NSK

CREATE IT.

www.nsk-inc.com

REF PR-D937E Ver.1 15.02.01.TS

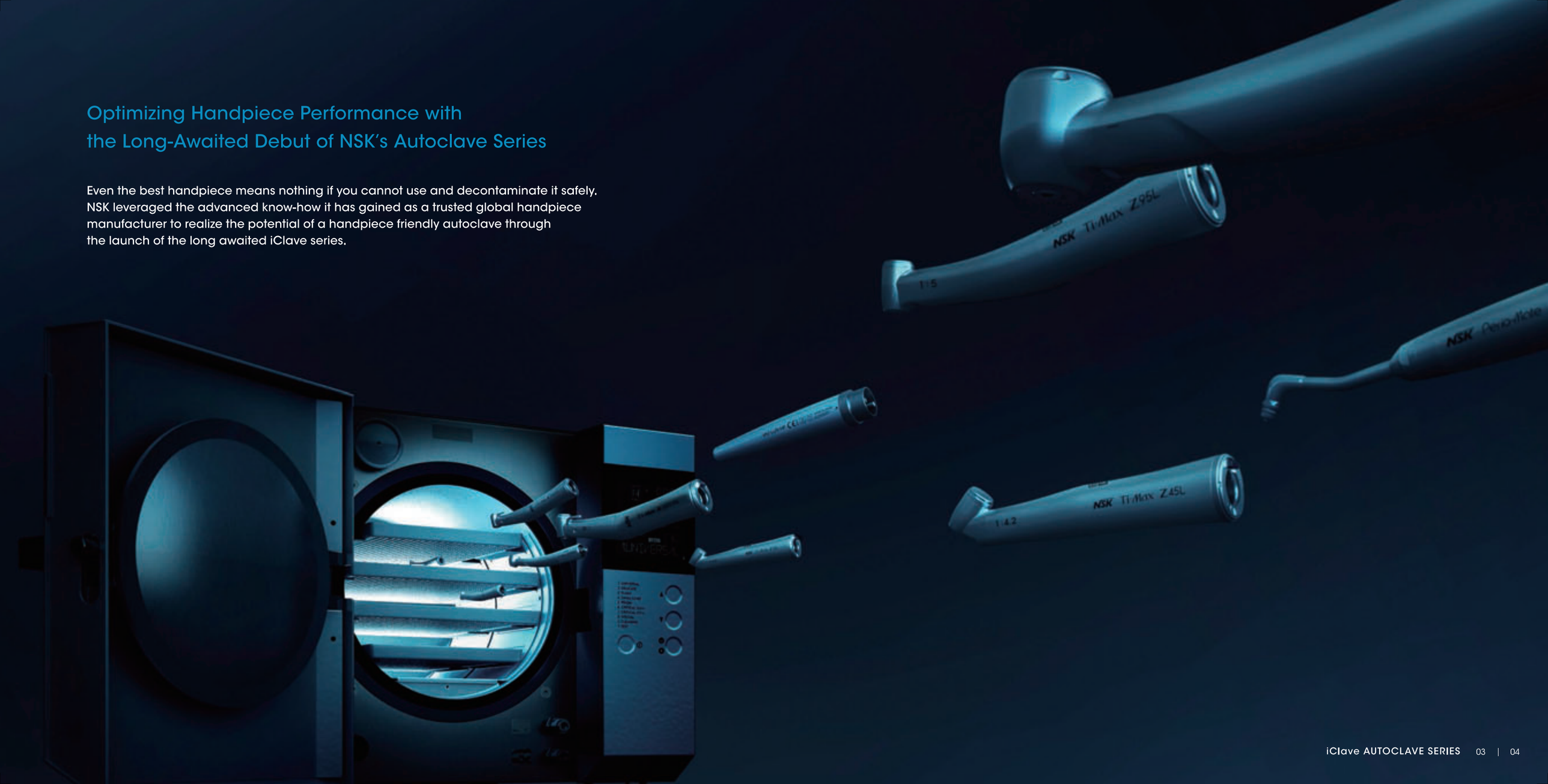
MORE SAFETY, MORE CAPACITY.

For Safer, More Efficient Sterilization.
A Handpiece Friendly Autoclave
from a Handpiece Creator.

