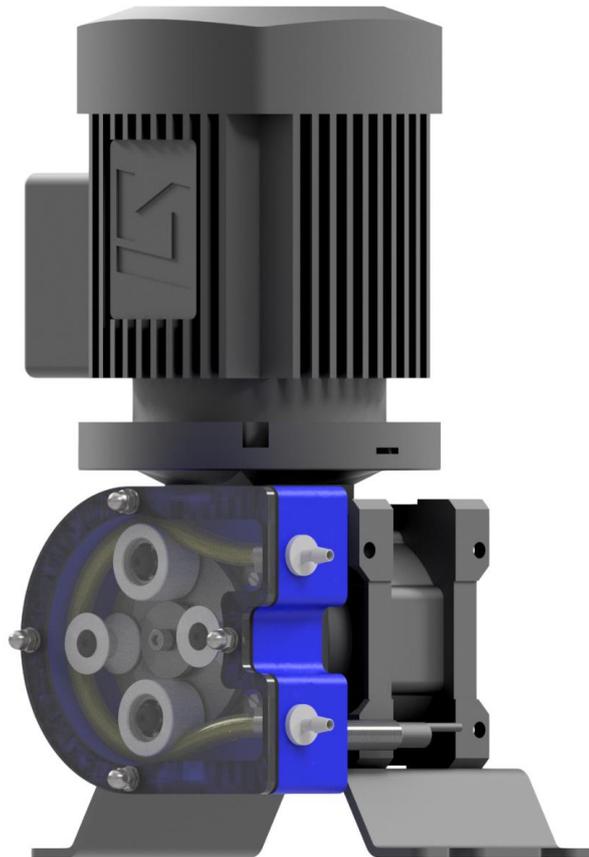


# PERIBEST T05

## MANUAL



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These operating instructions do not take in consideration local regulations; the operator must ensure that such regulations are strictly observed by all, including the personnel called in for installation.

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## Safety information

### Symbols

In this manual the following symbols are used:

	<p><b>WARNING</b> Procedures which, if not carried out with the necessary care, may result in serious damage to the hose pump or in serious bodily harm.</p>
	<p><b>CAUTION</b> Procedures which, if not carried out with the necessary care, may result in serious damage to the hose pump, the surrounding area or the environment.</p>
	<p>Remarks, suggestions and advice.</p>

### Pump use

The hose pump is exclusively designed for pumping suitable products. Every other or further use is not in conformance with the intended use.

The "Intended use" as laid down in EN-ISO-12100 is "... the use for which the technical product is intended in accordance with the specifications of the manufacturer, inclusive of his indications in the sales brochure". In case of doubt it is the use which appears to be its intended use judging from the construction, execution and function of the product. Observing the instructions in the user's documentation also belongs to intended use.

Only use the pump in conformance with the intended use described above. The manufacturer cannot be held responsible for damage or harm resulting from use that is not in conformance with the intended use. If you want to change the application of your hose pump, contact your PeriBest representative first.

### Responsibility

The manufacturer does not accept any responsibility for damage or harm caused by not (strictly) observing the safety regulations and instructions in this manual and the also supplied documentation, or by negligence during installation, use, maintenance and repair of the hose pumps mentioned on the front cover. Depending on the specific working conditions or accessories used, additional safety instructions can be required.

Immediately contact your PeriBest representative, if you noticed a potential danger while using your hose pump.

	<p><b>WARNING</b></p> <p>The user of the hose pump is always fully responsible for observing the local valid safety regulations and directives. Observe these safety regulations and directives when using the hose pump.</p>
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## Qualification of the user

The installation use and maintenance of the hose pump should only be performed by well-trained and qualified users. Temporary staff and persons in training may use the hose pump only under the supervision and responsibility of trained and qualified users.

## Regulations and instructions

- Everyone who works with the hose pump must be aware of the contents of this manual and observe the instructions with great care.
- Never change the order of the actions to be carried out.
- Always store the manual near the hose pump.

## Safety instructions



### Live parts

- The device must be disconnected from the power supply before it is opened
- Isolate damaged faulty or manipulated devices from the mains in order to de-energise.



### Emergency stop switch

An emergency stop switch is to be connected for the entire plant. This should enable the entire plant to be shut down in the event of an emergency in such a way that the overall plant can be brought into a safe condition.



