



Thermo Scientific

# KingFisher Presto

## User Manual

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**For Laboratory Use.**

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# Preface

## About This Manual

This user manual is written for the end user, for example, research scientist or laboratory technician. This manual provides information on the Thermo Scientific™ KingFisher™ Presto purification system, including the installation and operating instructions.

This document aims to give you the information to:

- Review safety precautions
- Install and use KingFisher Presto
- Use maintenance operations
- Perform basic cleaning and maintenance procedures
- Troubleshoot the instrument performance

This manual also describes the features and specifications of the KingFisher Presto instrument as well as ordering information.

Read the manual in its entirety before operating the instrument.

Keep this manual for future reference. The user manual is an important part of the instrument and should be readily available during the use of the instrument.

## Related Documentation

In addition to this guide, Thermo Fisher Scientific provides the following documents for KingFisher Presto:

- *Thermo Scientific™ KingFisher™ Presto Brief User Manual* (Cat. no. N17759)
- *Thermo Scientific™ BindIt™ Software for KingFisher Instruments User Manual* (Cat. no. N07974)
- *Thermo Scientific™ KingFisher™ Presto Integration guide* (Cat. no. N17647)

## Safety and Special Notices

Make sure that you follow the precautionary statements presented in this guide. The safety and other special notices appear in boxes.

## Preface

### Safety and Special Notices

Safety and special notices include the following:



**WARNING** Risk of electric shock.



**WARNING** Biohazard risk.



**WARNING** Strong magnetic fields.



**WARNING** Risk of injury to the user or users.



**CAUTION** Risk of damage to the instrument, other equipment or loss of performance or function in a specific application.

**Note** Marks a hint, important information that is useful for the optimum operation of the system, or an item of interest.

**Tip** Highlights helpful information that can make a task easier.

## Safety Symbols and Markings on KingFisher Presto

The following symbols and markings appear on the type label and the instrument itself:



**WARNING** Biohazard risk.



**WARNING** This product contains very strong permanent magnets.



**WARNING** **Risk of burns.** The heating block surface can be hot.





**WARNING** Risk of injury because of moving parts.

## Instrument Safety and Guidelines for Use

Take into account the following instrument safety considerations and guidelines for correct use:

- Before operating the instrument, read this user manual in its entirety. Failure to read, understand, and follow the instructions in the manual may result in damage to the instrument, injury to laboratory and operating personnel, or poor instrument performance.
- Always follow basic safety precautions and local safety guidelines when using KingFisher Presto to reduce the risk of injury, biohazardous contamination, fire, or electric shock.
- Observe all “Warning”, “Caution”, and “Note” statements as well as safety symbols and markings on the instrument and in the documentation.
- The instrument is allowed to be operated only with software specifically designed for the instrument.
- Never open any other covers of KingFisher Presto than the transparent lid (see [Figure 2](#) on [page 3](#)) while the instrument is plugged into a power source.
- Never force a plate onto the instrument.
- KingFisher Presto is intended for laboratory use. Observe proper laboratory safety precautions, such as wearing protective clothing and following approved laboratory safety procedures.
- Follow the preventative maintenance instructions closely to keep the instrument in the best condition for maximum reliability. A poorly maintained instrument does not give the best results.



**WARNING** If the device is not used according to manufacturer’s instructions, the protection provided by the device cannot be guaranteed.

## Contacting Us

For the latest information on products and services, visit our website at:

[www.thermofisher.com/kingfisher](http://www.thermofisher.com/kingfisher).



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# Introduction to KingFisher Presto

## Intended Use

The KingFisher Presto purification system is intended for laboratory use by trained personnel in automation environments. The instrument is intended for automated transfer and processing of magnetic particles in a microplate format. Use for self-testing is excluded. It is recommended that Good Laboratory Practice (GLP) is followed to guarantee reliable analyses.



**Figure 1.** KingFisher Presto purification system

## Operation Principle

KingFisher Presto is intended to be used as a part of an automation system. By itself KingFisher Presto can only be used to perform maintenance operations.

## 1 Introduction to KingFisher Presto

The patented technology of the KingFisher Presto system is based on the use of magnetic rods covered with a disposable, specially designed tip comb and plates. The instrument functions without any dispensing or aspiration parts or devices.

Before the run, samples and reagents, including magnetic particles, are dispensed into the plates according to the corresponding instructions. You can create protocols with Thermo Scientific™ BindIt™ Software for KingFisher instruments and execute them with KingFisher Presto. Use BindIt Software for protocol testing and optimization during the development phase. Connect KingFisher Presto to an automation system for routine use.

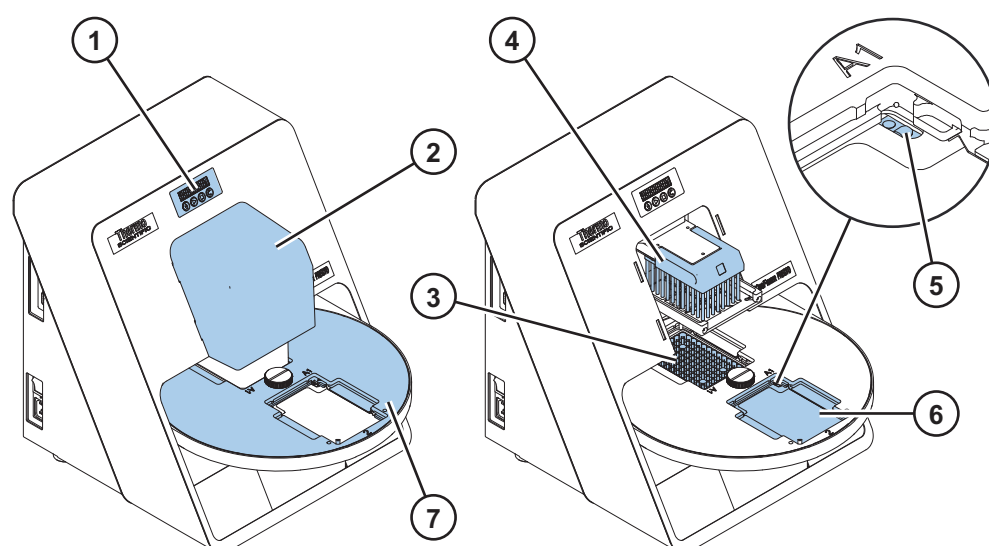
## Functional Description

### Instrument Layout

This section shows the front, side and back views of KingFisher Presto.

#### Front View

The front view of the KingFisher Presto instrument and its parts.

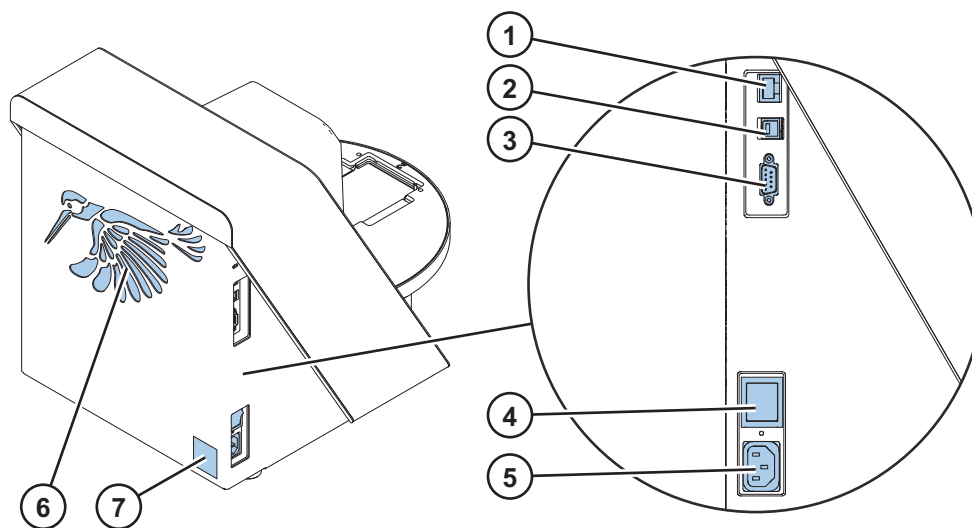


**Figure 2.** KingFisher Presto front view

Item number	Description	Item number	Description
1	Display and Keypad	5	Plate detector
2	Transparent lid	6	Loading station
3	Heating block	7	Turntable
4	Interchangeable magnet head		

## Side and Back View

The side and back view of KingFisher Presto:



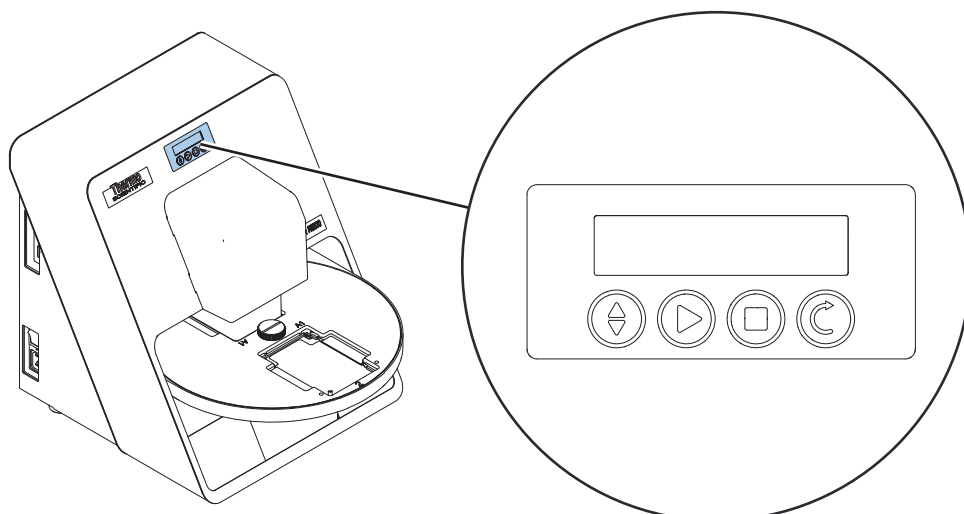
**Figure 3.** KingFisher Presto side and back view

Item number	Description	Item number	Description
1	Ethernet port	5	Power supply cable connector
2	USB port	6	Cooling air inlet
3	RS-232 port	7	Type plate
4	Power switch		

## Display and Keypad

The display comprises two rows of 16 symbols each. The top row shows the instrument state and the bottom row shows the protocols and instructions. The display and the keypad are shown in the following figure.