Complying with Europe's Class B sterilization standard

Optimizing Handpiece Performance with the Long-Awaited Debut of NSK's Autoclave Series

Even the best handpiece means nothing if you cannot use and decontaminate it safely. NSK leveraged the advanced know-how it has gained as a trusted global handpiece manufacturer to realize the potential of a handpiece friendly autoclave through the launch of the long awaited iClave series.



iClave plus

Deploying a Copper Chamber to Match the Advanced Class B Cycle Sterilization Capacity and Efficiency Standards

Air turbines, contra-angles, and other dynamic dental instruments consist of high-precision micro mechanisms and therefore benefit from careful sterilization to maintain performance. NSK chose to use a highly conductive copper chamber to satisfy Class B, Europe's strictest sterilization standard. The system delivers outstanding efficiency despite its large capacity.

Copper chamber

Stainless steel chamber

50% more capacity than conventional autoclaves

The iClave plus can fully use its 18 litre capacity because it maintains even temperatures throughout the autoclave chamber and constantly controls the surface temperature. The iClave plus offers 50% more sterilization space than a conventional stainless steel chamber of the same size, ensuring greater safety by reducing instrument overcrowding.

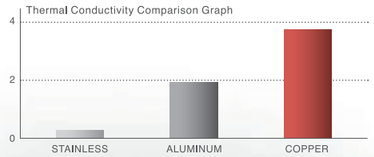
The Copper Chamber's Superior Thermal Conductivity Delivers Outstanding Performance

COPPER CHAMBER

Highly thermal conductive copper chamber with even temperatures

Using copper to construct the chamber gives 18 times more heat conductivity than stainless steel. The copper chamber retains even internal temperature levels throughout despite its large capacity.

Thermal Conductivity Differences of Materials

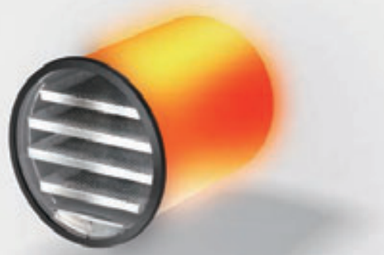


Copper's heat conductivity is 1.9 times and 17.7 times higher than that of aluminium and stainless steel, respectively.

ADAPTIVE HEAT SYSTEM

Advanced heating system leveraging excellent thermal conductivity

NSK's innovative heating system optimizes the high heat conductivity of copper. Enveloping the copper chamber is a special heater which is also used in satellites, incorporating electro-thermal material embedded in silicone to heat the entire chamber evenly without heat loss.

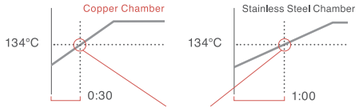


TEMPERATURE CHARACTERISTICS

Synergies from the copper chamber and heater system ensure outstanding temperature characteristics

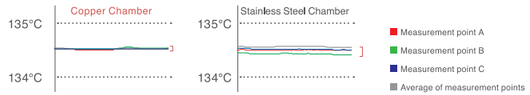
In temperature measurements at three points inside the chamber, the copper model reached 134°C, the standard sterilization temperature, in about half the time of a stainless steel counterpart. There were no temperature variations at the three points measured in the copper chamber.

Comparing Temperature Gains of Copper and Stainless Steel Chambers



Specified temperature reached faster

Comparing Temperature Differences of Copper and Stainless Steel Chambers



Less temperature variation within chamber

NSK Autoclave Benefits Include Combining High Heat Conductivity of Copper Chamber with Proprietary Heating System

CLASS B

Super fast

CLASS S

Super fast

Faster sterilization

The copper chamber and adaptive heat system allows sterilization in 18 and 35 minutes under Class S and B standards, respectively.

* Including drying phase

More efficient drying phase

In a conventional chamber, uneven temperatures cause condensation inside instruments, reducing drying efficiency. This issue is almost non-existent in the iClave plus when temperatures rise or fall.

More economical and environmentally friendly

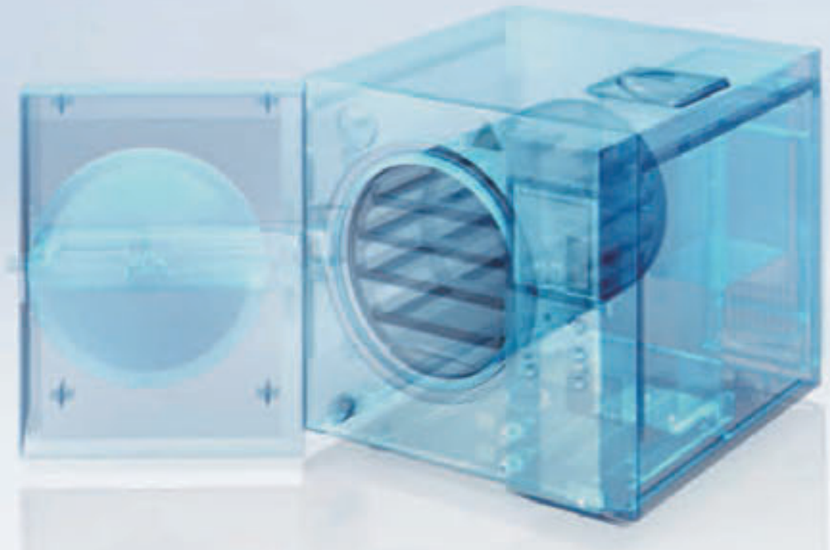
A key factor in the greater efficiency of the iClave plus is that it can sterilize more instruments at a time. The iClave plus also lowers environmental impact because it consumes less electricity and water.