### Unauthorized access

Ensure that there can be no unauthorized access to the unit.



### Hazardous media/contamination of persons and equipment

- Ensure that the pump hoses are resistant against the media being conveyed
- Always observe the safety data sheets for the media to be conveyed. The system operator must ensure that these safety data sheets are available and that they are kept up-to-date.
- The safety data sheets for the media being conveyed are always decisive for initiating countermeasures in the event of leakage to the media being conveyed.
- Observe the general restrictions in relation to viscosity limits, chemical resistance and density.
- Always switch the pump off before exchanging the pump hose
- In case of corrosive liquids or high temperature liquids, is necessary to control the leakage using hose leakage sensor or other external devices.



### Correct and proper use

- The unit is not intended to convey or regulate gases or solid media
- Do not exceed the rated pressure, speed or temperature for the pump
- The unit may only be used in accordance with the technical data and specifications provided in these operating instructions and in the operating instructions for the individual components
- The system is not designed for use in areas of risk from explosion
- Only switch the pump on if it has been properly fastened to the floor
- Only switch the pump on if it the front cover has been attached.

- Do not carry out any maintenance operations or dismantle the pump without first making sure that the pipes are not under pressure and are empty or isolated.
- As the peristaltic pump is volumetric and its functioning is positive displacement, it is necessary to prevent a possible overload of pressure, due to for example, the accidental closure of a valve. For this reason it is advisable to fit a safety device such as: a safety valve, pressure limiter, etc.

### Operational lifetime of the pump tubes


 CAUTION

The operational lifetime of the pump tubes cannot be precisely specified. For this reason, the possibility of fracture and consequential leakage of liquids must be accounted for. If the tube leakage sensor is connected, then the pump can be stopped and / or an electrical valve can be actuated.

In addition, as the tube has an indeterminate life and due to the possibility of its breakage or deterioration, the user is responsible for the prevention of a possible (although most unlikely) incorporation of particles from the hose into the product being pumped. This can be achieved e.g. by means of filtration, a tube rupture alarm or other means suitable for the respective process

### CIP cleaning


 CAUTION

In the event of CIP cleaning, it is necessary to obtain information from the manufacturer about correct installation of the pump as well as regarding the compatibility of the cleaning agents with the pump hoses and the hydraulic connections.

Cleaning should be undertaken at the recommended maximum temperature.

### Direction of rotation/flow direction



The pump's direction of rotation in relation to the desired flow direction must be checked prior to every start.

### Disconnect the pump from the mains



You may only carry out work on the pump after it has previously been switched off and disconnected from the mains.

### Environmental influences


 CAUTION

- The device is not suitable for outdoor operation
- Take suitable measures to protect the device from environmental influences such as UV rays, moisture, frost, etc.

## Warranty conditions

The manufacturer offers a two-year warranty on all parts of the hose pump. This means that all parts will be repaired or replaced free of charge, with the exception of consumables, such as pump hoses, rollers, ball bearings, and seals, or parts which have been misused or have been intentionally damaged.

If parts are used that are not PeriBest Pumps S.L. (hereafter called PeriBest) parts, every warranty becomes void.

Damaged parts which are covered by the applicable warranty conditions can be returned to the manufacturer. The parts must be accompanied by a fully filled in and signed safety form. The safety form must be applied to the outside of the shipping carton. Parts which have been contaminated or which have been corroded by chemicals or other substances which can pose a health risk, must be cleaned before they are returned to the manufacturer. Furthermore, it should be indicated on the safety form which specific cleaning procedure has been followed, and it should be indicated that the equipment has been decontaminated. The safety form is required at all items, even if the parts have not been used.

Warranties purporting to be on behalf of PeriBest, made by any person, including representatives of PeriBest, its subsidiaries, or its distributors, which do not accord with the terms of this warranty shall not be binding upon PeriBest unless expressly approved in writing by a Director or Manager of PeriBest.

