

# буаһар 50 километр

**24/25**

marathon

# W E L C O M E T O S A E Y A N G

Thank you for your interest and support for our products.

We, Saeyang, has continued to grow since its foundation in 1976 specialized in manufacturing micro-handpieces for laboratory and dental field with enjoying a good reputation from overseas more than 100 countries as well as Korea.

The most important thing is superior quality of our products and through this, we always do our best for customer satisfaction as our top priority. Also we focus on developing new products by advanced technical innovation in R&D center and launching at least more than two models in the market with ongoing investments for new facilities each year.

We exhibit at overseas famous exhibitions more than 18 times in the United States, Germany, France, Spain, UK, Italy, H.K and China. During those exhibitions, we have a good opportunity to establish mutual trust and confidence with our buyers over 100 countries.

Saeyang will always do our best to listen to any needs and requirements of the customer.

Thank you for your continued support.

President & CEO

Jung Pil Shin



**1976** Company Established  
**1977** Registered manufacturing of medical equipment.  
**1987** Registered trading business  
**1989** Registered Korea medical equipment cooperative association  
**1991** Registered of designs for engine for dental laboratory  
**1998** Certified ISO 9001 from TUV (Germany)  
**1999** Certified CE Mark from TUV (Germany)  
**2000** Certified Venture enterprise for high technology  
**2001** Awarded official Superior Exporting Firm  
**2001** Awarded Leading Enterprise  
**2002** Certified CE Mark of New item "Escort"  
**2003** Registered manufacturing Brushless motor  
**2003** Certified CE Mark of "Marathon Multi 600" Brushless motor  
**2004** Established R&D center  
**2004** Certified CE Mark of New item "Marathon N7&N2"  
**2005** Certified CE Mark of New item "Marathon HANDY700 Series" Brush/Brushless motor  
**2005** Awarded official best Exporting Firm  
**2006** Moved into a new factory  
**2006** Certified PSE from TUV  
**2006** Opening Ceremony of a new factory as well as the 30th anniversary  
**2008** Certified ISO 9001 : 2000 from SGS (U.K)  
 Certified ISO 13485 : 2003 from SGS (U.K)  
 Certified Directive 93/42/EEC from SGS (U.K)  
**2010** Certified CE Mark of New item "Endo e class"  
**2011** Development of Endo a class  
**2012** Dental contra angle  
**2013** Developed Implant Motor  
**2013** Certified FDA (Endo Motor)  
**2014** 60,000RPM Handpiece Developed  
**2014** 20:1 Optic Handpiede Developed  
**2015** Certified FDA CFDA(Implant Motor)  
**2015** Awarded Grand Prize for 2015 Best Company in Daegu City  
**2016** Awarded for Exporting US\$ 20 million  
 Awarded for Daegu Star Company  
**2017** Factory expansion  
 Development of Endo E plus  
 Development of Ki-20 Advance  
 Development of K35 cube  
**2018** Development of Endo A Class (APX)  
 Development of MINI cro  
 Korean World-class Product Award 2018  
**2019** Awarded for Daegu Star Company  
 Development of Escort II pro (Ver2)  
**2020** Good Design Selection 2020  
 Awarded for Daegu Star Company  
 Development of Escort III (Ver2)  
**2021** Awarded for Daegu Star Company  
 Development of K35 mini  
 Development of Pro M Class  
**2022** Development of K38 pro  
 Development of K48 pro  
 Development of CYCLONE-VAC  
 Development of Multi 800  
 Certified CE Mark of New item "K38 pro"  
 Certified CE Mark of New item "CYCLONE-VAC"  
 Certified FDA of New item "Pro M Class"

# PRODUCT LINE UP



## **LABORATORY AIR TURBINE**

mat-300W

mat-300A

## **LABORATORY BLDC**

BRUSHLESS MICROMOTOR

BRUSHLESS CONTROL UNIT

## **LABORATORY DC**

BRUSH MICROMOTOR

BRUSH CONTROL UNIT

## **EQUIPMENTS**

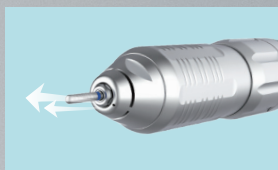
## **SPARE PARTS**

**LABORATORY  
AIR TURBINE**



# MAT-300A AIR TYPE

High Speed Lab Air Turbine  
Turbine speed up to 320,000 rpm  
Compact size  
Speed control pedal  
Easy to control of air pressure  
Simple chuck-handle system  
Less noise and vibration



## TURBINE FOR PRECISE WORK

The MAT-300A helps you to work quickly and accurately with a strong air breeze. It is very effective in crevice processing of occlusal surfaces, ceramics and zirconia.



## CONTENTS

Control unit / Handpiece / Foot switch / Handpiece tube /Bur-inserting tool / Handpiece holder

## SPECIFICATION

Model	Control unit(MAT-C300A)
Operation means	Compressed Air
Operation Pressure	2.0-2.5 bar
Air Consumption	40L/min
Weight	545g
Dimension(mm)	W115 x D90 x H178

Model	Handpiece(MAT-H300A)
Max. speed	320,000 rpm
Weight	60g
Dimension(mm)	Ø16.9 x L131.9

Model	Foot Switch(MAT-F300)
Weight	720g
Dimension(mm)	Ø142 x L39



# MAT-300W WATER TYPE

- High Speed Lab Air Tutbine
- Turbine speed up to 320,000 rpm
- Compact size
- Speed control pedal
- Easy to control of air pressure
- Simple chuck-handle system
- Less noise and vibration



## TURBINE FOR PRECISE WORK

The MAT-300W provides an optimal system for ceramic and prosthetic professionals. It is a rugged, easy-to-use device ideal for delicate and precise work. The superior quality of the MAT-300W unit really sets it apart. Equipped with a 170ml tank, it can work for a considerable amount of time.