Gentle handpiece sterilization

Consistently even internal temperatures resulting from the use of a copper chamber and the adaptive heat system make it possible to control steam flow and eliminate heat fluctuations. With less thermal impact, sterilization of air turbines, contra-angles and other instruments is gentler and safer.

SAFETY & DURABILITY

Advanced Safety and Durability through User-Friendly Functions



Vacuum sterilization for all types of instrument

A vacuum pump removes air from the chamber and handpiece cavities before sterilization.

User-friendly, easy to read operating panel

With a sophisticated design and excellent visibility, the panel is easy to operate and maintain, with colors changing according to conditions, enhancing sterilization reliability.

[Text colors] White: Selection screen
Green: Sterilization complete
Yellow: During operation
Red: Error

Sterilization cycle data recording

All sterilization cycles are recorded on a USB flash drive, and no special software is required to view and print records of all cycles. The system records all relevant cycle parameters against a unique date and time stamp.

Bacterial filter for greater safety

The iClave plus ventilates air through a bacterial filter during the drying phase, eliminating the possibility of re-contamination.

Designed to boost product reliability

Consistent temperatures inside the chamber eliminate fluctuation stresses and reduce the risk of problems. NSK initially reviewed product reliability to ensure safe treatment. There are three thermometers to control temperatures in the iClave plus and HP and two in the iClave mini. An annual maintenance service alert helps prevent breakdowns and boosts product reliability.

Stainless steel body enhances durability

The stainless steel body work, which is rare for an autoclave these days, makes iClave plus more robust. Together with the copper chamber it delivers outstanding durability.

Constantly monitoring working parameters for safe operation

The process evaluation system constantly monitors pressure, temperature, water quality and steam. Additional features include cycle counter, altitude set-up, maintenance monitoring, triple safety lock, auto switch-off, and double water tank.

iClave mini

The Smallest and Lightest in the Series

A Handpiece Autoclave Small Enough To Use Anywhere

A handpiece autoclave from a handpiece manufacturer,
complying with Europe's Class S sterilization standard.
The iClave mini sterilizes even the invisible parts of handpieces
and is completely portable to use anywhere.

Small enough to fit in any space

The iClave mini weighs only 15.5kg. Just plug it in and start sterilizing. Its compact and elegant design makes it an ideal fit for any clinic interior.

Effective sterilization of hollow instruments

The iClave mini complies with Europe's Class S sterilization standard. It repeatedly de-aerates to sterilize even the inside of a handpiece.

Fast and compact but with large capacity

The new direct-heating technology around the 2.5litre chamber aims to work and perform like the combination of copper chamber and adaptive heat system. iClave mini is compact in size yet large in capacity while at the same time running fast and efficient cycles.

User-friendly, easy to read operating panel

With a sophisticated design and excellent visibility, the iClave mini panel is easy to operate and maintain, enhancing sterilization reliability.

A user-friendly design

The iClave mini is designed with ease of use and day-to-day maintenance in mind. The smooth, seamless design inside and out as well as with the design of the control panel make it extremely user friendly in every respect.

iClave LINEUP

Three Models Available

iClave plus

EN13060 : Class B

MODEL : **iClave plus 230V**
ORDER CODE : **Y1003077**

An 18 Litre Model Complying with the Top Sterilization Standard

Employing a copper chamber to minimise internal temperature fluctuations. Efficiently sterilizing more instruments while minimising wasted space.

NEW

iClave HP

EN13060 : Class B

MODEL : **iClave HP No Printer EU Plug**
ORDER CODE : **Y1003075**

MODEL : **iClave HP Printer EU Plug**
ORDER CODE : **Y1003076**

High-Performance 4.5 Litre Model to Augment Capacity

Conveniently augments the iClave plus. Employs a copper chamber, complying with the top sterilization standard and offering quick start-ups.

iClave mini

EN13060 : Class S

MODEL : **iClave mini 230V**
ORDER CODE : **Y1003074**

Smallest and Lightest in the Series Usable Anywhere

Developed exclusively for handpieces. Portable and usable anywhere.