## Description

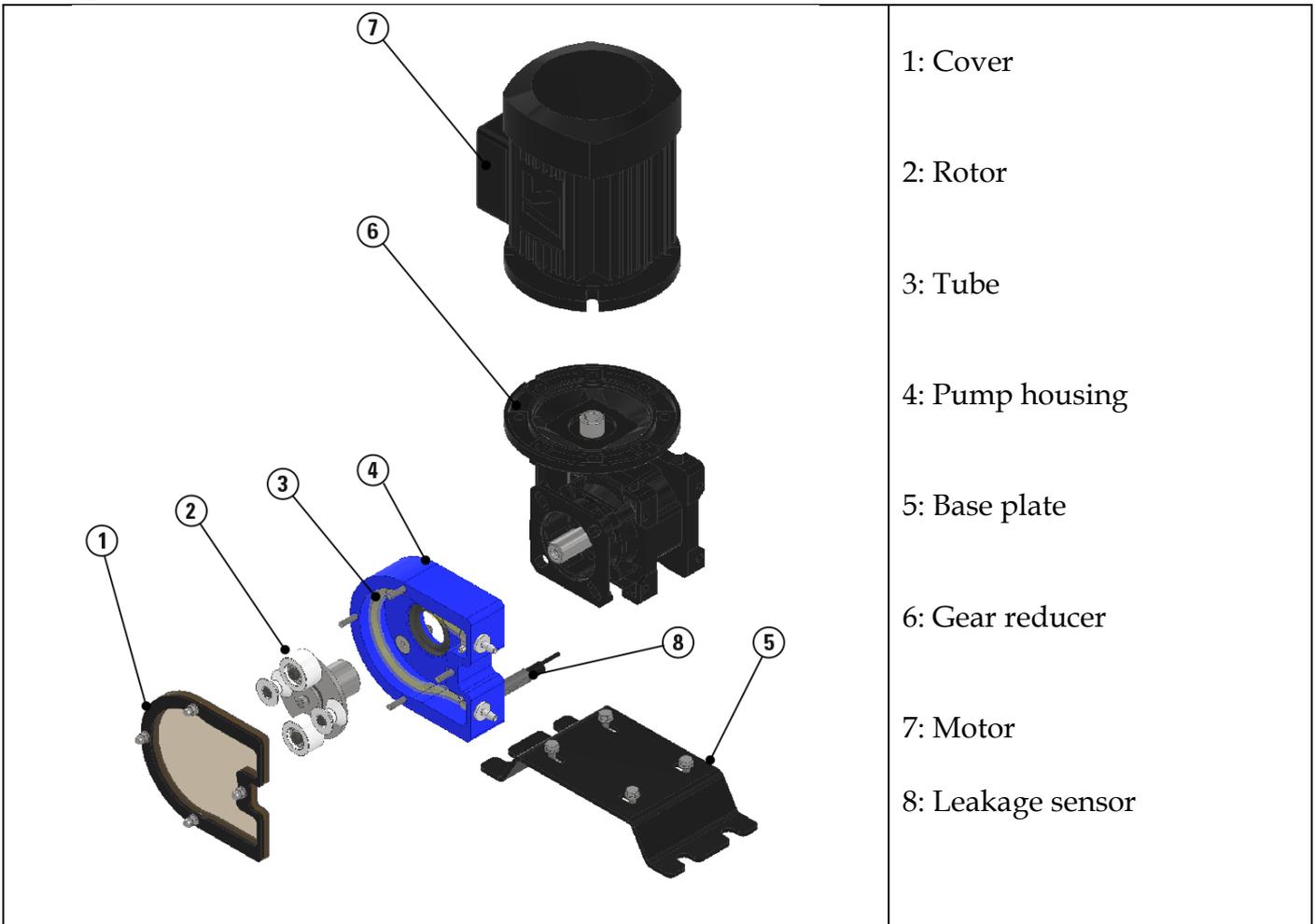
### Identification of the pump

PeriBest pumps are identifiable by a smart NFC label located on top of the pump. On the label you can find the serial number, and a NFC device and QR code, that allow to access to all information about the pump through a mobile device.



The gear box and motor includes their own plate with identification number.

## Pump construction



## Pump Tube

The pump tube material should be chemically resistant with the product to be pumped. Dependent on the specific requirements of your application a corresponding pump tube must be selected. For each pump model various tubes types are available. The material of the pump tube determines the hose type.

Tube type	Material	Colour	Max. Pressure
PVC	PVC Modified	Yellow translucent	4 bar
TP	Thermoplastic FDA	Cream	4 bar
SI	Industrial Santoprene	Black	2 bar

## Lubricant

A small quantity of silicone grease fitted inside the pump casing is used as tube lubricant. Pump rollers don't generate friction, so there's no need of use big quantity of lubricant.