## CONTENTS

Control unit / Handpiece / Foot switch / Handpiece tube /Bur-inserting tool / Handpiece holder

## SPECIFICATION

Model	Control unit(MAT-C300W)	Model	Handpiece(MAT-H300W)
Operation means	Compressed Air	Max. speed	320,000 rpm
Operation Pressure	2.5-3.0 bar	Weight	85.5g
Air Consumption	40L/min	Dimension(mm)	Ø17.2 x L124.1
Weight	1,700g		
Dimension(mm)	W234 x D99 x H190		
Model	Foot Switch(MAT-F300)		
Weight	720g		
Dimension(mm)	Ø142 x L39		

# **LABORATORY**

## **BLDC**



# BLDC HANDPIECE



30V

50K

## SDE-BM50S1

SPEED	1,000-50,000 rpm
MAX.TORQUE	7.8Ncm
WEIGHT	231 g
DIMENSIONS	L160 x Ø27



30V

40K

## SDE-BM40S1

SPEED	1,000-40,000 rpm
MAX.TORQUE	8.5Ncm
WEIGHT	231 g
DIMENSIONS	L160 x Ø27



30V

50K

## SDE-BS50C

SPEED	1,000-50,000 rpm
MAX.TORQUE	7.6Ncm
WEIGHT	215 g
DIMENSIONS	L160 x Ø27



# BLDC HANDPIECE



12V

35K

## SDE-BS35

SPEED	0-35,000 rpm
MAX.TORQUE	2,4Ncm
WEIGHT	120 g
DIMENSIONS	L123 x Ø20



12V

30K

## SDE-BS30

SPEED	0-35,000 rpm
MAX.TORQUE	2,4Ncm
WEIGHT	120 g
DIMENSIONS	L123 x Ø20

# MULTI 800 50K



- Knee-control type
- Digital speed display
- Less noise, less vibration
- Excellent durability
- Self-diagnosis function
- Auto-cruise function
- Variable speed control pedal (FS-80N)



## KNEE CONTROL TYPE

There is a desktop type that is controlled with a hand dial or foot pedal, and a type that is controlled with a knee by putting the tongue on the lower side of the work desk. The knee control type can respond sensitively to speed changes, so it is useful for detailed work.

Optional



## CONTENTS

Control unit / Handpiece / Foot pedal / Mounting bracket / Handpiece stand

## SPECIFICATION

Model	Control unit (MULTI800)
Input	230V~, 50Hz
Weight	2,550g
Dimension(mm)	W112.5 x D237 x H218

Model	Handpiece (SDE-BS50C)
Speed	1,000-50,000 rpm
Torque	7.6 Ncm
Weight	215g
Dimension(mm)	Ø27 x L160

Model	Foot pedal (SDE-FS80N)
Weight	590g
Dimension(mm)	W117 x D171 x H62

# MULTI 800S 50K



- Stand type
- Digital speed display
- Less noise, less vibration
- Excellent durability
- Self-diagnosis function
- Auto-cruise function
- Variable speed control pedal (FS-80N)



## AUTO-CRUISE FUNCTION

After setting the foot mode, if the foot (knee) pedal is maintained at a constant speed for 2 seconds, the Auto cruise mode is operated. Auto cruise mode is disengaged by pressing the pedal again or pressing the button again.

Optional



## CONTENTS

Control unit / Handpiece / Foot pedal / Handpiece stand

## SPECIFICATION

Model	Control unit (MULTI800S)	Model	Handpiece (SDE-BS50C)
Input	230V~, 50Hz	Speed	1,000-50,000 rpm
Weight	2.230g	Torque	7.6 Ncm
Dimension(mm)	W82.5 x D225 x H202.5	Weight	215g
		Dimension(mm)	Ø27 x L160
Model	Foot pedal (SDE-FS80N)		
Weight	590g		
Dimension(mm)	W117 x D171 x H62		

# MULTI 600 50K

- Digital speed display
- Less noise, less vibration
- Excellent durability
- Knee-control type
- Self-diagnosis function
- Auto-cruise function
- Variable speed control pedal (FS-60N)



## KNEE CONTROL TYPE

There is a desktop type that is controlled with a hand dial or foot pedal, and a type that is controlled with a knee by putting the tongue on the lower side of the work desk. The knee control type can respond sensitively to speed changes, so it is useful for detailed work.

Optional



## CONTENTS

Control unit / Handpiece / Foot pedal / Mounting bracket / Handpiece stand

## SPECIFICATION

Model	Control unit (MULTI600)
Input	AC 100~120V, 50/60Hz AC 220~240V, 50/60Hz
Weight	3,100g
Dimension(mm)	W122 x D268 x H237

Model	Handpiece (SDE-BM50S1)
Speed	1,000~50,000 rpm
Torque	7.8 Ncm
Weight	231g
Dimension(mm)	Ø27 x L160

Model	Foot pedal (SDE-FS60N)
Weight	558g
Dimension(mm)	W170 x D110 x H58

# MULTI 600 DUO 50K

Brushless & brush micromotor / Dual control system

Digital speed display

Less noise, less vibration

Excellent durability

Knee-control type

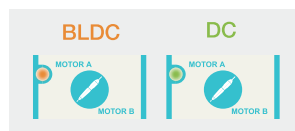
Self-diagnosis function

Auto-cruise function

Variable speed control pedal (FS-60N)



## DUAL CONTROL SYSTEM



Optional



Choose 1 handpiece

## CONTENTS

Control unit / Handpiece / Foot pedal / Mounting bracket / Handpiece stand

## SPECIFICATION

Model	Control unit (MULTI600 DUO)
Input	AC 100-120V, 50/60Hz AC 220-240V, 50/60Hz
Weight	3,100g
Dimension(mm)	W122 x D268 x H237

Model	Handpiece (SDE-SM45C)
Speed	0-40,000 rpm
Torque	4.5 Ncm
Weight	230g
Dimension(mm)	Ø30 x L155

Model	Handpiece (SDE-BM50S1)
Speed	1,000-50,000 rpm
Torque	7.8 Ncm
Weight	231g
Dimension(mm)	Ø27 x L160

Model	Foot pedal (SDE-FS60N)
Weight	558g
Dimension(mm)	W170 x D110 x H58

# HANDY 700 50K

- Brushless & brush micromotor / Dual control system
- Digital speed display
- Maximum speed set mode possible
- Less noise, less vibration
- Excellent durability
- Self-diagnosis function
- Auto-cruise function
- Variable speed control pedal (FS-60N)
- Handpiece cradle attached
- Magnetic bur holder attached
- Easy-carry with handle

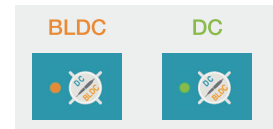


## EASY-CARRY WITH HANDLE

The handy 700 has a handle, making it convenient to carry the product.



## DUAL CONTROL SYSTEM



Optional



Choose 1 handpiece

## CONTENTS

Control unit / Handpiece / Foot pedal / Handpiece holder / Handpiece stand

## SPECIFICATION

Model	Control unit (HANDY700)
Input	AC 100~120V, 50/60Hz AC 220~240V, 50/60Hz
Weight	2,700g
Dimension(mm)	W137 x D232 x H180

Model	Handpiece (SDE-BM50S1)
Speed	1,000-50,000 rpm
Torque	7.8 Ncm
Weight	231g
Dimension(mm)	Ø27 x L160

Model	Handpiece (SDE-S40)
Speed	0~40,000 rpm
Torque	5.0 Ncm
Weight	220g
Dimension(mm)	Ø30 x L150

Model	Foot pedal (SDE-FS60N)
Weight	558g
Dimension(mm)	W170 x D110 x H58

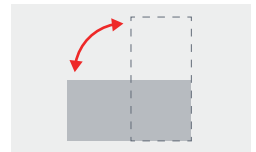
# HANDY-ECO 50K

- Digital speed display
- Automatic safety overload protection system
- Less noise, less vibration
- Excellent durability
- Variable speed control pedal (FS60N)
- Vertical and horizontal style



## VERTICAL & HORIZONTAL STYLE

HANDY-ECO is most proud of its space coverage for both vertical and horizontal styles. The HANDY-ECO can be easily carried anywhere, and the brushless controller provides high quality.