**Figure 4.** KingFisher Presto display and keypad

Use the control buttons of the keypad as described in the following table.

**Table 1.** Control buttons

Key	Description
	Use the <b>Select</b> button to navigate between the maintenance operations.
	Use the <b>Start</b> button to proceed with maintenance operations, to initiate a run or to confirm an action.
	Use the <b>Stop</b> button to terminate a protocol.
	Use the <b>Rotate</b> button to rotate the turntable.

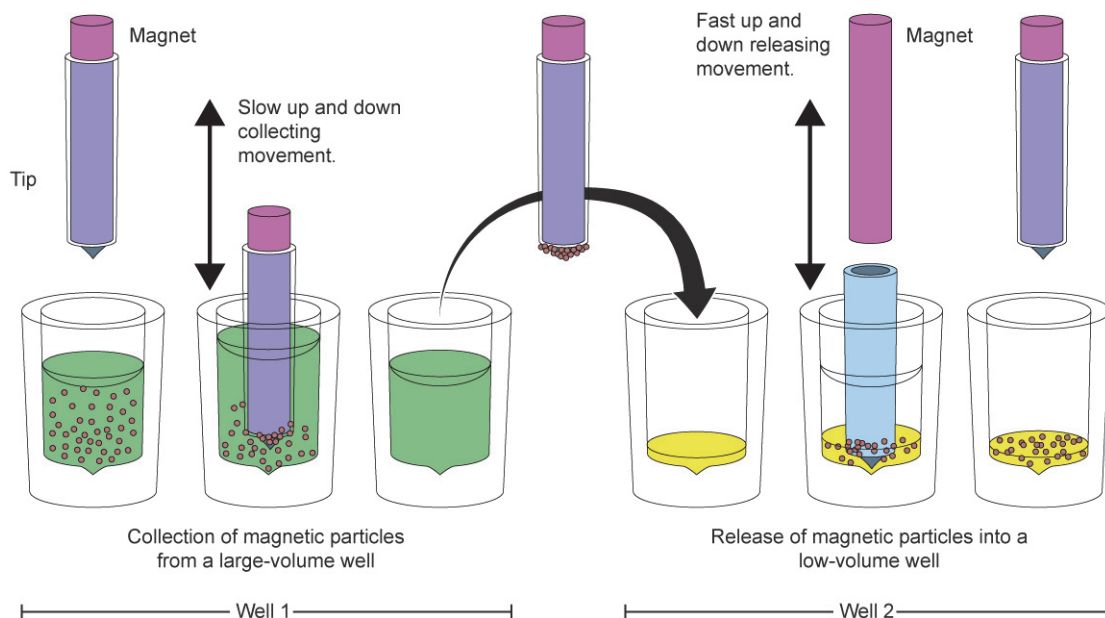
## KingFisher Presto Purification System

The KingFisher Presto purification system has two slots for plates. One is for processing and the other for loading and unloading plates. Disposable tip combs protect the magnet rods on the magnet head during processing and are compatible with the plates. During individual steps, the plate is kept stationary, and the only moving assembly is the processing head with a tip comb and the magnetic head. The processing head consists of two vertically moving platforms. One is needed for the magnetic head (with 24 or 96 magnetic rods) and the other one for the plastic tip comb. For more information, see “Magnet Heads” on page 8.

Before starting the magnetic particle processing, the samples and reagents are dispensed into the plate. A tip comb is then placed onto an empty KingFisher plate. The plate and the tip comb are then placed under the processing head so that the tip comb can be lifted to cover the magnetic rods. If you are using the instrument by itself or with BindIt Software, you need to load the plates manually. If you are using KingFisher Presto as a part of an automation system, a gripper or a robotic arm automatically loads the plate. The plate is placed onto the turntable according to the protocol instructions and the turntable turns the plate below the processing head.

## Principle of Magnetic Particle Processing

The operating principle employed is inverse magnetic particle processing (MPP) technology. Rather than moving the liquids, the magnetic particles are moved plate to plate containing specific reagents, in contrast to the external magnet method. Magnetic particles are transferred using magnetic rods covered with a disposable, specially designed plastic tip comb.



**Figure 5.** Inverse magnetic particle processing technology

## Operating Principle of Magnetic Rods

The operating with the magnetic particles can be divided into five separate processes. Each process is automated by the KingFisher purification system.

The processes are:

- **Collecting magnetic particles**

During the collection of the magnetic particles, the magnetic rod is fully inside the tip. The magnetic rods together with the tip comb move slowly up and down in the plate and the magnetic particles are collected onto the edge of the tips. Having collected the magnetic particles, the magnetic rods together with the tip comb can be lifted out of the wells and transferred into the next plate.

- **Releasing magnetic particles**

After collection of the magnetic particles, the magnetic rods together with the tip comb are lifted from the plate, the magnetic rods are lifted off and the tip comb is lowered into the next plate containing a reagent.

Magnetic particles are released by moving the tip comb up and down several times at considerably high speed until all the particles have been mixed with the substance in the next reaction.

- **Washing magnetic particles**

Washing the magnetic particles is a frequent and an important processing phase. Washing is a combination of the release and collection processes in a plate filled with washing solution.

To maximize washing efficiency, the magnetic rods together with the tip comb are designed to have minimized liquid-carrying properties.

- **Incubation**

To keep the magnetic particle suspension evenly mixed in long-running reactions, the tip comb can be moved up and down in the solution.

- **Concentration**

The volume of the first plate can be larger than the volume of the next plate, and this is used for concentration purposes. For example, the volume can be reduced from 1,000 µl to 50 µl.

## KingFisher Presto UI

KingFisher Presto has an internal user interface (UI) with which you can perform maintenance operations only. To execute any other protocols, KingFisher Presto must be connected to a PC equipped with Thermo Scientific BindIt Software or a similar automation software.

In addition to the KingFisher Presto internal UI features, you can download protocols to the instrument or back up protocols from one instrument and transfer them to another instrument by using either BindIt Software or a similar automation software.

For more information, see the *Thermo Scientific™ BindIt™ Software for KingFisher™ Instruments User Manual* (Cat. no. N07974).

## Modes

If the instrument is not performing any protocols, it is in either *Standby* or *Idle* mode.

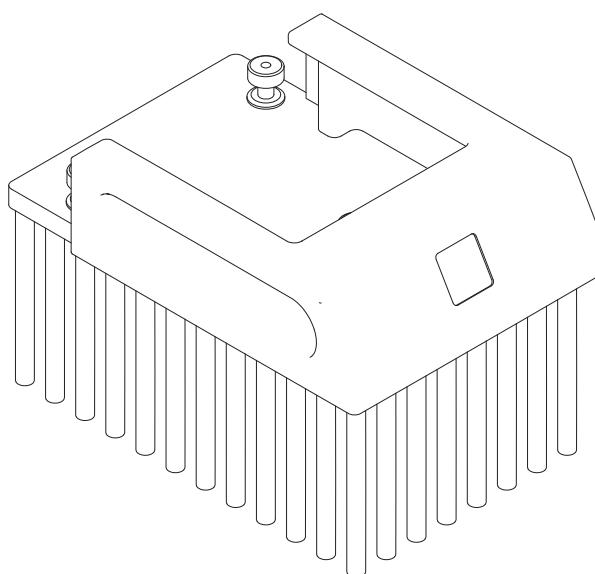
The Standby mode indicates that the instrument is not connected to any automation system and you can control the instrument manually. The Idle mode occurs when the instrument is connected to BindIt Software or to an automation system and cannot be controlled from the instrument.

## Protocols

Thermo Scientific offers ready-made protocols which are included in BindIt Software. These ready-made protocols include demo protocols which can be used to demonstrate the main functions of the instrument.

## Magnet Heads

There are two interchangeable KingFisher magnet Presto heads available, one for KingFisher 24 deep well (DW) plates, and another for KingFisher 96 DW plates and 96 plates. KingFisher Presto can be used with one processing head at a time. The magnet head options have been designed for different volume needs.



**Figure 6.** KingFisher Presto 96 DW magnet head

**Note** KingFisher Presto heads do not fit into the KingFisher Flex instrument and vice versa.

The magnet head you are using dictates the heating block and consumables that you can use. For more information on matching parts, see [Table 3](#).

The KingFisher Presto 24 DW magnet head is used with a corresponding plastic 24 DW tip comb and a KingFisher 24 DW plate.

- KingFisher Presto 24 DW magnet head
  - One to 24 samples per run
  - Up to 5 ml processing volume

The KingFisher Presto 96 DW magnet head is used with a corresponding plastic 96 DW tip comb and either a KingFisher 96 DW plate or a KingFisher 96 plate.

- KingFisher Presto 96 DW magnet head
  - One to 96 samples per run
  - Up to 1 ml processing volume



**WARNING** This product contains very strong permanent magnets. People wearing a pacemaker or metallic prostheses should not use this product. A pacemaker or prostheses may be affected or damaged if it comes in close contact with a strong magnetic field.



**CAUTION** Do not place the KingFisher Presto magnet heads on any metal surfaces. Keep the KingFisher Presto heads always in their respective storage boxes when not in use. It is very important to keep the KingFisher Presto heads away from each other and other magnets at all times. Clashing of the magnets together may cause serious damage to the magnets.