The quantity needed is 10 gr.

To get optimum tube life is strongly recommended to re-grease the tube with small quantity of Grease every 250 working hours.

## Gear Box

The pump models I12, I17 and I21, uses worm gear reducer. The lubrication of these gear reducers is for life and are totally free of maintenance.

## Electric motor

The motors supplied are standard IEC motors with B5 flange.

## Tube leakage sensor

Pump T05 includes a tube leakage sensor to protect internal components and avoid leaks and overpressure inside pump casing, that detect a level increase.

It is needed to connect the sensor to main electrical installation before starting the pump to avoid potential damages when the tube becomes broken.

The type of sensor is capacitive sensor. Main electrical characteristics of the sensor are:

- Voltage: 6-36VCC
- Max. Amp: 200 mA
- PNP
- Normally open

Wiring connection:

- +VCC: Wire brown
- 0: Wire blue
- Signal: Wire black

## Accessories

The following accessories are available for each pump:

- Pulsation dampers
- Revolution counter

## Transport, storage and elevation

### Transport

The pump is protected by a wooden box. All packing materials are recyclable.

The pump may be transported on storage position with one roller unassembled. Check before operate the pump.

### Storage

The pump should be in a resting position. (One roller is unassembled, and the hose should not be compressed).

Avoid areas open to harsh weather or excessive humidity.

For storage periods of longer than 60 days, protect the coupling surfaces (clamps, reducers, motors) with adequate anti-oxidant products.

Spare hoses should be stored in a dry place away from direct light.

# Installation

## Unpacking and Inspection

When unpacking carefully follow the instructions as given on the packaging or on the hose pump.

Check that your delivery is correct and check it for any transport damage. Report any damage immediately to your PeriBest representative.

## Conditions of use

Make sure that the hose pump is in an area where the ambient temperature during operation is not lower than  $-20\text{ }^{\circ}\text{C}$  and not higher than  $+45\text{ }^{\circ}\text{C}$ .

## Set-up

The pump materials and protective layers are suitable for indoor set-up and a protected outdoor set-up. Under certain conditions the pump is suitable for limited outdoor set-up or a salty or aggressive atmosphere. Consult your PeriBest representative for more information.

Make sure that the floor surface is horizontal and has a maximum slope of 5 mm per metre.

Make sure that there is sufficient room around the pump to carry out the necessary maintenance activities.

Make sure that the room is sufficiently ventilated, so that the heat developed by the pump and drive can be discharged. Keep some distance between the ventilation cover of the electric motor and wall to enable the supply of necessary cooling air.

## Piping

When determining and connecting suction and discharge lines consider the following points:

- The bore size of the suction and discharge lines must be larger than the bore size of the pump hose. For more information consult your PeriBest representative.
- Limit the presence of sharp bends in the discharge line. Make sure that the radius of the bent discharge line is as large as possible. It is recommended to use Y-connections instead of T-connections.
- It is recommended to use flexible hose in the suction or discharge line.
- Keep the delivery and suction lines as short and direct as possible.
- Select the correct mounting material for flexible hoses and make sure that the installation is suited for the design pressure of the system.
- Prevent any possibilities of exceeding the maximum working pressure of the hose pump.

**OVERPRESSURE**

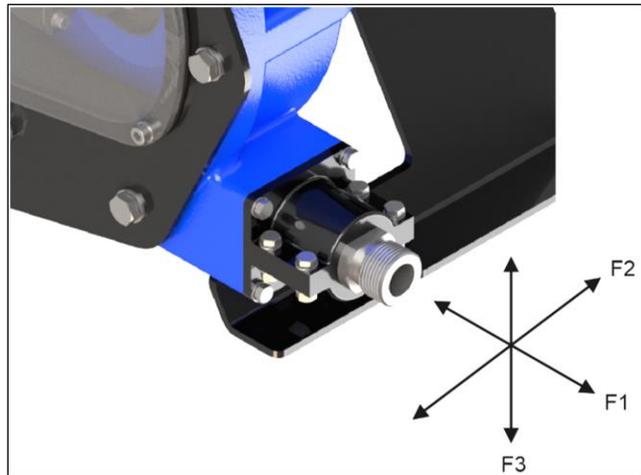


Consider the maximum permissible working pressure on the discharge Side. Exceeding the maximum working pressure may lead to serious damage to the pump.

