alfa Laval Bluetooth sensors like Alfa Laval Clariot™ VX sensors via Bluetooth Low Energy (BLE). These sensors measure critical parameters such as equipment vibration and temperature. The collected data is then transmitted wirelessly through the built-in cellular solution of the gateway.

Once the data reaches the Clariot™ Monitor cloud, it becomes accessible from any PC or handheld device, providing users with insights into equipment conditions. Alfa Laval Clariot™ condition monitoring system automatically carries out comprehensive analysis of changes in the equipment condition This capability allows for predictive maintenance and troubleshooting, enhancing operational efficiency and asset safety. In case of a change in health conditions of an equipment, Alfa Laval Clariot™ condition monitoring system sends out a notification to the registered owner of this equipment.



Monitor: Bluetooth Low Energy (BLE) connected sensors like Clariot™ VX

Analyze: 4G Data Connection, Clariot™ cloud and Monitor

Act: Connected devices and services - receiving notifications

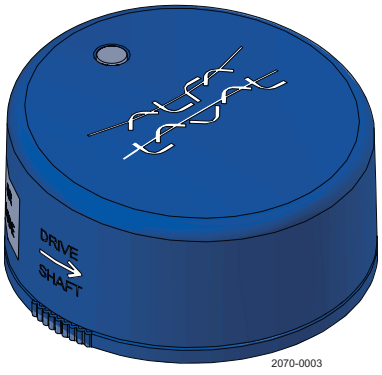
4 Installation - Clariot™ components

4.1 Installation of Clariot™ VX sensor

4.1.1 General guidelines

We recommend the following general guidelines for custom fitting Clariot™ VX sensor to rotating equipment:

VX screw	Clearance hole	Thread	Tool	Max torque
Button SHCS	[Drill Size / Depth]	[Tap Size / Depth]	Hex key	
M5 x 25 mm	4 mm / 10 mm	M5 / 7 mm	3 mm	8 Nm / 5.9 ft-lb
M6 x 25 mm	5 mm / 10 mm	M6 / 7 mm	4 mm	10 Nm / 7.5 ft-lb



For Alfa Laval and other equipment without the specific M6 tapping available for retro-fit, an adapter kit can be supplied.

Please follow the app recommendations for the specific Alfa Laval equipment.

4.1.2 Software

To install the Alfa Laval Clariot™ application, use a handheld device that operates with Android or iOS - Direct download via QR-code.[1]

NOTE **Software Compatibilities**

Update requirements for iOS and Android:

- iOS 15.1
- Android 7.0
- Bluetooth 4.0

4.1.3 Mount

1. Mount Clariot™ VX sensor on the rotating equipment. Follow the guidance of the Clariot™ phone app.
2. Wake up Clariot™ VX sensor by removing the battery strips.

For technical data, see *Technical data* on page 39.

4.1.4 Connect

1. Connect your handheld device with the Clariot™ VX sensor, and follow the “First Time Setup” instructions in the Alfa Laval Clariot™ App.

4.1.5 Wink function

To easily identify a Clariot™ VX from others, use the Wink functionality.

1. In the My Devices list, use the Wink dialog.

   Selecting Wink will instruct the Clariot™ VX to flash purple with one second between flashes for a total of one minute, giving the user time to visually locate the Clariot™ VX sensor.

[1] Application download in China with Android: Go to Condition Monitor product page at *www.alfalaval.cn* and download the application

4.2 Installation of Clariot™ Connect gateway

Upon receiving Clariot™ Connect gateway, you will find the following items in the box:

- Clariot™ Connect gateway
- 10 metre/32 ft cable

How to mount Clariot™ Connect gateway

Clariot™ Connect gateway is designed to be wall-mounted and will act solely as a gateway. Follow these steps to mount the device:

1. **Choose a suitable location.**

   Select a location on the wall that is easily accessible and provides good signal coverage for the Bluetooth sensors.

2. **Prepare the mounting surface.**

   Ensure the wall surface is clean and free from debris.

3. **Mounting the device.**

   a) Use two flat or conehead screws (not included) to secure the Clariot™ Connect gateway to the wall.

   b) Align the mounting holes on the Clariot™ Connect gateway with the pre-drilled holes on the wall.

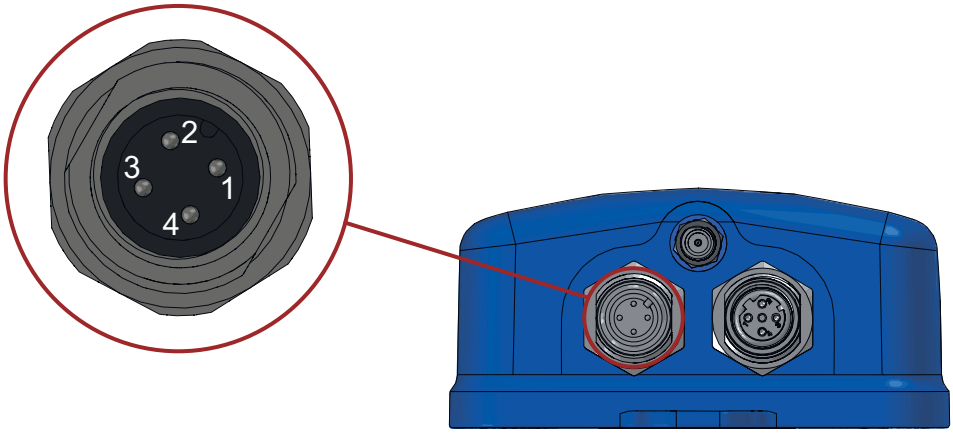
   c) Insert the screws and tighten them securely to ensure the device is firmly attached to the wall.

