



**KingFisher Apex instrument**

# APEX

# The pinnacle of automated purification for DNA, RNA, proteins, and cells

Building on decades of Thermo Scientific™ KingFisher™ product value and excellence, we've combined unparalleled instrument capabilities with complete touchscreen-based control to deliver unrivaled flexibility and performance, so sample prep can be simple.

**Welcome to the apex of purification.**

AP



Write or edit protocols  
directly on instrument

Intuitive  
touchscreen interface



UV  
decontamination

Bar code  
scanning for  
plate set up


Storage tube elution

96-well, 24-well,  
and PCR formats

Optional network  
connectivity

Switch between  
two magnet heads

Heating and  
cooling blocks

 Cloud enabled



## Enhanced performance

Achieve peak performance for purifying DNA, RNA, proteins, or cells, now with even greater flexibility for fast and reproducible results with almost any application.

- Elute in lower volumes (10  $\mu$ L) for demanding downstream applications
- Purify 24 or 96 samples in 25–65 min
- Control heating and cooling to maintain sample integrity
- Elute in storage tubes and revisit samples later
- Safeguard against contamination with 2 UV lights

Sample prep as it should be—fast, flexible, consistent.\*

gDNA from blood



**75%**  
less touch time

cfDNA



**50%**  
less touch time

RNA

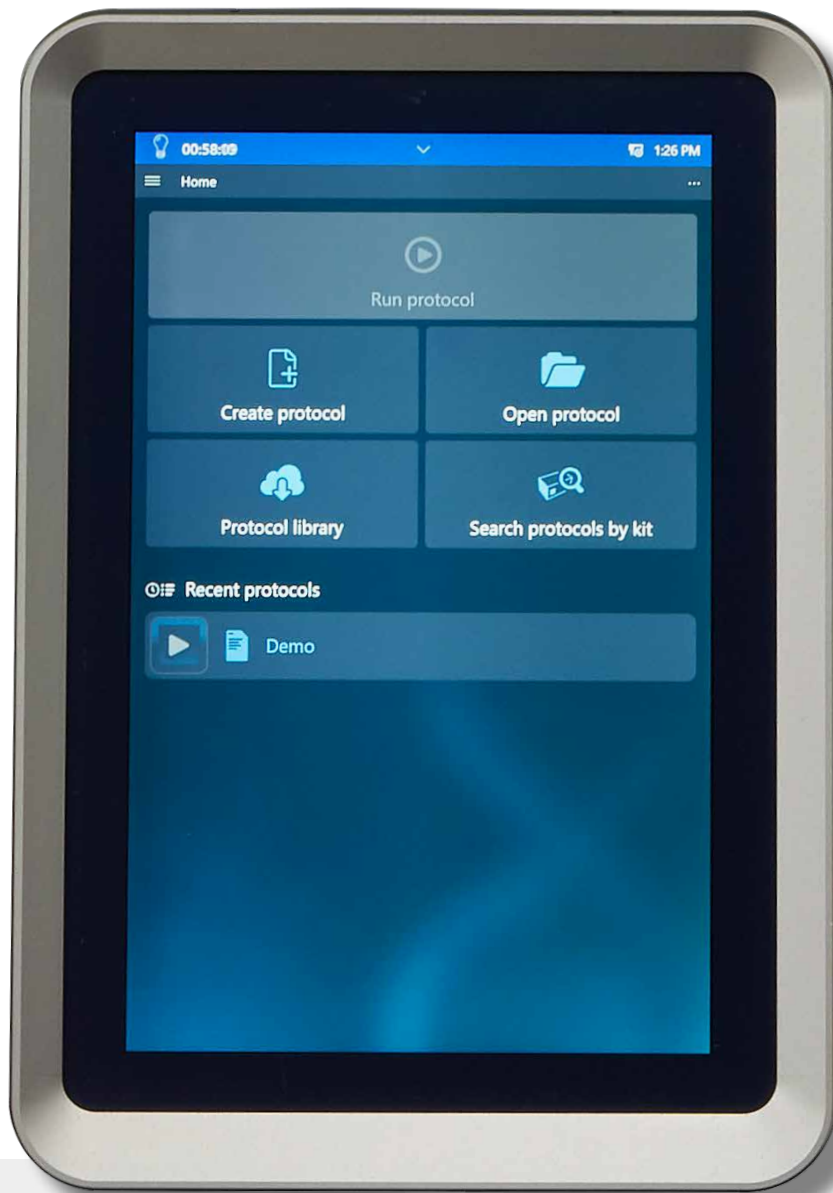


**75%**  
less touch time

\* Based on actual extraction times in lab

■ Average time required using our automated solutions

■ Average time for manual sample prep



## Touchscreen control

A modern touchscreen display and intuitive interface put you in control of the instrument, making it easy to operate and reducing errors.