**Maximum connection loads**

Make sure that the maximum forces on the connections are not exceeded:

	T05
F1	200 N
F2	50 N
F3	50 N



## Comissioning

### Testing prior to commissioning the pump

- Ensure that the pump has not been damaged during transportation or storage. Immediately report any damage to the supplier.
- Check that the mains voltage is suitable for the motor.
- Ensure that the hose is suitable for the fluid to be conveyed and that it is not damaged.
- Make sure that the temperature of the liquid does not exceed the recommended temperature range.
- Only switch the pump on if it the front cover has been properly attached.
- Check that the rollers are correctly fitted and fastened.
- Check that the pump and drive has the correct level of lubricant.
- Check that the thermal overload protection (not included in the delivery scope) corresponds to the value specified on the motor type plate.
- Check whether the direction of rotation is correctly adjusted.
- Check that the optional electrical components are connected and are working properly.
- Install a manometer in the pressure line if the back-pressure value is unknown.
- Check the operating instructions in order to ensure that the flow values, pressures and power consumption of the motor do not exceed the rated values.
- Install a pressure relief valve in the pressure line in order to protect the pump in the event that a valve is unintentionally closed off or the line is blocked in another way.

# Maintenance

## General



**WARNING**

Disconnect the pump from the mains.  
 You may only carry out work on the pump after it has previously been switched off and disconnected from the mains.  
 In case the motor is fitted with a frequency controller and has a single-phase power supply, wait two minutes to make sure that the capacitors have discharged.



**WARNING**

Use only original PeriBest parts when maintaining the pump. PeriBest cannot correct operation and any consequential damage that occurs from the use of non-original PeriBest components.

## Maintenance schedule

The following maintenance scheme shows the maintenance and periodic inspections that need to be carried out on the hose pump to guarantee an optimal safety, operation and life of the pump.

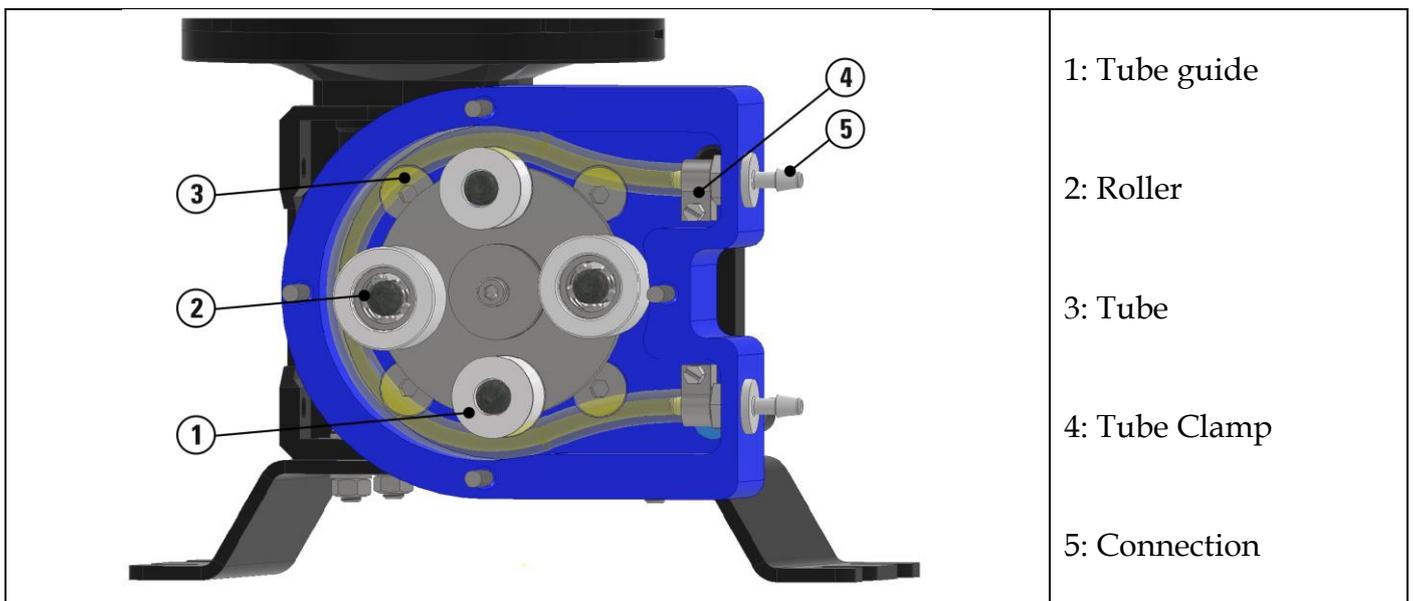
Point	Action	Frequency
1	Check the lubricant level and re-grease	Before start-up of the pump and every 250 working hours.
2	Check the pump head for any leakage of lubricant around the cover, the flanges and the rear of the pump head.	Before start-up of the pump and on a scheduled interval during operation.
3	Check the gearbox on any leakage.	Before start-up of the pump and on a scheduled interval during operation.
4	Check pump for deviating temperature or strange noises.	On a scheduled interval during operation.
5	Check pressing rollers for excessive damage.	When replacing the tube.
6	Internal cleaning of the hose.	Cleaning of the system or product change.
7	Replacing tube.	Preventive, this means after 75% of the life of the first tube.