4.3 Power supply connector

Wiring diagram - power supply connector		
PIN1	Power supply	24VDC (brown)
PIN2	Future option	
PIN3	Power supply	GND (blue)
PIN4	Future option	

Power connector cable can be ordered through Alfa Laval using following article number:				
Cable M12	4 wire female straight connector	10 m / 30 ft length	For wall mount	8010000289

Power supply	
Power supply specifications	24VDC, 7 – 15W



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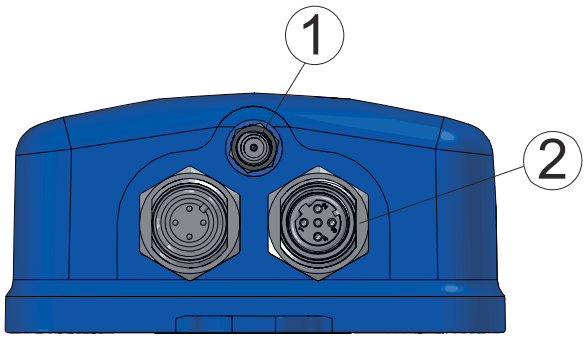
4.4 Wired communication OPTIONAL

1. LTE antenna connector for external antenna.
2. M12 connector for Fall back port.



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To get more information on using these options, follow this QR link:

4.5 Setting up of Clariot™ Connect gateway

Before starting the setup of an Alfa Laval Clariot™ condition monitoring system, you need to install the Alfa Laval Clariot™ App on your phone.

It can be found here:

Download on the App Store

ANDROID APP ON Google play

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NOTE

This is the same code and download as shown in *Installation of Clariot™ VX sensor* on page 15.

For setting up Clariot™ Connect gateway, follow the guidance and TOOLS in the Clariot™ App.

For registration of a new Clariot™ Connect gateway or a complete installation, follow the instructions in the Clariot™ App.

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5 Operation

5.1 Clariot™ Connect gateway

LED indicators and their functions

The LED indicators on Clariot™ Connect gateway provide visual feedback on the device's status and operations.

Below is a detailed explanation of the LED states.

LED indications for Gateway states

No.	State	Indication
1.	Power up	3 green blinks (100 ms on, 400 ms off) to indicate power is good and the gateway is booting.
2.	Establishing connection	• **No connection:** Slow red blink (500 ms on, 500 ms off) • **Connection at the Limit**: Slow yellow blink (500 ms on, 500 ms off) • **Stable Connection**: Slow green blink (500 ms on, 500 ms off)
3.	Check module version	• Same pattern as establishing connection
4.	Get new modules	• Faster blinking in the color of the LTE connection status (200 ms on, 200 ms off) indicates downloading new modules
5.	Operation	• **Normal Operation**: Constant green LED. • **Establishing Connection**: Slow red blink (500 ms on, 500 ms off) indicates no connection. Data from Clariot™ VXs should be stored on the gateway for later upload. • **Winking**: Flashing purple (200 ms on, 800 ms off)

5.2 Troubleshooting Clariot™ Connect gateway

No.	Problem	Action
1.	No LTE connection achieved (no green blinks shown)	Try moving Clariot™ Connect gateway to a better place regarding getting a good mobile network signal. You can use your mobile phones “network signal indicator” to get an idea of the network coverage in your present position.
2.	No LED signal visible	Check the power wiring (24VDC / +Brown / - Blue) and the correct insertion of the power plug.
3.	Missing connection with 1 or more Clariot™ Connect gateway/Clariot™ VX sensors	Check that Clariot™ Connect gateway (and Clariot™ VXs) sensors are “live” by use of the phone app. NOTE **Remember to pull the CM battery strips and do the setup by the app.**
4.	Missing connection cont.	Try moving Clariot™ Connect gateway closer to the Clariot™ VX sensor not found. Within factory buildings, the steel constructions like tanks, pipes, stairs and machines often block and divert the Bluetooth signals - so that the distance or the “line of view” between Clariot™ Connect gateway and the Clariot™ VX sensor must be optimized. To optimize in difficult situations, sometimes an extra Clariot™ Connect gateway must be used.
5.	Missing connection	Remember to put Clariot™ Connect gateway into search/ pairing mode via the phone app.

5.3 Troubleshooting Clariot™ VX sensor

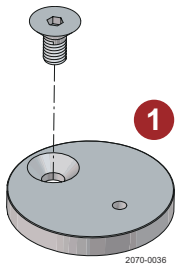
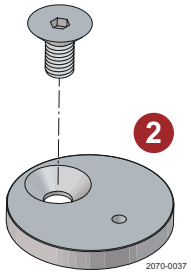
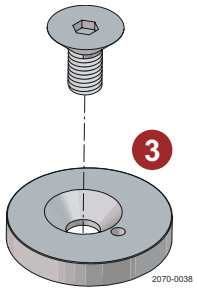
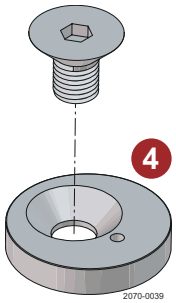
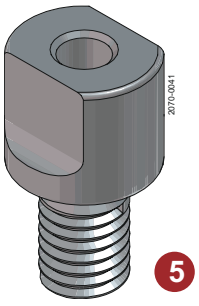
No.	State	Indication
1.	Clariot™ VX does not appear in the “My Devices” list.	Clariot™ VX is not yet started up.
2.	Clariot™ VX does not wake up when pulling the battery strips.	Change the batteries, see *Battery change, Clariot™ VX sensor* on page 34.
3.	Clariot™ VX does not respond correctly to the app setup efforts.	Power cycle Clariot™ VX by pulling out both batteries and inserting them again. Allow a few seconds for Clariot™ VX to start, then let the app scan again