Optional



## CONTENTS

Control unit / Handpiece / Foot pedal / Handpiece holder / Handpiece stand

## SPECIFICATION

Model	Control unit (HANDY-ECO)
Input	AC 100-120V, 50/60Hz AC 220-240V, 50/60Hz
Weight	1,600g
Dimension(mm)	W141 x D186 x H97

Model	Handpiece (SDE-BM50S1)
Speed	1,000-50,000 rpm
Torque	7.8 Ncm
Weight	231g
Dimension(mm)	Ø27 x L160

Model	Foot pedal (SDE-FS60N)
Weight	558g
Dimension(mm)	W170 x D110 x H58

# K48 PRO 35K



- Standard type / Clip type
- MAX 8hours
- LI-ION battery (rechargeable)
- Color LCD display
- Pause function
- Power save
- Overload protection (warning signal)
- On/Off Foot Switch (SFP-27)



## PAUSE FUNCTION

Press the knob once to pause.  
Pressing the knob again will resume operation at the previous speed.

Optional



## CONTENTS

Control unit / Handpiece / Handpiece stand / Charger / Control unit stand(optional)  
/ Foot pedal(optional) / Handpiece holder(optional)

## SPECIFICATION

Model	Control unit (K48 PRO)	Model	Handpiece (SDE-BS35)
Input	12.6Vdc	Max.speed	35,000 rpm
Output	12Vdc	Torque	2.4 Ncm
Weight	290g	Weight	120g
Dimension(mm)	W74 x D138 x H30	Dimension(mm)	Ø19.8 x L126
Model	Charger	Model	Foot pedal (SDE-SFP27)
Input	100-240V, 50/60Hz	Weight	195g
Output	12.6Vdc	Dimension(mm)	W68 x D107 x H35



# K38 PRO 35K



- Standard type / Clip type
- MAX 8hours
- LI-ION battery (rechargeable)
- Digital speed display
- Pause function
- Power save
- Overload protection (warning signal)
- On/Off Foot Switch (SFP-27)



## WIRELESS & PORTABLE

It can be used for up to 8 hours with a full charge for 3 hours, and its light and compact size allows you to take it with you wherever you go.

Optional



## CONTENTS

Control unit / Handpiece / Handpiece stand / Charger / Control unit stand(optional)  
/ Foot pedal(optional) / Handpiece holder(optional)

## SPECIFICATION

Model	Control unit (K38 PRO)
Input	12.6Vdc
Output	12Vdc
Weight	253g
Dimension(mm)	W67 x D128 x H30

Model	Charger
Input	100-240V, 50/60Hz
Output	12.6Vdc

Model	Handpiece (SDE-BS30)
Max.speed	30,000 rpm
Torque	2.4 Ncm
Weight	120g
Dimension(mm)	Ø20 x L120

Model	Foot pedal (SDE-SFP27)
Weight	195g
Dimension(mm)	W68 x D107 x H35

**LABORATORY**  
**DC**



# DC HANDPIECE

30V 40K



## SDE-S40

SPEED	0-40,000 rpm
MAX.TORQUE	5.0Ncm
WEIGHT	220 g
DIMENSIONS	L150 x Ø30

30V 40K



## SDE-SM45C

SPEED	0-40,000 rpm
MAX. TORQUE	4.5Ncm
WEIGHT	235 g
DIMENSIONS	L155 x Ø30

30V 40K



## SDE-SH37LN

SPEED	0-40,000 rpm
MAX. TORQUE	4.5Ncm
WEIGHT	210 g
DIMENSIONS	L152 x Ø28

30V 40K



## SDE-SH37L(M45)

SPEED	0-40,000 rpm
MAX. TORQUE	4.5Ncm
WEIGHT	210 g
DIMENSIONS	L154 x Ø30

# DC HANDPIECE

30V

35K



## SDE-H38L

SPEED	0-35,000 rpm
MAX.TORQUE	3,5Ncm
WEIGHT	200 g
DIMENSIONS	L151 x Ø30

30V

35K



## SDE-H37L1

SPEED	0-35,000 rpm
MAX.TORQUE	3,2Ncm
WEIGHT	210 g
DIMENSIONS	L155 x Ø30

30V

35K



## SDE-H35SP1

SPEED	0-35,000 rpm
MAX.TORQUE	3,2Ncm
WEIGHT	210 g
DIMENSIONS	L152 x Ø28

30V

35K



## SDE-H37LSP

SPEED	0-35,000 rpm
MAX.TORQUE	3,2Ncm
WEIGHT	215 g
DIMENSIONS	L154 x Ø30

# DC HANDPIECE



30V

35K

## SDE-H37SP FOR SURVEYOR

SPEED	0-35,000 rpm
MAX.TORQUE	3.2Ncm
WEIGHT	205 g
DIMENSIONS	L154 x Ø30



12V

30K

## SDE-H200

SPEED	0-30,000 rpm
MAX.TORQUE	2.9Ncm
WEIGHT	150 g
DIMENSIONS	L129 x Ø22



12V

30K

## SDE-SH300S

SPEED	0-30,000 rpm
MAX.TORQUE	2.9Ncm
WEIGHT	135 g
DIMENSIONS	L135 x Ø23



12V

30K

## SDE-MH20(30K)

SPEED	0-30,000 rpm
MAX.TORQUE	1.3Ncm
WEIGHT	130 g
DIMENSIONS	L120 x Ø20

# E-TYPE MOTOR



30V

40K

## SDE-M40Es

SPEED	0-40,000 rpm
MAX. TORQUE	2.2Ncm
WEIGHT	109 g
DIMENSIONS	L99 x Ø25



30V

35K

## SDE-M33Es-B

SPEED	0-35,000 rpm
MAX. TORQUE	2.6Ncm
WEIGHT	142 g
DIMENSIONS	L104 x Ø25.7



30V

35K

## SDE-M33E

SPEED	0-35,000 rpm
MAX. TORQUE	2.7Ncm
WEIGHT	137 g
DIMENSIONS	L109 x Ø25

# E-TYPE MOTOR



30V

30K

## SDE-M30Es

SPEED	0-30,000 rpm
MAX.TORQUE	3.2Ncm
WEIGHT	90 g
DIMENSIONS	L97 x Ø23



12V

30K

## SDE-M300Es

SPEED	0-30,000 rpm
MAX.TORQUE	3.2Ncm
WEIGHT	90 g
DIMENSIONS	L97 x Ø23



12V

25K

## SDE-M25Es

SPEED	0-25,000 rpm
MAX.TORQUE	2.0Ncm
WEIGHT	109 g
DIMENSIONS	L99 x Ø25



# HANDY 702 40K

- Digital speed display window
- Less noise, less vibration
- Excellent durability
- Self-diagnosis function
- Auto-cruise function
- Handpiece cradle attached
- Magnetic bur holder attached
- Easy-carry with handle
- Variable speed control pedal (FS-60N)



## EASY-CARRY WITH HANDLE

The handy 702 has a handle, making it convenient to carry the product.