- Easily write, edit, or run protocols directly on instrument
- Quickly access recent protocols, validated protocol libraries, and other instrument settings
- Rely on guided visuals for easy plate loading, protocol changes, and instrument setup
- No computer needed



**Create**  
**protocol**



**Open**  
**protocol**



**Download**  
**protocol library**



**Search**  
**protocol by kit**

## Customize protocols

Easily edit or write protocols directly on the instrument. The Thermo Scientific™ KingFisher™ Apex Instrument allows customization of every step in your protocol—bind, wash, and elute.

- Quickly optimize any step in your protocol directly from the touchscreen
- Visual guides make it simple to edit or customize protocols
- Instrument-defined limits reduce errors in any protocol modifications
- Option to work from your PC with Thermo Scientific™ BindIx™ Software

## Cloud and network connection

Connect the KingFisher Apex instrument to the cloud for even greater access and control, or use a network connection.

- Conveniently save, transfer, or download protocols from (virtually) anywhere, using a cloud library, local area network (LAN) file locations, USB, or even by scanning the bar codes from kits
- Generate run reports in PDF or XML format for ease-of-run tracking and LIMS incorporation

## Dual magnets and multiple formats

Install two magnetic heads and heating blocks. The KingFisher Apex instrument intelligently selects the correct magnetic head based on your protocol needs. Work with small to large volume ranges by choosing from 24-well, 96-well, or PCR formats with corresponding magnetic heads and plates.

### 24 deep-well plates

200–5,000  $\mu\text{L}$



### 96 deep-well plates

50–1,000  $\mu\text{L}$



## Bar-coded and optimized plastics

Achieve optimal performance, reduce errors, and increase traceability with plastics specially designed for KingFisher instruments.

- Specialized tip combs and well design enable lower elution volumes, storage tube elution, and heating and cooling consistency
- Lot-specific bar codes confirm proper plate position during loading or may be used for lot tracking and documentation

## Multiple applications

The KingFisher Apex instrument supports a variety of applications with a wide range of validated protocols from trusted reagents.

- Applied Biosystems™ MagMAX™ kits and reagents
- Invitrogen™ Dynabeads™ magnetic beads
- Thermo Scientific™ Pierce™ magnetic agarose beads
- Thermo Scientific™ SMART Digest™ kits





## DNA

- gDNA
- Cell-free DNA (cfDNA)
- Viruses and pathogens
- Microbiome
- Formalin-fixed, paraffin-embedded (FFPE) samples
- PCR cleanup



## RNA

- Total RNA
- MicroRNA (miRNA)
- Messenger RNA (mRNA)
- FFPE
- Microbiome
- Viruses and pathogens



## Protein

- Immunoprecipitation
- Protein purification
- Antibody purification
- Phage display
- Mass spectrometry



## Cells

- Exosomes
- T cells
- Primary cells
- Cell lines

## Technical specifications

Processing volume by plate format	<p><b>96-well format:</b></p> <ul style="list-style-type: none"> <li>• Deep well: 15–1,000 µL</li> <li>• KingFisher standard: 15–200 µL</li> <li>• PCR: 10–80 µL</li> </ul> <p><b>24-well format:</b></p> <ul style="list-style-type: none"> <li>• Deep well: 30–5,000 µL</li> </ul> <p><b>Storage tubes:</b></p> <ul style="list-style-type: none"> <li>• 96 tubes: 30–200 µL</li> <li>• 24 tubes: 200–1,000 µL</li> </ul>
Customizable protocols	Yes, created with instrument user interface or BindIx Software, which requires Microsoft™ Windows™ 10 Software
Heating and cooling ranges	Heating up to 100°C Cooling down to 4°C
Ultraviolet light	2 UV lamps, max 23 h 59 min
Dimensions (H x W x D)	45 x 78 x 59 cm (18 x 31 x 23 in.)
Weight	56 kg (123 lb)
Plate formats	96 deep-well plate, 96-well KingFisher standard plate, 96-well PCR plate (skirted and semiskirted)*, 24 deep-well plate, 96 storage tubes*, 24 storage tubes*
Instrument memory	~30 GB
Display interface	Graphical user interface with touchscreen
Power	100–240 VAC 50/60 Hz, 280 VA
Bar code reading	On instrument; 1D barcodes
Magnetic head options	4 options, customer interchangeable
Data connectivity**	USB device for PC, USB Wi-Fi or LAN adapter for network, RS-232 for automation, cloud-enabled
Cat. No.	5400910 KingFisher Apex instrument with 96 PCR head 5400920 KingFisher Apex instrument with 96 Combi head 5400930 KingFisher Apex instrument with 96 DW head 5400940 KingFisher Apex instrument with 24 Combi head