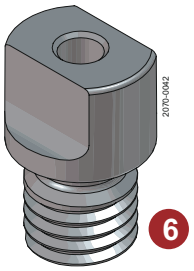
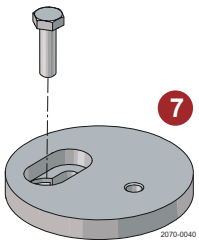
5.4 Recommended cleaning

Alfa Laval Clariot™ components are protection classified classified IP 69 - washdown suitable.

6 Mounting, mechanical guidelines

6.1 Adapter details

Type	Screw thread	Adapter item number	Adapter illustration
1. **SRU/SX 1** **(DuraCirc)**	M8	8010023177	
2. **SRU/SX 2-3**	M10	8010023178	
3. **SRU/SX 4-6**	M12	8010023179	
4. **SX 7**	M16	8010004576	
5. **OptiLobe/Twin Screw/ Agitator**	M8 Universal	8010056263	

Type	Screw thread	Adapter item number	Adapter illustration
6. **OptiLobe/Agitator**	M12 Universal	8010056264	
7. **LKH retrofit**	LKH M5	8010023177	

6.2 LKH guidelines

NOTE

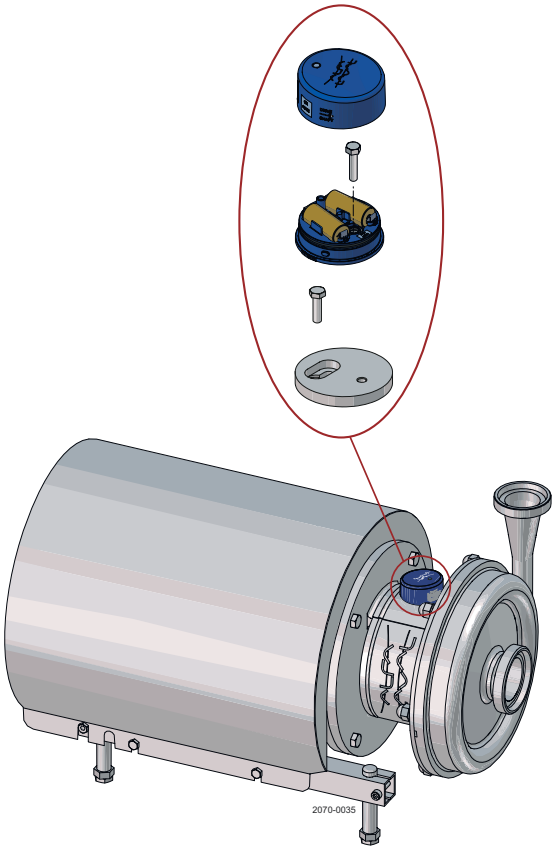
When mounting Clariot™ VX, it is important to achieve a solid mechanical connection between the equipment and the Clariot™ VX adapter plate. Clariot™ VX can be mounted on surfaces up to 80°C / 176°F.

Clariot™ VX is mounted directly on top of the LKH motor adapter piece. No use of a VX adapter, utilizing the M5 thread of the safetyguard.

1. Remove the M5 screw holding the safety guard, hold the plates in place and mount the Clariot™ VX sensor with the longer M5 screw supplied.

   The VX LED should point forward to the pump casing, parallel to the shaft direction.

Motor size	Tool Spanner M5 Clariot™ VX screw	Tool Hex key M6 Clariot™ VX screw	Max torque [Adapter screw/ Clariot™ VX screw]
IEC 80–280 NEMA 182–405	8 mm	4 mm	4.5 Nm / 8 Nm 3.3 ft-lb / 5.9 ft-lb



6.3 SRU/SX guidelines

NOTE

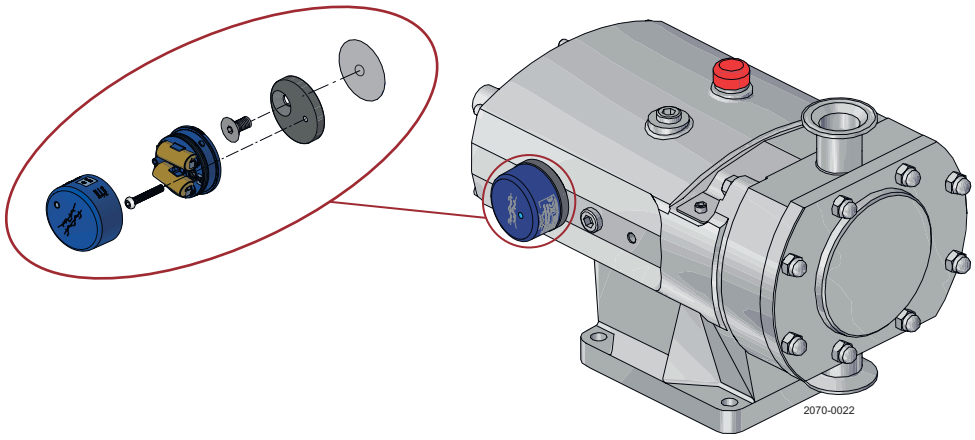
When mounting Clariot™ VX, it is important to achieve a solid mechanical connection between the equipment and the Clariot™ VX adapter plate, ideally mounted to a flat surface. Clariot™ VX can be mounted on surfaces up to 80°C / 176°F.