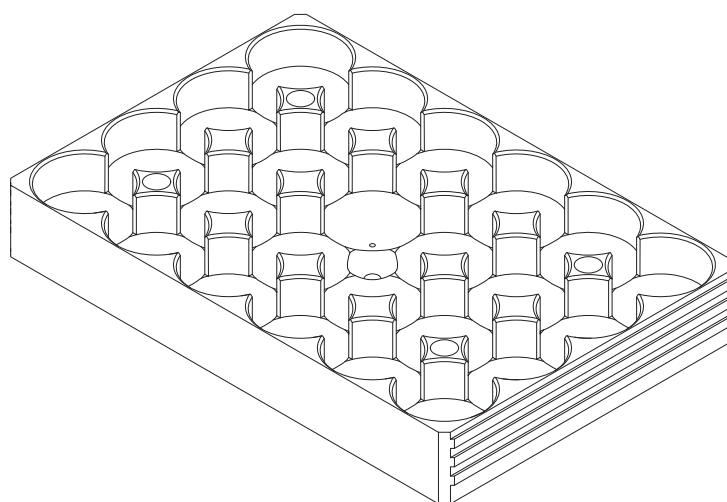
When the magnet heads are not in use, always store them in their storage box.

For more information, see section “[Install the Magnet Head](#)” on [page 20](#).

## Heating Blocks

The heating block is used to warm up the plastic microplates and the reagents in them. KingFisher Presto can be equipped with three different kinds of interchangeable heating blocks that can be used with the following plates respectively:

- KingFisher 24 DW plates
- KingFisher 96 DW plates
- KingFisher 96 plates



**Figure 7.** KingFisher Presto heating block for 24 DW plate

You can add a heating step of up to +115°C to a protocol. The heating block can be heated in advance but it has no separate cooling function.

## 2 Functional Description

### Plate Detector



**WARNING** Risk of burns. The heating block surface can be hot. When the protocols are run, the heating block surface cools off.



**CAUTION** The heating block is specifically designed for the plates listed above to ensure even heating during the sample process. Using other plates than those recommended may damage the instrument and diminish the application performance.

For more information, see section [“Install the Heating Block”](#) on page 20.

## Plate Detector

The plate detector recognizes that there is a plate on the loading station. If the plate detector does not detect a plate, protocol execution does not start. The plate detector is located on the A1 corner of the loading station.

## Consumables

Consumables include the KingFisher tip combs and plates. Select the consumables based on the magnet head and heating block you are using.

## Tip Combs

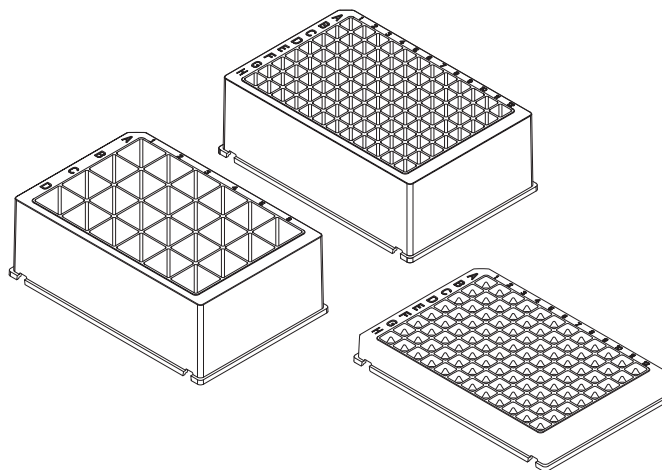
Specially designed tip combs protect the magnet rods during the runs. There are two types of tip combs available for different plate types and applications:

- Use the KingFisher 96 DW tip comb with the KingFisher Presto 96 DW magnet head
- Use the KingFisher 24 DW tip comb with the KingFisher Presto 24 DW magnet head

For more details and ordering information on plastic consumables, see [“Handle Tip Combs and Plates”](#) on page 24 and [“Accessories and Consumables”](#) on page 45.

## Plates

KingFisher Presto is compatible with three different kinds of plates. There are two deep well plates, the KingFisher 24 DW plate and the KingFisher 96 DW plate. The third kind is the KingFisher 96 plate.



**Figure 8.** KingFisher Presto plates

The plates have different processing volumes to suit different needs. The processing volume is the volume of any one well in a plate.

**Note** If the processing volume is not followed (it is below or above the given value), adequate performance cannot be guaranteed and cross-contamination may occur.



**CAUTION** Only use KingFisher plates with two slots on both sides of the bottom edge. The suitable plates are listed in the following table. The plate detector only recognizes the correct plates. Other plates may not be compatible with the KingFisher Presto heating blocks. They may also cause unexpected problems, such as cross-contamination due to the divergent well volume and bottom height of the plate and weaken the performance.

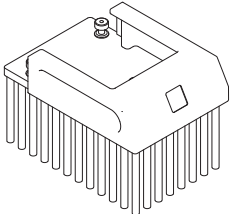
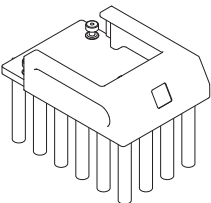
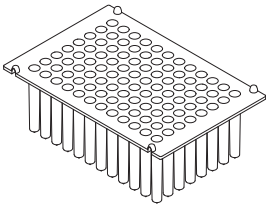
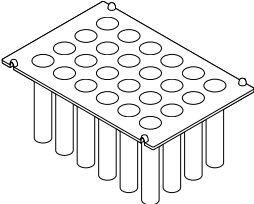
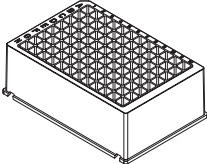
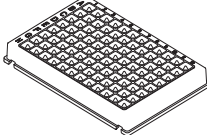
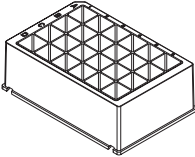
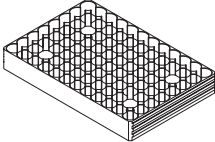
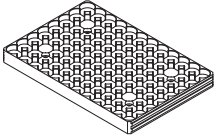
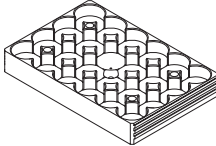
**Table 2.** Processing volumes vs. plate types and magnet heads

Head/Plate	KingFisher 24 DW plate	KingFisher 96 DW plate	KingFisher 96 plate
KingFisher Presto 24 DW magnet head	200-5,000 µl	-	-
KingFisher Presto 96 DW magnet head	-	50-1,000 µl	50-150 µl

## Matching Parts

The following table show which heating blocks and consumables to use depending on the magnet head.

**Table 3.** Matching magnet heads, plates and consumables

	KingFisher Presto with 96 DW head	KingFisher Presto with 24 DW head	
<b>Magnet heads</b>			
	KingFisher Presto 96 DW head	KingFisher Presto 24 DW head	
<b>Tip combs</b>			
	KingFisher 96 DW tip comb	KingFisher 24 DW tip comb	
<b>Plates</b>			
	KingFisher 96 DW plate (50–1,000 µl)	KingFisher 96 plate (50–150 µl)	KingFisher 24 DW plate (200–5,000 µl)
<b>Heating blocks</b>			
	KingFisher heating block for 96 DW plate	KingFisher heating block for 96 plate*	KingFisher heating block for 24 DW plate

\* The KingFisher heating block for 96 plate can also be used with the KingFisher 96 DW plates but the heating function will not be as efficient as with the KingFisher 96 plate.



## Reagents

KingFisher Presto allows the use of wide range of magnetic particle reagents. The optimal magnetic particle size for KingFisher Presto is 0.8–10  $\mu\text{m}$ .

Thermo Scientific offers a versatile reagent selection for purifying DNA, RNA and proteins. For more information, visit [www.thermofisher.com/kingfisher](http://www.thermofisher.com/kingfisher).

## 2 Functional Description

Reagents

# Installation

This chapter describes the delivery, unpacking, and installation of KingFisher Presto.

## Check the Delivery

When you receive the instrument, check the enclosed packing list and compare it with the order. Visually inspect the transport package, the instrument and the accessories for any possible transport damage. If any parts are damaged, contact your local Thermo Fisher Scientific representative.

## Unpack the Instrument

Move the packed instrument to its site of operation. To prevent condensation, leave the instrument in its protective, anti-static plastic wrapping until the ambient temperature has been reached. Unpack the KingFisher Presto instrument and accessories carefully with the arrows on the transport package pointing upwards. Remove the instrument from the package and place it on a level surface.



**CAUTION** The KingFisher Presto weighs approximately 24.0 kg (52.9 lbs.) without the transport package and must be lifted with care. It is recommended that two persons lift it.

To lift the instrument, place your fingers under the device on both sides and lift it with your back straight.

The following notes and instructions are sent with the instrument and are immediately available when you open the package:

- Unpacking instructions
- Packing instructions
- Packing list
- BindIt Software for KingFisher Instruments installation CD, or installation USB stick including:
  - *Thermo Scientific™ BindIt™ for KingFisher™ Instruments Software User Manual*
  - *Thermo Scientific™ KingFisher™ Presto Integration Guide*
  - A ZIP file with an integration sample
- KingFisher User Manuals CD or USB stick:

- *Thermo Scientific™ KingFisher™ Presto User Manual* (this manual)
- *Thermo Scientific™ KingFisher™ Presto Brief User Manual* and translations into French, German, Italian, Spanish, Portuguese, Japanese, and Chinese
- *Thermo Scientific™ KingFisher™ Presto Integration Guide*
- A ZIP file with an integration sample
- Thermo Scientific User Awareness of Symbols
- Declaration of Conformity

**Note** Do not touch or loosen any screws or parts other than those specifically designated in the instructions. Doing so might cause misalignment and will void the instrument warranty.

Retain the original packaging and packing material for future transportation. The packaging is designed to assure safe transport and minimize transit damage. Use of alternative packaging materials may invalidate the warranty. Also retain all instrument-related documentation provided by the manufacturer for future use.

## Operating Conditions

When you set up KingFisher Presto, avoid sites of operation with excess dust, vibrations, strong magnetic fields, direct sunlight or UV light, draft, excessive moisture or large temperature fluctuations. Place the instrument on a normal laboratory bench. Make sure that:

- The working area is flat, dry, clean and vibration-proof and leaves additional room for accessories, cables, and reagent bottles.
- There is at least 5cm (approximately 2 inches) of free space on both sides of the instrument and at least 10cm (approximately 4 inches) of free space behind the instrument for ventilation on the laboratory bench. This applies also if you are building a system with several instruments side by side.
- Ambient air is clean and free of corrosive vapors, smoke, and dust.
- The ambient temperature range is between +15°C (59°F) and +35°C (95°F).
- The humidity is low to avoid condensation, (relative humidity is between 10% and 80%).