8	Changing lubricant.	After every tube replacement, adding grease every 250 working hours.
9	Replacing pressing rollers.	Wear on the running surface.
10	Replacing bearings.	If necessary.

## Cleaning hose

The inside of the pump hose can be easily cleaned by rinsing the pump with clean water. If a cleaning fluid is added to the water, check if the hose material is resistant to it. Also check if the pump hose can resist the cleaning temperature.

## Replacing tube



### Tube unassembled

1. Close off all valves, in order to prevent leakage of the feed chemical
2. Remove front cover using a tray to collect any leaked media that can be inside the pump casing.
3. Pull out the tube towards the frontal part just in the roller guide area (part 1) until the tube became out of the roller guide.
4. Turn the pump rotor 90°. The guide will take out the tube leaving it uncompressed.

5. Open the tube clamps (Part 4) that fix the tube on the connections. Once it are opened, move them out of the connection area to the centre of the pump casing.
6. Pull out the tube from the connections (a screwdriver can help to pull out the tube). Repeat this operation in both connections.

### **Tube assembled**

1. Clean the internal part of the pump casing and leak sensor.
2. Check that rollers are in good condition. Be sure that the surface in contact with the tube is not damaged.
3. Assembly the clamps on the tube.
4. Connect tube to one of the connections (a little quantity of silicone grease can be used to help the tube to slide into the connection). Fit the clamp on its position around the connection and fix it until the tube is correctly fixed to the connection.
5. Repeat same operation in the other connection.
6. Press the tube into the roller guide (Part 1).
7. Turn the pump 90°, the guide will fit the tube on its position inside the pump casing. The tube will be installed.
8. Add Silicone grease around the rollers, roller guide and tube.
9. Assembly front cover.
10. Open the valves before starting the pump to avoid overpressure.