Optional



## CONTENTS

Control unit / Handpiece / Foot pedal / Handpiece holder / Handpiece stand

## SPECIFICATION

Model	Control unit (HANDY702)
Input	AC 100~120V, 50/60Hz
	AC 220~240V, 50/60Hz
Weight	1,900g
Dimension(mm)	W137 x D232 x H180

Model	Handpiece (SDE-SM45C)
Speed	0~40,000 rpm
Torque	4.5 Ncm
Weight	230g
Dimension(mm)	Ø30 x L155

Model	Foot pedal (SDE-FS60N)
Weight	558g
Dimension(mm)	W170 x D110 x H58

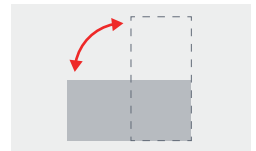
# ECO 450 40K

- Automatic safety overload protection system
- Less noise, less vibration
- Excellent durability
- Variable speed control pedal (FS-60N)
- Vertical and horizontal style



## VERTICAL & HORIZONTAL STYLE

ECO 450 is most proud of its space coverage for both vertical and horizontal styles. The ECO 450 can be easily carried anywhere, and the brushless controller provides high quality.



Optional



## CONTENTS

Control unit / Handpiece / Foot pedal / Handpiece holder / Handpiece stand

## SPECIFICATION

Model	Control unit (HANDY-ECO)
Input	AC 100~120V, 50/60Hz AC 220~240V, 50/60Hz
Weight	1,600g
Dimension(mm)	W141 x D186 x H97

Model	Handpiece (SDE-SM45C)
Speed	0~40,000 rpm
Torque	4.5 Ncm
Weight	230g
Dimension(mm)	Ø30 x L155

Model	Foot pedal (SDE-FS60N)
Weight	558g
Dimension(mm)	W170 x D110 x H58

# NEW N7 40K

Automatic safety overload protection system

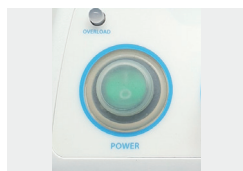
Dust-proof cover for switch

Built-in handpiece cradle & bit stand

Forward / Reverse direction switch

On / Off foot switch (SFP-27)

Variable speed control pedal (FS-60)



## DUST-PROOF COVER FOR SWITCH

The power switch has a cover to prevent dust from entering the inside of the controller.

Optional



## CONTENTS

Control unit / Handpiece / Foot pedal / Handpiece holder / Handpiece stand

## SPECIFICATION

Model	Control unit (NEW N7)	Model	Handpiece (SDE-SH37LN)
Input	AC 100~120V, 50/60Hz	Speed	0~40,000 rpm
	AC 220~240V, 50/60Hz	Torque	4.5 Ncm
Weight	1,700g	Weight	210g
Dimension(mm)	W115 x D147 x H96	Dimension(mm)	Ø28 x L152
Model	Foot pedal (SDE-FS60)	Model	Foot pedal (SDE-SFP27)
Weight	558g	Weight	195g
Dimension(mm)	W170 x D110 x H58	Dimension(mm)	W68 x D107 x H35

# NEW N2 35K

Automatic safety overload protection system

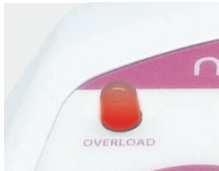
Dust - proof cover for switch

Built - in handpiece cradle & bit stand

Forward / Reverse direction switch

On / Off foot switch (SFP-27)

Variable speed control pedal (FS-60)



## AUTOMATIC SAFETY OVERLOAD PROTECTION SYSTEM

The NEW N2 automatically activates the protection system in case of overload and the LED light turns on.

Optional



## CONTENTS

Control unit / Handpiece / Handpiece holder / Handpiece stand / Foot pedal(optional)

## SPECIFICATION

Model	Control unit (NEW N2)
Input	AC 100~120V, 50/60Hz
	AC 220~240V, 50/60Hz
Weight	1,700g
Dimension(mm)	W115 x D147 x H96

Model	Handpiece (SDE-H35SP1)
Speed	0-35,000 rpm
Torque	3.2 Ncm
Weight	210g
Dimension(mm)	Ø28 x L152

Model	Foot pedal (SDE-FS60)
Weight	558g
Dimension(mm)	W170 x D110 x H58

Model	Foot pedal (SDE-SFP27)
Weight	195g
Dimension(mm)	W68 x D107 x H35

# MARATHON-3 CHAMPION 35K



white black pink blue mint

- Compact size
- Built-in handpiece cradle and bit stand
- Forward / Reverse direction switch
- On / Off foot switch (SFP-27)



## BUILT-IN HANDPIECE CRADLE

There is a separate handpiece holder where the handpiece can be inserted, which is advantageous for space utilization.

Optional



## CONTENTS

Control unit / Handpiece / Foot pedal / Handpiece holder / Handpiece stand

## SPECIFICATION

Model	Control unit (CHAMPION)
Input	AC 100~120V, 50/60Hz
	AC 220~240V, 50/60Hz
Weight	1,250g
Dimension(mm)	W118 x D156 x H78

Model	Handpiece (SDE-H37L1)
Speed	0~35,000 rpm
Torque	3.2 Ncm
Weight	210g
Dimension(mm)	Ø30 x L155

Model	Foot pedal (SDE-SFP27)
Weight	195g
Dimension(mm)	W68 x D107 x H35

# K35 35K



silver

rose gold

yellow

- Digital speed display window
- Auto - cruise control
  - in case of connection variable speed control
- Automatic system
  - power save
  - overload protection, warning LED
- Forward / Reverse button
- Pause function
- Variable speed control pedal (FS-60)
- On / Off foot switch (SFP-27)



## AUTOMATIC SAFETY OVERLOAD PROTECTION SYSTEM

The K35 automatically activates the protection system in case of overload and the LED light turns on.