The SRU/SX range does not have a dedicated M6 tapping to mount the Clariot™ VX and as such an adapter kit is required to utilize existing available screw threads on the gearbox.

1. Remove a plastic cap on top or side.
2. Mount the Clariot™ VX sensor using the proper adapter according to the table view of adapter sizes.

   The VX LED should point forward to the pump casing, parallel to the shaft direction.

Pump type	Adapter type	Tool Hex key Adapter screw	Tool Hex key Clariot™ VX screw	Max torque [Adapter screw / Clariot™ VX screw]
SRU1 / SX1 (/ DURACIRC)	1	5 mm	4 mm	20 Nm / 10 Nm 15 ft-lb / 7.5 ft-lb
SRU2 & 3 / SX2 & 3	2	6 mm		40 Nm / 10 Nm 30 ft-lb / 7.5 ft-lb
SRU4, 5 & 6 / SX4, 5 & 6	3	8 mm		50 Nm / 10 Nm 37 ft-lb / 7.5 ft-lb
SX7	4	12 mm		60 Nm / 10 Nm 44.5 ft-lb / 7.5 ft-lb



6.4 DuraCirc guidelines

Older DuraCircs need adapter no. 1 (M8 screw).

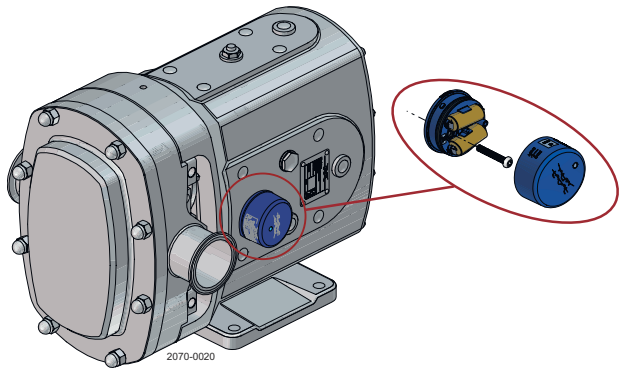
> **NOTE**
>
> **The new DuraCirc pumps do not need an adapter for Clariot™ VX sensor.**

1. Remove plastic cap and mount the Clariot™ VX sensor on the side / top in the dedicated thread hole.

   The VX LED should piont forward to the pump casing, parallel to the shaft direction.

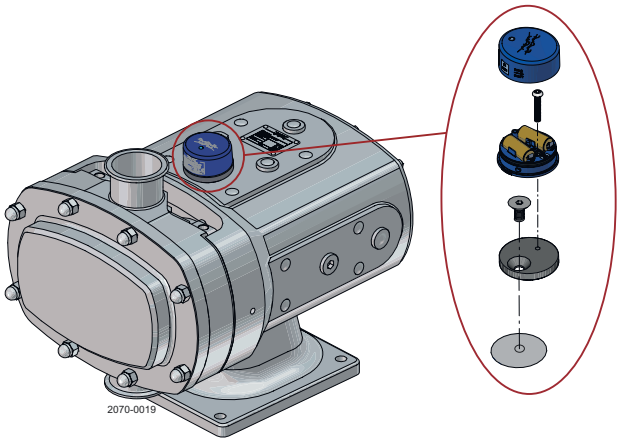
New version DuraCirc pump

No adapter



Old version DuraCirc pump

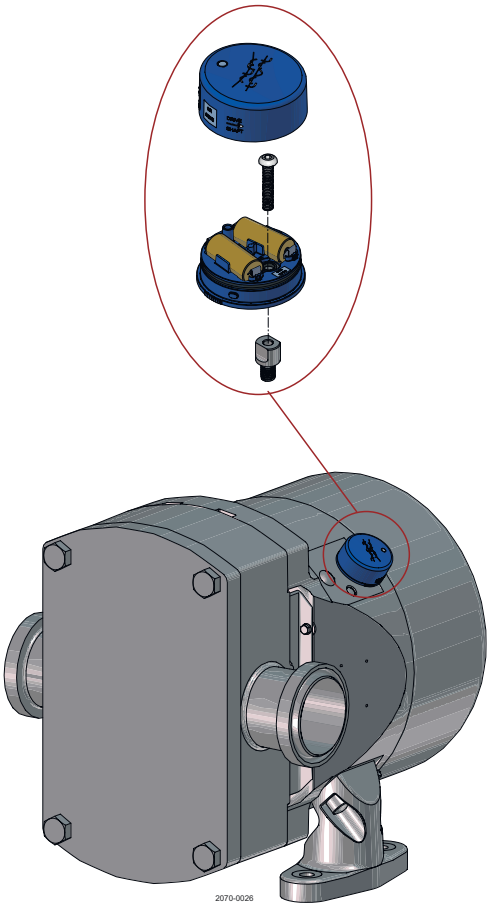
Adapter needed



6.5 OptiLobe guidelines

1. Remove a plastic cap.
2. Mount the Clariot™ VX sensor using the appropriate adapter, see note below.

   The VX LED can only point backwards to the motor, parallel to the shaft direction.