## Troubleshooting

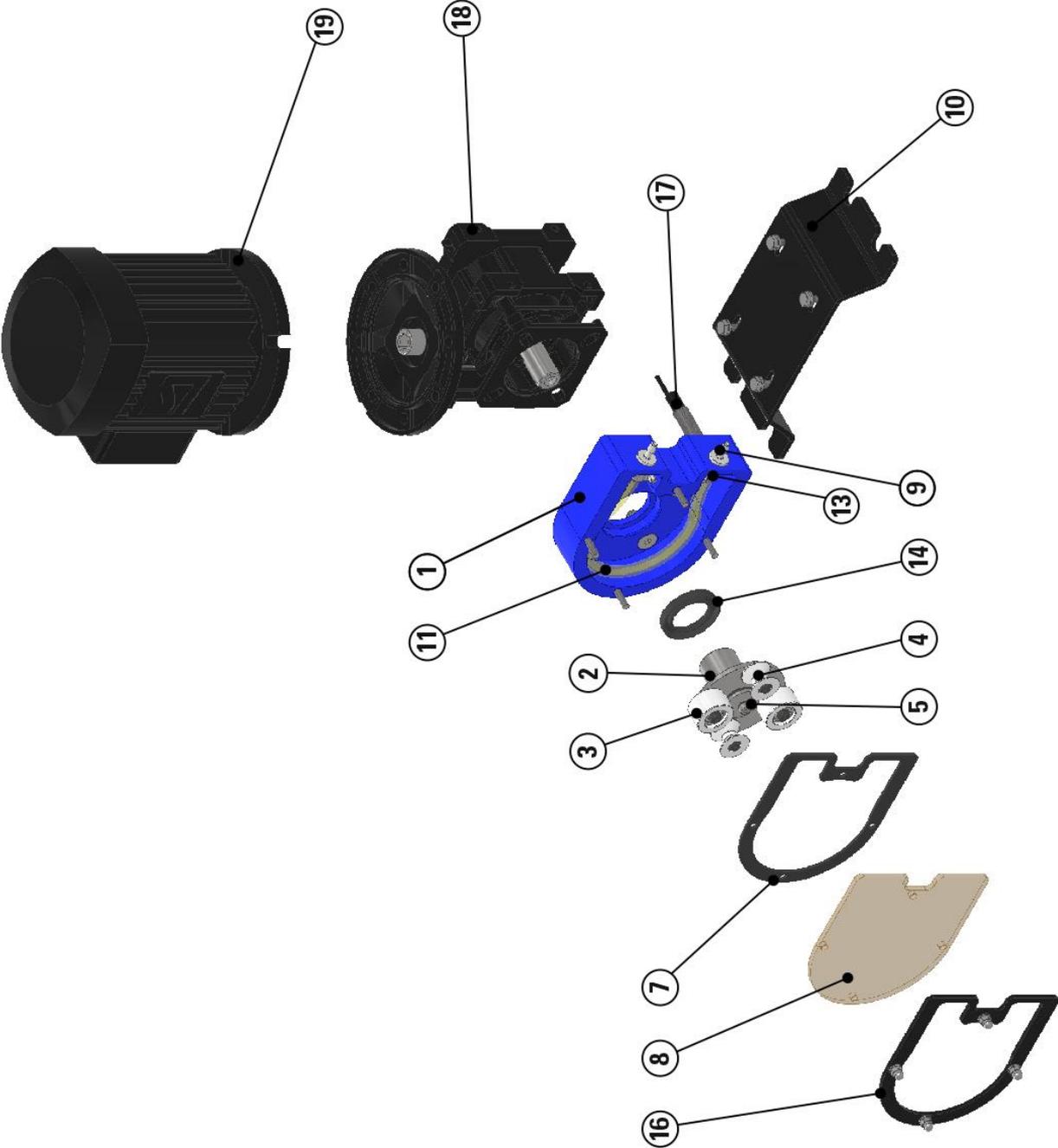
Problem	Possible cause	Solution
Increased pump temperature	Pump tube has no lubricant	Lubricate pump tube
	Increased product temperature	Reduce product temperature
	Insufficient or poor suction conditions	Check suction line for blockages
	Pump speed too high	Reduce pump speed
Reduced flow pressure or	Valves on discharge and or suction side completely or partially closed	Open valves
	Pump hose insufficiently compressed	Check rollers and tube
	Pump hose break (the product leaks out into the housing)	Exchange pump tube
	Partial blockage of the suction line	Clean pipe
	Insufficient product quantity in storage container	Fill storage container or exchange pump
	Insufficient diameter on the suction side	Increase the diameter on the suctions side, as far as possible
	Suction line too long	Shorten the suction line, as far as possible
	High viscosity of medium	Reduce viscosity, as far as possible
	Air introduction in the suction connections	Check connections and accessories for air tightness
High pulsation on suction	Tighten connections and accessories Mount antipulsation equipment Reconsider application (speed, etc)	
Vibrations on pumps and pipelines	The pipes are not correctly fastened	Fasten pipes correctly (e.g. wall brackets)
	Pump speed too high	Reduce pump speed
	Insufficient nominal diameter of the pipes	Increase nominal diameter
	Pump base plate loose	Fasten base plate
	Pulsation dampers insufficient or missing	Install pulsation dampers on suction and / or discharge side.
Short operational	Chemical exposure	Check the compatibility of the hose with the liquid being conveyed, the cleaning fluid and the lubricant

lifetime of the tubes	High pump speed	Reduce pump speed
	High conveying temperature	Reduce product temperature
	High operating pressure	Reduce operating pressure
	Pump cavitation	Check the suction conditions
	Abnormal elevation of temperature	Check rollers shaft mounting
	Unsuitable lubricant	Use original lubricant
	Insufficient level of lubricant	Add original lubricant
Pump tube pulled into the pump housing	High inlet pressure (> 3 bar)	Reduce inlet pressure
	Pump tube filled with solidss	Clean or replace the pump hose
	Clamps insufficiently tightened	Re-tighten clamps
	Insufficient lubricant	Add original lubricant
The pump does not start up	Insufficient motor performance	Check motor and replace if necessary
	Insufficient output from frequency converter	The frequency converter must match the motor
	Blockage in the pump	Check if the suction or discharge side is blocked. Rectify blockage