Optional



## CONTENTS

Control unit / Handpiece / Handpiece stand / Foot pedal(optional)

## SPECIFICATION

Model	Control unit (K35)
Input	AC 100~120V, 50/60Hz AC 220~240V, 50/60Hz
Weight	1,130g
Dimension(mm)	W120 x D120 x H75

Model	Handpiece (SDE-H37L1)
Speed	0~35,000 rpm
Torque	3.2 Ncm
Weight	210g
Dimension(mm)	Ø30 x L155

Model	Foot pedal (SDE-FS60)
Weight	384g
Dimension(mm)	W110 x D172 x H42

Model	Foot pedal (SDE-SFP27)
Weight	195g
Dimension(mm)	W68 x D107 x H35

# K35 MINI 35K



- Compact & Light weight
- Digital speed display window
- Overload protection, warning LED
- Pause function
- Forward / Reverse button
- On / Off foot switch (SFP-27)



## LIGHT WEIGHT OF 549.5g

It is a desk-type product with a light weight and slim design, so it can be carried lightly even when moving.

## AUTOMATIC SAFETY OVERLOAD PROTECTION SYSTEM

The K35 MINI automatically activates the protection system in case of overload and the the forward and reverse direction light is blinking

Optional



## CONTENTS

Control unit / Handpiece / Handpiece stand / Foot pedal(optional)

## SPECIFICATION

Model	Control unit (K35 MINI)
Input	AC 100~120V, 50/60Hz AC 220~240V, 50/60Hz
Weight	549.5g
Dimension(mm)	W122 x D121 x H52

Model	Handpiece (SDE-H37L1)
Speed	0~35,000 rpm
Torque	3.2 Ncm
Weight	210g
Dimension(mm)	Ø30 x L155

Model	Foot pedal (SDE-SFP27)
Weight	195g
Dimension(mm)	W68 x D107 x H35

# K35 CUBE 35K



white

pink

hot pink

blue

mint

black

Non - stage speed control volume dialing system

Built-in handpiece cradle and bit stand

Forward / Reverse direction switch

On / Off foot switch (SFP-27)



Optional



## CONTENTS

Control unit / Handpiece / Handpiece holder / Handpiece stand / Foot pedal(optional)

## SPECIFICATION

Model	Control unit (K35 CUBE)
Input	AC 100~120V, 50/60Hz AC 220~240V, 50/60Hz
Weight	1,300g
Dimension(mm)	W120 x D120 x H85

Model	Handpiece (SDE-H37L1)
Speed	0~35,000 rpm
Torque	3.2 Ncm
Weight	210g
Dimension(mm)	Ø30 x L155

Model	Foot pedal (SDE-SFP27)
Weight	195g
Dimension(mm)	W68 x D107 x H35



# ESCORT II PRO 35K



white pink red blue mint black

- Powerful performance with low noise & vibration
- Built-in handpiece cradle and bit stand
- Automatic safety overload protection system
- Forward / Reverse direction switch
- Variable speed control pedal (FS-60N)
- On / Off foot switch (SFP-27)



## AUTOMATIC SAFETY OVERLOAD PROTECTION SYSTEM

The ESCORT II PRO automatically activates the protection system in case of overload and the LED light turns on.

Optional



## CONTENTS

Control unit / Handpiece / Handpiece holder / Handpiece stand / Foot pedal(optional)

## SPECIFICATION

Model	Control unit (ESCORT II PRO)
Input	AC 100-120V, 50/60Hz AC 220-240V, 50/60Hz
Weight	1,250g
Dimension(mm)	W134x D154 x H82.4

Model	Foot pedal (SDE-FS60N)
Weight	558g
Dimension(mm)	W170 x D110 x H58

Model	Handpiece (SDE-H35SP1)
Speed	0-35,000 rpm
Torque	3.2 Ncm
Weight	210g
Dimension(mm)	Ø28 x L152

Model	Foot pedal (SDE-SFP27)
Weight	195g
Dimension(mm)	W68 x D107 x H35

# ESCORT III 35K

- Powerful performance with low noise & vibration
- Built-in handpiece cradle and bit stand
- Lightening push power button
- Non - stage speed control volume dialing system
- Forward / Reverse direction switch
- On / Off foot switch (SFP-27)



## LIGHTENING PUSH POWER BUTTON

The push-type Lightning power button is placed on the front, so you can easily turn on/off the power of the control unit.

Optional



## CONTENTS

Control unit / Handpiece / Foot pedal / Handpiece holder / Handpiece stand

## SPECIFICATION

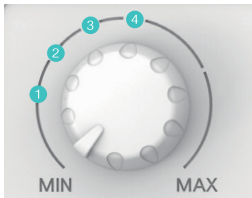
Model	Control unit (ESCORT III)
Input	AC 100~120V, 50/60Hz AC 220~240V, 50/60Hz
Weight	1,184g
Dimension(mm)	W115 x D147 x H71

Model	Handpiece (SDE-H37L1)
Speed	0~35,000 rpm
Torque	3.2 Ncm
Weight	210g
Dimension(mm)	Ø30 x L155

Model	Foot pedal (SDE-SFP27)
Weight	195g
Dimension(mm)	W68 x D107 x H35

# MARATHON-4 35K

- Powerful performance with low noise & vibration
- Built-in handpiece cradle and bit stand
- Lightening push power button
- 4 stage speed control
- Forward / Reverse direction switch
- On / Off foot switch (SFP-27)



## 4 STAGE SPEED CONTROL

The 4-step control dial system allows you to work at a constant speed at all times.

Optional



## CONTENTS

Control unit / Handpiece / Foot pedal / Handpiece holder / Handpiece stand

## SPECIFICATION

Model	Control unit (MARATHON-4)
Input	AC 100~120V, 50/60Hz AC 220~240V, 50/60Hz
Weight	1,184g
Dimension(mm)	W115 x D147 x H71

Model	Handpiece (SDE-H35SP1)
Speed	0~35,000 rpm
Torque	3.2 Ncm
Weight	210g
Dimension(mm)	Ø28 x L152

Model	Foot pedal (SDE-SFP27)
Weight	195g
Dimension(mm)	W68 x D107 x H35

# MARATHON-4 MINI 35K

- Compact size
- 4 stage speed control
- Forward / Reverse direction switch
- On / Off foot switch (SFP-27)



## 4 STAGE SPEED CONTROL

The 4-step control dial system allows you to work at a constant speed at all times.

Optional



## CONTENTS

Control unit / Handpiece / Foot pedal / Handpiece stand

## SPECIFICATION

Model	Control unit (M4 MINI)
Input	AC 230V, 50Hz
Weight	1,100g
Dimension(mm)	W79 x D127 x H66

Model	Handpiece (SDE-H37L1)
Speed	0-35,000 rpm
Torque	3.2 Ncm
Weight	210g
Dimension(mm)	Ø30 x L155

Model	Foot pedal (SDE-SFP27)
Weight	195g
Dimension(mm)	W68 x D107 x H35

# MARATHON-3 MIGHTY 35K

- Compact size
- Built-in handpiece cradle and bit stand
- Forward / Reverse direction switch
- On / Off foot switch (SFP-27)



## BUILT-IN HANDPIECE CRADLE

There is a separate handpiece holder where the handpiece can be inserted, which is advantageous for space utilization.