NOTE

OptiLobe 12/13 = M6 thread = NO Adapater

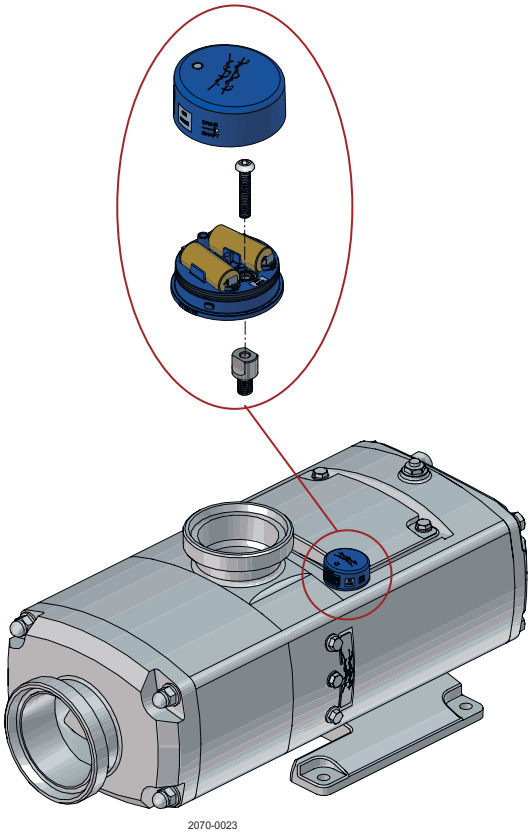
OptiLobe 22 - 43 pump = Use M8 Universal Adapter

OptiLobe 52/53 pump = Use M12 Adapter

6.6 Twin Screw guidelines

1. Remove 1 of 4 screws from the gearbox.
2. Mount the Clariot™ VX sensor with the Universal Adapter M8 instead.

   The VX LED should point forward to the pump casing, parallel to the shaft direction.



6.7 Agitator guidelines

1 **Agitator ALT / ALS / ALB without lantern.**

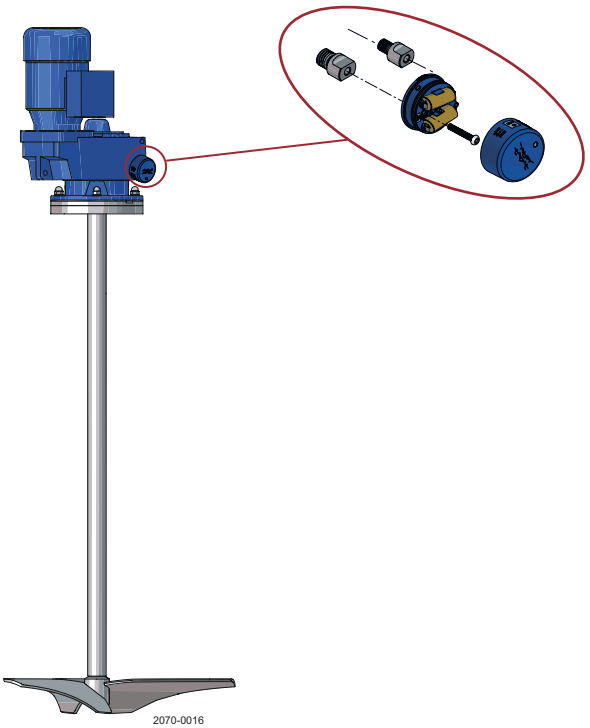
1. Mount the Clariot™ VX sensor in one of the threaded holes of the back of the gearbox.

   Use Universal Adapter M8 OR M12 depending on size of the motor. The VX LED should be pointing in direction of the rotor blade, parallel to the shaft direction.

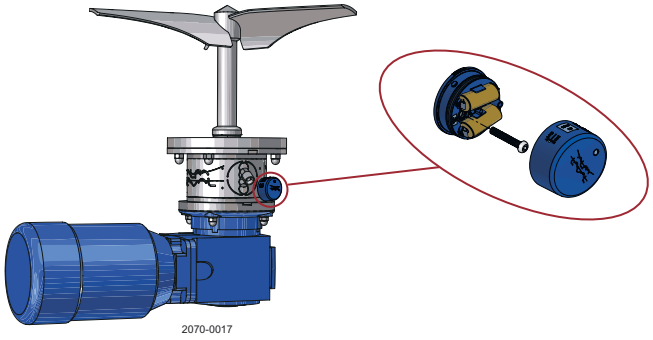
2 **Agitator ALT / ALS / ALB with lantern.**

1. Remove 2 neighbour M5 screws of the Lantern safety cover.
2. Mount the Clariot™ VX sensor using the M5 screw supplied - on one of the threaded holes, the Clariot™ VX holds both covers.

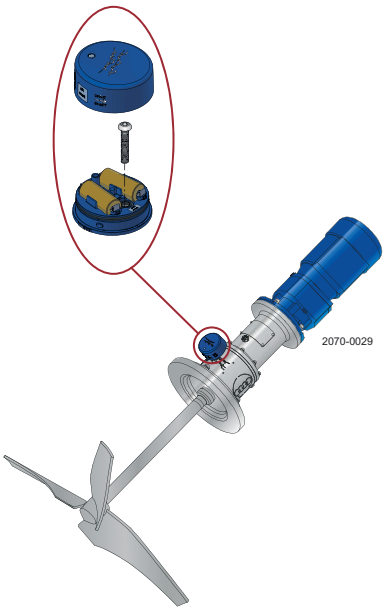
   The VX LED should be pointing in direction of the rotor blade, parallel to the shaft direction.