\* Recommended versions: Thermo Scientific™ Armadillo™ PCR plates (skirted: Cat. No. AB2396, semiskirted: Cat. No. AB2496). Thermo Scientific™ Nunc™ storage tubes (96 tubes: Cat. No. 374086, 24 tubes: Cat. No. 364323).

## KingFisher instrument line

Find a model that meets your needs.

KingFisher instrument:	Duo Prime	Flex	Apex	Presto
Instrument size	Compact benchtop	Benchtop	Benchtop	Benchtop—integrates with robotic liquid handler
Throughput level	Low to medium	Medium to high	Medium to high	Ultrahigh
Processing volume range	<ul style="list-style-type: none"> <li>• 50–1,000 µL: 12-pin magnet head</li> <li>• 200–5,000 µL: 6-pin magnet head</li> </ul>	<ul style="list-style-type: none"> <li>• 20–100 µL: 96-well PCR plate, skirted*</li> <li>• 20–200 µL: 96-well plate</li> <li>• 50–1,000 µL: 96 deep-well plate</li> <li>• 200–5,000 µL: 24 deep-well plate</li> </ul>	<ul style="list-style-type: none"> <li>• 15–1,000 µL: 96 deep-well plate</li> <li>• 15–200 µL: 96-well KingFisher standard plate</li> <li>• 10–80 µL: 96-well PCR plate</li> <li>• 30–5,000 µL: 24 deep-well plate</li> <li>• 30–200 µL: 96 storage tubes</li> <li>• 200–1,000 µL: 24 storage tubes</li> </ul>	<ul style="list-style-type: none"> <li>• 50–1,000 µL: 96 deep-well plate</li> <li>• 200–5,000 µL: 24 deep-well plate</li> <li>• 50–150 µL: 96-well KingFisher standard plate</li> </ul>
Samples per run	6 or 12	24 or 96	24 or 96	24 or 96
Customizable protocols	Yes, with PC software	Yes, with PC software	Yes, with touchscreen or PC software	Yes, with PC software
Heating/cooling	<ul style="list-style-type: none"> <li>• 10°C to 75°C (plate row block A)</li> <li>• 4°C to 75°C (elution strip block)</li> </ul>	<ul style="list-style-type: none"> <li>• From 5°C above ambient temperature to 115°C</li> </ul>	<ul style="list-style-type: none"> <li>• From 4°C above ambient temperature to 100°C</li> <li>• Cooling down to 4°C</li> </ul>	<ul style="list-style-type: none"> <li>• From 5°C above ambient temperature to 115°C</li> </ul>
Ultraviolet lamp	8 watts (up to 16 hr)	No	2 UV lamps, max 23 h 59 min	No

\* Recommended versions: Armadillo PCR plates (skirted: Cat. No. AB2396, semiskirted: Cat. No. AB2496). Nunc storage tubes (96 tubes: Cat. No. 374086, 24 tubes: Cat. No. 364323).

## KingFisher instrument services and support

### Quick-start training

The KingFisher system includes SmartStart orientation to get you up and running quickly in your lab. The orientation includes basic familiarization and setup with online instrument management and includes on-site training.

### Warranty and service plans

Every KingFisher system comes with a one-year warranty. Extended coverage service plans are also available at the time of instrument purchase. We can also customize a service solution based on your lab's needs.

Find out more at [thermofisher.com/kingfisher-services](https://thermofisher.com/kingfisher-services)