Install KingFisher Presto in a protected location where no one can step on or trip over the power cord, and where the power cord remains accessible if the unit needs to be unplugged.



**WARNING** Do not operate the instrument in an environment where potentially damaging liquids or gases are present.

## Precautions and Limitations

Take into account the following risks and limitations of use:

- Always make sure that the local supply voltage in the laboratory conforms to that specified on the type label on the back of the instrument (see [Figure 3](#) on [page 4](#)).

- Do not smoke, eat or drink while using KingFisher Presto.
- Wash your hands thoroughly after handling test fluids.
- Observe normal laboratory procedures for handling potentially dangerous samples.
- Wear proper protection clothing, such as disposable gloves and laboratory coats, according to good laboratory practice.
- Ensure that the working area is properly ventilated.
- Never spill fluids in or on the equipment.



**WARNING** This product contains very strong permanent magnets. People wearing a pacemaker or metallic prostheses should not use this product. A pacemaker or prostheses may be affected or damaged if it comes in close contact (10 cm or 4 inches) with strong magnetic field.



**CAUTION** Do not place KingFisher Presto magnet heads on any metal surfaces. Keep KingFisher Presto heads always in their respective storage boxes when not in use. It is very important to keep KingFisher Presto heads away from each other and other magnets at all times. Clashing of the magnets together may cause serious damage to the magnets.



**CAUTION** Do not keep KingFisher Presto in close proximity to magnetic tapes, computer discs or other magnetic storage systems, such as credit cards. These type of items can be damaged by the strong magnetic field of KingFisher Presto heads. Do not hold KingFisher Presto heads close to a PC display as this may damage the display. Do not use metal tools when handling KingFisher Presto heads.



**CAUTION** When you remove the KingFisher Presto head, be careful not to damage the magnet rods against the tip comb holder frame.

## Install KingFisher Presto

This section describes the installation setups that you must carry out before operating or relocating the instrument.

The installation steps:

1. Release the transport locks.
2. Connect the power supply cable.
3. Install the magnet head.
4. Install the heating block.

## Release the Transport Locks

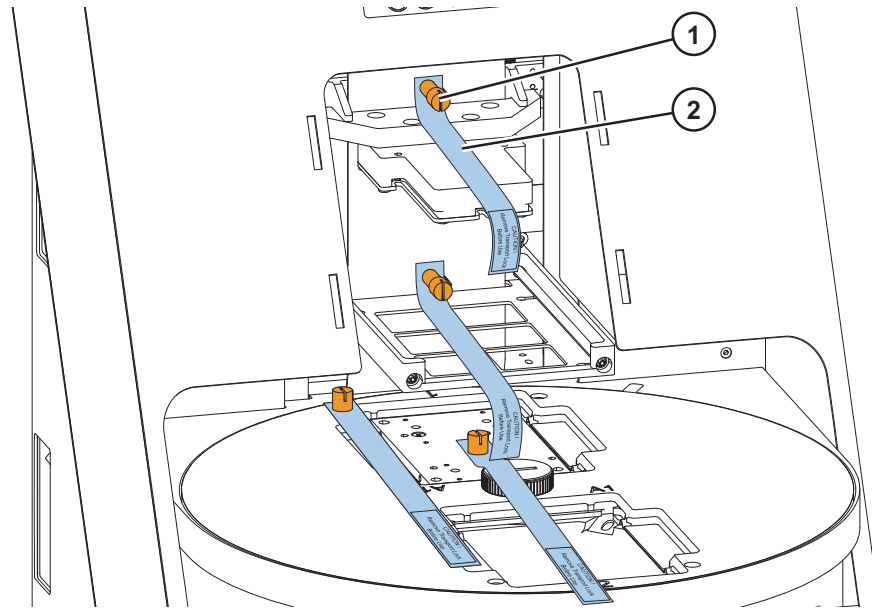
The instrument is delivered with four transport locks installed:

- the tip comb holder transport lock

- the magnet head transport lock
- the turntable transport lock
- the heater transport lock



**CAUTION** Make sure the transport locks are released before you start using the instrument.



**Figure 9.** KingFisher Presto with the transport lock finger screws (1) and warning slips (2) fitted

To release the transport locks:

1. Unscrew the transport lock finger screws counterclockwise.

It is possible to use a suitable tool, such as a screwdriver or a coin to unscrew the transport locks.

2. Screw the transport locks clockwise to the instrument body in order to keep them safe for future relocation.

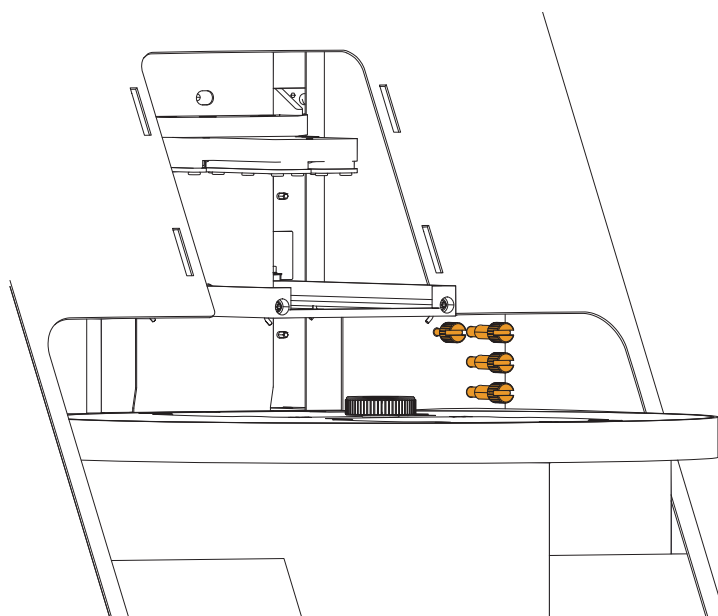


Figure 10. KingFisher Presto transport lock storage

## Connect the Power Supply Cable



**CAUTION** Check that the main power switch on the side of the instrument is in the OFF position. Never operate your instrument from a power outlet that has no ground connection. Never use a power supply cable other than the Thermo Scientific power supply cable designed for your region.

To connect the power supply cable:

1. Connect the power supply cable to the power supply connector:

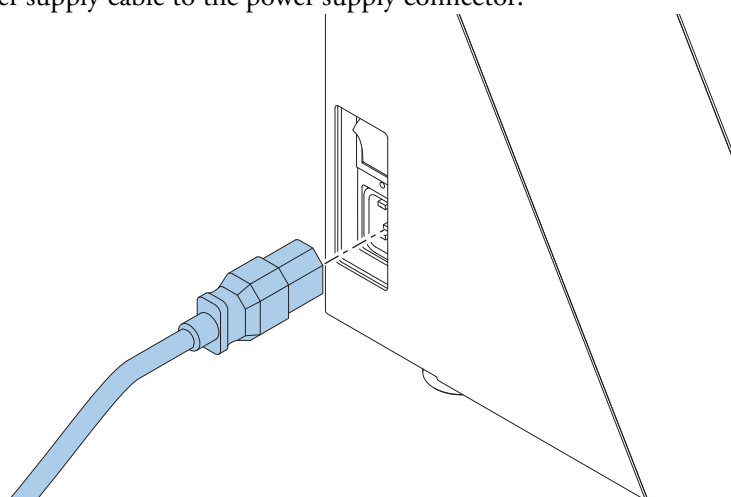


Figure 11. Connect the power supply cable

2. Connect the power supply cable to a correctly installed line power outlet with a grounded conductor.
3. Switch the instrument on.

The instrument performs initialization tests and adjustments.

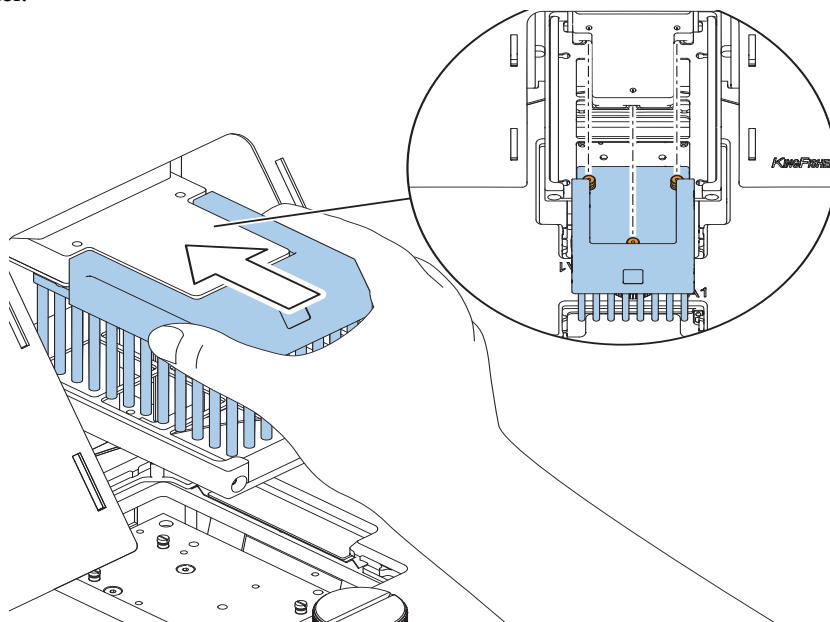
## Install the Magnet Head

To insert or change the magnet head:

1. Find the **Change magnet head** protocol by pressing the **Select** button on the instrument holder.
2. Press the **Start** button.

The magnet head holder rises.

3. Insert the magnet head:
  - a. Lift the magnet head carefully from its storage box by holding it from the top.
  - b. Check that the three pins on the top of the magnet head go to the slots of the magnet head holder.



**Figure 12.** Inserting the magnet head

- c. Push the magnet head slowly until the pins click into their notches.
4. Press **Start** to confirm the end of the protocol.