Agitator ALT



Agitator ALB



Agitator ALS

6.8 Other pump guidelines

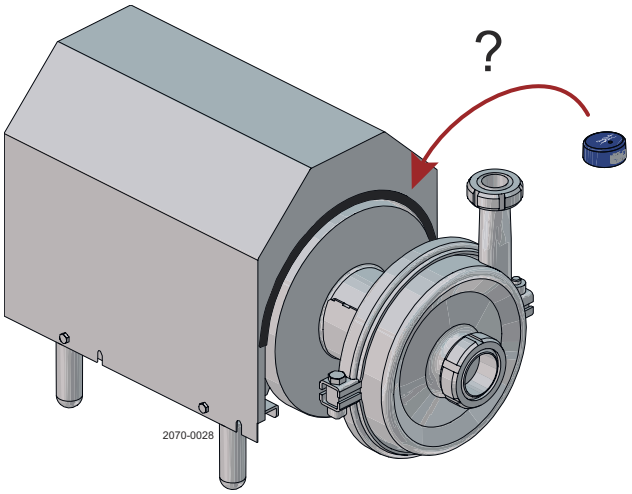
How to install Clariot™ VX sensor on other pumps.

For pumps without a dedicated thread hole for Clariot™ VX sensor screw or bracket, find a space between motor and pump casing.

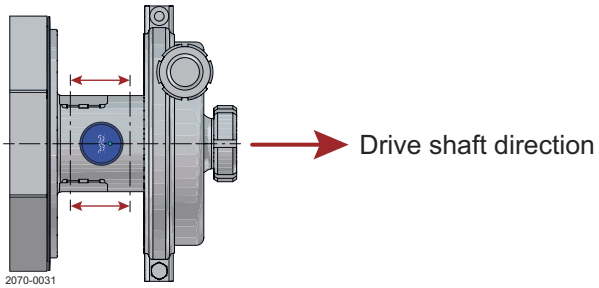
NOTE

The Clariot™ VX sensor should, if possible, point its LED towards the front / pump casing, in shaft direction.