Optional



## CONTENTS

Control unit / Handpiece / Foot pedal / Handpiece holder / Handpiece stand

## SPECIFICATION

Model	Control unit (MIGHTY)
Input	AC 100~120V, 50/60Hz
	AC 220~240V, 50/60Hz
Weight	1,260g
Dimension(mm)	W118 x D156 x H78

Model	Handpiece (SDE-H37L1)
Speed	0~35,000 rpm
Torque	3.2 Ncm
Weight	210g
Dimension(mm)	Ø30 x L155

Model	Foot pedal (SDE-SFP27)
Weight	195g
Dimension(mm)	W68 x D107 x H35

# K38 30K



- Standard type / Clip type
- MAX 8hours (MH20)
- LI-ION battery (rechargeable)
- Digital speed display window
- LED display for battery charging level
- Pause function
- Automatic system
  - Power save
  - Overload protection (warning signal)
- Forward / Reverse direction button
- On/Off Foot Switch (SFP-27)



## PAUSE FUNCTION

Press the button shown in the picture above to pause.  
Press the button again will resume operation at the previous speed.



## CONTENTS

Control unit / Handpiece / Handpiece stand / Charger / Control unit stand(optional) / Foot pedal(optional) / Handpiece holder(optional) / Clip(optional)

## SPECIFICATION

Model	Control unit (K38)
Input	12Vdc
Output	12Vdc
Weight	285g
Dimension(mm)	W67 x D128 x H30

Model	Handpiece (SDE-MH20)
Max.speed	30,000 rpm
Torque	1.3 Ncm
Weight	130g
Dimension(mm)	Ø20 x L120

Model	Charger
Input	100-240V, 50/60Hz
Output	12Vdc / 2.0A

Model	Foot pedal (SDE-SFP27)
Weight	195g
Dimension(mm)	W68 x D107 x H35

### Optional



# **EQUIPMENTS**







# SDE-SM110 hammer handpiece

5,000 Strokes/min.

Control function of Impact Force

D.C 30V



# SDE-LS200 laboratory lathe spindle

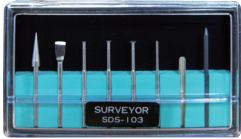
Max.speed: 28,000 rpm

Compatible Automatic Spindle with laboratory alloy grinders

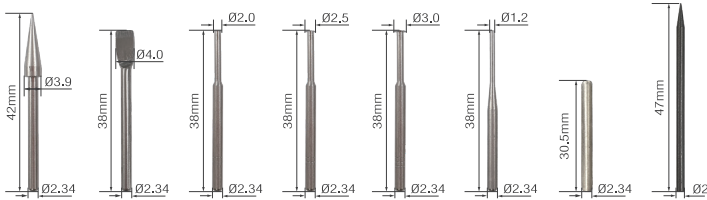


# MARATHON-103 surveyor

- Precise instrument with exact movement
- Easy exchangeable system(spindle, model table, cone former & plaster)
- Excellent finished surface
- Variable application possible
- Surveyor tools available

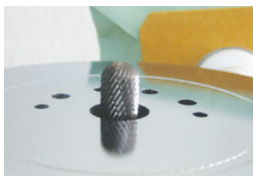


▲ Surveyor tool pin set



# MARATHON-20 center grinder

- Max.Speed: 3,200 rpm
- Grinding plaster model
- Grinding edge part of plaster model with an upper acetel plate
- Human-friendly dust collecting system
- Tools can easily change
- Good & effecive design
















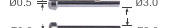












**SPARE PARTS**



## LABORATORY AIR TURBINE

MODEL	PART NAME	PICTURE
MAT-300W	CONTROL UNIT MAT-C300W	
	HANDPIECE MAT-H300W	
	FOOT SWITCH MAT-F300	
	HANDPIECE TUBE	
	BUR-INSERTING TOOL	
	HANDPIECE HOLDER	
	MAT-H300W	CARTRIDGE
COLLET CHUCK		
BEARING		
SPANNER		
MAT-300A	CONTROL UNIT MAT-C300A	
	HANDPIECE MAT-H300A	
	FOOT SWITCH MAT-F300	
	HANDPIECE TUBE	
	BUR-INSERTING TOOL	
	HANDPIECE HOLDER	
MAT-H300A	CARTRIDGE	
	COLLET CHUCK	
	BEARING	
	SPANNER	

## LABORATORY BLDC

MODEL	PART NAME	PICTURE	
BLDC HANDPIECE	SPINDLE ASS'Y		
	HEAD ASS'Y (BHS1) SDE-BM50S1 / SDE-BM40S1		
	HEAD ASS'Y (BHC) SDE-BS50C		
	BLDC MOTOR BM50M / BM40M		
	BLDC MOTOR SDE-BS50C		
	MOTOR CORD SDE-BM50S1 / SDE-BM40S1		
	MOTOR CORD SDE-BS50C		
	BALL BEARING 814		
	BALL BEARING 1360		
	CHUCK WRENCH		
	COLLET CHUCK		
	COLLET SLEEVE	Ø1.6	
		Ø0.4	
		Ø0.5	
Ø0.6			
Ø0.7			
Ø0.8			
Ø0.9			
Ø1.0			
Ø1.2			
Ø1.5			
Ø1.6			
Ø2.0			
Ø2.35			
Ø1.6			
Ø2.35			

## MAINTENANCE & REPAIR TOOL BOX

MODEL	PART NAME	PICTURE
REPAIR TOOL BOX	BRUSHLESS	

## LABORATORY BLDC

MODEL	PART NAME	PICTURE
MULTI 800	CONTROL UNIT MULTI 800	
	BLDC HANDPIECE SDE-BS50C	
	HANDPIECE STAND	
	MOUNTING BRACKET	
MULTI 800S	CONTROL UNIT MULTI 800S	
	BLDC HANDPIECE SDE-BS50C	
	HANDPIECE STAND	
MULTI 600	CONTROL UNIT MULTI 600	
	BLDC HANDPIECE SDE-BM50S1	
	HANDPIECE STAND	
	MOUNTING BRACKET	
MULTI 600 (DUO)	CONTROL UNIT MULTI 600 (DUO)	
	BLDC HANDPIECE SDE-BM50S1	
	DC HANDPIECE SDE-SM45C	
	HANDPIECE STAND	
HANDY 700	CONTROL UNIT HANDY 700	
	BLDC HANDPIECE SDE-BM50S1	
	DC HANDPIECE SDE-S40	
	HANDPIECE HOLDER	
	HANDPIECE STAND	