## Install the Heating Block

To insert or change the heating block:

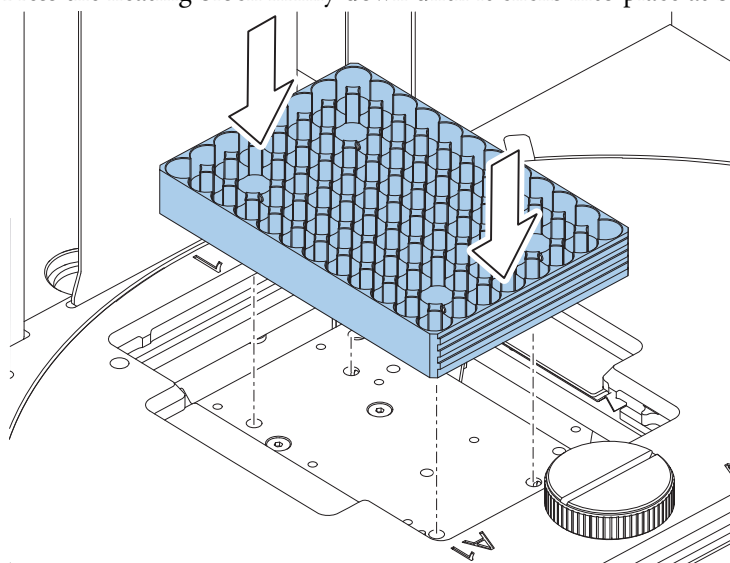
1. Find the **Change heating block** protocol by pressing the **Select** button.
2. Press **Start**.

The tip comb holder rises.

3. Insert the heating block:
  - a. Set the heating block into its slot.



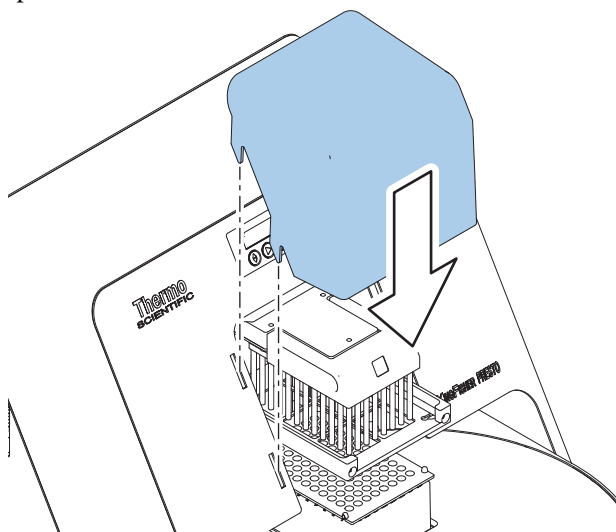
- b. Press the heating block firmly down until it clicks into place at both ends.



**Figure 13.** Inserting the heating block

4. Press **Start** to confirm the end of the protocol.
5. Install the transparent lid by fitting its tips into the slots on both sides of the magnet head

The lid protects the user and the processing against environmental contamination. The instrument can also be operated without the lid.



**Figure 14.** Fitting the transparent lid

## Operational Check

It is recommended that you carry out a check run using one of the maintenance protocols to verify proper instrument operation with a tip comb and a plate.

To perform the operational check:

1. Take a tip comb and a plate that match the magnet head you are using and place the tip com on the plate.

2. Press **Select** to find the protocol depending on which magnet head you are using:
  - If you are using the 96 DW head, select **Check 96DW tip**.
  - If you are using the 24 DW head, select **Check 24DW tip**.
3. Press **Start**.
4. Take the tip comb and plate and place them on the loading station.
5. Press **Start**.

The instrument performs the check.
6. After the successful check, remove the tip comb and the plate.
7. Press **Start** to confirm the end of the protocol.

If the check is successful, proceed with your own runs.

## Connect the Instrument to a PC

If you are using KingFisher Presto by itself, use the delivered USB cable to connect the instrument to a PC with BindIt Software installed. The software automatically recognizes the instrument.

For information on how to connect the instrument to a computer, refer to *Thermo Scientific™ BindIt™ Software for KingFisher™ Instruments User Manual*.

## Connect the Instrument to an Automation System

If you are using KingFisher Presto as a part of an automation system, connect the instrument to the system by either an Ethernet, a USB or an RS-232 cable.

For information on how to connect the instrument to an automation system, refer to *Thermo Scientific™ KingFisher™ Presto Integration Guide*.

## Operation

This chapter only describes the use of KingFisher Presto by itself. For more information on using KingFisher Presto with the BindIt software, see *Thermo Scientific™ BindIt™ Software for KingFisher™ Instruments User Manual*. For more information on using the instrument as a part of an automation system, refer to *Thermo Scientific™ KingFisher™ Presto Integration guide*.

Before you switch on the KingFisher Presto instrument, make sure that the voltage on the type label at the bottom right of the back panel (see [Figure 3](#) on [page 4](#)) corresponds to the local voltage.



**WARNING** Never operate your instrument from a power outlet that has no ground connection.

## Switch the Instrument On

The power switch is on the left side panel of the instrument. Switch it to the 'on' position.

The instrument display shows texts when the instrument is on.

If there is no text, the power switch is off, or the power cable is not plugged in.

## Select a Protocol

To select a maintenance protocol:

1. Go to the maintenance menu by pressing the **Select** button.
2. Press the **Select** button as many times as needed until you find the correct protocol.
3. Press the **Start** button to run the selected protocol.
4. Follow the instructions given by the instrument.

## Maintenance Operations

Maintenance operations include checking or changing the magnet head, the heating block or the tip comb, and running the operational check protocol. The maintenance operations allow you, for example, to check the condition of the tip comb or to unload the tip comb easily if an error occurs.

In the following table are presented all the maintenance operations you can run without a connection to a computer or BindIt Software.

**Table 4.** Maintenance operations

Protocol	Description
Check 24DW tip	Use this to check the 24 DW tip comb and its loading. Use this protocol only with the 24 deep well plate and magnet head.
Check 96DW tip	Use this to check the 96 DW tip comb and its loading. Use this protocol only with the 96 plate and 96 DW magnet head.
Unload 24DW tip	Use this to unload the 24 deep well tip comb.
Unload 96DW tip	Use this to unload the 96 deep well tip comb.
Change magnet head	Use this to install, remove or change the magnet head.
Change heating block	Use this to install, remove or change the heating block.
Transport locks	Use this to attach the transport locks.
Service Due In: [xxx]	This counter shows how much time/how many uses there are left before service.

## View Instrument Data

The instrument name and its internal software version are briefly visible, when you switch the instrument on.

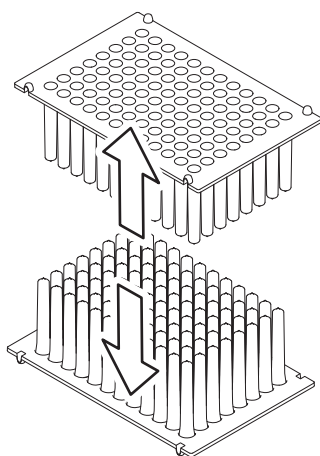
The software version can also be seen from BindIt Software. For more information, refer to *Thermo Scientific™ BindIt™ Software for KingFisher™ Instruments User Manual*.

## Handle Tip Combs and Plates

This chapter advises on how to handle the tip combs and plates compatible with KingFisher Presto. For more information, see chapter “[Ordering Information](#)” on [page 45](#).

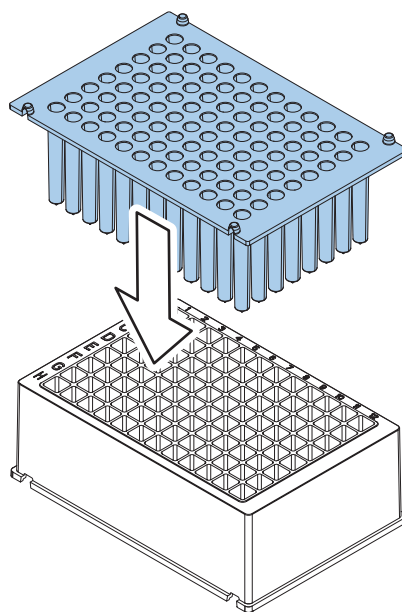
## KingFisher 96 DW Tip Combs and Plates

1. Unpack a KingFisher 96 DW tip comb package and separate the two tip combs.



**Figure 15.** Separate two KingFisher 96 DW tip combs.

2. Place the tip combs onto KingFisher 96 DW plates to avoid bending.



**Figure 16.** Placing the tip comb on a plate

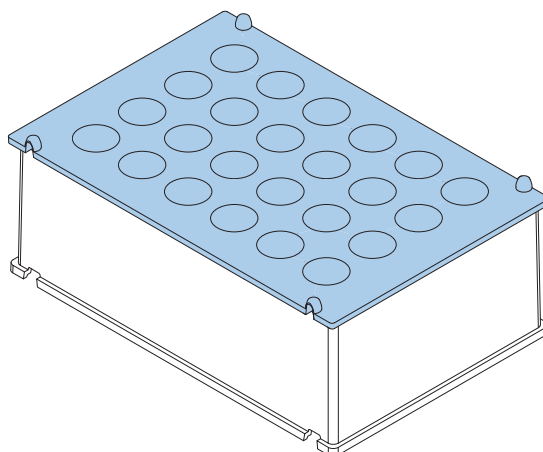
**Tip** Do not bend the tip combs to ensure proper instrument operation. If the tip comb is bent during storage, bend it slightly in the other direction to straighten it.

3. Store the unused tip comb and plate for later use.

## KingFisher 24 DW Tip Combs and Plates

1. Unpack a KingFisher 24 DW tip comb package where the tip comb is packed onto a KingFisher 24 DW plate.

2. Press the tip comb evenly against the KingFisher 24 DW plate by hand or with a magnetic head.



**Figure 17.** KingFisher Presto 24 DW tip comb in a KingFisher 24 DW plate.

## Run Protocols

This section briefly describes how to use the instrument with BindIt Software. When developing a protocol, it is recommended to test it with BindIt Software before starting the routine use of it with an automation system.