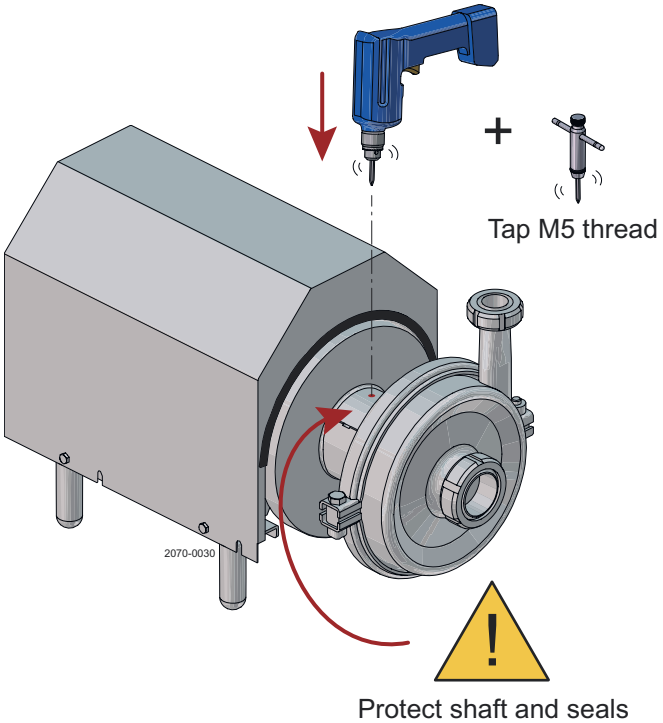
1



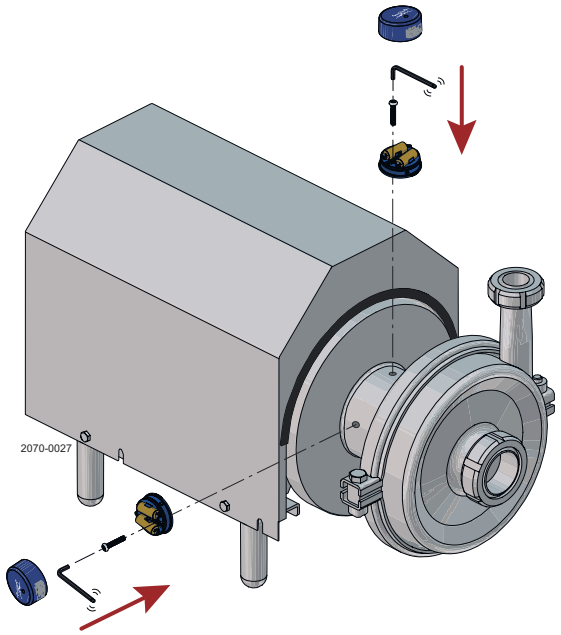
2



3

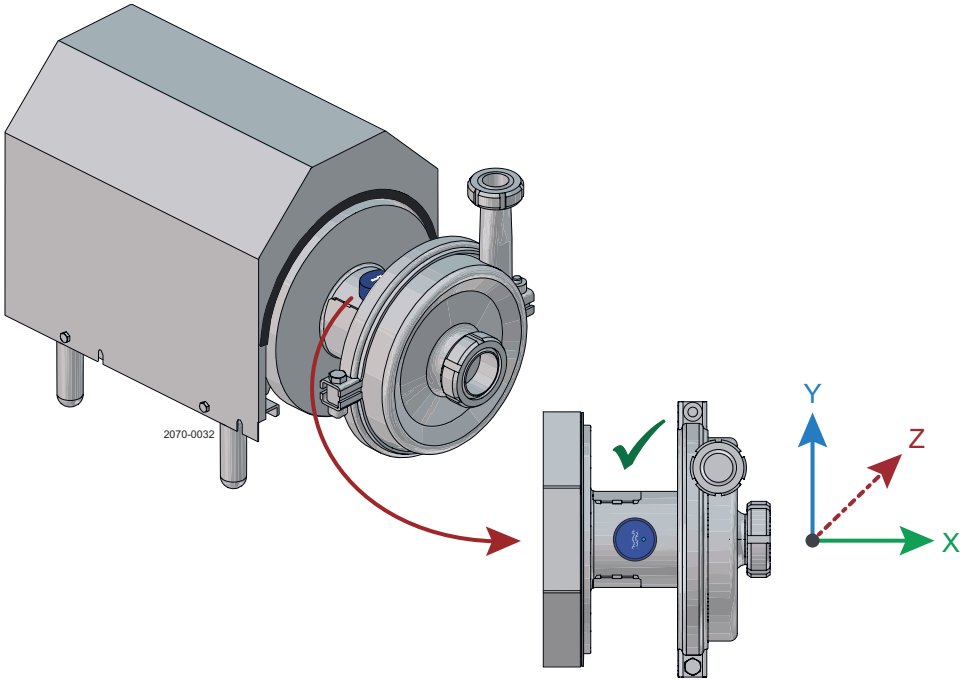


4



Alternative mounting area

5



X = Always in Drive Shaft direction

7 Maintenance

7.1 General maintenance

7.1.1 Sleep mode for storage

To put Clariot™ VX sensor in sleep mode, simply remove the two batteries (see *Battery change, Clariot™ VX sensor* on page 34).

When storing Clariot™ VX, remember to put it in sleep mode. In sleep mode all data will be preserved, while all sub routines such as measuring and logging are suspended.

While in sleep mode, Clariot™ VX life expectancy is greatly increased.

7.1.2 Exit sleep mode

To exit sleep mode, simply reinstall the batteries (see *Battery change, Clariot™ VX sensor* on page 34).

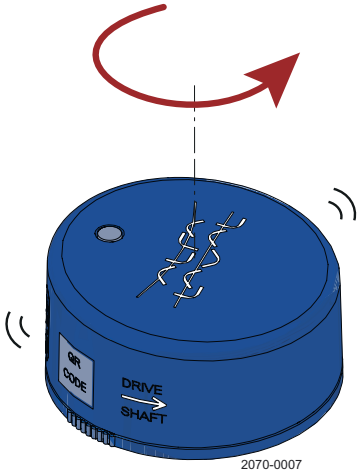
NOTE

Keep in mind that stored batteries always show a little self-discharge.

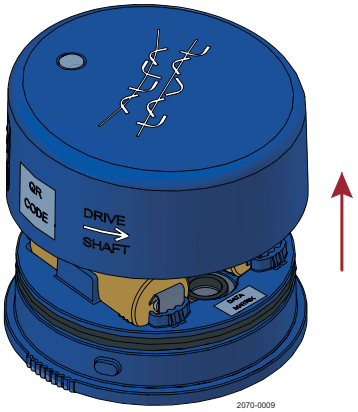
7.2 Dismantling

7.2.1 Battery change, Clariot™ VX sensor

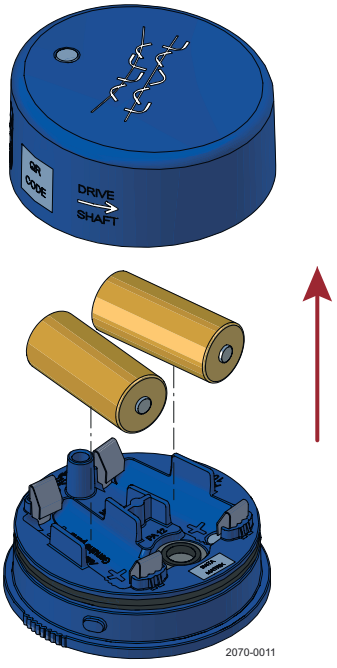
1. Twist open.



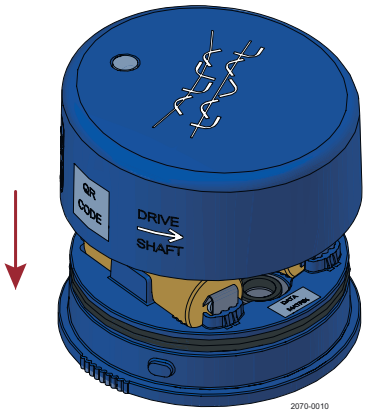
2. Lift off the lid.



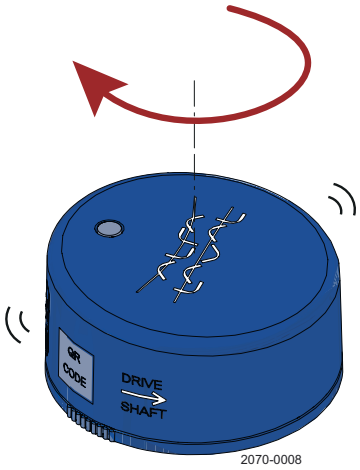
3. Replace batteries.