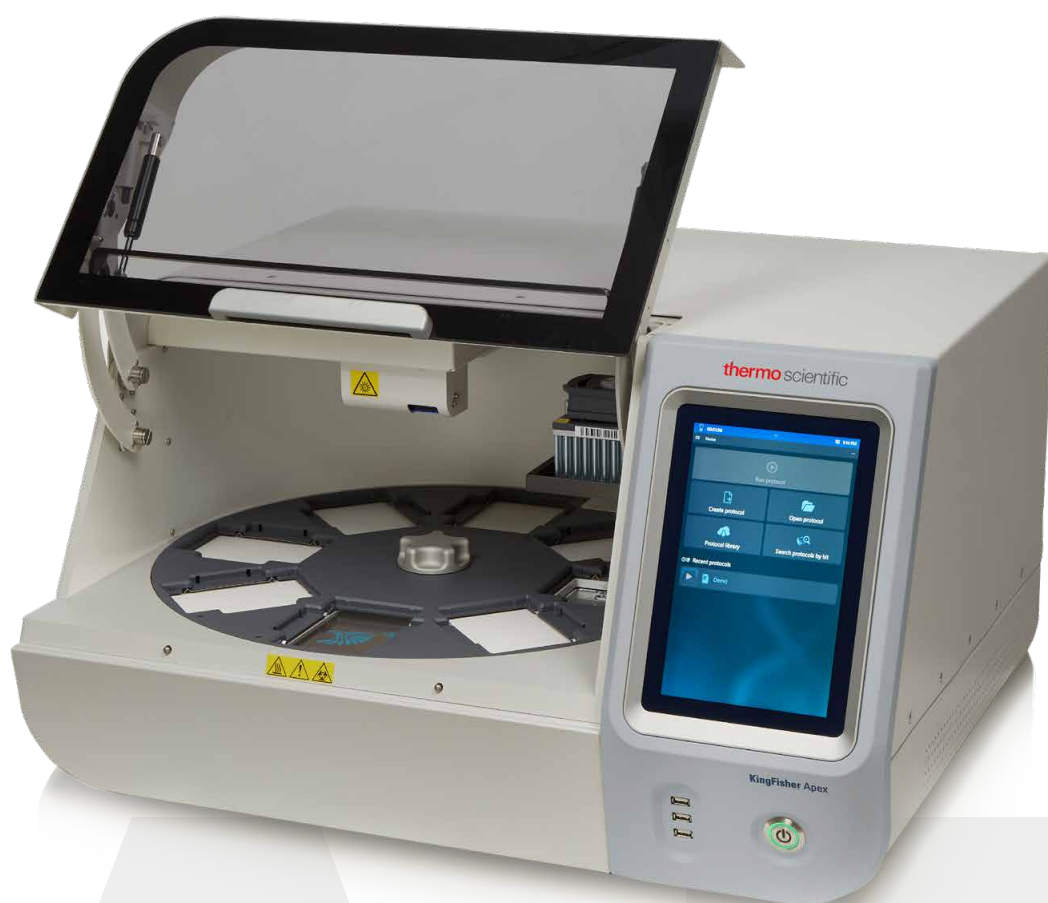
### Test a KingFisher Apex instrument in your lab

KingFisher instrument specialists offer an on-site demonstration of the system with your samples. They provide the instrument, consumables, and reagents from Thermo Fisher Scientific that are specific to your research needs. The demonstration includes instrument setup and use, protocol modification, and FAQs.

Find out more at [thermofisher.com/kingfisherdemo](https://thermofisher.com/kingfisherdemo)

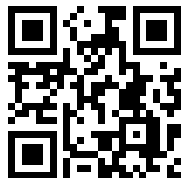
## Ordering information

KingFisher instruments	Cat. No.
KingFisher Apex instrument with 96 PCR Head	5400910
KingFisher Apex instrument with 96 Combi Head	5400920
KingFisher Apex instrument with 96 Deep-Well Head	5400930
KingFisher Apex instrument with 24 Combi Head	5400940
<b>Plastics for 96 deep-well format</b>	
Apex 96 Combi Tip Comb	97002570 New
96 deep-well plate	95040450
96 deep-well plate, sterile	95040460
Tip comb for 96 deep-well magnet	97002534
Tip comb for 96 deep-well plate and 96 deep-well plate, sterile	97002820
<b>Plastics for 96 standard and PCR formats</b>	
Apex 96 PCR Tip Comb	97002560 New
96 microplate (200 µL)	97002540
PCR plate, skirted (or similar PCR plate)	AB1300
96 tip comb for KingFisher magnets	97002524
Tip comb for PCR magnets	97002514
<b>Plastics for 24 deep-well format</b>	
Apex 24 Combi Tip Comb	97002580 New
24 deep-well plate	95040470
24 deep-well plate, sterile	95040480
Tip comb for 24 deep-well plate and 24 deep-well plate	97002610
Tip comb for 24 deep-well plate and 24 deep-well plate, sterile	97002620



Notes

Lined area for notes, featuring horizontal ruling lines and large, faint background graphics including a stylized 'E' and 'X'.



Find out more at [thermofisher.com/kingfisherapex](https://thermofisher.com/kingfisherapex)

**ThermoFisher**  
S C I E N T I F I C