To perform a run:

1. Open the desired protocol with BindIt Software.
2. Dispense the reagents on the plate(s).
3. Put a tip comb on a plate.

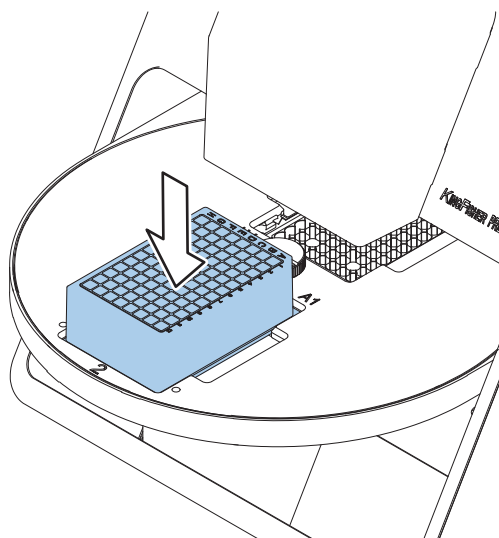
**Note** You can place only one tip comb onto the KingFisher plate for one run.

4. Start the protocol from BindIt Software.
5. Load the plate(s) in the order that the protocol requests and confirm each request by pressing the **Continue** button in BindIt Software.

**Note** The protocol does not continue if the plate detector does not detect a suitable plate on the loading station.

**Note** KingFisher Presto has room for two plates only, so you need to change the plates manually in the given order, if your protocol includes more than two plates.

Place the plate into the device so that the A1 corner is in the inner circle in the upper right corner.



**Figure 18.** Loading the plate.

The tip comb automatically locks onto the tip comb holder from the plate.

At the end of a protocol run, the turntable may stop in a different position than the starting position.

6. When the run is finished, remove the plate(s) according to the protocol request. Confirm each plate removal from BindIt Software.

## Shutdown

It is recommended to shut down the instrument when not in use.

To shut down KingFisher Presto:

1. If there are any ongoing protocols, wait for them to finish or stop them by pressing twice the **Stop** button on the instrument.



**WARNING** Remove any plates, strips or tip combs still in the instrument. Dispose of all microplates, strips and tip combs as biohazardous waste.

2. Switch the instrument off
3. Wipe the turntable surface and the adjacent instrument surface with a soft cloth or tissue paper moistened with distilled water, a mild detergent (SDS, sodium dodecyl sulfate) or soap solution.
4. If you have spilled infectious agents on the turntable, disinfect it with 70% ethanol or another disinfectant (see “[Decontamination Procedure](#)” on [page 32](#)).

## Emergency Situations

If an abnormal situation occurs during operation:

1. Press the **Stop** button of the instrument twice to abort the possibly ongoing protocol.
2. Switch the instrument off.
3. Unplug the instrument from the power supply.
4. Take the appropriate corrective measures, for example:
  - If fluids have spilled inside the instrument, wipe the turntable surface and the adjacent instrument surface with a soft cloth or tissue paper moistened with distilled water, a mild detergent (SDS, sodium dodecyl sulfate) or soap solution.
  - If you have spilled infectious agents on the turntable, disinfect it with 70% ethanol or another disinfectant (see [“Decontamination Procedure”](#) on [page 32](#)).

**Note** Do not disassemble the instrument.

5. If the corrective measures do not help, contact authorized technical service or your local Thermo Fisher Scientific representative. See also chapter [“Maintenance”](#) on [page 29](#) and [“Troubleshooting”](#) on [page 41](#).



# Maintenance

This chapter describes the regular and preventive maintenance and other maintenance tasks for KingFisher Presto.

## Regular and Preventive Maintenance

For reliable daily operation, keep the instrument free of dust and liquid spills.

Do not use abrasive cleaning agents, because they are likely to damage the paint finish.

It is recommended that you clean the case of the instrument periodically to maintain its good appearance. A soft cloth dampened with a warm, mild detergent solution is sufficient.

Clean the outside surfaces of the instrument and the turntable with clean low-pressure compressed air or a cloth dampened with water or a mild detergent when necessary.

Immediately wipe away spilled saline solutions, solvents, acids or alkaline solutions from outer surfaces to prevent damage.



**CAUTION** Painted surfaces can be cleaned with most laboratory detergents. Dilute the cleaning agent as recommended by the manufacturer. Do not expose the surfaces to concentrated acids or concentrated alcohols for prolonged periods of time as they may cause damage.

Clean the display areas with a mild laboratory detergent. The keypad has a wipe-clean surface.

Plastic covers and surfaces can be cleaned with a mild laboratory detergent or alcohol.



**WARNING** If any surfaces are contaminated with biohazardous material, apply mild sterilizing solution to the surface.



**CAUTION** Do not autoclave any part of the instrument.

## Clean the Turntable

Keep the turntable surface clean to prevent dust and dirt from entering the instrument. Clean the turntable surface at least once a week using a soft cloth or tissue paper soaked in a mild detergent solution (SDS), soap solution or alcohol.

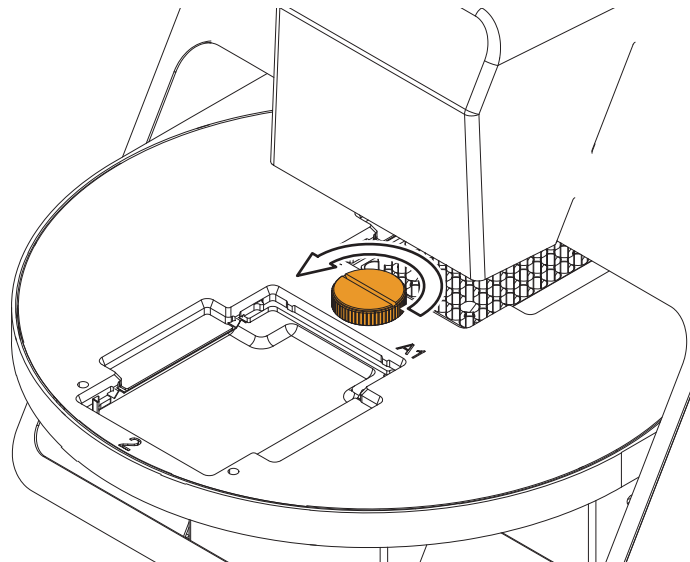
If you have spilled infectious agents on the turntable, clean it with a cloth dampened with water, mild bleach or a mild detergent.

Clean the protective window of the plate detector with a cotton swab moistened with distilled water, mild detergent (SDS, sodium dodecyl sulfate) or a soap solution.

You can remove the turntable to wipe minor spills from underneath it.

To remove the turntable:

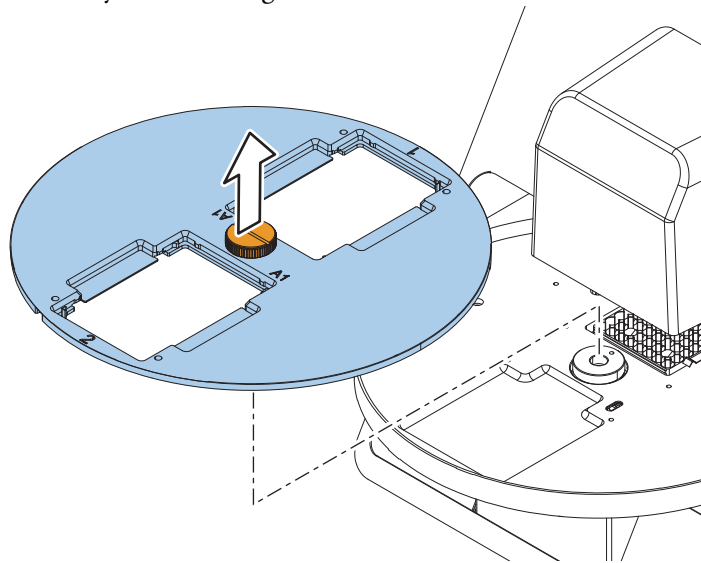
1. Switch the instrument off.
2. Rotate the finger screw counterclockwise until the screw is no longer attached to the body of the instrument.



**Figure 19.** Loosening the screw.

The screw remains attached to the turntable.

3. Lift the turntable carefully from the finger screw.



**Figure 20.** Removing the turntable

When refitting the turntable, first place the turntable onto the small alignment stud. Fasten the finger screw finger-tight by screwing it clockwise.



**CAUTION** The turntable can only be removed for wiping minor spills.

## Clean the Magnetic Rods

If required, wipe the magnetic rods using a soft cloth or tissue paper soaked in a mild detergent solution (SDS), soap solution or alcohol.



**CAUTION** Do not keep KingFisher Presto close to magnetic tapes, computer discs or other magnetic storage systems, such as credit cards, as they can be damaged by the strong magnetic field of the KingFisher Presto heads. Do not hold KingFisher Presto magnet heads close to a PC display, as this may damage the display. Do not use metal tools when handling KingFisher Presto heads. Be careful not to break the magnets while cleaning.



**WARNING** This product contains very strong permanent magnets. People wearing a pacemaker or metallic prostheses should not use this product. A pacemaker or prostheses may be affected or damaged if it comes in close contact (10 cm or 3,9 inches) with a strong magnetic field.

## Disposal of Materials

Follow laboratory and country-specific procedures for the disposal of biohazardous or radioactive waste. Refer to local regulations for the disposal of infectious material.



**WARNING** The samples can be potentially infectious. Dispose of all used disposable plates, strips and tip combs, disposable gloves, syringes, disposable tips, and such as biohazardous waste.

## Decontamination Procedure

If you have spilled infectious agents, carry out the decontamination procedure.

Perform decontamination in accordance with normal laboratory procedures. Any decontamination instructions provided with the reagents used should be followed.

It is strongly recommended to perform the complete decontamination procedure before relocating the instrument from one laboratory to another or before sending it to service.

Examples of decontaminants:

- Ethanol 70%
- Virkon™ solution 1–3%
- Glutaraldehyde solution 4%
- Chloramine T
- Microcide SQ™ 1:64
- Decon™ 90 min. 4%



**WARNING** The decontamination procedure can only be performed by authorized trained personnel wearing disposable gloves, protective glasses and clothing in a well-ventilated room.