4 Reposition the lid.



5 Close by twisting until click.



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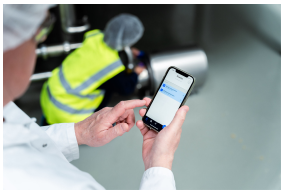
8 Operational data

Notification methods	
With Alfa Laval Clariot™ condition monitoring system, you choose the notification method that best suits your needs:	
Email:	Receive notifications directly into your inbox
In-app notifications:	Stay informed with notifications within the Clariot™ App
SMS:	Receive SMS notifications for important messages or new reports

8.1 Notification methods

Options	
Email:	Receive notifications directly into your inbox
In-app notifications:	Stay informed with notifications within the Clariot™ App web app
SMS (excluding alarms and warnings):	Receive SMS notifications for important messages or new reports

8.2 Battery change intervals

Item	Interval
Battery change intervals	Expected every third years

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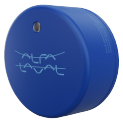
9 Technical data

Clariot™ VX sensor

General	
Plastic parts:	PA12
Steel parts:	1.4301 (AISI 304)
Battery:	2 pcs Tadiran SL761/S 2/3 AA or similar
Battery life:	2 years standard monitoring
Size:	Ø62 x 31 mm / Ø2.44 x 1.22 in
Weight:	127 g / 0.270 lbs including two batteries



Environment	
Ambient temperature:	-10°C to 60°C / 14°F to 140°F
Protection class:	IP 69

Operating parameters	
Sensing principle:	3-axis vibration range
Mounting surface temperature:	From -10°C to 80°C / 14°F to 176°F
Bluetooth range:	20 m / 65 ft line of sight
Mobile app:	Available for iOS and Android

Compliance
Clariot™ VX sensor complies with all relevant legislation. See *AlfaLaval.com* for updated list.

Warranty
12 months from date of dispatch.

Clariot™ Connect gateway

General	
Plastic parts:	PA12
Steel parts:	1.4301 (AISI 304), stainless
Size:	137 x 89 x 43 mm / 5.39 x 3.50 x 1.69 in (L x H x W)
Weight:	241 g / 0.53 lbs

Power requirements	
Power supply:	24 VDC, 7 - 15 W

Wireless Communication	
Cellular data:	4G LTE with global frequencies support SIM card included
Bluetooth Low Energy:	BLE 5.2 Host based

Environment	
Operating temperature:	0°C to 50°C / 32°F to 122°F
Protection class (water ingress):	IP65

Operating parameters	
Surface temperature:	Up to 50°C / 122°F
Cloud connection:	Cellular data
Bluetooth range:	20 m / 65 ft line of sight

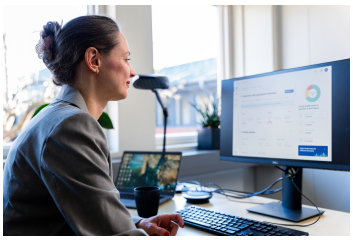
Compliance
Clariot™ Connect gateway complies with all relevant legislation. See *AlfaLaval.com* for updated list.

Warranty
12 months from date of dispatch.

Clariot™ Monitoring

Clariot™ Monitoring is an AI driven, automated analytic service for vibration of rotating equipment and temperature data. Notifications can be accessed by PC or mobile device.

General	
Contents of the package: Clariot™ Monitoring is a subscription service	
Duration:	12 months
Renewal:	Automatically



10 Spare Parts

For every delivered Alfa Laval Product, a spare part list is available.

This spare part list contains a range of the most common wear parts for the machinery. If any component not mentioned is required, please contact your local Alfa Laval representative for availability.

You can find our spare part catalogue at *https://hygienicfluidhandling-catalogue.alfalaval.com*.

Always use Alfa Laval genuine spare parts. The warranty of Alfa Laval products is dependent on use of Alfa Laval genuine spare parts.

10.1 Ordering Spare Parts

When ordering spare parts, please always state:

1. Serial number (if available)
2. Item number/spare part number (if available)
3. Capacity or other relevant identification

10.2 Alfa Laval Service

Alfa Laval is represented in all larger countries of the world.

Do not hesitate to contact your local Alfa Laval representative, with any questions or requirement of spare parts for Alfa Laval equipment.

10.3 Warranty - Definition

WARNING

The rules of Intended use are absolute. Use of the supplied Alfa Laval product is allowed only when in compliance with the technical data supplied with the Intended use.

Differing utilisation, other than agreed with Alfa Laval Kolding A/S, exclude any liability and warranty.

No modification or alteration of the supplied Alfa Laval product is allowed, unless explicit permission is granted by Alfa Laval Kolding A/S.

Liability and warranty are excluded:

- If advice and instruction of operating instructions are ignored
- For incorrect operation or for insufficient maintenance of the supplied Alfa Laval product
- For any kind of change of function of the supplied Alfa Laval product without prior written agreement by Alfa Laval Kolding A/S
- If supplied Alfa Laval product is modified by non-authorised persons
- If using the supplied Alfa Laval product without attention of appropriate safety regulations, (see *Safety* on page 7)
- If protection equipment is not used and vessel process / ancillary equipment is not brought to a standstill
- If the supplied Alfa Laval product and ancillary parts are not properly maintained (to be executed in intervals and including fitting of prescribed replacement parts)

When exchanging parts, only original replacement parts, released from the manufacturer, must be used.