NEW

Technical characteristics		iClave plus	iClave HP	iClave mini
External dimensions (W×D×H)		445 × 532 × 428 mm	443 × 545 × 254 mm	210 × 320 × 360 mm
Chamber dimensions		φ240 × 384 mm	φ156 × 251 mm	φ130 × 200 mm
Chamber capacity		18 litre	4.5 litre	2.5 litre
Net weight		55 kg	27 kg	15.5 kg
Maximum power consumption		1,900W	1,400W	700W
Supply Voltage CE		230V - 50Hz	230V - 50Hz	230V - 50Hz
Air expulsion system		Vacuum pump 1,3,4 vacuum	Vacuum pump 2,3,4 vacuum	Pressure deaeration
Max Load	solid	4 kg	1.5 kg	1 kg
	porous	1.5 kg	1 kg	0.5 kg

* External dimensions exclude protrusions.

iClave plus

	PROGRAMS	PARAMETERS			CLASS
1	UNIVERSAL	134°C	5 min	3 vacuum	B
2	DELICATE	121°C	20 min	3 vacuum	B
3	FLASH	134°C	3 min	2 vacuum	S
4	SMALL LOAD*1	134°C	5 min	3 vacuum	B
5	PRION	134°C	18 min	3 vacuum	B
6	CRITICAL 134°C	134°C	5 min	4 vacuum	B
7	CRITICAL 121°C	121°C	20 min	4 vacuum	B
8	SPECIAL	105 - 135°C	3-90 min	2-4 vacuum	–

Bowie & Dick : 134°C / 3.5 min / 3 vacuum Vacuum test : 20 min
*1 small load : included hollow instruments type A and B (MAX 0.5 kg)

iClave HP

	PROGRAMS	PARAMETERS			CLASS
1	STERILIZATION 1	134°C	5 min	3 vacuum	B
2	STERILIZATION 2	121°C	20 min	3 vacuum	B
F	FLASH	134°C	4 min	2 vacuum	S
S1	PRION	134°C	18 min	3 vacuum	B
S2	HEAVY LOAD	134°C	5 min	4 vacuum	B
S3	HEAVY LOAD	121°C	20 min	4 vacuum	B
S4	SPECIAL	121 - 135°C	3 - 60 min	2 - 4 vacuum	–

Bowie & Dick : 134°C / 3.5 min / 3 vacuum Vacuum test : 20 min

iClave mini

	PROGRAMS	PARAMETERS		CLASS
1	134°C SOLID	134°C	4 min	S
2	134°C POROUS	134°C	14 min	S
3	121°C SOLID	121°C	20 min	S
4	121°C POROUS	121°C	30 min	S

OPTIONAL ACCESSORIES

Sealer Newseal Plus

With high output, easily and automatically seals envelopes before sterilization.

Self adjusting sealing from 12 mm Retracting blade cutter
Visual and acoustic seal indication Reel holder
Pre-set for wall attachment

MODEL : **Sealer Newseal Plus**
ORDER CODE : **Z1279001**

Barcode Label Writer

Increases traceability levels by combining sterile instruments and patients.

MODEL : **Barcode Label Writer**
ORDER CODE : **Z1281001**

Helix Test

Kit to test steam penetration in handpiece cavities.

MODEL : **Helix Test**
ORDER CODE : **Z1283001**

USB Data Logger

Store all cycle information directly onto a file without a paper report. The 2GB USB drive, supplied with the USB LOG interface, allows storage of more than 10,000 cycles.

MODEL : **USB Flash drive (2.0GB)**
ORDER CODE : **Z1280001**

DX Labeller

Designed for fast, easy traceability. The label shows production and expiration dates, operator name, cycle number and other information.

MODEL : **DX Labeller**
ORDER CODE : **Z1282001**

Purity

High quality water is essential to improve sterilization quality. We offer an optional automatic water supply device with a desalination feature.

MODEL : **Purity**
ORDER CODE : **Z1284001**

NAKANISHI INC. www.nsk-inc.com
700 Shimohinata, Kanuma, Tochigi 322-8666, Japan

NSK Europe GmbH EC REP www.nsk-europe.de
Ely-Beinhorn-Strasse 8, 65760 Eschborn, Germany