## Specifications

	T05
Max capacity (l/h)	25
Capacity per revolution (l/rev)	0,0042
Max. working pressure (kPa)	400
Permissible ambient T <sup>a</sup> (°C)	-20 a 45
Permissible product T <sup>a</sup> (°C)	-10 a 80
Sound level at 1m (dB(A))	< 60

# Spare parts



Item	Reference	Description	Material
1	T05A010000	Pump casing PeriBest T05	Polietileno HD
2	T05A020000	Rotor PeriBest T05	AISI-316
3	CT0501A0	Complete roller PeriBest T05	Nylon (PA6)
4	CT0502A0	Complete roller guide PeriBest T05	Nylon (PA6)
5	T05A050000	Rotor washer PeriBest T05	AISI-316
6	T05A060000	Gasket rotor washer PeriBest T05	EPDM
7	T05A070000	Gasket front cover PeriBest T05	EPDM
8	T05A080000	Front cover PeriBest T05	Policarbonato UV
9	T05A090000	Connections PP barb 5mm PeriBest T05	Polipropileno
	T05A091000	Connections S.S. barb 5mm PeriBest T05	AISI-316
10	T05A100000	Base plate painted steel PeriBest T05	Acero pintado
	T05A101000	Base plate S.S. PeriBest T05	AISI-304
11	T05A110000	Tube Industrial Santoprene (2 bar) PeriBest T05	Santoprene
	T05A111000	Tube PVC (4 bar) PeriBest T05	PVC modificado
	T05A112000	Tube TP (4 bar) PeriBest T05	Termoplástico
12	T05A120000	Roller bearing PeriBest T05	AISI-316
13	T05A130000	Clamp PeriBest T05	Acero zincado
14	T05A140000	Lip seal shaft PeriBest T05	FKM
15	T05A150000	O-Ring connection PeriBest T05	EPDM
16	T05A160000	Front cover reinforce PeriBest T05	Acero pintado
17	T05A170000	Leak sensor PeriBest T05	
18		Worn gear reducer PeriBest T05	
19		Motor IEC PeriBest T05	

## EC Declaration

### “CE” DECLARATION OF CONFORMITY

## PERIBEST PUMPS S.L.

Via Alemany 11 1A - 07003 Palma de Mallorca (SPAIN)

Company responsible for manufacturing and commercializing the below specified machine:

### PERISTALTIC PUMP

**Industrial range models: T05**

**Declare under our sole responsibility:**

Its conformity in accordance with all applicable provisions of the Machinery Directive (2006/42/EC), Low Voltage Directive (2014/35/EU), Electromagnetic Compatibility and Repealing Directive (2014/30/EU), national applicable regulations, and with the provisions of the following standards applied:

Reference Standard	Title of the harmonized standard	Publication date
EN-ISO-12100	Safety of machinery - General principles for design - Risk assessment and risk reduction.	2012
EN-614-1	Safety of machinery - Ergonomic design principles- Part 1: Terminology and general principles.	2006+A1/2009
EN- ISO-14120	Safety of machinery-Guards- General requirements for the design and construction of fixed and movable guards.	2016
EN-60204-1	Safety of machinery-Electrical equipment of machines- Part 1:General requirements.	2007
EN-60335-1	Household and similar electrical appliances - Safety - Part 1: General requirements	2012/A13:2017
EN-60034-1	Rotating electrical machines - Part 1: Rating and performance	2011
EN-809	Pumps and pump units for liquids - Common safety requirements.	1999+A1/2010
EN-ISO-14847	Rotary positive displacement pumps- Technical requirements.	1999

This declaration refers only to machines in the state of the market, with exclusion of the elements added and / or operations carried out subsequently by the end user.

The pump should not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of Directive 2006/42/EC.



David Gil

Managing Director

Palma de Mallorca, March 2020