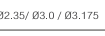



















## LABORATORY BLDC

MODEL	PART NAME	PICTURE
HANDY ECO	CONTROL UNIT HANDY ECO	
	BLDC HANDPIECE SDE-BM50S1	
	HANDPIECE HOLDER	
	HANDPIECE STAND	
K48 PRO	CONTROL UNIT K48 PRO	
	HANDPIECE SDE-BS35	
	CHARGER	
	HANDPIECE STAND	
K38 PRO	CONTROL UNIT K38 PRO	
	HANDPIECE SDE-BS30	
	CHARGER	
	HANDPIECE STAND	

## LABORATORY DC

MODEL	PART NAME	PICTURE
DC HANDPIECE	SPINDLE ASS'Y SDE-H37L1 / SDE-H37LN	
	HEAD ASS'Y SDE-H37L1 / SDE-H37LN	
	SPINDLE ASS'Y SDM-H35SP1	
	HEAD ASS'Y SDM-H35SP1	
	ARMATURE SDE-SH37LN	
	ARMATURE SDM-H37L1 / SDM-H35SP1	
	ARMATURE SDM-M33Es	
	ARMATURE SDM-M33E	












## LABORATORY DC

MODEL	PART NAME	PICTURE
DC HANDPIECE	BALL BEARING 1260	
	BALL BEARING 1060	
	BALL BEARING 830	
	BALL BEARING 1480	
	BALL BEARING 1040	
	BALL BEARING 1030	
	CARBON BRUSH ASS'Y	
	CHUCK JOINT WRENCH CHUCK WRENCH	
	MOTOR CORD	 Straight      Curl
	COLLET CHUCK	 Ø2.35/ Ø3.0 / Ø3.175
	COLLET SLEEVE	 Ø1.6      Ø2.35
		 Ø0.4      Ø3.0
		 Ø0.5      Ø3.0
		 Ø0.6      Ø3.0
		 Ø0.7      Ø3.0
 Ø0.8      Ø3.0		
 Ø0.9      Ø3.0		
 Ø1.0      Ø3.0		
 Ø1.2      Ø3.0		
 Ø1.5      Ø3.0		
 Ø1.6      Ø3.0		
 Ø2.0      Ø3.0		
 Ø2.35      Ø3.0		
 Ø1.6      Ø3.175		
 Ø2.35      Ø3.175		
HANDY 700	CONTROL UNIT HANDY 702	
	DC HANDPIECE SDE-SM45C	
	HANDPIECE HOLDER	
	HANDPIECE STAND	









## LABORATORY DC

MODEL	PART NAME	PICTURE
HANDY ECO	CONTROL UNIT ECO 450	
	DC HANDPIECE SDE-SM45C	
	HANDPIECE HOLDER	
	HANDPIECE STAND	
NEW N7	CONTROL UNIT NEW N7	
	HANDPIECE SDE-SH37LN	
	HANDPIECE HOLDER	
	HANDPIECE STAND	
NEW N2	CONTROL UNIT NEW N7	
	HANDPIECE SDE-H35SP1	
	HANDPIECE HOLDER	
	HANDPIECE STAND	
MARATHON3 CHAMPION	CONTROL UNIT MARATHON3 CHAMPION	
	DC HANDPIECE SDE-H37L1	
	HANDPIECE HOLDER	
	HANDPIECE STAND	
K35	CONTROL UNIT K35	
	HANDPIECE SDE-H37L1	
	HANDPIECE STAND	
K35 MINI	CONTROL UNIT K35 MINI	
	HANDPIECE SDE-H37L1	
	HANDPIECE STAND	







## LABORATORY DC

MODEL	PART NAME	PICTURE
K35 CUBE	CONTROL UNIT K35 CUBE	
	DC HANDPIECE SDE-H37L1	
	HANDPIECE HOLDER	
	HANDPIECE STAND	
ESCORT II PRO	CONTROL UNIT ESCORT II PRO	
	DC HANDPIECE SDE-H35SP1	
	HANDPIECE HOLDER	
	HANDPIECE STAND	
ESCORT III	CONTROL UNIT ESCORT III	
	DC HANDPIECE SDE-H37L1	
	HANDPIECE HOLDER	
	HANDPIECE STAND	
MARATHON4	CONTROL UNIT MARATHON4	
	DC HANDPIECE SDE-H35SP1	
	HANDPIECE HOLDER	
	HANDPIECE STAND	
MARATHON4 MINI	CONTROL UNIT MARATHON4 MINI	
	DC HANDPIECE SDE-H37L1	
	HANDPIECE STAND	
MARATHON3 MIGHTY	CONTROL UNIT MARATHON3 MIGHTY	
	DC HANDPIECE SDE-H37L1	
	HANDPIECE HOLDER	
	HANDPIECE STAND	



## LABORATORY DC

MODEL	PART NAME	PICTURE
K38	CONTROL UNIT K38	
	HANDPIECE SDE-MH20	
	CHARGER	
	HANDPIECE STAND	
MINICRO	CONTROL UNIT MINICRO	
	HANDPIECE SDE-SH300	
	CHARGER	
	HANDPIECE STAND	

## OPTIONAL

MODEL	PART NAME	PICTURE
FOOT PEDAL	ON / OFF FOOT SWITCH SFP-27	
	VARIABLE SPEED FOOT PEDAL FS-60 / FS-60N	
	VARIABLE SPEED FOOT PEDAL FS-80N	
K48 PRO K38 PRO K38 MINI CRO	CONTROL UNIT STAND	
	HANDPIECE HOLDER	
	CLIP	

## EQUIPMENTS

MODEL	PART NAME	PICTURE
SDE-LS200	SPINDLE CHUCK	
SDE-SM110	SPANNER	



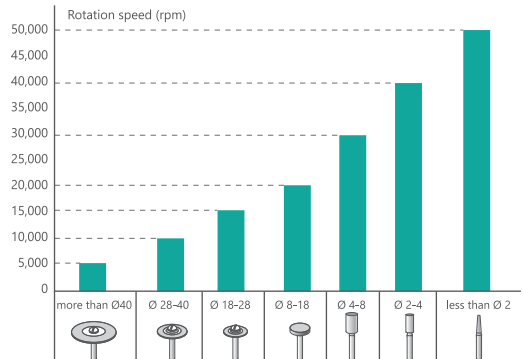
# USER GUIDE (For safety & efficiency)

## Precaution

1. Do not operate a micromotor with a bent, asymmetrical or damaged bur. Must operate it with a standard bur.
2. Do not start the motor at a high rotation speed. Start from the low speed and change it slowly to the desired speed.
3. For your safety, do not exceed the rotation speed according to the type of bur.
4. Do not try to open/close the chuck handle during operation.
5. Clean the motor after use.