To perform the decontamination procedure:

1. Prepare the decontaminant following the instructions by the reagent provider: 200 ml 4% glutaraldehyde solution (or another agent recommended by your safety officer).
2. Empty the turntable.
3. Switch off the instrument and disconnect the mains supply cable.
4. Disinfect the outside of the instrument using a cloth dampened with 70% ethanol.
5. Place the instrument in a large plastic bag.
6. Place a cloth soaked in the prepared solution into the bag. Ensure that the cloth does not come into contact with the instrument.
7. Seal the bag and leave the instrument in the bag for at least 24 hours.

8. After the 24 hours, remove the instrument from the bag.
9. Clean the instrument using a mild detergent.
10. Remove any stains using 70% ethanol.
11. After performing this decontamination procedure, enclose a signed and dated Certificate of Decontamination both inside the transport package and attached to the outside of the package (see Appendix A: “Certificate of Decontamination”).

## Pack the Instrument for Transportation or Service

To pack the instrument for service, follow the guidelines presented in this chapter.



**CAUTION** It is important that the instrument is thoroughly decontaminated before it is removed from the laboratory or any servicing is performed on it.

When you ship the instrument for service, do the following:

- Inform the service about the use of hazardous materials.
- Decontaminate the instrument beforehand.
- Remove the KingFisher Presto magnet head by using the **Change magnet head** protocol and place it into its transport package.
- Remove the heating block by using the **Change heating block** protocol.
- Install the transport locks by using the **Transport locks** protocol. For more specific instructions, see section “[Refit Transport Locks](#)” on [page 33](#).
- Switch the instrument off.
- Pack the instrument according to the enclosed packing instructions.
- Use the original packaging to ensure that no damage will occur to the instrument during shipping. Any damage causes additional labor charges.
- Enclose a dated and signed Certificate of Decontamination (see “[Appendix A](#)” on [page 47](#)) inside and attached to the outside of the package, in which you return your instrument (or other items).
- Enclose the return goods authorization number (RGA) given by your Thermo Fisher Scientific representative, if necessary.
- Indicate the fault after you have contacted your local Thermo Fisher Scientific representative or Thermo Fisher Scientific’s technical service department.

For more information on storage and transportation temperatures, see “[General Specifications](#)” on [page 37](#).

## Refit Transport Locks

To refit the transport locks:

## 5 Maintenance

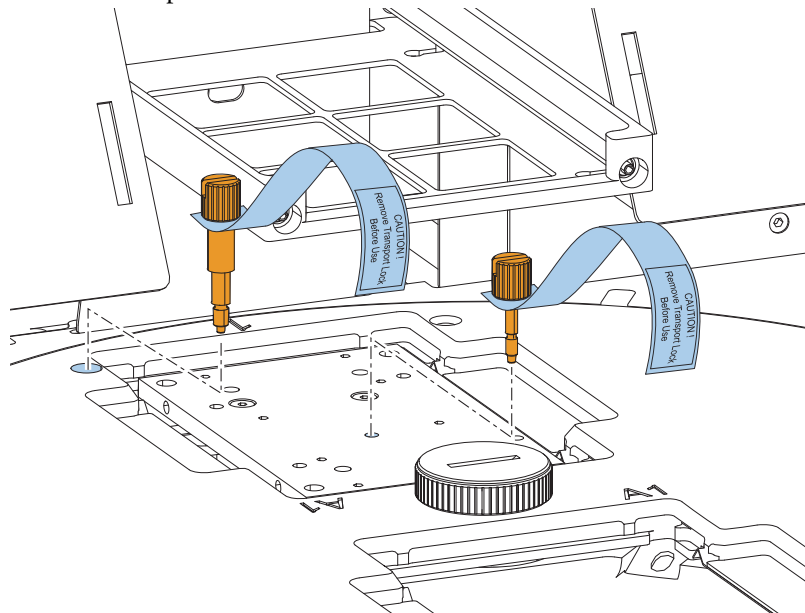
Pack the Instrument for Transportation or Service

1. Unscrew the transport locks from the instrument body.
2. Remove the magnet head.
  - a. Find the **Change magnet head** protocol by pressing the **Select** button.
  - b. Press **Start**.
  - c. Gently pull the magnet head until the pins holding the head snap out of their notches.



**CAUTION** When you remove the KingFisher Presto head, be careful not to damage the magnet rods against the tip comb holder frame.

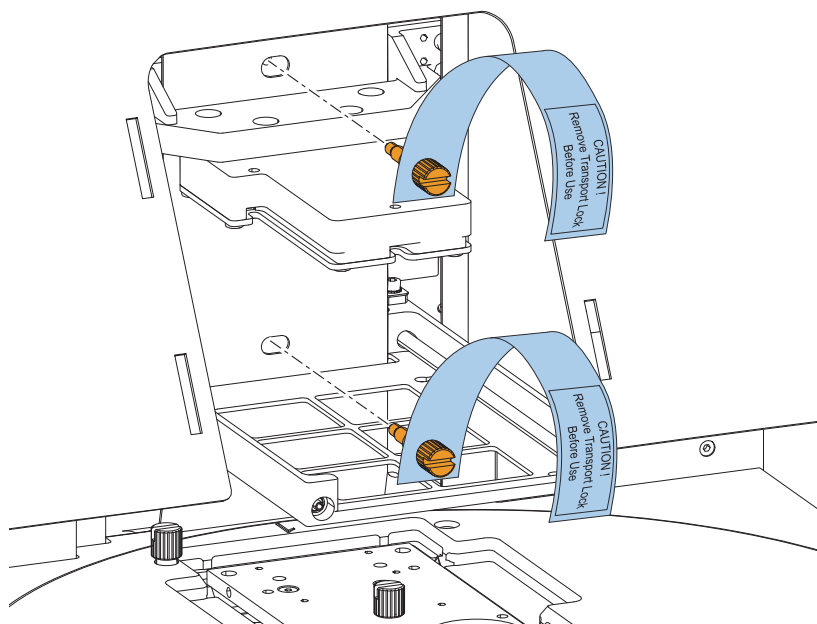
- d. Pull the magnet head out and place it in its storage box.
  - e. Press **Start**.
3. Remove the heating block.
    - a. Find the **Change heating block** protocol by pressing the **Select** button.
    - b. Press **Start**.
    - c. Pull the heating block out.
    - d. Press **Start**.
  4. Attach the transport locks.
    - a. Find the **Transport locks** protocol by pressing the **Select** button.
    - b. Press **Start**.
    - c. Attach the transport locks to the turntable and the heater.



**Figure 21.** Refitting the transport locks

- d. Press **Start**.

- e. Attach the transport locks to the magnet head and the tip comb holder.



**Figure 22.** Refitting the transport locks

- f. Press **Start**.
5. Switch the instrument off.

## Service Contracts

It is recommended to maintain and service the instrument regularly on a contract basis by the manufacturer's trained service engineers. Service the instruments every 12 months or when the service counter reaches 0. This ensures that the product is properly maintained and gives trouble-free service. For more information, contact the Thermo Fisher Scientific technical service department.

## Disposal of Instrument

If the KingFisher Presto has to be disposed of, follow the guidelines given in this section.



**WARNING** Decontaminate the instrument before disposal. For more information, see “[Decontamination Procedure](#)” on [page 32](#). Follow laboratory and country-specific procedures for biohazardous or radioactive waste disposal.



**WARNING** Dispose of the instrument according to the legislation stipulated by the local authorities concerning take-back of electronic equipment and waste. The procedures vary by country.

## 5 Maintenance

Pack the Instrument for Transportation or Service

Pollution degree	2 (for more information, see Safety specifications in Chapter Technical Specifications)
Method of disposal	Electronic waste Contaminated waste (Infectious waste)

Regarding the original packaging and packing materials, use the recycling operators known to you.

For more information, contact your local Thermo Fisher Scientific representative.



# Technical Specifications

## General Specifications

Thermo Fisher Scientific reserves the right to change any specifications without prior notice as part of our continuous product development program. The general specifications are presented in the following table. For information on accessories, see [“Accessories and Consumables”](#) on page 45.

**Table 5.** General specifications

Item	Value
Overall dimensions	
• instrument	• <i>ca.</i> 360 mm (W) x 465 mm (D) x 400 (H) [14.2” (W) x 18.3” (D) x 15.7” (H)]
• transport package	• 520 mm (W) x 570 mm (D) x 540 mm (H) 20.5” (W) x 22.4” (D) x 21.3” (H)
Weight	
• instrument	• <i>ca.</i> 24.0 kg [52.9 lbs]
• instrument with transport package	• <i>ca.</i> 31.0 kg [68.3 lbs]
Operating conditions (indoor use)	+15°C to +35°C; maximum relative humidity 80% for temperatures up to +31°C decreasing linearly to 50% relative humidity at +40°C
	Indoor use only
Transportation conditions	-40°C to +70°C, packed in transport packaging
Storage conditions	-25°C to +50°C, packed in transport packaging
Mains power supply	100–240 Vac, 50/60 Hz, nominal Automatic voltage detection
Power consumption	175 VA max., 55 VA standby
Heat dissipation	398 BTU max.
Protocol import	Using Thermo Scientific™ BindIt™ Software for KingFisher™ instruments
BindIt Software compatibility	Yes
Computer port	USB, serial RS-232 or Ethernet
Robot compatibility	Yes

## Performance Specifications

The performance specifications are presented in the following table.