## Allowable rotation speed

Do not exceed the allowable rotation speed according to the type of bur for your safety. Allowable rotation speed according to the type of bur may be slightly different from the chart depends on the material of bur.



※ This chart for allowable rotation speed can be slight different depending on bur materials or types

1



Check the product if everything is set before use.

2



Do not drop the product. Dropping the motor may damage ball bearing or weaken durability of the motor

3



Check the product if there is any flaw, crack, or faulty adhesion before use.

4



In order to take the bur out of the handpiece, release the chuck handle (shift to the left side, R to open the collect chuck. Make sure to close the collect chuck(shift to the right side, S) before use )

5



Do not exceed the maximum speed.

6



Wear a safety goggles/shield and mask to protect your face from cutting and grinding works

7



Check if the product is overheated when you use it at the maximum speed for long. When it gets overheated, you must stop the product and cool it down before use.

8



If the product works abnormally, stop the product immediately and contact your dealer for repair.

9



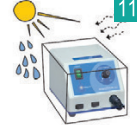
For safety, make sure to read and understand the operation manual carefully before use.

10



Do not customize the product.

11



Avoid exposing the product to high temperature and humidity. Daily inspection & maintenance are required.

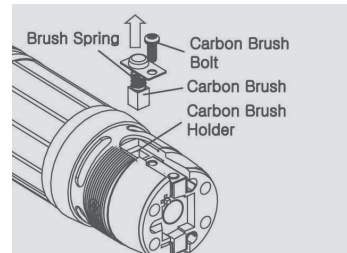
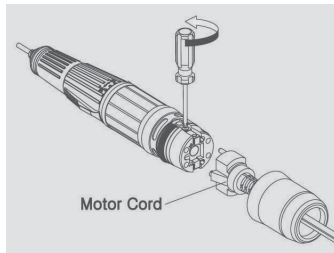
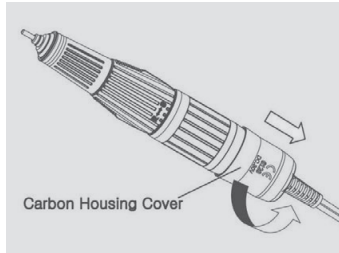
12



Make sure to turn off the product after use. Leaving the product turned on is very dangerous and may cause overheating.

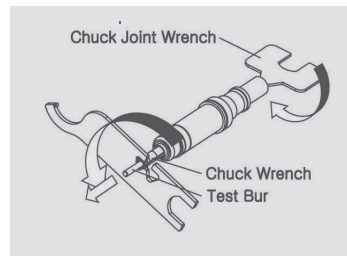
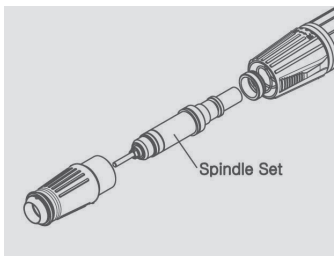
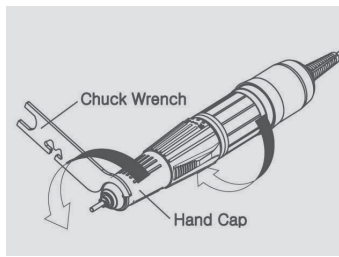
## Replacing Carbon Brushes

1. Turn off the power of the Control Unit and remove the Carbon Housing Cover and the Motor Cord from the rear of the handpiece.
2. Take off Carbon Brush Bolts using a screwdriver(+) and remove worn-out Carbon Brushes.
3. While replacing by new ones, the Brush Spring needs to get jammed in the Carbon Brush Holder.
4. Assemble the handpiece.
5. Run the handpiece at 20,000rpm for 30minutes under no load condition before use.



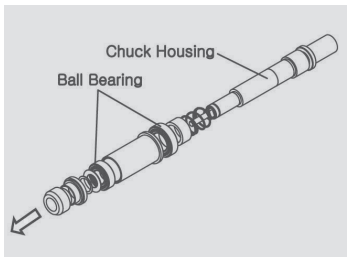
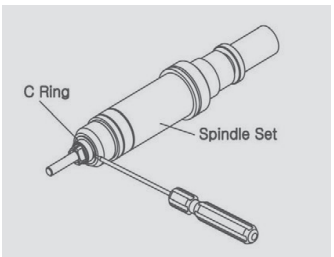
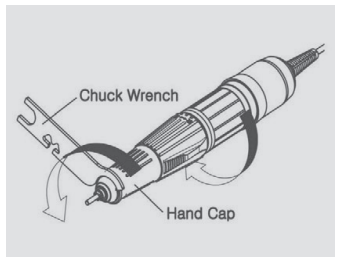
## Replacing the Collect Chuck

1. Turn the Hand Cap counterclockwise using the Chuck Wrench until the Hand Cap and the Spindle Set get disassembled.
  2. Keep turning it counterclockwise until the collect chuck gets disassembled.
  3. After replacing a new Collect Chuck, assemble the handpiece.
  4. Run the handpiece under no load condition to check if it works properly before use.
- ※ Collect chuck is supposed to be replaced every 2-3 years, depends on working hours or loading conditions



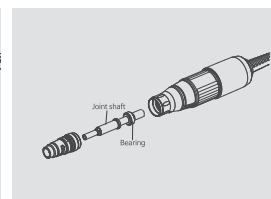
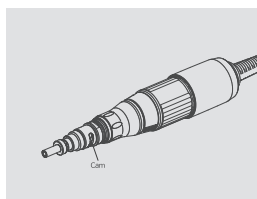
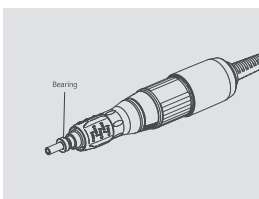
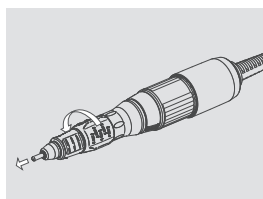
## Replacing Ball Bearings

1. Disassemble the Hand Cap and the Spindle Set.
2. Remove the C Ring from the front of the Chuck Housing to disassemble Ball bearings and other parts.
3. Assemble other parts, replace it with new Ball Bearings, and install the C Ring.
4. Connect the Hand Cap and the Spindle Set.
5. Run the handpiece under no load condition to check if it works properly before use.



## Replacing Ball Bearings(SH300S)

1. After removing a bur, please open a handle of the handpiece. After that start to disassemble.
2. Disassembling nose-cone and bearing housing by wrench. After that pulling the bearing out.
3. Disassembling a handle and cam and related parts. After that pulling a joint shaft out.
4. Disassembling connector and related parts of joint shaft. After that pulling the bearing out.
5. Replacing bearing by inverse order of disassembly. It will require to apply removable glue on nose cone, bearing housing.
6. Run the handpiece under no load state and confirm proper replacement, and then use.



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