**Table 6.** Performance specifications

Item	Value
Plate types and recommended processing volume	KingFisher 96 DW plate: 50–1,000 µl
	KingFisher 96 plate: 50–150 µl
	KingFisher 24 DW plate: 200–5,000 µl 200–5,000 µl performance may vary depending on the mixing speed and liquid
Capacity (samples per run)	up to 96 samples/run
Collection efficiency of the particles (indoor use)	≥ 95%, Microtiter deep well 96 plate, neutral wash buffer containing detergent, 2.8 µm particles, 3 collections, RT
Magnetic particle size	<i>ca.</i> > 1 µm
Magnet rods	24 or 96 in one frame
Tip combs (polypropylene – disposable)	24 / 96 in one frame: KingFisher 24 DW tip comb and KingFisher 96 DW tip comb
Plates per deck	2
Automatic tip load	Yes
Heating block temperature	From +5°C above ambient temperature to +115°C
Heating block accuracy	± 1°C up to +80°C, and ± 3°C from +80°C up to +115°C, instrument in RT
Keypad / Display	SELECT / START / STOP / ROTATE
	2x16 character display

## Safety Specifications

This section describes the safety specifications for the KingFisher Presto instrument which are in conformity with the requirements.

In conformity with the requirements, KingFisher Presto bears the following markings:

- Type 713
- 100-240 VAC, 175 VA
- CE mark

KingFisher Presto conforms to the following requirements:

- 2006/95/EC (Low Voltage Directive)
- 2004/108/EC (Electromagnetic Compatibility Directive, EMC)
- FCC Part 15, Subpart B/Class B (July 2004)

- 2012/19/EC (Waste of Electrical and Electronic Equipment)
- 2011/651/EC (RoHS Directive – Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment)
- 2006/42/EC (Machinery Directive)
- EN 61010-1:2001 (Ed. 2), including US and CA National differences
- EN 61010-2-010:2003 (Ed. 2)
- EN 61010-2-101:2002 Particular Requirements for In Vitro Diagnostic (IVD) Medical Equipment

The safety specifications are also met under the following environmental conditions in addition to or in excess of those stated in the operating conditions:

**Table 7.** Environmental requirements

Condition	Requirement
Altitude	Up to 2000 m
Temperature	+4°C to +40°C
Humidity	Maximum relative humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C
Mains supply fluctuations	± 10% from nominal
Installation category (overvoltage category)	II according to IEC 60664-1 (see Note 1)
Pollution degree	2 according to IEC 60664-1 (see Note 2)

**Note 1:** *The installation category* (overvoltage category) defines the level of transient overvoltage which the instrument is designed to withstand safely. It depends on the nature of the electricity supply and its overvoltage protection means. For example, in CAT II, which is the category used for instruments in installations supplied from a supply comparable to public mains, such as hospital and research laboratories and most industrial laboratories, the expected transient overvoltage is 2500 V for a 230 V supply and 1500 V for a 120 V supply.

**Note 2:** *The pollution degree* describes the amount of conductive pollution present in the operating environment. Pollution degree 2 assumes that normally, only non-conductive pollution, such as dust, occurs with the exception of occasional conductivity caused by condensation.



## Troubleshooting

**Note** Do not use the instrument if it appears not to be functioning properly.

When an error is detected, terminate the current operation. After an error occurred, abort the current run and restart from the beginning when the problem is fixed. The following table provides a troubleshooting guide for the KingFisher Presto instrument.

### Error codes

**Table 8.** Error codes

Error code	Error message	Action
2	Received an unknown command	Contact authorized technical service.
3	Already connected to another port	Disconnect the used port and try again.
4	Head position error	Switch the instrument to the OFF and ON position and try again. If the error appears during initialization or is otherwise repeated, contact service.
5	Magnets position error	Switch the instrument to the OFF and ON position and try again. If the error appears during initialization or is otherwise repeated, contact service.
6	Turntable position error	Switch the instrument to the OFF and ON position and try again. If the error appears during initialization or is otherwise repeated, contact service.
7	Heater unit position error	Switch the instrument to the OFF and ON position and try again. If the error appears during initialization or is otherwise repeated, contact service.
8	Lock position error	Switch the instrument to the OFF and ON position and try again. If the error appears during initialization or is otherwise repeated, contact service.

**Table 8.** Error codes

<b>Error code</b>	<b>Error message</b>	<b>Action</b>
11	Invalid command argument	Check the parameters and try again. If the error is repeated, contact service.
13	Protocol memory error	Contact authorized technical service.
14	Protocol memory is full	Remove unused protocols and try again. If the error is repeated, contact service.
15	No protocols found from the protocols memory	Use BindIt Software to create and transfer protocols to the protocols memory of the instrument.
16	Protocol was not found from the protocols memory	Check spelling and parameters. If the error reoccurs, contact service.
17	Given tip name was not found from the protocol	Check spelling and parameters. If the error reoccurs, contact service.
18	Given step name was not found from the given tip of the protocol	Check spelling and parameters. If the error reoccurs, contact service.
19	A name of a step to start was not given	Check spelling and parameters. If the error reoccurs, contact service.
23	Protocol name is invalid. Maximum length of the name is 100 bytes e.q. 100 ASCII characters	Shorten the protocol name. If the error reoccurs, contact service.
24	Invalid protocol file	Try to transfer the protocol again. If the error reoccurs, contact service.
25	Protocol is not executable	Open the protocol in BindIt Software and check that the protocol steps are correctly defined.
27	Protocol is too large and can't be loaded	Make the protocol smaller or divide it into two protocols.
28	Instrument is executing, please wait	No actions needed.
32	No protocol is currently running	No actions needed.
33	Data transmit to USB port failed (timed out)	Switch the instrument to the OFF and ON position and try again. If the error appears during initialization or is otherwise repeated, contact service.
34	Cannot run magnets down without tips	Check that the tips are placed correctly. If the equipment seems to be in order, switch the instrument to the OFF and ON position and run the check protocol according to the KingFisher Presto head and the tip comb and plate you are using.

**Table 8.** Error codes

Error code	Error message	Action
35	Magnet head is missing	Check that the magnet head is fully inserted. Switch the instrument to the OFF and ON position and try again. If the error appears during initialization or is otherwise repeated, contact service.
38	Plate not detected in processing position	Load or unload the plate according to the software requests. Check that the plate type is correct. Cleanse the plate detector.
39	Plate detected in processing position	Load or unload the plate according to the software requests. Check that the plate type is correct. Cleanse the plate detector.
40	Plate not detected in load position	Load or unload the plate according to the software requests. Check that the plate type is correct. Cleanse the plate detector.
41	Plate detected in load position	Load or unload the plate according to the software requests. Check that the plate type is correct. Cleanse the plate detector.
43	Protocol is not for this instrument	Check the file type of the protocol and try again. If the error reoccurs, contact service.

## Warning codes

**Table 9.** Warning codes

Warning code	Warning message	Action
101	Instrument is already connected	No actions needed.
102	Previous command was incomplete	There was a communication error between the instrument and the automation system/BindIt Software. No actions needed. If the problem reoccurs, contact service.
103	Date/time string is invalid, instrument time was not set	Check parameters and spelling.
104	Protocol execution was aborted by the user	No actions needed.
105	Step execution was aborted by the user	No actions needed.
106	Existing protocol was overwritten	There was a protocol with the same name. No actions needed.

**Table 9.** Warning codes

<b>Warning code</b>	<b>Warning message</b>	<b>Action</b>
107	Heater preheat was turned off between single step executions	No actions needed.
108	Heater was turned off after 10 minutes since last single step execution	No actions needed.



## Ordering Information

Contact your local Thermo Fisher Scientific representative for ordering and service information. Ordering information codes are presented in the following tables.

### KingFisher Presto

The following configurations of the KingFisher Presto system are available:

**Table 10.** Codes for products

Code	Instrument/System
5400830	KingFisher Presto with 96 DW head
5400840	KingFisher Presto with 24 DW head

### Accessories and Consumables

The following accessories and consumables are to be used with KingFisher Presto:

**Table 11.** Codes for accessories and consumables

Code	Item	Quantity (pieces)
5189009	BindIt Software	1
95040450	KingFisher deep-well 96 plate	50
95040460	KingFisher deep- well 96 plate, sterile	50
97002540	KingFisher 96 KF plate (200µl)	48
97002534	KingFisher 96 tip comb for DW magnets	100
97002820	KingFisher deep-well 96 tip comb and plate, sterile	50 of each
95040470	KingFisher Flex 24 deep well plate	50
95040480	KingFisher Flex 24 deep well plate, sterile	50
97002610	KingFisher Flex 24 DW tip comb and plate	50 of each
97002620	KingFisher deep-well 24 tip comb and plate, sterile	50 of each
24078831	KingFisher Presto 96 DW head with 2 heating blocks	1

**Table 11.** Codes for accessories and consumables

<b>Code</b>	<b>Item</b>	<b>Quantity (pieces)</b>
24078841	KingFisher Presto 24 DW head with 1 heating block	1
24078830	KingFisher Presto 96 DW head	1
24078840	KingFisher Presto 24 DW head	1
24075420	96 KingFisher heating block for KingFisher Flex/KingFisher Presto	
24075430	96 DW heating block for KingFisher Flex/KingFisher Presto	
24075440	24 DW heating block for KingFisher Flex/KingFisher Presto	
N04001	USB A-B device cable 1.8 m <sup>a</sup>	1

<sup>a</sup>Longer USB cables available from PC stores

## Appendix A

### Certificate of Decontamination

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Tel./Fax: \_\_\_\_\_

Instrument: \_\_\_\_\_ Serial no.: \_\_\_\_\_

A) I confirm that the returned items have not been contaminated by body fluids, toxic, carcinogenic or radioactive materials or any other hazardous materials.

B) I confirm that the returned items have been decontaminated and can be handled without exposing the personnel to health hazards.

Materials used in the unit: Chemicals + Biological •Radioactive \*)

Special information about contaminants:

\_\_\_\_\_  
\_\_\_\_\_

Decontamination procedure<sup>1</sup>:

\_\_\_\_\_  
\_\_\_\_\_

Date and place: \_\_\_\_\_

Signature: \_\_\_\_\_

Name (block capitals): \_\_\_\_\_

\*) The signature of a Radiation Safety Officer is also required when the unit has been used with radioactive materials.

This unit is certified by the undersigned to be free of radioactive contamination.

Date and place: \_\_\_\_\_

<sup>1</sup> Please include decontamination solution used.

**A Appendix A**  
Certificate of Decontamination

Signature: \_\_\_\_\_

Name (block capitals): \_\_\_\_\_

PHOTOCOPIABLE